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August 2, 2017

Massachusetts Department of Environmental Protection
Southeast Regional Office
20 Riverside Street
Lakeville, Massachusetts 02347

RE: Phase I Initial Site Investigation Report and Tier Classification Resubmittal
Weymouth Compressor Station
6 & 50 Bridge Street
Weymouth, Massachusetts
Release Tracking Numbers 4-26230 and 4-26243

To Whom It May Concern:

Due to the size of the Phase I Initial Site Investigation (ISI) Report it could not be uploaded to eDEP on Thursday July 28, 2017. At that time, TRC checked the box on the eDEP submittal to indicate that the report was too large and would be sent by mail. TRC copied the pdf of the report to a DVD and sent the DVD, along with a cover letter to the MassDEP Southeast Regional Office (SERO) via FedEx. The LSP, Kelley Race, followed up with a phone call to Gerard Martin of SERO on July 28, 2017 to advise that the report had to be sent via FedEx. The FedEx package was delivered to SERO and signed for by J. Lavigne on July 29, 2017. On August 2, 2017, Jan Nemec of SERO contacted TRC and indicated that she did not have the Phase I ISI that TRC submitted and asked that TRC divide the report up and/or remove some of the information contained in the appendix and resubmit the report on eDEP. Therefore, please find attached a reduced version of the Phase I ISI that is being submitted to eDEP via MassDEP form BWSC 108.

If you have any questions concerning the Phase I ISI Report and Tier Classification Submittal or transmittal forms, please do not hesitate to contact the undersigned.

Sincerely,
TRC Environmental Corporation

Ryan Niles
Project Manager

Kelley Race, P.G., LSP
Program Manager

cc: Terry Doyle, Gary Davis; Algonquin

PHASE I INITIAL SITE INVESTIGATION REPORT

Algonquin Gas Transmission, LLC - Atlantic Bridge Project
Weymouth Compressor Station
6 & 50 Bridge Street
Weymouth, Massachusetts 02191
Release Tracking Numbers 4-26230 and 4-26243

Prepared for:

ENBRIDGE

890 Winter Street, Suite 300
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Prepared by:

TRC

TRC Environmental Corporation
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July 2017

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APPENDICES

1.0 GENERAL DISPOSAL SITE INFORMATION (310 CMR 40.0483[1][a])

TRC Environmental Corporation (TRC) on behalf of Enbridge and its subsidiary Algonquin Gas Transmission, LLC (Algonquin), has prepared this Massachusetts Contingency Plan (MCP, 310 CMR 40.0000) Phase I Initial Site Investigation (Phase 1 ISI) and Tier Classification (TC) Submittal (Phase I/TC) in response to a 120-day release notification condition and a 72-hour release notification condition at Weymouth Compressor Station, located at 6 & 50 Bridge Street in Weymouth, Massachusetts (the Property, as shown on **Figure 1**). On July 29, 2016, Release Tracking Number (RTN) 4-26230 was issued in response to Reportable Concentrations of petroleum-related compounds detected in soil above applicable reportable concentrations for category S-1 soil (RCS-1), and RTN 4-26243 was issued in response to a 72-hour reporting condition pursuant to 310 CMR 40.0314 that was triggered when greater than 0.5 inch of light non-aqueous phase liquid (LNAPL) was observed in monitoring well MW-201 on the Property.

The Disposal Site (the Site) is identified as an approximate one-acre portion of the approximately 12.3-acre ABPWCS Property that occupies a triangular peninsula lying northeast of Route 3A (Bridge Street) and is delineated as roughly coincident with the footprint of a former approximately 11,256,000-gallon No. 2 fuel oil above ground storage tank (AST) located in the south-southwest portion of the Property. The Property is currently owned by Algonquin and is developed with asphalt paved and unpaved access roads, storage areas, and an existing Algonquin metering and regulating station on the southwest portion. A Massachusetts Water Resources Authority (MWRA) pumping station abuts the Property on the northeast. There is an existing public walkway located directly east of the ABPWCS Site along King's Cove. The Weymouth Fore River is located to the north and west of the Site. The topographic elevation is generally flat ranging from 11.59 feet above mean sea level (amsl) to 14.62 feet amsl, and averages 13.25 feet amsl based on the ground elevation surveyed at 24 monitoring wells located in the vicinity of the Site, relative to the North American Vertical Datum of 1988 (NAVD88).

The Disposal Site is located within a fenced vacant area on the Property. Currently there are no workers on Site. Based on 2010 Census data, the estimated population within ½ mile of the Site is more than 1,000 people. Residential properties lie east and south of King's Cove along streets that connect to Route 3A.

The Weymouth Fore River is located to the north and west of the Site. There is an existing public walkway located directly east of the Site along King's Cove. TRC reviewed United States Geological Survey topographic maps and data maintained at Massachusetts Geographic Information Systems' (MassGIS's) Online Mapping Tool, OLIVER (http://maps.massgis.state.ma.us/map_ol/oliver.php), to evaluate the presence of institutions identified in 310 CMR 40.0483(1)(a) (7). Based on this review, there are no institutions within 500 feet of the Site. Natural resources identified in 310 CMR 40.0483(1)(a)(8)(a) were identified within 500 feet of the Site, specifically King's Cove/tidal flats and Weymouth Fore River/rocky intertidal shore, are located within 500 feet of the east and west sides of the Site. There are no drinking water supplies (310 CMR 40.0483(1)(a)(8)(b), and no Areas of Critical Environmental Concern (310 CMR 40.0483(1)(a)(8)(c) identified within 500 feet of the Site, The MassDEP Site Scoring Map accessed on March 9, 2017 is provided as **Figure 2**.

2.0 DISPOSAL SITE MAP (310 CMR 40.0483[1][b])

A Disposal Site Map is provided as **Figure 3**. The Disposal Site is roughly coincident with the footprint of an approximately 11,256,000-gallon No. 2 Fuel Oil Aboveground Storage Tank (AST) historically located on a portion of an approximately 15.1-acre property identified by the Weymouth Assessor as Map 6, Block 63, Lot 1 which has been subdivided according to the Subdivision Plan of Land, included in **Appendix A (A-1)**.

There are no buildings, floor drains, storm drains, subsurface utilities, oil and/or hazardous material storage and disposal structures and/or areas located at the Site. Based on a review of historical information, there are no previously documented releases associated with the former no. 2 fuel oil AST.

3.0 DISPOSAL SITE HISTORY (310 CMR 40.0483[1][c])

3.1 Owner/Operator and Operations History

3.1.1 Current Site Owner and Use(s)

The Disposal Site and Property are currently owned by Algonquin, who acquired the Property in December 2016 from Calpine Fore River Energy Center, LLC. The Property is developed with asphalt paved and unpaved access roads, storage areas, and the Algonquin meter station on the southwest portion.

3.1.2 Previous Owner and Operator Information

Based on the Town of Weymouth's Property Card, the Norfolk County Registry of Deeds (Book 34,726, Page 482) and the Norfolk Registry District of the Land Court (Doc No. 1,368,107) information reviewed during the historical record review, current and historical Site ownership and operator information is provided in **Table 1**.

3.1.3 Historical and Current Uses of the Disposal Site

To evaluate historical uses of the Site TRC reviewed historical Sanborn fire insurance maps and topographic maps prepared for the area. A summary of site use is included in Table 2. Historical maps are included in Appendix A.

Based on the information reviewed, topographic contours in the Site area have significantly changed during the time period reviewed, as the Site has been used for the storage of several materials over a number of years, most significantly soil backfill in the northeast portions of the Site. Currently, the Site consists of an open field with monitoring wells, surrounded by a locked chain-link fence. A crushed rock/dirt access road at the Site.

3.2 Release History

The topography of the Site indicates that grades were raised above natural, pre-existing conditions. Historical documents, including topographic maps, indicate the Site was filled sometime between 1920 and 1936. Historically, the Site included an AST which contained approximately 11,256,000 gallons of number #2 fuel oil. The date of the removal of the AST is unknown but is believed to have been present until approximately 1996. The exact date(s) and volume(s) of release(s) of No. 2 fuel oil from the 11,256,000 gallon AST are unknown. Evidence of a release was discovered in April 2016, during geotechnical drilling. TRC observed contaminated soils within the subsurface from approximately 14 to 19 feet below ground surface (bgs) at one location (boring B-105) within the approximate footprint of an 11,256,000 gallon #2 fuel oil AST. Soil samples collected on Site contained petroleum hydrocarbons in excess of MCP RCS-1. This resulted in a 120-day reporting condition. A release notification was electronically reported to the MassDEP on July 29, 2016 and tracked under 4-0026230.

On July 29, 2016, during gauging of monitoring wells, TRC identified greater than 0.5 inch of LNAPL in one of the monitoring wells on Site (MW-201). The monitoring well is located within the footprint of the aforementioned AST. This triggered a 72-hour reporting condition under the MCP and is tracked under release number 4-0026243. The locations of borings and monitoring wells installed during this investigation in the area of the Site are presented on **Figure 3**.

Release History – On-Site and Nearby Sites

The MassDEP website indicated a Class B-1 Response Action Outcome Statement (RAO Statement) prepared by ABB Environmental Services, (ABB) was submitted for RTN 3-2387 in July 1997 of which a portion of the this RTN site is located on the Property and in close proximity/within the Disposal Site referenced herein. A Class B-1 partial RAO statement was submitted for this area (and areas to the south adjacent to the Property), indicating no remedial actions were conducted because a condition of no significant risk exists and an activity and use limitation (AUL) was not required. The Environmental Database Report (EDR) report located this release on an adjacent property **(Appendix A).**

The RAO report identifies the two former ASTs located at the RAO site (the disposal Site for this report). The tanks were installed in 1974 and 1990, contained No. 2 Fuel Oil and Fuel Additive, and had capacities of 11,256,000 gallons and 6,000 gallons, respectively.

The RAO report also summarizes the results of soil and groundwater samples taken in the area:

> "*As part of an investigation to assess two areas of the Edgar Station for redevelopment, HMM collected soil and groundwater samples. ABB-ES performed a Phase I investigation that included the collection of groundwater samples. Results of the Phase I investigation indicated that SVOCs and metals in soils were attributable to the presence of coal ash. Coal ash was used historically used as fill material on the Edgar Station property. Toluene and TPH were detected in soils at concentrations below their applicable Method 1 S-1 and S-3 Soil Standards. Several metals were detected in groundwater. Their EPCs did not exceed Method 1 and 2 GW-3 Standards. No SVOCs, VOCs, or TPH were detected in groundwater. A Risk Characterization was performed to determine if a condition of No Significant Risk existed at the two areas investigated. Results of the characterization indicated that under current and future use exposure scenarios, a condition of No Significant Risk of harm to health, public welfare, and the environment existed. The two areas meet the requirements of a Class B-1 RAO.*"

ABB identified contaminant concentrations in soil that exceeded applicable cleanup criteria (e.g., arsenic concentrations of up to 228 mg/kg), but ABB attributed those concentrations to the presence of coal ash, which was observed during boring advancement and test pitting on Site. ABB inferred contaminant concentrations identified were not reportable to MassDEP due to an MCP reporting exemption for coal/coal ash.

On November 29, 1999, a release of 500 gallons of mineral oil dielectric fluid (MODF) and 500 gallons transformer oil during the decommissioning of a transformer located in the former coal crusher occurred. RTN 4-3019012 was assigned to the release. In October 2001, the RTN was closed with an A-2 RAO, achieving regulatory closure.

3.3 Oil and/or Hazardous Material Use and Storage History

The period of No. 2 fuel oil storage in the 11,256,000 gallon AST was reported to be between 1974 and approximately 1996. The presence of oil in the subsurface is attributed to historical Site use as an oil terminal and coal storage facility, which included operations such as transfer of petroleum products and petroleum storage in aboveground storage tanks on-Site, with no petroleum storage tank closure records available.

The topography of the Site indicates that grades were raised above natural, pre-existing conditions. Historical documents, including topographic maps, indicate the Site was filled sometime between 1920 and 1936. Test pits and soil samples indicate the presence of fill as well as contaminant concentrations in excess of applicable Massachusetts environmental standards in Site soil. However, these contaminant concentrations were documented as background concentrations and closed with a partial B-1 RAO under RTN 3-2387, as described above.

3.4 Waste Management History

Remediation wastes have been managed in accordance of 310 CMR 30.000 and 310 CMR 40.0000. During the gauging of monitoring wells with LNAPL and soil boring installation, impacted groundwater and soil as well as investigative derived waste (IDW) were containerized prior to removal off Site for recycling. Manifests documenting the disposal of material have been provided in Immediate Response Action (IRA) Status reports, if available at the time of report preparation.

3.5 Environmental Permits and Compliance History

On July 29, 2016, during gauging of monitoring wells on the Site, TRC identified greater than 0.5 inch of LNAPL in monitoring well MW-201, triggering a 72-hour reporting condition, pursuant to 310 CMR 40.0313(1). MassDEP was notified on the same day. Following notification of the 72-hour IRA condition, the MassDEP assigned RTN 4-26243. In addition to the 72-hour release notification, a 120-day release notification condition was identified due to petroleum-related constituents greater than the RCs, triggering MassDEP notification and issuance of RTN 4-26230.

In September 2016, an IRA Plan was submitted to MassDEP that summarized assessment activities completed in August and September 2016 and planned for fall 2016 to evaluate the nature and extent of LNAPL identified on Site (TRC, 2016a).

In November 2016, IRA Status Report #1 was prepared that summarized assessment activities completed in the Fall of 2016 and future activities planned for December 2016 – March 2017 (TRC, 2016b).

In May 2017, IRA Status Report #2 was submitted that summarized the results of activities performed during December 2016 to early May 2017 that further evaluated the nature and extent of LNAPL and soil and potential groundwater contamination at the Site (TRC, 2017a).

Relevant local, state, and federal environmental permits and oil and/or hazardous material storage permits issued for the Disposal Site or on-site facilities and permit violations are as follows:

- Federal Energy Regulatory Commission (FERC) Certificate of Public Convenience and Necessity issued January 25, 2017.
- Massachusetts Wetlands Protection Act, Superseding Order of Conditions (File No. SE 81-1170) issued by MassDEP on September 7, 2016 (Currently Under Appeal)
- Chapter 91 Waterways License, Written Determination (Waterways License Application No. W16-4600) issued by MassDEP on May 17, 2017 (Currently Under Appeal)
- Massachusetts Coastal Zone Management Program, Federal Consistency Review – (Permit Pending)
- MassDEP Non-Major Comprehensive Air Plan Approval – (Permit pending)
- Section 106 National Historic Preservation Act – Massachusetts Historical Commission Review – Consultation complete.

3.6 Potentially Responsible Party

Contact information pertaining to the potentially responsible party is listed below.

Potentially Responsible Party:

Algonquin Gas Transmission, LLC
Attention: Mr. Terry Doyle
890 Winter Street, Suite 300
Waltham, Massachusetts 02451
617-560-1417

4.0 SITE HYDROGEOLOGICAL CHARACTERISTICS (310 CMR 40.0483[1][d])

4.1 Subsurface Investigation

Geotechnical investigations on the Property were conducted by GZA GeoEnvironmental (GZA) in support of the proposed Atlantic Bridge Project Weymouth Compressor Station in June 2015. TRC was present and observing subsurface conditions during the geotechnical investigations. In April of 2016 TRC identified petroleum-related contamination in B-105 within the footprint of the former 11 million gallon AST. As part of environmental investigations conducted to evaluate the petroleum related contamination, TRC oversaw the installation of borings and monitoring wells and the collection of soil and groundwater samples in the area of the previously identified petroleum contamination in 2016 and 2017.

A chronology of the GZA and TRC subsurface investigations conducted is summarized below, followed by a description of Site/Property hydrogeological characteristics in Section 4.2. Boring/monitoring well logs, and well development details are presented in **Appendix B**. A summary of monitoring well screen depths, boring depths, major soil depths, and observed petroleum saturated soil thicknesses are summarized on **Table 3**.

4.1.1 GZA Subsurface Investigations in 2015 and 2016

Subsurface explorations were conducted to evaluate geotechnical conditions at the Property and Site to evaluate the suitability of soils for future construction activities. Borings were installed across the Property in areas where proposed building foundations are being considered as well as in areas where subsurface utilities may be located in support of the ABPWCS. Subsurface explorations were completed by GZA including:

- Geotechnical borings B-1 through 10 in June 2015;
- Test pits TP-1, 2 and 3 in December 2015; and,
- Geotechnical borings B-101 through 108 in April 2016.

TRC observed these subsurface explorations for visual and/or olfactory impacts and well as collected select soil samples for laboratory analysis to evaluate environmental conditions. Petroleum contamination observed in soil and confirmed with laboratory analysis at B-105 (as described above) was identified as above MCP RCs. At boring B-105, from approximately 14 to 19 feet bgs, TRC observed petroleum staining and odors. None of the other soil samples collected from the other geotechnical borings exhibited visual or olfactory evidence of contamination. TRC collected a soil sample from B-105 at a depth of 14 to 17 feet bgs for laboratory analysis of extractable petroleum hydrocarbons (EPH) with target polyaromatic hydrocarbons (PAHs) and volatile petroleum hydrocarbons (VPH) with target volatile organic compounds (VOCs). Based on observations made during advancement of B-105, the 14 to 17 foot interval represented the greatest petroleum impact to soils. A summary of environmental samples is presented in **Table 4**. Soil analytical data are summarized in **Table 5**. Analytical laboratory reports are provided in **Appendix C.**

4.1.2 TRC Subsurface Investigations in May 2016

On May 10-11, 2016, TRC oversaw the installation of soil borings B/MW-201 through 205 by New England Boring Contractors (NEB) using a 24-inch split-spoon sampler and conventional hollow-stem auger drilling. TRC performed PID jar-headspace testing, and collected soil samples from each boring. Soil samples were submitted to Alpha Analytical Laboratory in Westborough, Massachusetts (Alpha) analysis of EPH, and metals. Samples collected for metals analysis were used to evaluate historical metals concentrations previously detected at the Property and identified as background compounds. Boring and monitoring well locations are presented on Figure 3.

Petroleum staining and odors were observed at B/MW-201 in the interval above and below the observed water table, from approximately 12 to 18 feet. No visual or olfactory indicators of petroleum contamination were observed at borings B/MW-202 through 205. Sample B/MW-201 (10-12) was collected from the interval above the observed petroleum saturated soil at this location to evaluate the vertical extent of petroleum impact to complement the 14-17 foot sample collected from the adjacent B-105 location. The EPH hydrocarbon range C11-C22 aromatics exceeded the applicable Method 1 S-2/GW-3 standard in the duplicate sample collected at B/MW-201 from 10-12 feet bgs.

Each soil boring was completed with a 2-inch diameter schedule 40 polyvinyl chloride (PVC) monitoring well with 15 feet of 10-slot (0.010 inch diameter machine slotted) screen installed to extend above the observed surface of the water table. The monitoring wells (MW-201 through MW-205) were developed on July 29, 2016. Based on the measurement of LNAPL in MW-201, a 72-hour release condition was identified and MassDEP was notified of the reporting condition. MassDEP approved of a verbal IRA Plan to continue additional assessment, installation and operation of a product recovery system (TRC identified passive socks would be utilized to collect LNAPL), and removal of remediation waste. The LNAPL identified appeared to be thick and highly viscous and measuring the thickness of the LNAPL was difficult due the viscosity of the oil (consistency similar to dense molasses).

TRC's initial IRA Plan and activities addressed the immediate area around B-105 and MW-201 which are located within three feet of each other. Borings B-1 thru B-10, B-101 thru B-105, test pits TP-1 thru 3, and B/MW-202, B/MW-203, B/MW-204, and B/MW-205 are located outside of the area targeted by the IRA Plan (**TRC, 2016a**). As discussed in the IRA Plan, these locations did not indicate visual or laboratory petroleum impacts consistent with the presence of LNAPL or petroleum saturated soils (PSS).

4.1.3 Soil and Groundwater Investigations in October – November 2016

On October 12 and 13, 2016 TRC oversaw installation of 18 small diameter borings (B-300 through B-319; B-316 was vac-cleared but not installed due to field obstructions) by New England Geotech, Inc. (NEG) via direct push methods. Borings were advanced in a radial manner to assess the lateral and vertical extent of the LNAPL around B-105 and MW-201. Borings were initially placed approximately 25 feet north, south, east, and west of MW-201, with additional borings completed in

a step-back fashion to locate areas of no observed impact based on visual, olfactory, and field screening observations.

Soil samples were continuously collected using five-foot Geoprobe® Macro-Cores® fitted with dedicated acetate liner sleeves. TRC screened soil with a photoionization detector (PID) using the jar headspace method. TRC collected six soil grab samples for VPH and EPH analysis in order to evaluate the extent of petroleum impacts and/or to support field observations of the extent of petroleum impact. Soil samples were placed on ice and shipped to Alpha Analytical Laboratory in Westborough, Massachusetts under chain of custody. Environmental samples are summarized in **Table 4,** soil analytical results are summarized in **Table 5**.

NEG installed monitoring well MW-206 in boring B-310, approximately 95 feet west of MW-201. The monitoring well was constructed of two-inch diameter polyvinyl chloride (PVC) installed to approximately 19 feet below grade with 10 feet of 10-slot (0.010-inch machine slotted) screen.

On October 20, 2016, TRC developed MW-206 using a Waterra Hydrolift pump and a surge block to remove suspended fine-grained particulate from the well. No measureable LNAPL or visual/olfactory evidence of petroleum impact at the time the well was developed was identified in MW-206.

On November 1 and 3, 2016, TRC collected a round of groundwater samples from monitoring wells MW-201 through MW-206. Observed LNAPL was removed from the surface of MW-201 to the extent possible (based on the viscosity of the oil) before the groundwater sample was collected at this location. Groundwater sampling was conducted using low-flow sampling techniques with pump intakes set at the approximate center of the water column in each well. TRC recorded water quality measurements during well purging using In-Situ smarTROLL units fitted with flow-through cells. Groundwater log sheets are included in **Appendix B**. Once water quality parameters stabilized, TRC collected groundwater samples, placed them on ice and sent the samples under a chain-of-custody to Alpha for VPH and EPH analysis. Groundwater analytical results are summarized in **Table 6.** Groundwater analytical reports are summarized in **Appendix C.**

4.1.4 Soil Boring Advancement and Monitoring Well Construction - December 2016

December 12 to December 23, 2016 TRC oversaw installation of 18 small diameter borings (B-400 through B-417), and completion of monitoring wells in each of the borings. The borings and 2-inch inside diameter (ID) wells were completed by New England Geotech, Inc. (NEG) via direct push methods (see **Figure 3**). Borings and wells were located to delineate the extent of petroleum impacts in and around the footprint of the former 11 million gallon AST.

During the December 2016 event, TRC collected two to three soil grab samples from each of the 18 400-series borings for EPH analysis in order to evaluate the extent of petroleum impacts and/or to support field observations of the extent of petroleum impact. Because VPH analytes were either not detected or at concentrations near laboratory detection reporting limits during the October 2016 event, TRC selected PID readings exceeding 100 parts per million per volume (ppmv) for selection

of samples for VPH analysis. One location (B-406, 12.5 feet) exceeded the 100 ppmv criterion, therefore, one soil sample was collected from that location for VPH analysis.

Soil cores were collected continuously during boring advancement using 60-inch long Geoprobe Macro-Cores® lined with new acetate sleeves. TRC observed soil for visual and/or olfactory evidence of contamination and screened soils for the presence of organic vapors, according to the jar headspace method, using a PID.

Soil samples were also collected from four "saddle" borings using 2-foot long Macro Cores® located beside B-404, B-406, B-412, and B-413 on December 15, 2016 to characterize soil and LNAPL properties to evaluate LNAPL mobility. Twenty discrete core sections (subcores) were sealed, placed on dry ice, and shipped overnight with a chain-of-custody via Federal Express to PTS Laboratories, Inc. of Santa Fe Springs, California (PTS). The soil cores were scanned using ultraviolet (UV) fluorescence, which forms the basis for selection of 12 subcores for physical analysis including free product mobility, pore fluid saturation, oil/water imbibition, and four subcores for grain size analysis, LNAPL permeability and hydraulic conductivity. The PTS laboratory results are provided in **Appendix C**.

Four-inch ID wells were completed at MW-404, MW-412, MW-413 and MW-414, by New NEB using conventional hollow-stem auger rig methods at borings where significant petroleum soil impacts were observed during advancement of direct push borings. Two-inch inside diameter (ID) monitoring wells were installed in soil borings completed by NEG at the remaining 14 boring locations (see **Figure 3** for locations).

All 2-inch and 4-inch diameter monitoring wells were constructed with Schedule 40 polyvinyl chloride (PVC) installed to depths ranging from approximately 20 to 23 feet below existing grade and with 15 feet of 10-slot (0.010-inch machine slotted) screen. Sand pack (Morie #1) was placed around each well screen and 1-2 feet above the top of screen, followed by a 1 to 2 foot thick bentonite seal, and Quikrete surrounding a steel locking protective casing equipped with keyed-alike locks. Wells completed inside the property fence were completed with "stickup" well casings, while two wells located outside the fence (MW-416, MW-417) were completed with traffic-rated well covers, flush with existing surface grade. Based on viscous LNAPL properties, LNAPL recovery was difficult at MW-201, 2-inch ID, 40 slot (0.040 inch machine slotted) wells were planned for the 400-series wells with the goal of improving LNAPL recoverability to monitoring wells. However, after installation of 2-inch ID wells equipped with 40 slot screen, too much sediment was observed in the wells that made the wells unusable. Therefore, TRC oversaw replacement of the 40 slot screened wells with 10 slot (0.010 inch machine slotted) screen, consistent with monitoring wells MW-201 through 206 on Site.

TRC developed all newly constructed monitoring wells during December 28-30, 2016 using Waterra Hydrolift and Proactive Water Spout pumps and a surge block to remove suspended fine-grained particulates from each well. Well development records are summarized in a table included with the boring and well completion logs in **Appendix B.** Geologic cross sections are shown in plan view on **Figure 4,** and three cross sections are presented as **Figures 5A, 5B, and 5C.**

4.1.5 Groundwater Sampling – August 2016, November 2016, January 2017, March 2017, and June 2017

On August 29 and 30, 2016, November 1, 2016, January 3-6, 2017, March 20-22, 2017, and June 5-7, 2017, TRC conducted seasonal groundwater sampling from all installed monitoring wells at the Site (MW-201 through MW-206; and MW-400 through MW-417). During the August 2016, November 2016, and January 2017 round, LNAPL was removed, to the extent possible, prior to groundwater purging; in contrast, LNAPL was not removed during the March 2017 round to evaluate its potential influence on groundwater quality at the time of sampling. LNAPL socks were removed prior to sampling during the June 2017 round. Groundwater sampling was conducted using low-flow sampling techniques with pump intakes set at the approximate center of the water column in each well. TRC recorded water quality measurements during well purging with flow-through cells (YSI 600 XL). Once water quality parameters stabilized, TRC collected groundwater samples, placed them on ice and sent the samples under a chain-of-custody to Alpha Analytical Laboratory in Westborough, Massachusetts for analysis of VPH and EPH. Groundwater analytical results are presented in **Table 6**. Analytical reports are provided in **Appendix C**.

4.1.6 Groundwater Gauging and LNAPL Recovery

Since July 2016, TRC has conducted monitoring and maintenance of on-Site monitoring wells. Monitoring has included gauging depth to water and depth to LNAPL (if present) in monitoring wells with an oil/water interface probe and replacement of the oil-absorbent monitoring well skimming sock at MW-201. Upon sock retrieval, TRC personnel noted the relative saturation of the sock and placed the soiled sock into a drum on Site. Additional observed LNAPL was then removed, to the extent feasible with a bailer, and a new sock was replaced in the well. Petroleum product and associated purge water from MW-201 (and other well as applicable) was then placed into a drum for disposal off Site. It should be noted that measurement of LNAPL thickness was not possible with an oil-water interface probe at certain wells because the viscous LNAPL coating the probe. TRC utilized water-seeking paste when LNAPL interfered with the depth to water measurement using the interface probe.

After October 27, 2016, LNAPL recovery using the sock was discontinued to monitor LNAPL thickness in preparation of conducting bail-down tests. TRC utilized the MassDEP LNAPL Guidance #WSC-16-450 as guidance to evaluate LNAPL thickness and to reach equilibrium levels prior to conducting LNAPL baildown tests or skimming tests. Additional LNAPL was recovered prior to the January 3-4, 2017 sampling round, later in January for viscosity and density analysis, and in February 2017 to support the LNAPL permeability tests (PTS email dated February 13, 2017).

On January 5 and 17, 2017, LNAPL was collected from MW-201, MW-410, and MW-414, for Three-Point Viscosity and Density analysis by PTS. Sufficient volume was collected from MW-201 on January 5, and 17, 2017, and submitted under a chain-of-custody to PTS on January 18, 2017. Because insufficient volume was recovered from MW-410 and MW-414, samples were not submitted from these wells.

On February 13, 2017, PTS communicated that only 10 milliliters (ml) remained after testing of the MW-201 LNAPL properties, and requested 0.5-1 liter of LNAPL. On February 14, 2017, after completing a gauging event, 300 ml was recovered from MW-201, and this was combined with approximately 420 ml from MW-410, and 230 ml from MW-414, and shipped with a COC to PTS, which was received intact on February 15, 2017. PTS stated:

> "*The problem we are having is due to the high viscosity and sticky nature of the NAPL; every time we transfer it to another piece of glassware or equipment, we lose a significant portion that we are unable to recapture due to holdup in the instrument chamber/or vessel. The original volume would have been more than sufficient for the tests scheduled if it was a product of lower viscosity."* (PTS email dated 2/13/17).

PTS requested the additional volume for completing the remainder of the Oil/Water Capillary Pressure tests. Gauging data, LNAPL volumes recovered, and LNAPL sock deployment and recovery are summarized on **Table 7**.

4.1.7 Tidal Study

Pressure-sensitive transducers were suspended in existing monitoring wells MW-202, MW-205, MW-206, and MW-417 during a one-week period during December 22 - 29, 2016 to evaluate tidal influence across the Site. The transducers were set to measure and record water levels at 10-minute intervals. On December 29, 2016 TRC retrieved the transducers and downloaded the collected data onto a laptop. The downloaded water level data were compared to tidal cycle data from the Fore River Bridge (Station 8444788) to evaluate the influence of tidal fluctuations on groundwater levels across the Site. Tidal data available from the National Oceanic and Atmospheric Administration (NOAA) was utilized in the evaluation. A graph showing the tidal fluctuations and groundwater fluctuations is presented as **Figure 6.** The transducer data and graphs are provided in **Appendix B**.

4.1.8 In-Situ Hydraulic Conductivity

Hydraulic conductivity was calculated from low-flow data collected in January 2017 at wells where the flow rate and drawdown are stable using the method of (Robbins et al, 2008). In-situ hydraulic conductivity testing was performed in 19 of 24 existing site wells on the Property. The remaining five wells could not be tested because the DTW measurement was not available, presumably due to the presence of LNAPL (MW-201, MW-410), or there was zero drawdown (MW-407, MW-414, MW-417). The in-situ hydraulic conductivity results are summarized in **Table 8.** The January 2017 low-flow sampling sheets and the hydraulic conductivity summary sheets are provided in **Appendix D**.

4.2 Site Hydrogeological Characteristics

4.2.1 Topography and Surface Characteristics

The Site topographic surface is generally level, ranging in elevation from 11.59 feet amsl relative to the North American Vertical Datum of 1988 (NAVD88) at B-300, to 14.62 feet amsl at MW-402.

The variation in surface elevation is likely due to the deposition of significant amounts of fill on the Property. Vegetation on the property consists of grasses, and a few isolated small trees and shrubs. Access to the property is through a locked gate from a separate access road on the west side of the fence.

4.2.2 Underground Utilities

Underground utilities are known to exist beneath the access road (which parallels Route 3A) and runs along parallel to the southern side of the Disposal Site (and Property). A buried electric line provides power to overhead lights located outside the perimeter of the Property on the south and west sides. No underground utilities are located in the immediate area of the former 11,256,000 AST.

4.2.3 Site Geology

Subsurface materials at the Property include topsoil, fine-medium sand, fine to coarse sand with fine gravel and silt, fine to coarse sand with trace fine gravel and trace silt containing slag, coal, brick, concrete and/or coal ash like material (Urban Fill), underlain by interbedded fine-medium sand, silt, and clay.

- Topsoil consists of roots, decayed organic matter, and silt, sand and/or gravel that ranges from 0.5 feet to 1.3 feet.

- Fine to medium sand, fine to coarse sand, silty sand, and fine to coarse sand with trace silt and fine gravel underlies topsoil and ranges from approximately 1.3 feet at B-403 to 12.5 feet at B-300.

- Urban Fill underlies fine to medium sand or fine to coarse sand or silty sand, and ranges from 0.4 feet at B-417 to 21.8 feet at B-203.

- Fine to coarse sand, locally containing trace gravel and silt underlies Urban Fill and ranges from 0.6 feet at B-411 to 14.8 feet at B-202.

- Fine sand, silt and clay underlies the above materials to a depth of approximately 94 feet bgs at B-105.

LNAPL product saturated soil (PSS) occurs mostly in Urban Fill; but it was also observed in fine-medium sand underlying Urban Fill at B-313 (**Figure 5a**), as globules in fine sand below Urban Fill at B-309 (**Figure 5b**), and in fine to medium sand at B-406 and B-414 (**Figure 5c**).

4.2.4 Site Hydrogeology

Previous groundwater contour maps presented in the IRA Plan (TRC, September 2016), and the IRA Status Report #1 (TRC, November 2016), based on limited data (MW-201 through MW-206) at low tide and high tide suggested the interpreted direction of groundwater flow is in a northeast direction toward Fore River. Since that time, 18 additional monitoring wells (MW-400 through MW-417)

were completed in the vicinity of the Site, and a tidal study completed. A description of the tidal study is presented below.

4.2.4.1 Tidal Study Results

A tidal study was performed over a one-week period (December 22-29, 2016) to evaluate the influence of tidal fluctuations on groundwater levels in the vicinity of the Site. The transducer-collected water level data from MW-202, MW-205, MW-206, and MW-417 were compared against tidal elevations at the nearby Fore River Bridge (Station 8444788). During the tidal study, the tide fluctuation at Fore River Bridge was approximately 10 feet from low to high tide. The changing tidal elevation appears to have had limited influence at MW-202, MW-205, and MW-417 and essentially no influence at MW-206. Evaluation of the transducer and tidal data indicated the average lag time between low tide and high tide at the Fore River Bridge and corresponding low and high water levels at MW-417 was 66 minutes, while the lags at MW-202 and MW-205 were approximately 104 minutes, and 106 minutes, respectively. The average difference between high and low water levels influenced by the tide at MW-417, MW-202 and MW-205 was only 0.11, 0.14, and 0.31 foot, respectively. These results indicate the lag time varies across the Site, and the tidal influence is limited to a few tenths of a foot between high and low tides. A tidal and groundwater elevation graph is presented as **Figure 6**. The tidal study data are provided in **Appendix B.**

4.2.4.2 Groundwater Contours – March 20, 2017

A groundwater contour map based on the March 20, 2017 gauging data **(Table 7),** collected prior to the start of groundwater sampling is presented as **Figure 7.** The interpreted groundwater elevation contours are based on the DTW measurements collected over approximately 1 hour prior to gauging the wells with LNAPL, subtracted from reference (measuring point) elevations relative to the North American Vertical Datum of 1988 (NAVD88). At that time, the Weymouth Fore River tidal gauge levels were decreasing from 6.42 to 4.95 feet (mid-tide) relative to the mean low low water (MLLW) datum. Because product accumulation in the well depresses the groundwater elevation, these wells were not used in groundwater contouring, and the groundwater elevations in these wells were bracketed.

The interpreted configuration of the water table contours indicated groundwater elevations were generally flat ranging from 1.72 to 2.05 feet NAVD88. An apparent depression with groundwater elevations slightly elevated on both the west and east sides of the study area. The tide ranged from 6.42 feet to 4.95 feet MLLW and was ebbing at the time of the March 2017 synoptic event. The measured head difference in wells without LNAPL is only 0.33 foot, which is similar to the average tidal influence ranging from 0.1 to 0.3 feet between low and high tide. While the configuration of the groundwater contours suggest groundwater has the potential to flow west toward Weymouth Fore River, because the lag and magnitude of tidal influence varies across the Property, TRC believes the groundwater elevations are slightly tidally influenced.

4.2.4.3 Groundwater Contours – May 1, 2017

A groundwater contour map based on the May 1, 2017 gauging data, collected after removal of NAPL socks and groundwater levels stabilized, is presented as **Figure 8**. The interpreted May 2017 groundwater elevation contours are based on the DTW measurements collected over approximately 3 hours. During that time, the Weymouth Fore River tidal gauge levels were decreasing from 1.13 feet to – 1.23 feet (low-tide), then increased to 1.13 feet relative to the MLLW datum.

The interpreted configuration of the water table contours indicated groundwater elevations were generally flat, ranging from 2.36 to 2.72 feet NAVD88. The configuration of the groundwater contours suggest groundwater has the potential to flow west toward the Weymouth Fore River. Groundwater elevations were approximately 0.5 to 1 foot higher on May 1, 2017 relative to the gauging on April 25, 2017. According to the nearby NOAA weather Station Weymouth 0.5 NW, MA US GHCND:US1MANF0005 (Elev: 99 ft., Lat: 42.212^{o}N Lon:70.951^{o} W), 1.51 inches of rain was recorded between April 26-27, 2017. Infiltration of rain resulted in recharge of the shallow groundwater table on the Property.

4.2.4.4 Groundwater Contours – June 13, 2017

A groundwater contour map based on the June 13, 2017 gauging data, collected approximately one week after removal of NAPL socks, is presented as **Figure 9**. The interpreted groundwater elevation contours are based on the DTW measurements collected over approximately 3 hours 10 minutes. During that time, the Weymouth Fore River tidal gauge levels were decreasing from 10.55 feet to – 3.85 feet (low-tide) relative to the MLLW datum.

The interpreted configuration of the water table contours indicated groundwater elevations were generally flat, ranging from 1.8 to 2.2 feet NAVD88. The configuration of the groundwater contours suggest groundwater has the potential to flow west toward the Weymouth Fore River. Groundwater elevations were approximately 0.5 foot lower on June 13, 2017 relative to the gauging on May 1, 2017, and approximately 0.1 to 0.2 feet higher than March 20, 2017.

4.2.4.5 Summary of Seasonal Groundwater Elevation Events

The difference in groundwater elevations between the March 2017, May 2017, and June 2017 are similar to the range observed in the tidal study, which suggests that tidal fluctuation has an influence on groundwater elevations at the Site. Recharge from precipitation also has a significant influence because the May 1, 2017 data were 0.5 to 1 foot higher relative to the April 25, 2017 event as approximately 1.51 inches of rain fell on April 26-27, 2017 between these two gauging events.

4.2.4.6 In-Situ Hydraulic Conductivity

The results indicated hydraulic conductivity (K) ranged from approximately 8.5 feet/day (3.0×10^{-3} centimeters per second [cm/s]) to 105 feet/day (3.7×10^{-2} cm/s), and averaged (geometric mean or geomean) approximately 28 feet/day (1×10^{-2} cm/s), which is representative of sand and gravel fill materials observed at the Property. In-situ hydraulic conductivity estimates from low flow data are

summarized in **Table 8**. The in-situ hydraulic conductivity calculation sheets are provided in **Appendix D.**

5.0 NATURE AND EXTENT OF CONTAMINATION (310 CMR 40.0483[1][e])

5.1 Results of Soil Boring/Sampling Activities

Observations made during soil boring advancement indicate the presence of petroleum impacts in several of the borings and in monitoring wells proximate to the former 11,256,000-gallon AST. The following observations were noted:

- The depth to product (DTP; i.e., depth to observed petroleum-saturated soils) ranges from 10 feet below existing grade at MW-201 to 12.6 feet below grade at MW-411.
- With the exception of two locations (MW-411 and B-317), most DTP values between 10 and 12 feet below grade are located in the vicinity of the former AST.
- The extent of LNAPL is bounded by wells located on the Property at greater distances from the AST boundary, including wells MW-416 and MW-417 located beyond the fence line and the Disposal Site boundary.

Based on the data collected, the following information was noted:

- EPH concentrations were detected exceeding MCP applicable Method 1 Category S-2/GW-3 criteria at B-317, B-404, 406, 407, 410, 411, 412, 414, and 415.
- Upper Concentration Limits (UCLs) were exceeded for C19-36 Aliphatics and/or C11-22 Aromatics were exceeded at B-404 (12 ft), B-406 (11.8 ft and 12.5 ft), B-407 (11.8 ft), B-411 (14 ft), B-412 (11.5 ft and 13 ft), B-413 (14-15 ft), and at B-414 (14 ft).
- In the remaining soil samples, EPH concentrations did not exceed the Method 1 S-2/GW-3 criteria.
- VPH concentrations did not exceed the S-2/GW-3 criteria.

Soil samples collected are summarized on **Table 4**. Soil analytical results are summarized in **Table 5**, which includes all the samples collected to evaluate this Disposal Site. In addition, **Table 5** includes calculated total petroleum hydrocarbons (TPH) concentrations (sum of the detectable EPH and VPH fractions and target analyte concentrations). Observations during soil boring advancement are included in the Field Reports and boring/monitoring well logs in **Appendix B**.

5.2 Results of Groundwater Sampling Activities

Groundwater analytical VPH and EPH results are reported as below laboratory detection limits in all the groundwater samples collected in Property and Site monitoring wells during the January 2017 sampling event. These results are consistent with the prior groundwater sampling event in November 2016, at existing monitoring wells (MW-201 through MW-206), and in August 2016 at MW-201 where LNAPL has historically been observed. Groundwater analytical results indicate that

petroleum contamination has not been identified in the dissolved phase. Based on the results of the five seasonal rounds (August 2016, November 2016, January 2017, March 2017, and June 2017) of groundwater sampling, VPH and EPH analytes have not exceeded applicable MCP criteria in the groundwater at the Site or Property. The August 2016 and November 2016 rounds included six existing monitoring wells on the Property. A total of 18 additional monitoring wells were installed in December 2016, and all 24 pre-existing and newly completed 24 wells were included in the January, March, and June 2017 groundwater sampling rounds. Groundwater sample results are summarized in **Table 6**. The laboratory analytical reports are provided in **Appendix C.**

Groundwater data are summarized as follows:

- The August 23, 2016 sampling round of analytical results indicated VPH and EPH hydrocarbon fractions and target analytes were not detected in samples collected from MW-201 through MW-206.

- The November 3, 2016 sampling round of analytical results indicated VPH and EPH hydrocarbon fractions and target analytes were not detected in samples collected from MW-201 through MW-206

- The January 3-6, 2017 sampling round of analytical results indicated C11-C22 Aromatics were detected at 188 micrograms per liter (ug/L) at MW-414 and 102 ug/L at MW-412 (duplicate not detected at 100 ug/L quantitation limit).

- The March 20-23, 2017 sampling round of analytical results indicated the detection of low concentrations of ethyl benzene (3.22 ug/L [3.11 ug/L – duplicate]), naphthalene (6.66 ug/L [6.72 ug/L – duplicate]), and C11-C22 Aromatics (102 ug/L (duplicate not detected at 100 ug/L quantitation limit) at MW-406. Low levels of C19-C36 Aliphatics were detected at 223 ug/L at MW-404. Low levels of C11-C22 Aromatics were also detected at MW-410 (125 ug/L), MW-414 (105 ug/L). These results are several orders of magnitude below applicable MCP Method 1 VPH Groundwater (GW)-2 and GW-3 criteria.

- The June 5-7, 2017 sampling round of analytical results indicated the detection of low concentrations of C9-C10 Aromatics (68.3 ug/L), naphthalene (7.57 ug/L), C11-12 Aromatics (178 ug/L) at MW-407, C9-12 Aliphatics (58.3 ug/L), and C11-22 Aromatics (131 ug/L) at MW-414. These results are several orders of magnitude below applicable MCP Method GW-2 and GW-3 criteria.

Based on the results of laboratory analysis of the groundwater sample collected, there are no exceedances of MCP Method 1 GW-2 and GW-3 criteria applicable to the Site.

5.3 Results of Gauging and LNAPL Recovery

Weekly LNAPL recovery at MW-201 has indicated that viscous LNAPL is persistent in the well. The physical nature of the LNAPL, including the apparent viscosity of the oil, has made measurement of the thickness of the product difficult, as the material coats the oil/water interface

probe so that an accurate reading of the depth to water beneath the oil cannot be obtained using this method. LNAPL has been observed in six monitoring wells – MW-201, MW-406, MW-407, MW-410, MW-414, and MW-415 week to week.

LNAPL thickness has fluctuated at each monitoring well, except at MW-414 and MW-201 where the maximum LNAPL accumulation observed is approximately 1.39 feet and 1.24 feet, respectively, both on April 17, 2017, prior to conducting manual skimming tests. The next highest LNAPL thickness was observed as 0.59 feet at MW-410 on February 6, 2017. MW-414 is located in the vicinity of the southwest side of the former AST, while MW-201 and MW-410 are located beneath the northwestern portion of the former AST. The LNAPL thickness is less than 0.2 feet at the remaining three monitoring wells MW-406, MW-407, and MW-415, which are located in the vicinity of the south to southwest side of the former AST.

LNAPL thickness was reduced at MW-414 during performance of the skimming test during April 17, 2017 through May 1, 2017, and attempted skimming test at MW-201 on April 17, 2017. LNAPL socks were placed in monitoring wells (MW-201, MW-406, MW-407, MW-410, and MW-415) on April 18, 2017, and in MW-414 after completion of the skimming test on May 1, 2017. Gauging is performed after the sock is removed, and before a new sock is installed in each monitoring well where NAPL has historically been observed. LNAPL thickness has been depressed since attempting manual skimming tests. LNAPL thickness was depressed after socks were removed prior to the June 2017 groundwater sampling round. Weekly gauging continued for three weeks after the June 2017 sampling event, and these data show that LNAPL thickness was 0.04 feet (0.48 inches) at MW-201 and less at MW-406, MW-407, MW-410 and MW-411. These values are well below Stability Action Levels for coarse sand and gravel soils (Golder Associates, 2008), indicating that one-year of monthly monitoring is not required (MassDEP, 2016, p.31). Weekly DTP and depth to groundwater (DTW) gauging data are summarized in **Table 7**. A graph showing LNAPL thickness changes over time is presented as **Figure 10**.

5.3.1 Estimated Thickness of Petroleum-Saturated Soil

Petroleum-saturated soil has been observed in borings ranging in estimated thickness from 0.2 to 6 feet, averaging 3.3 feet. Petroleum-saturated soil thickness is greatest ranging from 5 to 6 feet beneath the central portion of the former AST at borings B-105, MW-201, B-305, B-309, B-311, B-312, MW-412, and MW-413, decreasing to less than 2 feet near the former AST perimeter, with the exception to the southwest of the AST perimeter (B-319, B-406, B-407, and B-414) where LNAPL thickness is estimated to range from 2.5 to 3.6 feet at the time borings were advanced in 2016. LNAPL is bounded by monitoring wells located beyond these areas**.** The observed petroleum-saturated soil thickness observations and calculated soil TPH concentrations are summarized in **Table 9**. The lateral extent of LNAPL is approximated on **Figure 4.** The observed vertical thickness of fill materials containing petroleum are included on **Figures 5a, 5b, and 5c** geologic cross sections

6.0 MIGRATION PATHWAYS AND EXPOSURE POTENTIAL (310 CMR 40.0483[1][f])

6.1 Evidence of Potential for OHM Migration

Gauging data, groundwater monitoring results, LNAPL viscosity, soil core data, and in-situ oil transmissivity estimates support there is limited or no potential for OHM migration. There are no known underground utilities at the Site, or geologic structures (e.g. buried stream channels) that act as preferred migration pathways. The highly viscous LNAPL is not discharging to any building, utility, and drinking water supply well, or surface water body.

Groundwater VPH and EPH analytical data for samples collected in August 2016, November 2016, January 2017, March 2017, and June 2017 indicate infrequent detections of VPH and EPH hydrocarbon fractions and/or target analyte concentrations that are several orders of magnitude below applicable Method 1 GW-2 and GW-3 groundwater criteria. These results indicate that the LNAPL is not a significant source of groundwater contamination.

Dissolved phase data support that a significant vapor phase is not likely present at the Site. Soil jar headspace data measured with a PID are collected from the saturation zone. If significant volatiles were present they would partition to the dissolved phase before partitioning to the vapor phase.

6.2 Known and Potential Human Exposure

Under current Site conditions, there is no known or potential for human exposure to contaminated media. Potential human exposures would occur if contaminated soil or groundwater was brought to the surface during construction activities. A soil management plan will be necessary to mitigate potential exposure during construction activities. The Site is fenced with a locking a gate and access is restricted, therefore trespassers and visitors are not anticipated at the Site. In addition, soil and groundwater contamination was detected at depths greater than approximately 9.7 feet below grade, further limiting exposure potential to contaminated media.

6.3 Known and Potential Environmental Impacts

Based MassDEP's Priority Resources map, **Figure 2**, there are no institutions within 500 feet of the Site. Natural resources identified in 310 CMR 40.0483(1)(a)(8)(a) were identified within 500 feet of the Site, specifically King's Cove/tidal flats and Weymouth Fore River/rocky intertidal shore, are located within 500 feet of the east and west sides of the Site. There are no drinking water supplies (310 CMR 40.0483(1)(a)(8)(b), and no Areas of Critical Environmental Concern (310 CMR 40.0483(1)(a)(8)(c) identified within 500 feet of the Site. King's Cove Waterfront Park, located along the far edge of the Property but off Site is considered Protected Open Space.

Based on the five rounds of seasonal groundwater data, groundwater was not identified as being impacted from the petroleum release above applicable MCP standards and therefore, potential environmental impacts from groundwater migration to the Fore River or Kings Cove are minimal.

Petroleum impacted contaminated soils are not anticipated to have an impact on environmental receptors due to the depth of the contaminated material.

6.4 Critical Exposure Pathways (CEPs)

CEPs are defined in 310 CMR 40.0006 as those routes by which oil and/or hazardous material(s) released at a Disposal Site are transported, or are likely to be transported, to human receptors via:

a) vapor-phase emissions of measurable concentrations of oil and/or hazardous materials into the living or working space of a pre-school, daycare, school or occupied residential dwelling; or

b) ingestion, dermal absorption or inhalation of measurable concentrations of oil and/or hazardous materials from drinking water supply wells located at and servicing a pre-school, daycare, school or occupied residential dwelling.

Groundwater analytical results obtained during the Phase I ISI indicate groundwater at the Disposal Site is not impacted by the subject release. In addition, the physical and chemical properties of the contaminants of concern in soil and groundwater (highly viscous LNAPL) indicate vapor intrusion would not be a significant concern for these compounds. Furthermore, based on the MassGIS Priority Resources Map (Figure 2), no private or public water supply wells, or public water supply reservoirs are known to be located within 500 feet of the Disposal Site. Surface water bodies and wetlands are located outside the 500 foot radius associated with the Disposal Site and groundwater data does not indicate the LNAPL has impacted the groundwater above applicable standards. As presented on Figure 6, minimal tidal influence was observed in Site monitoring wells as compared to the Fore River Bridge Stage (MLLW).

6.5 Imminent Hazard Evaluation

There are no known releases or threats of release at the Disposal Site that currently pose or could pose an Imminent Hazard pursuant to the 310 CMR 40.0321. Highly viscous LNAPL has been detected in soil and groundwater at depth less than 9.7 feet below existing grade (Tables 3 and 7) at the Disposal Site but is not anticipated to trigger an MCP Imminent Hazard threshold.

In addition, Disposal Site conditions do not indicate current exposures that could result in an Imminent Hazard pursuant to 310 CMR 40.0953, since the Site is currently vacant and fenced with access restricted by a locked gate.

7.0 EVALUATION FOR IMMEDIATE RESPONSE ACTIONS (310 CMR 40.0483[1][g])

Following the report of the release to MassDEP, IRA activities were conducted, including: installation of new NAPL socks in MW-201, replacement of NAPL socks/weekly gauging; completion of 18 borings (B-300 series) to delineate the extent of petroleum saturated soils; completion of 16 borings/monitoring wells (400-series); collection of soil samples for EPH/VPH analysis, collection of soil samples for LNAPL physical parameters, weekly monitoring of LNAPL thickness; completion of an oil transmissivity test; quarterly groundwater quality sampling; and installation of new NAPL socks in all wells containing LNAPL (as summarized in Section 4.0 of this report).

An IRA Plan and two IRA Status Reports have been submitted to MassDEP in conjunction with the IRA 72-hour notification previously discussed.

Site conditions were evaluated for Imminent Hazard (IH), Substantial Release Migration (SRM) and Critical Exposure Pathway (CEP). No IH, SRM or CEP conditions were observed.

8.0 TIER CLASSIFICATION (310 CMR 40.0500)

Pursuant to 310 CMR 40.0520(2), any disposal site which meets the following criteria at the time of Tier Classification shall be classified as Tier I:

a) there is evidence of groundwater contamination with oil and/or hazardous material at concentrations equal to or exceeding the applicable RCGW-1 Reportable Concentration set forth in 310 CMR 40.0360, and such groundwater is located within an Interim Wellhead Protection Area, Zone II, or within 500 feet of a Private Water Supply Well;

b) an Imminent Hazard is present;

c) one or more remedial actions are required as part of an Immediate Response Action pursuant to 310 CMR 40.0414(2); or

d) one or more remedial actions are required as part of an Immediate Response Action to eliminate or mitigate a Critical Exposure Pathway pursuant to 310 CMR 40.0414(3).

In accordance with 310 CMR 40.0520(4), any disposal site that is not Tier ID pursuant to 310 CMR 40.0520 or 40.0520(5) and does not meet the Tier I Criteria described at 310 CMR 40.0520(2) shall be classified as Tier II.

The Disposal Site does not meet any of the Tier I inclusionary criteria listed above [310 CMR 40.0520(2)]. Specifically, groundwater at the Disposal Site is not impacted by the subject release (**Table 6**) and no groundwater resource areas are located in the vicinity of the Disposal Site (**Figure 2**). An Imminent Hazard is not present at the Disposal Site (Section 6.5), Immediate Response Actions are being conducted in accordance with MassDEP approvals at the Disposal Site (Section 7), and no CEPs are present at the Disposal Site (Section 6.4).

Therefore, in accordance with 310 CMR 40.0520(4), the Disposal Site is classified as Tier II.

9.0 PUBLIC INVOLVEMENT (310 CMR 40.1403)

Public involvement activities related to completion of this Phase I ISI and Tier Classification are being conducted in accordance with 310 CMR 40.1403. Specifically, the Mayor and Board of Health of the Town of Weymouth were notified of the availability of the Phase I and Tier Classification Report, as well as the Tier Classification status of the Site, and provided information on the Phase I and Tier Classification and details on how they may obtain a full copy of the report.

In addition, a legal notice of Tier Classification will be published in the local newspaper within seven days of submittal of this document to MassDEP. Refer to the **Appendix E** for copies of the public notification letters and legal notice. A copy of the legal notice published in the local newspaper will be submitted to MassDEP through eDEP.

10.0 CONCLUSIONS (310 CMR 40.0483[1][h])

TRC completed a Phase I ISI and Tier Classification for the Disposal Site located at 6 & 50 Bridge Street in Weymouth, Massachusetts on behalf of Enbridge. The findings and conclusions of the Phase I ISI are summarized below.

- Release Tracking Number 4-26230 pertains to a 120-day notification reporting condition associated with petroleum detected compounds in soil above RCS-1 standards.

- Release Tracking Number 4-26243 pertains to a MCP 72-hour reporting condition that was triggered due presence of LNAPL greater than 0.5 inch thick in one monitoring well (MW-201).

- The Site is located on undeveloped Property surrounded by a locked chain-link fence. The Site was previously used for no. 2 fuel storage of an 11,256,000-gallon AST, which was removed prior to 1996. No records of past releases of oil were found.

- TRC evaluated conditions in and around the approximate footprint of the former AST by overseeing the installation of soil borings and a monitoring wells. Based on soil and groundwater samples collected to date, fuel oil has weathered and become viscous and sticky.

- Petroleum saturated soils are predominantly contained to the area directly beneath or in the immediate vicinity of the approximate location of the former AST at a depth generally between approximately 11 and 17 feet. Soil samples indicate exceedances of UCLs at seven borings within this depth range.

- Five seasonal rounds of groundwater quality sampling results at five monitoring wells (MW-201 through MW-206), and three seasonal rounds at 18 monitoring wells (MW-201 through MW-206; MW-300 through MW-317) support no exceedances of applicable GW-2 and GW-3 standards.

10.1 Preliminary Conceptual Site Model (CSM)

The preliminary CSM for the Disposal Site indicates that petroleum related compound impacts in soil and groundwater are attributable to historic releases associated with the former 11 million gallon AST. The amount of the release(s) are not known, nor is the date releases potentially occurred. Petroleum saturated soils are predominantly located and appear to be contained in the area directly beneath or in the immediate vicinity of the approximate location of the former AST at a depth generally between approximately 9.7 and 17.3 feet below existing grade. A visual representation of the preliminary Conceptual Site Model is provided as Figure 11. The LNAPL detected is highly viscous and sticky and difficult to remove using conventional removal methods including both active recovery (e.g. pumping and passive removal including LNAPL absorbing socks. Oil/water interface probes utilized to measure the LNAPL were limited in that the probe was coated with oil while trying to insert the unit into the monitoring wells, leading to overestimates of LNAPL thickness. Five seasonal groundwater quality sampling results indicate no exceedances of applicable GW-2 and GW-

3 standards.

Currently, there are no potential receptors at the Disposal Site as the soil contamination is located at depth. Groundwater contamination above applicable standards was not detected in multiple seasonal rounds of data collection. Two surface water bodies are located just beyond the 500 foot radius including Kings Cove and Fore River. However, based on groundwater flow direction and groundwater quality petroleum impacts to the surface bodies are not anticipated.

10.2 Outcome of Phase I ISI Report

The outcome of the Phase I ISI Report is summarized below.

- The Disposal Site has been classified as a Tier II disposal site.
- Additional release characterization is needed to evaluate the mobility and risk associated with the LNAPL to achieve a Permanent Solution for the Disposal Site.
- A Phase II Comprehensive Site Assessment must be conducted at the Disposal Site, if a Permanent Solution is not achieved within three years of Tier Classification.

11.0 CONCEPTUAL PHASE II SCOPE OF WORK

Additional MCP response action characterization is warranted to evaluate the mobility of the LNAPL and evaluate risk associated with the release at the Disposal Site to achieve regulatory closure. However, comprehensive site assessment activities, per se, are not deemed necessary based on the amount of data collected since April 2016 associated with the IRA and other assessment activities conducted at the Site.

The scope of work for additional response actions at the Disposal Site may consist of, but is not limited to, the following activities:

- Evaluation of LNAPL mobility;
- Completion of IRA activities and preparation of an IRA Completion Report to support IRA closure activities.
- Proper off-Site disposal of the petroleum impacted media and IDW from the Disposal Site;
- Evaluating the risk of harm posed by the Disposal Site to human health, safety, public welfare and the environment; and
- Preparing a Phase II Comprehensive Site Assessment Report in accordance with the MCP (310 CMR 40.0835), if a Permanent Solution is not achieved within three years.

12.0 LIMITATIONS

This report was prepared exclusively for Algonquin use in MCP submittals. The conclusions presented in this report are based solely on the information reported in this document. Additional information regarding the Site, which was not available to TRC, may result in a modification of the findings above. The report has been prepared in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area. No other warranty, expressed or implied, is made.

13.0 REFERENCES

MassDEP, 2002. Policy #WSC-02-411, Characterizing Risks Posed by Petroleum Contaminated Sites: Implementation of the MassDEP VPH/EPH Approach – Final Policy, dated October 31, 2002.

MassDEP, 2014a. Massachusetts Contingency Plan, 310 CMR 40.0000, effective date, April 25, 2014.

MassDEP, 2016. Light NonAqueous Phase Liquids (LNAPL) and the MCP: Guidance for Site Assessment and Closure Policy #WSC-16-450, February 19, 2016.

TRC, 2016a Immediate Response Action Plan, Weymouth Compressor Station, 6 & 50 Bridge Street, Weymouth, Massachusetts, Release Tracking Number 4-26243, prepared by TRC for Spectra Energy Partners, Algonquin Gas Transmission, LLC, September 2016.

TRC, 2016b Immediate Response Action Status Report #1, Weymouth Compressor Station, 6 & 50 Bridge Street, Weymouth, Massachusetts, Release Tracking Number 4-26243, prepared by TRC for Spectra Energy Partners, Algonquin Gas Transmission, LLC, November 2016.

TRC, 2017a Immediate Response Action Status Report #2, Weymouth Compressor Station, 6 & 50 Bridge Street, Weymouth, Massachusetts, Release Tracking Number 4-26243, prepared by TRC for Spectra Energy Partners, Algonquin Gas Transmission, LLC, May 2017.

TABLES

Table 1
Phase I Initial Site Investigation Report
Current and Previous Owner and Operator Information
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Site Owner	From	To
Algonquin Gas Transmission, LLC	12/2/2016	Present
Calpine Fore River Energy Center, LLC	11/7/2014	12/2/2016
Constellation Mystic River Power LLC	1/3/2011	11/7/2014
Fore River Development LLC	2/20/2001	1/3/2011
Sithe Fore River Dev LLC	5/21/1998	2/20/2001
Sithe Edgar LLC	5/21/1998	5/21/1998
Boston Edison Company	Unknown	5/21/1998

Table 2
Phasie I Initial Site Investigation Report
Site History Summary
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Year	Site History
c. 1910 - c. 1917	The Site appears as undeveloped
c. 1917 - c. 1957	South side of Site appears as developed as Brooks-Skinner Co. Inc. in 1917; Illuminating Co. of Boston with coal storage with steel gantry bridge connecting to wharf piers present in central portion of Site sometime before 1927. Northeastern and eastern portions appear to be backfilled.
c. 1957- c. 1978	Eastern portion remains undeveloped; coal storage until at least 1969 on western portion
c. 1978 - c. 1996	Aboveground storage tanks (AST) present since at least 1978, vehicle parking area, access road, and storage areas present
c. 1996 - c. 2012	AST is not present, several small structures visible, vehicle parking area, miscellaneous storage; central portion appears as grassy fields, far eastern portion remains undeveloped.

Table 3
Phase I Initial Site Investigation Report
Soil Boring, Monitoring Well Constuction
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Boring and Monitoring Well Identification	Ground Elevation (ft-NAVD88)	Boring Depth (ft-bgs)	Well Inside Diameter (in)	Well Screen Depth (ft-bgs)	Vac Rig (Vac) or No Recovery (NR) (ft-bgs)	Topsoil (ft-bgs)	Fine - Medium Sand (ft-bgs)	Fill Sand and/or Gravel (ft-bgs)	Fill Sand/Gravel Slag, Coal, Brick (ft-bgs)	Fill Silt and Sand (ft-bgs)	Fill and/or Natural Fine to Coarse Sand with Trace Gravel and/or Silt (ft-bgs)	Fine Sand, Silt, and/or Clay (ft-bgs)	Observed Top PSS (ft-bgs)	Observed Bottom PSS (ft-bgs)	Approximate PSS Thickness (ft)
B-105	13.00	107.6	-	NA	0-2 Vac	0-0.5	-	6-21	2-6	-	-	21-94	14	19	5
B-201/MW-201	13.20	20	2	5-20	0.5-6 Vac	0-0.5	-	-	6-18	-	18-18.6	18.6-19.1	12	18	6
B-202/MW-202	12.00	21	2	4-19	-	0-0.9	-	-	0.9-5.25	-	5.25-20	20-20.3	0	0	0
B-203/MW-203	12.20	21	2	4-19	-	0-0.3	-	-	0.3-13	-	13-19.7	19.7-20.2	0	0	0
B-204/MW-204	12.90	20	2	5-20	0-6 Vac	0-0.3	-	6-6.7	6.7-7.4, 14-18	7.4-14	18-20	-	0	0	0
B-205/MW-205	14.40	20	2	5-20	0-6 Vac	0-0.5	-	6-8	8-10	10-12.3	12.3-20	-	0	0	0
B-300	11.59	20	-	-	1.2-5 NR	0-1.2	5-17.5	-	-	-	-	17.5-18	0	0	0
B-301	13.70	15	-	-	0.3-5 NR	0-0.3	-	-	5.3-10.5	5-5.3	10.5-11.7	11.7-12.5	10.5	11.7	1.2
B-302	12.55	15	-	-	-	0-0.5	0.5-14.2	-	-	-	-	-	0	0	0
B-303	12.48	15	-	-	-	0-1.2	-	-	5.3-10.7	1.2-5.3	-	10.7-15	10.5	10.7	0.2
B-304	12.68	20	-	-	-	0-1.2	-	1.2-6.2	6.7-16.3	6.2-6.7	-	16.3-16.6	10.8	12.5	1.7
B-305	13.82	20	-	-	-	0-0.8	0.8-6.5	-	6.5-18	-	-	-	11.2	17	5.8
B-306	12.67	15	-	-	-	0-0.8	-	-	0.8-14.7	-	-	14.7-15	11.8	14.8	3
B-307	12.32	15	-	-	-	0-0.7	-	-	-	-	0.7-15	-	0	0	0
B-308	12.32	15	-	-	0.5-5 NR	0-0.5	10.9-13.9	-	5.5-6.8	-	6.8-10.9	-	0	0	0
B-309	14.26	20	-	-	-	0-0.5	0.5-7.5	-	7.5-15.3	-	-	15.3-17.5	11.5	16.7	5.2
B-310/MW-206	13.10	19	2	9-19	-	0-1.3	-	-	5-5.2	-	5.2-10.3	10.3-15	0	0	0
B-311	12.58	20	-	-	-	-	0-6	-	6-16.5	-	-	16.5-20	11.3	17.3	6
B-312	13.12	20	-	-	0.9-5 NR	0.0.9	5-7.2	-	7.2-20	-	-	-	11.2	16.7	5.5
B-313	13.91	20	-	-	-	0-1.2	1.2-7, 10-13.9	-	7-7.7	-	-	13.9-14.1	11.3	14	2.7
B-314	13.97	15	-	-	-	0-0.5	0.5-5.7	-	5.7-6.5	6.5-10.7	10.7-12.7	12.7-15	0	0	0
B-315	12.36	15	-	-	-	0-1.3	-	-	5-10.5, 12.5-13.3	10.5-12.5	-	-	0	0	0
B-317	13.66	15	-	-	-	0-0.7	0.7-7	-	7-14.7	-	-	14.7-15	11.7	13	1.3
B-318	12.98	15	-	-	-	0-0.7	11.2-13.2	-	0.7-11.2	-	-	13.2-13.5	10.7	11.2	0.5
B-319	13.34	17	2	-	0.5-5 NR	0-0.5	-	10.9-13.4	5.5-10.9	-	-	13.4-15	12.5	15	2.5
B-400/MW-400	12.26	23	2	8-23	-	0-0.3	-	-	0.3-13	-	-	15-23	0	0	0
B-401/MW-401	13.44	23	2	7.6-22.6	-	0-1.2	1.2-8.2	-	8.2-11.3	-	11.3-17.5	17.5-23	0	0	0
B-402/MW-402	14.62	20	2	8-23	-	0-0.5	0.5-8.3	-	8.3-10.8	-	10.8-15	15-20	0	0	0
B-403/MW-403	13.11	30	2	8-23	0-5 Vac	-	5-6.8	-	6.8-8,12.5-27.3	-	0-5,8.7-12.5	8-8.7	0	0	0
B-404/MW-404	13.06	23	4	5.4-20.4	0-5 Vac	-	2-7.2, 16.3-21.7	-	7.2-16.3	-	0-2	-	12	12.5	0.5
B-405/MW-405	13.87	21.5	2	6.5-21.5	0-5 Vac	-	2-5, 11.3-17.8	-	5-11.3	-	0-2	-	0	0	0
B-406/MW-406	13.34	23	2	8-23	0-5 Vac	-	10.8-22.3	-	1-10.8	-	0-1	-	11.5	15	3.5
B-407/MW-407	13.18	23	2	8-23	0-5 Vac	-	10.8-18.2	-	5-5.8	-	6.3-10.8	5.8-6.3	10.5	13	2.5
B-408/MW-408	13.04	23	2	8-23	-	-	-	-	0.7-11.5	-	0-0.7, 11.5-16.7	-	0	0	0
B-409/MW-409	12.84	23	2	8-23	-	0-0.5	-	-	0.5-13.1	-	13.1-17.5	-	0	0	0
B-410/MW-410	12.45	25	2	8-23	-	-	-	-	1.1-12.7	0.5-1.1	12.7-17.3	17.3-23.1	11.3	12.8	1.5
B-411/MW-411	12.53	25	2	8-23	-	-	-	-	1-15.8	-	0.5-1	15.8-22.8	11.1	15.8	4.7

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Enbridge
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Boring and Monitoring Well Identification	Ground Elevation (ft-NAVD88)	Boring Depth (ft-bgs)	Well Inside Diameter (in)	Well Screen Depth (ft-bgs)	Vac Rig (Vac) or No Recovery (NR) (ft-bgs)	Topsoil (ft-bgs)	Fine - Medium Sand (ft-bgs)	Fill Sand and/or Gravel (ft-bgs)	Fill Sand/Gravel Slag, Coal, Brick (ft-bgs)	Fill Silt and Sand (ft-bgs)	Fill and/or Natural Fine to Coarse Sand with Trace Gravel and/or Silt (ft-bgs)	Fine Sand, Silt, and/or Clay (ft-bgs)	Observed Top PSS (ft-bgs)	Observed Bottom PSS (ft-bgs)	Approximate PSS Thickness (ft)
B-412/MW-412	13.61	25	4	8-23	-	-	-	-	5-20.7	2.2-5, 16.5-21.7	0.5-2.2	21.7-25	11.3	16.3	5
B-413/MW-413	13.74	25	4	8-23	-	-	-	-	6.8-21.8	0-1.5	1.5-6.8	21.8-25	11.1	16.6	5.5
B-414/MW-414	14.18	23	4	8-23	-	-	11.4-12.3	-	2.7-11.4	-	0-2.7, 12.3-17.3	-	11.4	15	3.6
B-415/MW-415	14.43	23	2	8-23	-	0-0.5	1.8-8	-	0.5-1.8, 8-21.7	-	-	21.7-22.4	11.7	16	4.3
B-416/MW-416	13.34	23	2	8-23	0-6 Vac	-	-	-	5-5.5,10-11	11-14.2	0-5, 5.5-7.2, 14.2-18.2	-	0	0	0
B-417/MW-417	13.34	23	2	8-23	0-6 Vac	-	-	-	5-5.4, 10.6-11.2	11.2-14.2	0-5, 5.4-10.6, 14.2-17.6	-	0	0	0

Abbreviations:
bgs - below ground surface
ft - feet
in - inches
NAVD88 - North American Vertical Datum of 1988
PSS - petroluem-saturated soil

Notes:
1) Fill consists primarily of fine-coarse sand, with variable silt, clay, gravel, and typically contains slag, coal, ash, and brick.
2) Well screen consists of Schedule 40 polyvinylchloride casing and screen (slot size 0.010 inches).
3) B-316 does not exist.

Table 4
Phase I Initial Site Investigation Report
Summary of Environmental Samples
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Sample Date	Sample Name	Matrix	Composite/ Grab	Sample Depth (ft-bgs)	Additional Description	Parameters
4/12/2016	B105	Soil	Grab	14-17	Sample collected based on odors/stainining near water table	EPH, VPHs
8/29/2016	MW-201	GW	Grab	16	Groundwater sample collected -initial monitoring	EPH, VPHs
8/29/2016	MW-205	GW	Grab	15	Groundwater sample collected -initial monitoring	EPH, VPHs
8/29/2016	MW-202	GW	Grab	13	Groundwater sample collected -initial monitoring	EPH, VPHs
8/30/2016	MW-203	GW	Grab	13	Groundwater sample collected -initial monitoring	EPH, VPHs
8/30/2016	MW-204	GW	Grab	17	Groundwater sample collected -initial monitoring	EPH, VPHs
10/12/2016	B-310-12.5	Soil	Grab	12-12.5	Soil collected to define clean bound West of B-105 & MW-201 area	EPH, VPHs
10/13/2016	B-314-12.5	Soil	Grab	12 -12.5	Soil collected to define clean bound East/southeast of B-105 & MW-201 area	EPH, VPHs
10/13/2016	B-308-12.0	Soil	Grab	11.5 -12	Soil collected to define clean bound North of B-105 & MW-201 area	EPH, VPHs
10/13/2016	B-315-12.5	Soil	Grab	12-12.5	Soil collected to define clean bound East/northeast of B-105 & MW-201 area	EPH, VPHs
10/13/2016	B-317-11.5	Soil	Grab	11-11.5	Soil collected to demostrate conditiona above the water table near site perimeter to the southeast	EPH, VPHs
10/14/2016	B-317-12.5	Soil	Grab	12-12,5	Soil collected to demostrate impacted conditions within top of the water table near site perimeter to the southeast	EPH, VPHs
11/1/2016	MW-202	GW	Grab	13	Groundwater sample colected to demostrate stability of plume - routine monitoring	EPH, VPHs
11/1/2016	MW-203	GW	Grab	13	Groundwater sample colected to demostrate stability of plume - routine monitoring	EPH, VPHs
11/1/2016	MW-204	GW	Grab	17	Groundwater sample colected to demostrate stability of plume - routine monitoring	EPH, VPHs
11/1/2016	MW-205	GW	Grab	15	Groundwater sample colected to demostrate stability of plume - routine monitoring	EPH, VPHs
11/1/2016	MW-206	GW	Grab	14.2	Groundwater sample colected to demostrate stability of plume - new well at west perimeter -routine monitoring	EPH, VPHs
12/12/2016	B-409	Soil	Grab	10	Soil collected to define extent of plume	EPH
12/12/2016	B-409	Soil	Grab	11.5	Soil collected to define extent of plume	EPH
12/12/2016	B-410	Soil	Grab	11	Soil collected to define extent of plume	EPH
12/12/2016	B-410	Soil	Grab	12.5	Soil collected to define extent of plume	EPH

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6 Bridge Street, Weymouth, Massachusetts

Sample Date	Sample Name	Matrix	Composite/ Grab	Sample Depth (ft-bgs)	Additional Description	Parameters
12/12/2016	B-410	Soil	Grab	14	Soil collected to define extent of plume	EPH
12/12/2016	B-411	Soil	Grab	11.5	Soil collected to define extent of plume	EPH
12/12/2016	B-411	Soil	Grab	14	Soil collected to define extent of plume	EPH
12/12/2016	B-411	Soil	Grab	16	Soil collected to define extent of plume	EPH
12/12/2016	B-412	Soil	Grab	11.5	Soil collected to define extent of plume	EPH
12/12/2016	B-412	Soil	Grab	13	Soil collected to define extent of plume	EPH
12/12/2016	B-412	Soil	Grab	19	Soil collected to define extent of plume	EPH
12/12/2016	B-413	Soil	Grab	11	Soil collected to define extent of plume	EPH
12/12/2016	B-413	Soil	Grab	14-15	Soil collected to define extent of plume	EPH
12/12/2016	B-413	Soil	Grab	23	Soil collected to define extent of plume	EPH
12/13/2016	B-408	Soil	Grab	11	Soil collected to define extent of plume	EPH
12/13/2016	B-408	Soil	Grab	15	Soil collected to define extent of plume	EPH
12/13/2016	B-414	Soil	Grab	11	Soil collected to define extent of plume	EPH
12/13/2016	B-414	Soil	Grab	14	Soil collected to define extent of plume	EPH
12/13/2016	B-414	Soil	Grab	15.5	Soil collected to define extent of plume	EPH
12/13/2016	B-416	Soil	Grab	11	Soil collected to define extent of plume	EPH
12/13/2016	B-416	Soil	Grab	15	Soil collected to define extent of plume	EPH
12/13/2016	B-417	Soil	Grab	11	Soil collected to define extent of plume	EPH
12/13/2016	B-417	Soil	Grab	15	Soil collected to define extent of plume	EPH
12/14/2016	B-451	Soil	Grab	13.4	Soil collected to define extent of plume	EPH
12/14/2016	B-400	Soil	Grab	11.4	Soil collected to define extent of plume	EPH

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Sample Date	Sample Name	Matrix	Composite/ Grab	Sample Depth (ft-bgs)	Additional Description	Parameters
12/14/2016	B-400	Soil	Grab	12.4	Soil collected to define extent of plume	EPH
12/14/2016	B-401	Soil	Grab	11.5	Soil collected to define extent of plume	EPH
12/14/2016	B-401	Soil	Grab	12.2	Soil collected to define extent of plume	EPH
12/14/2016	B-402	Soil	Grab	11.6	Soil collected to define extent of plume	EPH
12/14/2016	B-402	Soil	Grab	12.2	Soil collected to define extent of plume	EPH
12/14/2016	B-402	Soil	Grab	12.8	Soil collected to define extent of plume	EPH
12/14/2016	B-403	Soil	Grab	10	Soil collected to define extent of plume	EPH
12/14/2016	B-403	Soil	Grab	12	Soil collected to define extent of plume	EPH
12/14/2016	B-404	Soil	Grab	11.4	Soil collected to define extent of plume	EPH
12/14/2016	B-404	Soil	Grab	12	Soil collected to define extent of plume	EPH
12/14/2016	B-404	Soil	Grab	16.5	Soil collected to define extent of plume	EPH
12/14/2016	B-405	Soil	Grab	11.5	Soil collected to define extent of plume	EPH
12/14/2016	B-405	Soil	Grab	12.5	Soil collected to define extent of plume	EPH
12/14/2016	B-406	Soil	Grab	11.8	Soil collected to define extent of plume	EPH
12/14/2016	B-406	Soil	Grab	12.5	Soil collected to define extent of plume	EPH
12/14/2016	B-406	Soil	Grab	21	Soil collected to define extent of plume	EPH
12/15/2016	B-407	Soil	Grab	11.8	Soil collected to define extent of plume	EPH
12/15/2016	B-407	Soil	Grab	12.8	Soil collected to define extent of plume	EPH
12/15/2016	B-407	Soil	Grab	17.5	Soil collected to define extent of plume	EPH
1/3/2017	MW-203	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
1/3/2017	MW-205	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs

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Sample Date	Sample Name	Matrix	Composite/ Grab	Sample Depth (ft-bgs)	Additional Description	Parameters
1/3/2017	MW-400	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/3/2017	MW-401	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/3/2017	MW-416	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/3/2017	MW-417	GW	Grab	17	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
1/4/2017	MW-202	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/4/2017	MW-204	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/4/2017	MW-206	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/4/2017	MW-403	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/4/2017	MW-405	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
1/4/2017	MW-409	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
1/4/2017	MW-411	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/5/2017	MW-402	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/5/2017	MW-404	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/5/2017	MW-406	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/5/2017	DUP-2	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
1/5/2017	MW-407	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/5/2017	MW-408	GW	Grab	19	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/5/2017	MW-412	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/5/2017	DUP-1	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/5/2017	MW-413	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
1/5/2017	MW-415	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs

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Sample Date	Sample Name	Matrix	Composite/ Grab	Sample Depth (ft-bgs)	Additional Description	Parameters
1/6/2017	MW-201	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/6/2017	MW-410	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
1/6/2017	MW-414	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/20/2017	MW-401	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
3/20/2017	MW-205	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/20/2017	MW-203	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/20/2017	MW-204	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/20/2017	MW-402	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/20/2017	MW-400	GW	Grab	17	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
3/20/2017	MW-202	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/21/2017	MW-406	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/21/2017	DUP-1	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/21/2017	MW-410	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/21/2017	MW-201	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
3/21/2017	MW-407	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
3/21/2017	MW-414	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/21/2017	MW-418	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/22/2017	MW-411	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/22/2017	MW-409	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/22/2017	MW-413	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
3/22/2017	MW-412	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs

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Sample Date	Sample Name	Matrix	Composite/ Grab	Sample Depth (ft-bgs)	Additional Description	Parameters
3/22/2017	MW-206	GW	Grab	19	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/22/2017	MW-403	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/23/2017	MW-417	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/23/2017	DUP-2	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
3/23/2017	MW-404	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/23/2017	MW-405	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/23/2017	MW-416	GW	Grab	18	Groundwater sample collected to demonstrate stabiliity of plume - routine monitoring	EPH, VPHs
3/23/2017	MW-415	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/5/2017	MW-202	GW	Grab	15	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/5/2017	MW-203	GW	Grab	19	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/5/2017	MW-204	GW	Grab	19	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/5/2017	MW-205	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/5/2017	DUP-1	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/5/2017	MW-400	GW	Grab	15	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/5/2017	MW-401	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/5/2017	MW-402	GW	Grab	19	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/5/2017	MW-403	GW	Grab	19	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/6/2017	MW-206	GW	Grab	19	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/6/2017	MW-404	GW	Grab	17	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/6/2017	MW-405	GW	Grab	17	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/6/2017	MW-408	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs

Table 4
Phase I Initial Site Investigation Report
Summary of Environmental Samples
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Sample Date	Sample Name	Matrix	Composite/ Grab	Sample Depth (ft-bgs)	Additional Description	Parameters
6/6/2017	MW-409	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/6/2017	MW-412	GW	Grab	19	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/6/2017	MW-413	GW	Grab	16	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/6/2017	MW-415	GW	Grab	17	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/7/2017	MW-201	GW	Grab	19	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/7/2017	MW-406	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/7/2017	DUP-2	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/7/2017	MW-407	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/7/2017	MW-410	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/7/2017	MW-411	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/7/2017	MW-414	GW	Grab	18	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/7/2017	MW-416	GW	Grab	17	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs
6/7/2017	MW-417	GW	Grab	17	Groundwater sample collected to demonstrate stability of plume - routine monitoring	EPH, VPHs

Abbreviations:
EPH - Extractable Petroleum Hydrocarbons
ft-bgs - feet below ground surface
GW - Groundwater
VPH - Volatile Petroleum Hydrocarbons

Table 5
Phase I Initial Site Investigation Report
Soil Analytical Results
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Analysis	Analyte					Sample ID:	B105	B/MW 201			B/MW 202		B/MW 203		B/MW 204		B/MW 205		B-308
						Sample Depth (ft.):	14-17	6-8	10-12	10-12	5-7	9-11	5-7	9-11	6-8	8-10	6-8	10-12	12.0
						Sample Date:	4/12/2016	5/12/2016	5/12/2016	5/10/2016 Field Dup	5/11/2016	5/11/2016	5/11/2016	5/12/2016	5/10/2016	5/10/2016	5/12/2016	5/12/2016	10/12/2016
		S-2/GW-3	RCS-1	RCS-2	UCLs														
VPH																			
(mg/kg)	C9-C10 Aromatics	500	100	500	5,000		**45**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.1 U
	C5-C8 Aliphatics	500	100	500	5,000		12.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.1 U
	C9-C12 Aliphatics	3,000	1,000	3,000	20,000		12.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.1 U
	Benzene	200	2	200	10,000		0.502 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.124 U
	Toluene	1,000	30	1,000	10,000		0.502 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.124 U
	Ethylbenzene	1,000	40	1,000	10,000		0.502 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.124 U
	p/m-xylene	NS	NS	NS	NS		0.502 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.124 U
	o-xylene	NS	NS	NS	NS		0.502 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.124 U
	Xylenes (total)	1,000	100	100	10,000		0.502 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.124 U
	Methyl tert butyl ether (MTBE)	500	0.1	100	5,000		0.251 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.062 U
	Naphthalene	1,000	4	20	10,000		1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.248 U
EPH																			
(mg/kg)	C9-C18 Aliphatics	3,000	1,000	3,000	20,000		**4,570**	**11.4**	**677**	**818**	7.7 U	7.01 U	7.29 U	7.72 U	**7.97**	9.11 U	6.5 U	9.55 U	7.34 U
	C19-C36 Aliphatics	5,000	3,000	5,000	20,000		**9,110**	**73**	**3,260**	**4,310**	**13.3**	7.01 U	**50.1**	**12.3**	**51.7**	9.11 U	**8.44**	**10.1**	7.34 U
	C11-C22 Aromatics	3,000	1,000	3,000	10,000		**9,070**	**32.8**	**2,330**	**3,420**	**25.4**	7.01 U	**27.8**	**18.2**	**33.5**	9.11 U	6.5 U	9.55 U	7.34 U
	Naphthalene	1000	4	20	10,000		7.41 U	0.35 U	0.794 U	1.22 U	0.385 U	0.35 U	0.364 U	0.386 U	0.362 U	0.456 U	0.325 U	0.478 U	0.367 U
	2-Methylnaphthalene	500.0	0.7	80	5,000		7.41 U	0.35 U	0.794 U	1.22 U	0.385 U	0.35 U	0.364 U	0.386 U	0.362 U	0.456 U	0.325 U	0.478 U	0.367 U
	Acenaphthylene	10	1	10	10,000		7.41 U	0.35 U	0.794 U	1.22 U	0.385 U	0.35 U	0.364 U	0.386 U	0.362 U	0.456 U	0.325 U	0.478 U	0.367 U
	Acenaphthene	3,000	4	3,000	10,000		7.41 U	0.35 U	0.794 U	1.22 U	0.385 U	0.35 U	0.364 U	0.386 U	0.362 U	0.456 U	0.325 U	0.478 U	0.367 U
	Fluorene	3,000	1,000	3,000	10,000		7.41 U	0.35 U	0.794 U	1.22 U	0.385 U	0.35 U	0.364 U	0.386 U	0.362 U	0.456 U	0.325 U	0.478 U	0.367 U
	Phenanthrene	1000	10	1,000	10,000		7.41 U	**0.385**	0.794 U	1.22 U	**0.542**	0.35 U	0.364 U	**0.662**	**2.03**	0.456 U	0.325 U	0.478 U	0.367 U
	Anthracene	3,000	1,000	3,000	10,000		7.41 U	**0.592**	0.794 U	1.22 U	0.385 U	0.35 U	0.364 U	0.386 U	0.362 U	0.456 U	0.325 U	0.478 U	0.367 U
	Fluoranthene	3,000	1,000	3,000	10,000		7.41 U	**1.58**	0.794 U	1.22 U	0.385 U	0.35 U	0.364 U	0.386 U	**2.57**	0.456 U	0.325 U	0.478 U	0.367 U
	Pyrene	3,000	1,000	3,000	10,000		7.41 U	**1.29**	0.794 U	1.22 U	0.385 U	0.35 U	0.364 U	**0.431**	**2.89**	0.456 U	0.325 U	0.478 U	0.367 U
	Benzo(a)anthracene	40	7	40	3,000		7.41 U	**0.46**	0.794 U	1.22 U	0.385 U	0.35 U	0.364 U	0.386 U	**1.34**	0.456 U	0.325 U	0.478 U	0.367 U
	Chrysene	400	70	400	10,000		7.41 U	**0.735**	0.794 U	1.22 U	**0.416**	0.35 U	0.364 U	**0.442**	**1.5**	0.456 U	0.325 U	0.478 U	0.367 U
	Benzo(b)fluoranthene	40	7	40	3,000		7.41 U	**0.358**	0.794 U	1.22 U	0.385 U	0.35 U	0.364 U	0.386 U	**0.986**	0.456 U	0.325 U	0.478 U	0.367 U
	Benzo(k)fluoranthene	400	70	400	10,000		7.41 U	0.35 U	0.794 U	1.22 U	0.385 U	0.35 U	0.364 U	0.386 U	**0.908**	0.456 U	0.325 U	0.478 U	0.367 U
	Benzo(a)pyrene	7	2	7	300		7.41 U	0.35 U	0.794 U	1.22 U	0.385 U	0.35 U	0.364 U	0.386 U	**1.02**	0.456 U	0.325 U	0.478 U	0.367 U
	Indeno(1,2,3-cd)pyrene	40	7	40	3,000		7.41 U	0.35 U	0.794 U	1.22 U	0.385 U	0.35 U	0.364 U	0.386 U	**0.694**	0.456 U	0.325 U	0.478 U	0.367 U
	Dibenz(a,h)anthracene	4.0	0.7	4.0	300		7.41 U	0.35 U	0.794 U	1.22 U	0.385 U	0.35 U	0.364 U	0.386 U	0.362 U	0.456 U	0.325 U	0.478 U	0.367 U
	Benzo(g,h,i)perylene	3,000	1,000	3,000	10,000		7.41 U	0.35 U	0.794 U	1.22 U	0.385 U	0.35 U	0.364 U	0.386 U	**0.71**	0.456 U	0.325 U	0.478 U	0.367 U
	Calculated Total Petroleum Hydrocarbons						**22,795**	**123**	**6,267**	**8,548**	**39.7**	ND	**77.9**	**32.0**	**108**	ND	**8.44**	**10.1**	ND

Notes:
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
mg/L - milligrams per liter.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
U - Analyte was not detected at specified quantitation limit.
Values in **Bold** indicate the analyte was detected.
Values shown in Bold and shaded type exceed MassDEP RCS-1.
EPH - Extractable Petroleum Hydrocarbons.
VPH - Volatile Petroleum Hydrocarbons
RC - Reportable concentration.
UCLs - Upper concentration limits.

Table 5
Phase I Initial Site Investigation Report
Soil Analytical Results
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Analysis	Analyte					Sample ID:	B-310	B-314	B-315	B-317		B-400		B-401		B-402		
						Sample Depth (ft.):	12.5	12.5	12.5	11.5	13.0	11.4	12.4	11.5	12.2	11.6	12.2	12.8
						Sample Date:	10/12/2016	10/12/2016	10/12/2016	10/12/2016	10/12/2016	12/14/2016	12/14/2016	12/14/2016	12/14/2016	12/14/2016	12/14/2016	12/14/2016
		S-2/GW-3	RCS-1	RCS-2	UCLs													
VPH																		
(mg/kg)	C9-C10 Aromatics	500	100	500	5,000		5.59 U	2.54 U	5.57 U	17 U	**140**	NA	NA	NA	NA	NA	NA	NA
	C5-C8 Aliphatics	500	100	500	5,000		5.59 U	2.54 U	5.57 U	17 U	12.4 U	NA	NA	NA	NA	NA	NA	NA
	C9-C12 Aliphatics	3,000	1,000	3,000	20,000		5.59 U	2.54 U	5.57 U	17 U	**163**	NA	NA	NA	NA	NA	NA	NA
	Benzene	200	2	200	10,000		0.224 U	0.102 U	0.223 U	0.679 U	0.498 U	NA	NA	NA	NA	NA	NA	NA
	Toluene	1,000	30	1,000	10,000		0.224 U	0.102 U	0.223 U	0.679 U	0.498 U	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	1,000	40	1,000	10,000		0.224 U	0.102 U	0.223 U	0.679 U	0.498 U	NA	NA	NA	NA	NA	NA	NA
	p/m-xylene	NS	NS	NS	NS		0.224 U	0.102 U	0.223 U	0.679 U	0.498 U	NA	NA	NA	NA	NA	NA	NA
	o-xylene	NS	NS	NS	NS		0.224 U	0.102 U	0.223 U	0.679 U	0.498 U	NA	NA	NA	NA	NA	NA	NA
	Xylenes (total)	1,000	100	100	10,000		0.224 U	0.102 U	0.223 U	0.679 U	0.498 U	NA	NA	NA	NA	NA	NA	NA
	Methyl tert butyl ether (MTBE)	500	0.1	100	5,000		0.112 U	0.051 U	0.111 U	0.339 U	0.249 U	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	1,000	4	20	10,000		0.447 U	0.204 U	0.446 U	1.36 U	0.995 U	NA	NA	NA	NA	NA	NA	NA
EPH																		
(mg/kg)	C9-C18 Aliphatics	3,000	1,000	3,000	20,000		**11.2**	7.01 U	9.36 U	11 U	**3,740**	8.1 U	9.26 U	11.1 U	7.76 U	7.18 U	**353**	8.49 U
	C19-C36 Aliphatics	5,000	3,000	5,000	20,000		**132**	7.01 U	9.36 U	11 U	**6,140**	8.1 U	9.26 U	11.1 U	7.76 U	7.18 U	**693**	8.49 U
	C11-C22 Aromatics	3,000	1,000	3,000	10,000		**97**	7.01 U	9.36 U	11 U	**5,970**	**11**	**15**	11.1 U	7.76 U	7.18 U	**776**	**9.61**
	Naphthalene	1000	4	20	10,000		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
	2-Methylnaphthalene	500.0	0.7	80	5,000		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
	Acenaphthylene	10	1	10	10,000		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
	Acenaphthene	3,000	4	3,000	10,000		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
	Fluorene	3,000	1,000	3,000	10,000		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
	Phenanthrene	1000	10	1,000	10,000		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
	Anthracene	3,000	1,000	3,000	10,000		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
	Fluoranthene	3,000	1,000	3,000	10,000		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
	Pyrene	3,000	1,000	3,000	10,000		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
	Benzo(a)anthracene	40	7	40	3,000		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
	Chrysene	400	70	400	10,000		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
	Benzo(b)fluoranthene	40	7	40	3,000		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
	Benzo(k)fluoranthene	400	70	400	10,000		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
	Benzo(a)pyrene	7	2	7	300		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
	Indeno(1,2,3-cd)pyrene	40	7	40	3,000		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
	Dibenz(a,h)anthracene	4.0	0.7	4.0	300		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
	Benzo(g,h,i)perylene	3,000	1,000	3,000	10,000		0.497 U	0.35 U	0.468 U	0.551 U	3.86 U	0.405 U	0.463 U	0.557 U	0.388 U	0.359 U	0.708 U	0.424 U
						Calculated Total Petroleum Hydrocarbons	**240**	ND	ND	ND	**16,153**	**11.0**	**15.0**	ND	ND	ND	**1,822**	**9.61**

Notes:
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
mg/L - milligrams per liter.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
U - Analyte was not detected at specified quantitation limit.
Values in **Bold** indicate the analyte was detected.
Values shown in Bold and shaded type exceed MassDEP RCS-1.
EPH - Extractable Petroleum Hydrocarbons.
VPH - Volatile Petroleum Hydrocarbons
RC - Reportable concentration.
UCLs - Upper concentration limits.

Table 5
Phase I Initial Site Investigation Report
Soil Analytical Results
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Analysis	Analyte					Sample ID:	B-403		B-404			B-405		B-406			B-407		
						Sample Depth (ft.):	10	12	11.4	12	16.5	11.5	12.5	11.8	12.5	21	11.8	12.8	17.5
						Sample Date:	12/14/2016	12/14/2016	12/14/2016	12/14/2016	12/14/2016	12/14/2016	12/14/2016	12/14/2016	12/14/2016	12/14/2016	12/15/2016	12/15/2016	12/15/2016
		S-2/GW-3	RCS-1	RCS-2	UCLs														
VPH																			
(mg/kg)	C9-C10 Aromatics	500	100	500	5,000		NA	NA	NA	NA	NA	NA	NA	NA	**44.2**	NA	NA	NA	NA
	C5-C8 Aliphatics	500	100	500	5,000		NA	NA	NA	NA	NA	NA	NA	NA	**63**	NA	NA	NA	NA
	C9-C12 Aliphatics	3,000	1,000	3,000	20,000		NA	NA	NA	NA	NA	NA	NA	NA	**375**	NA	NA	NA	NA
	Benzene	200	2	200	10,000		NA	NA	NA	NA	NA	NA	NA	NA	0.43 U	NA	NA	NA	NA
	Toluene	1,000	30	1,000	10,000		NA	NA	NA	NA	NA	NA	NA	NA	0.43 U	NA	NA	NA	NA
	Ethylbenzene	1,000	40	1,000	10,000		NA	NA	NA	NA	NA	NA	NA	NA	**3.89**	NA	NA	NA	NA
	p/m-xylene	NS	NS	NS	NS		NA	NA	NA	NA	NA	NA	NA	NA	0.43 U	NA	NA	NA	NA
	o-xylene	NS	NS	NS	NS		NA	NA	NA	NA	NA	NA	NA	NA	0.43 U	NA	NA	NA	NA
	Xylenes (total)	1,000	100	100	10,000		NA	NA	NA	NA	NA	NA	NA	NA	0.43 U	NA	NA	NA	NA
	Methyl tert butyl ether (MTBE)	500	0.1	100	5,000		NA	NA	NA	NA	NA	NA	NA	NA	0.215 U	NA	NA	NA	NA
	Naphthalene	1,000	4	20	10,000		NA	NA	NA	NA	NA	NA	NA	NA	**17.3**	NA	NA	NA	NA
EPH																			
(mg/kg)	C9-C18 Aliphatics	3,000	1,000	3,000	20,000		6.92 U	7.29 U	**165**	**12,700**	7.55 U	12.7 U	7.65 U	**5,360**	**11,200**	7.14 U	**12,300**	**3,300**	7.36 U
	C19-C36 Aliphatics	5,000	3,000	5,000	20,000		6.92 U	7.29 U	**278**	**22,000**	7.55 U	12.7 U	7.65 U	**12,000**	**16,800**	7.14 U	**21,200**	**5,650**	7.36 U
	C11-C22 Aromatics	3,000	1,000	3,000	10,000		6.92 U	7.29 U	**704**	**27,800**	**9.87**	**49.7**	7.65 U	**13,400**	**20,000**	7.14 U	**19,800**	**6,670**	7.36 U
	Naphthalene	1000	4	20	10,000		0.346 U	0.364 U	0.404 U	24.8 U	0.377 U	0.636 U	0.383 U	10.2 U	**19.6**	0.357 U	**14.5**	**11.8**	0.368 U
	2-Methylnaphthalene	500.0	0.7	80	5,000		0.346 U	0.364 U	0.404 U	24.8 U	0.377 U	**0.675**	0.383 U	10.2 U	**73.4**	0.357 U	10.5 U	**45.2**	0.368 U
	Acenaphthylene	10	1	10	10,000		0.346 U	0.364 U	0.404 U	24.8 U	0.377 U	0.636 U	0.383 U	10.2 U	14.5 U	0.357 U	10.5 U	3.63 U	0.368 U
	Acenaphthene	3,000	4	3,000	10,000		0.346 U	0.364 U	0.404 U	24.8 U	0.377 U	0.636 U	0.383 U	10.2 U	14.5 U	0.357 U	10.5 U	3.63 U	0.368 U
	Fluorene	3,000	1,000	3,000	10,000		0.346 U	0.364 U	0.404 U	24.8 U	0.377 U	0.636 U	0.383 U	10.2 U	14.5 U	0.357 U	10.5 U	3.63 U	0.368 U
	Phenanthrene	1000	10	1,000	10,000		0.346 U	0.364 U	**1.61**	24.8 U	0.377 U	**1.99**	0.383 U	10.2 U	**28.4**	0.357 U	**21.5**	**8.97**	0.368 U
	Anthracene	3,000	1,000	3,000	10,000		0.346 U	0.364 U	0.404 U	24.8 U	0.377 U	0.636 U	0.383 U	10.2 U	14.5 U	0.357 U	10.5 U	3.63 U	0.368 U
	Fluoranthene	3,000	1,000	3,000	10,000		0.346 U	0.364 U	0.404 U	24.8 U	0.377 U	**1.13**	0.383 U	10.2 U	14.5 U	0.357 U	10.5 U	3.63 U	0.368 U
	Pyrene	3,000	1,000	3,000	10,000		0.346 U	0.364 U	**1.08**	24.8 U	0.377 U	**1.67**	0.383 U	10.2 U	14.5 U	0.357 U	10.5 U	3.63 U	0.368 U
	Benzo(a)anthracene	40	7	40	3,000		0.346 U	0.364 U	0.404 U	24.8 U	0.377 U	**0.943**	0.383 U	10.2 U	14.5 U	0.357 U	10.5 U	3.63 U	0.368 U
	Chrysene	400	70	400	10,000		0.346 U	0.364 U	**1.19**	24.8 U	0.377 U	**1.42**	0.383 U	10.2 U	14.5 U	0.357 U	10.5 U	3.63 U	0.368 U
	Benzo(b)fluoranthene	40	7	40	3,000		0.346 U	0.364 U	0.404 U	24.8 U	0.377 U	**0.655**	0.383 U	10.2 U	14.5 U	0.357 U	10.5 U	3.63 U	0.368 U
	Benzo(k)fluoranthene	400	70	400	10,000		0.346 U	0.364 U	0.404 U	24.8 U	0.377 U	0.636 U	0.383 U	10.2 U	14.5 U	0.357 U	10.5 U	3.63 U	0.368 U
	Benzo(a)pyrene	7	2	7	300		0.346 U	0.364 U	0.404 U	24.8 U	0.377 U	**0.799**	0.383 U	10.2 U	14.5 U	0.357 U	10.5 U	3.63 U	0.368 U
	Indeno(1,2,3-cd)pyrene	40	7	40	3,000		0.346 U	0.364 U	0.404 U	24.8 U	0.377 U	0.636 U	0.383 U	10.2 U	14.5 U	0.357 U	10.5 U	3.63 U	0.368 U
	Dibenz(a,h)anthracene	4.0	0.7	4.0	300		0.346 U	0.364 U	0.404 U	24.8 U	0.377 U	0.636 U	0.383 U	10.2 U	14.5 U	0.357 U	10.5 U	3.63 U	0.368 U
	Benzo(g,h,i)perylene	3,000	1,000	3,000	10,000		0.346 U	0.364 U	0.404 U	24.8 U	0.377 U	0.636 U	0.383 U	10.2 U	14.5 U	0.357 U	10.5 U	3.63 U	0.368 U
					Calculated Total Petroleum Hydrocarbons		ND	ND	**1,151**	**62,500**	ND	**59.0**	ND	**30,760**	**48,625**	ND	**53,336**	**15,686**	ND

Notes:
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
mg/L - milligrams per liter.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
U - Analyte was not detected at specified quantitation limit.
Values in **Bold** indicate the analyte was detected.
Values shown in Bold and shaded type exceed MassDEP RCS-1.
EPH - Extractable Petroleum Hydrocarbons.
VPH - Volatile Petroleum Hydrocarbons
RC - Reportable concentration.
UCLs - Upper concentration limits.

Table 5
Phase I Initial Site Investigation Report
Soil Analytical Results
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Analysis	Analyte					Sample ID:	B-408		B-409		B-410			B-411			B-412		
						Sample Depth (ft.):	11	15	10	11.5	11	12.5	14	11.5	14	16	11.5	13	19
						Sample Date:	12/13/2016	12/13/2016	12/12/2016	12/12/2016	12/12/2016	12/12/2016	12/12/2016	12/12/2016	12/12/2016	12/12/2016	12/12/2016	12/12/2016	12/12/2016
		S-2/GW-3	RCS-1	RCS-2	UCLs														
VPH																			
(mg/kg)	C9-C10 Aromatics	500	100	500	5,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C5-C8 Aliphatics	500	100	500	5,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C12 Aliphatics	3,000	1,000	3,000	20,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzene	200	2	200	10,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	1,000	30	1,000	10,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	1,000	40	1,000	10,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	p/m-xylene	NS	NS	NS	NS		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	o-xylene	NS	NS	NS	NS		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylenes (total)	1,000	100	100	10,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl tert butyl ether (MTBE)	500	0.1	100	5,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	1,000	4	20	10,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPH																			
(mg/kg)	C9-C18 Aliphatics	3,000	1,000	3,000	20,000		8.16 U	6.81 U	8.13 U	9.05 U	**697**	**3,690**	**21.5**	**12.6**	**13,600**	9.43 U	**2,490**	**11,000**	8.27 U
	C19-C36 Aliphatics	5,000	3,000	5,000	20,000		**8.22**	6.81 U	8.13 U	9.05 U	**2,740**	**5,810**	**32**	**98.4**	**17,700**	9.43 U	**12,300**	**26,000**	**21.4**
	C11-C22 Aromatics	3,000	1,000	3,000	10,000		**30.1**	6.81 U	**37.4**	**10.3**	**7,670**	**7,170**	**18.5**	**246**	**19,000**	9.43 U	**20,400**	**26,200**	**36.5**
	Naphthalene	1000	4	20	10,000		0.408 U	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
	2-Methylnaphthalene	500.0	0.7	80	5,000		0.408 U	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
	Acenaphthylene	10	1	10	10,000		0.408 U	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
	Acenaphthene	3,000	4	3,000	10,000		**0.692**	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
	Fluorene	3,000	1,000	3,000	10,000		0.408 U	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
	Phenanthrene	1000	10	1,000	10,000		**0.438**	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
	Anthracene	3,000	1,000	3,000	10,000		0.408 U	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
	Fluoranthene	3,000	1,000	3,000	10,000		0.408 U	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
	Pyrene	3,000	1,000	3,000	10,000		0.408 U	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
	Benzo(a)anthracene	40	7	40	3,000		0.408 U	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
	Chrysene	400	70	400	10,000		0.408 U	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
	Benzo(b)fluoranthene	40	7	40	3,000		0.408 U	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
	Benzo(k)fluoranthene	400	70	400	10,000		0.408 U	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
	Benzo(a)pyrene	7	2	7	300		0.408 U	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
	Indeno(1,2,3-cd)pyrene	40	7	40	3,000		0.408 U	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
	Dibenz(a,h)anthracene	4.0	0.7	4.0	300		**0.742**	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
	Benzo(g,h,i)perylene	3,000	1,000	3,000	10,000		0.408 U	0.341 U	0.406 U	0.452 U	3.99 U	8.16 U	0.413 U	0.35 U	26.8 U	0.472 U	11 U	32.8 U	0.414 U
						Calculated Total Petroleum Hydrocarbons	**40.2**	ND	**37.4**	**10.3**	**11,107**	**16,670**	**72**	**357**	**50,300**	ND	**35,190**	**63,200**	**57.9**

Notes:
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
mg/L - milligrams per liter.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
U - Analyte was not detected at specified quantitation limit.
Values in **Bold** indicate the analyte was detected.
Values shown in Bold and shaded type exceed MassDEP RCS-1.
EPH - Extractable Petroleum Hydrocarbons.
VPH - Volatile Petroleum Hydrocarbons
RC - Reportable concentration.
UCLs - Upper concentration limits.

Table 5
Phase I Initial Site Investigation Report
Soil Analytical Results
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Analysis	Analyte					Sample ID:	B-413		B-414			B-415				B-416		B-417	
						Sample Depth (ft.):	11	14-15	23	11	14	15.5	11.8	12.2	13.4	13.4	11	15	11	15
						Sample Date:	12/12/2016	12/12/2016	12/12/2016	12/13/2016	12/13/2016	12/13/2016	12/14/2016	12/14/2016	12/14/2016	12/14/2016 Field Dup	12/13/2016	12/13/2016	12/13/2016	12/13/2016
		S-2/GW-3	RCS-1	RCS-2	UCLs															
VPH																				
(mg/kg)	C9-C10 Aromatics	500	100	500	5,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C5-C8 Aliphatics	500	100	500	5,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C12 Aliphatics	3,000	1,000	3,000	20,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzene	200	2	200	10,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	1,000	30	1,000	10,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	1,000	40	1,000	10,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	p/m-xylene	NS	NS	NS	NS		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	o-xylene	NS	NS	NS	NS		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylenes (total)	1,000	100	100	10,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl tert butyl ether (MTBE)	500	0.1	100	5,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	1,000	4	20	10,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPH																				
(mg/kg)	C9-C18 Aliphatics	3,000	1,000	3,000	20,000		**1,780**	**11,200**	8.22 U	**52.7**	**8,220**	**108**	**3,250**	**2,680**	**1,060**	**510**	6.96 U	8.14 U	**6.94**	7.31 U
	C19-C36 Aliphatics	5,000	3,000	5,000	20,000		**4,590**	**26,300**	**13.6**	**256**	**13,200**	**175**	**6,670**	**5,500**	**1,740**	**712**	**95.4**	8.14 U	**53.8**	7.31 U
	C11-C22 Aromatics	3,000	1,000	3,000	10,000		**6,610**	**28,200**	**21**	**192**	**14,100**	**256**	**8,790**	**5,710**	**1,890**	**866**	**114**	8.14 U	**90.9**	7.31 U
	Naphthalene	1000	4	20	10,000		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	0.434 U	0.348 U	0.407 U	0.344 U	0.365 U
	2-Methylnaphthalene	500.0	0.7	80	5,000		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	**0.675**	0.348 U	0.407 U	0.344 U	0.365 U
	Acenaphthylene	10	1	10	10,000		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	0.434 U	0.348 U	0.407 U	0.344 U	0.365 U
	Acenaphthene	3,000	4	3,000	10,000		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	0.434 U	0.348 U	0.407 U	0.344 U	0.365 U
	Fluorene	3,000	1,000	3,000	10,000		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	0.434 U	0.348 U	0.407 U	0.344 U	0.365 U
	Phenanthrene	1000	10	1,000	10,000		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	0.434 U	**0.4**	0.407 U	**0.654**	0.365 U
	Anthracene	3,000	1,000	3,000	10,000		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	0.434 U	0.348 U	0.407 U	0.344 U	0.365 U
	Fluoranthene	3,000	1,000	3,000	10,000		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	0.434 U	**0.454**	0.407 U	**0.674**	0.365 U
	Pyrene	3,000	1,000	3,000	10,000		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	0.434 U	**0.486**	0.407 U	**0.763**	0.365 U
	Benzo(a)anthracene	40	7	40	3,000		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	**0.67**	0.348 U	0.407 U	**0.458**	0.365 U
	Chrysene	400	70	400	10,000		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	**0.781**	**0.409**	0.407 U	**0.627**	0.365 U
	Benzo(b)fluoranthene	40	7	40	3,000		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	0.434 U	0.348 U	0.407 U	**0.385**	0.365 U
	Benzo(k)fluoranthene	400	70	400	10,000		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	0.434 U	0.348 U	0.407 U	0.344 U	0.365 U
	Benzo(a)pyrene	7	2	7	300		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	0.434 U	0.348 U	0.407 U	**0.39**	0.365 U
	Indeno(1,2,3-cd)pyrene	40	7	40	3,000		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	0.434 U	0.348 U	0.407 U	0.344 U	0.365 U
	Dibenz(a,h)anthracene	4.0	0.7	4.0	300		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	0.434 U	0.348 U	0.407 U	0.344 U	0.365 U
	Benzo(g,h,i)perylene	3,000	1,000	3,000	10,000		12.2 U	30.3 U	0.411 U	0.367 U	21.8 U	0.379 U	8.08 U	13.1 U	2.3 U	0.434 U	0.348 U	0.407 U	**0.396**	0.365 U
						Calculated Total Petroleum Hydrocarbons	**12,980**	**65,700**	**34.6**	**501**	**35,520**	**539**	**18,710**	**13,890**	**4,690**	**2,090**	**211**	ND	**156**	ND

Notes:
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
mg/L - milligrams per liter.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
U - Analyte was not detected at specified quantitation limit.
Values in **Bold** indicate the analyte was detected.
Values shown in Bold and shaded type exceed MassDEP RCS-1.
EPH - Extractable Petroleum Hydrocarbons.
VPH - Volatile Petroleum Hydrocarbons
RC - Reportable concentration.
UCLs - Upper concentration limits.

Table 6
Phase I Initial Site Investigation Report
Groundwater Analytical Results
Atlantic Bridge
Weymouth, Massachusetts

Analysis	Analyte	Sample Location:		MW-201							MW-202					MW-203					MW-204			
		Sample ID:		MW-201	DUP-1	MW-201	MW-221	MW-201	MW-201	MW-201	MW-202	MW-202	MW-202	MW-202	MW-202	MW-203	MW-203	MW-203	MW-203	MW-203	MW-204	MW-204	MW-204	MW-204
		Sample Date:		8/30/2016	8/30/2016	11/3/2016	11/3/2016	1/6/2017	3/21/2017	6/7/2017	8/29/2016	11/1/2016	1/4/2017	3/20/2017	6/5/2017	8/29/2016	11/1/2016	1/3/2017	3/20/2017	6/5/2017	8/29/2016	11/1/2016	1/4/2017	3/20/2017
		GW-2	GW-3		Field Dup		Field Dup																	
VPH																								
(ug/L)	C9-C10 Aromatics	4,000	50,000	250 U	250 U	250 U	250 U	250 U	50 U	50 U	250 U	250 U	50 U	50 U	50 U	250 U	50 U	50 U	50 U	50 U	250 U	50 U	50 U	50 U
	C5-C8 Aliphatics	3,000	50,000	250 U	250 U	250 U	250 U	250 U	50 U	50 U	250 U	250 U	50 U	50 U	50 U	250 U	50 U	50 U	50 U	50 U	250 U	50 U	50 U	50 U
	C9-C12 Aliphatics	5,000	50,000	250 U	250 U	250 U	250 U	250 U	50 U	50 U	250 U	250 U	50 U	50 U	50 U	250 U	50 U	50 U	50 U	50 U	250 U	50 U	50 U	50 U
	Benzene	1,000	10,000	10 U	10 U	10 U	10 U	10 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U
	Toluene	50,000	40,000	10 U	10 U	10 U	10 U	10 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U
	Ethylbenzene	20,000	5,000	10 U	10 U	10 U	10 U	10 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U
	p/m-Xylene	NS	NS	10 U	10 U	10 U	10 U	10 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U
	o-Xylene	NS	NS	10 U	10 U	10 U	10 U	10 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U
	Xylenes (total)	3,000	5,000	10 U	10 U	10 U	10 U	10 U	2.0 U	2.0 U	10 U	10 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U
	Methyl tert butyl ether	50,000	50,000	15 U	15 U	15 U	15 U	15 U	3.0 U	3.0 U	15 U	15 U	3.0 U	3.0 U	3.0 U	15 U	3.0 U	3.0 U	3.0 U	3.0 U	15 U	3.0 U	3.0 U	3.0 U
	Naphthalene	700	20,000	20 U	20 U	20 U	20 U	20 U	4.0 U	4.0 U	20 U	20 U	4.0 U	4.0 U	4.0 U	20 U	4.0 U	4.0 U	4.0 U	4.0 U	20 U	4.0 U	4.0 U	4.0 U
EPH																								
(ug/L)	C9-C18 Aliphatics	5,000	50,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	C19-C36 Aliphatics	NS	50,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	C11-C22 Aromatics	50,000	5,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	Naphthalene	700	20,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	2-Methylnaphthalene	2,000	20,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Acenaphthylene	10,000	40	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Acenaphthene	NS	10,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Fluorene	NS	40	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Phenanthrene	NS	10,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Anthracene	NS	30	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Fluoranthene	NS	200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Pyrene	NS	20	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Benzo(a)anthracene	NS	1,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Chrysene	NS	70	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Benzo(b)fluoranthene	NS	400	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Benzo(k)fluoranthene	NS	100	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Benzo(a)pyrene	NS	500	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Indeno(1,2,3-cd)Pyrene	NS	100	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Dibenzo(a,h)anthracene	NS	40	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Benzo(ghi)perylene	NS	20	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Metals, dissolved																								
(ug/L)	Antimony	NS	8,000	50 U	50 U	NA	NA	NA	NA	NA	50 U	NA	NA	NA	NA	50 U	NA	NA	NA	NA	50 U	NA	NA	NA
	Arsenic	NS	900	5.0 U	5.0 U	NA	NA	NA	NA	NA	**7.0**	NA	NA	NA	NA	**7.0**	NA	NA	NA	NA	5.0 U	NA	NA	NA
	Barium	NS	50,000	**71**	**71**	NA	NA	NA	NA	NA	**85**	NA	NA	NA	NA	**42**	NA	NA	NA	NA	**47**	NA	NA	NA
	Beryllium	NS	200	5.0 U	5.0 U	NA	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	NA	NA	NA
	Cadmium	NS	4	4.0 U	4.0 U	NA	NA	NA	NA	NA	4.0 U	NA	NA	NA	NA	4.0 U	NA	NA	NA	NA	4.0 U	NA	NA	NA
	Chromium	NS	300	10 U	10 U	NA	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA
	Lead	NS	10	10 U	10 U	NA	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA
	Mercury	NS	20	0.20 U	**0.20**	NA	NA	NA	NA	NA	0.20 U	NA	NA	NA	NA	0.20 U	NA	NA	NA	NA	0.20 U	NA	NA	NA
	Nickel	NS	200	25 U	25 U	NA	NA	NA	NA	NA	25 U	NA	NA	NA	NA	25 U	NA	NA	NA	NA	25 U	NA	NA	NA
	Selenium	NS	100	10 U	10 U	NA	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA
	Silver	NS	7	7.0 U	7.0 U	NA	NA	NA	NA	NA	7.0 U	NA	NA	NA	NA	7.0 U	NA	NA	NA	NA	7.0 U	NA	NA	NA
	Thallium	NS	3,000	20 U	20 U	NA	NA	NA	NA	NA	20 U	NA	NA	NA	NA	20 U	NA	NA	NA	NA	20 U	NA	NA	NA
	Vanadium	NS	4,000	10 U	10 U	NA	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA
	Zinc	NS	900	**71**	**383**	NA	NA	NA	NA	NA	**60**	NA	NA	NA	NA	**553**	NA	NA	NA	NA	**608**	NA	NA	NA
Metals, total																								
(ug/L)	Antimony	NS	8,000	50 U	50 U	NA	NA	NA	NA	NA	50 U	NA	NA	NA	NA	50 U	NA	NA	NA	NA	50 U	NA	NA	NA
	Arsenic	NS	900	**6.0**	5.0 U	NA	NA	NA	NA	NA	**6.0**	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	**5.0**	NA	NA	NA
	Barium	NS	50,000	**74**	**73**	NA	NA	NA	NA	NA	**88**	NA	NA	NA	NA	**42**	NA	NA	NA	NA	**45**	NA	NA	NA
	Beryllium	NS	200	5.0 U	5.0 U	NA	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	NA	NA	NA
	Cadmium	NS	4	4.0 U	4.0 U	NA	NA	NA	NA	NA	4.0 U	NA	NA	NA	NA	4.0 U	NA	NA	NA	NA	4.0 U	NA	NA	NA
	Chromium	NS	300	10 U	10 U	NA	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA
	Lead	NS	10	10 U	10 U	NA	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA
	Mercury	NS	20	0.20 U	0.20 U	NA	NA	NA	NA	NA	0.20 U	NA	NA	NA	NA	0.20 U	NA	NA	NA	NA	0.20 U	NA	NA	NA
	Nickel	NS	200	25 U	25 U	NA	NA	NA	NA	NA	25 U	NA	NA	NA	NA	25 U	NA	NA	NA	NA	25 U	NA	NA	NA
	Selenium	NS	100	10 U	10 U	NA	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA
	Silver	NS	7	7.0 U	7.0 U	NA	NA	NA	NA	NA	7.0 U	NA	NA	NA	NA	7.0 U	NA	NA	NA	NA	7.0 U	NA	NA	NA
	Thallium	NS	3,000	20 U	20 U	NA	NA	NA	NA	NA	20 U	NA	NA	NA	NA	20 U	NA	NA	NA	NA	20 U	NA	NA	NA
	Vanadium	NS	4,000	10 U	10 U	NA	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA
	Zinc	NS	900	**333**	**591**	NA	NA	NA	NA	NA	**577**	NA	NA	NA	NA	**50**	NA	NA	NA	NA	**58**	NA	NA	NA

Notes:
ug/L - micrograms per liter.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
U - Analyte was not detected at specified quantitation limit.
Values in **bold** indicate the analyte was detected.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.

Table 6
Phase I Initial Site Investigation Report
Groundwater Analytical Results
Atlantic Bridge
Weymouth, Massachusetts

Analysis	Analyte	Sample Location:		MW-205							MW-206				MW-400			MW-401			MW-402		
		Sample ID:		MW-204	MW-205	MW-205	MW-205	MW-205	MW-205	DUP-1	MW-206	MW-206	MW-206	MW-206	MW-400	MW-400	MW-400	MW-401	MW-401	MW-401	MW-402	MW-402	MW-402
		Sample Date:		6/5/2017	8/30/2016	11/1/2016	1/3/2017	3/20/2017	6/5/2017	6/5/2017 Field Dup	11/1/2016	1/4/2017	3/22/2017	6/6/2017	1/3/2017	3/20/2017	6/5/2017	1/3/2017	3/20/2017	6/5/2017	1/5/2017	3/20/2017	6/5/2017
		GW-2	GW-3																				
VPH																							
(ug/L)	C9-C10 Aromatics	4,000	50,000	50 U	250 U	50 U	50 U	50 U	50 U	50 U	250 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	100 U	50 U	50 U
	C5-C8 Aliphatics	3,000	50,000	50 U	250 U	50 U	50 U	50 U	50 U	50 U	250 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	100 U	50 U	50 U
	C9-C12 Aliphatics	5,000	50,000	50 U	250 U	50 U	50 U	50 U	50 U	50 U	250 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	100 U	50 U	50 U
	Benzene	1,000	10,000	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U
	Toluene	50,000	40,000	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U
	Ethylbenzene	20,000	5,000	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U
	p/m-Xylene	NS	NS	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U
	o-Xylene	NS	NS	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U
	Xylenes (total)	3,000	5,000	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U
	Methyl tert butyl ether	50,000	50,000	3.0 U	15 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	15 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	6.0 U	3.0 U	3.0 U
	Naphthalene	700	20,000	4.0 U	20 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	20 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	8.0 U	4.0 U	4.0 U
EPH																							
(ug/L)	C9-C18 Aliphatics	5,000	50,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	C19-C36 Aliphatics	NS	50,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	C11-C22 Aromatics	50,000	5,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	Naphthalene	700	20,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	2-Methylnaphthalene	2,000	20,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Acenaphthylene	10,000	40	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Acenaphthene	NS	10,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Fluorene	NS	40	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Phenanthrene	NS	10,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Anthracene	NS	30	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Fluoranthene	NS	200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Pyrene	NS	20	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Benzo(a)anthracene	NS	1,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Chrysene	NS	70	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Benzo(b)fluoranthene	NS	400	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Benzo(k)fluoranthene	NS	100	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Benzo(a)pyrene	NS	500	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Indeno(1,2,3-cd)Pyrene	NS	100	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Dibenzo(a,h)anthracene	NS	40	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Benzo(ghi)perylene	NS	20	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Metals, dissolved																							
(ug/L)	Antimony	NS	8,000	NA	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	NS	900	NA	**7.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	NS	50,000	NA	**106**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Beryllium	NS	200	NA	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	NS	4	NA	4.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	NS	300	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	NS	10	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	NS	20	NA	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	NS	200	NA	25 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	NS	100	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	NS	7	NA	7.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	NS	3,000	NA	20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vanadium	NS	4,000	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	NS	900	NA	**596**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals, total																							
(ug/L)	Antimony	NS	8,000	NA	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	NS	900	NA	**7.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	NS	50,000	NA	**104**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Beryllium	NS	200	NA	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	NS	4	NA	4.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	NS	300	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	NS	10	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	NS	20	NA	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	NS	200	NA	25 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	NS	100	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	NS	7	NA	7.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	NS	3,000	NA	20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vanadium	NS	4,000	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	NS	900	NA	**53**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
ug/L - micrograms per liter.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
U - Analyte was not detected at specified quantitation limit.
Values in **bold** indicate the analyte was detected.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.

Table 6
Phase I Initial Site Investigation Report
Groundwater Analytical Results
Atlantic Bridge
Weymouth, Massachusetts

Analysis	Analyte	Sample Location:		MW-403			MW-404			MW-405			MW-406						MW-407			MW-408		
		Sample ID:		MW-403	MW-403	MW-403	MW-404	MW-404	MW-404	MW-405	MW-405	MW-405	MW-406	DUP-2	MW-406	DUP-1	MW-406	DUP-2	MW-407	MW-407	MW-407	MW-408	MW-408	MW-408
		Sample Date:		1/4/2017	3/22/2017	6/5/2017	1/5/2017	3/23/2017	6/6/2017	1/4/2017	3/23/2017	6/6/2017	1/5/2017	1/5/2017 Field Dup	3/21/2017	3/21/2017 Field Dup	6/7/2017	6/7/2017 Field Dup	1/5/2017	3/21/2017	6/7/2017	1/5/2017	3/21/2017	6/6/2017
		GW-2	GW-3																					
VPH																								
(ug/L)	C9-C10 Aromatics	4,000	50,000	50 U	50 U	50 U	100 U	50 U	50 U	50 U	50 U	50 U	250 U	250 U	50 U	50 U	50 U	50 U	250 U	50 U	**68.3**	250 U	50 U	50 U
	C5-C8 Aliphatics	3,000	50,000	50 U	50 U	50 U	100 U	50 U	50 U	50 U	50 U	50 U	250 U	250 U	50 U	50 U	50 U	50 U	250 U	50 U	50 U	250 U	50 U	50 U
	C9-C12 Aliphatics	5,000	50,000	50 U	50 U	50 U	100 U	50 U	50 U	50 U	50 U	50 U	250 U	250 U	50 U	50 U	50 U	50 U	250 U	50 U	50 U	250 U	50 U	50 U
	Benzene	1,000	10,000	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U
	Toluene	50,000	40,000	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U
	Ethylbenzene	20,000	5,000	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	10 U	**3.22**	**3.11**	2.0 U	2.0 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U
	p/m-Xylene	NS	NS	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U
	o-Xylene	NS	NS	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U
	Xylenes (total)	3,000	5,000	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U
	Methyl tert butyl ether	50,000	50,000	3.0 U	3.0 U	3.0 U	6.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	15 U	15 U	3.0 U	3.0 U	3.0 U	3.0 U	15 U	3.0 U	3.0 U	15 U	3.0 U	3.0 U
	Naphthalene	700	20,000	4.0 U	4.0 U	4.0 U	8.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	20 U	20 U	**6.66**	**6.72**	4.0 U	4.0 U	20 U	4.0 U	**7.57**	20 U	4.0 U	4.0 U
EPH																								
(ug/L)	C9-C18 Aliphatics	5,000	50,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	C19-C36 Aliphatics	NS	50,000	100 U	100 U	100 U	100 U	**223**	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	C11-C22 Aromatics	50,000	5,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	**102**	100 U	100 U	100 U	100 U	100 U	**178**	100 U	100 U	100 U
	Naphthalene	700	20,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	2-Methylnaphthalene	2,000	20,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Acenaphthylene	10,000	40	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Acenaphthene	NS	10,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Fluorene	NS	40	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Phenanthrene	NS	10,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Anthracene	NS	30	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Fluoranthene	NS	200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Pyrene	NS	20	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Benzo(a)anthracene	NS	1,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Chrysene	NS	70	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Benzo(b)fluoranthene	NS	400	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Benzo(k)fluoranthene	NS	100	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Benzo(a)pyrene	NS	500	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Indeno(1,2,3-cd)Pyrene	NS	100	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Dibenzo(a,h)anthracene	NS	40	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Benzo(ghi)perylene	NS	20	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Metals, dissolved																								
(ug/L)	Antimony	NS	8,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	NS	900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	NS	50,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Beryllium	NS	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	NS	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	NS	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	NS	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	NS	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	NS	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	NS	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	NS	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	NS	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vanadium	NS	4,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	NS	900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals, total																								
(ug/L)	Antimony	NS	8,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	NS	900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	NS	50,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Beryllium	NS	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	NS	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	NS	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	NS	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	NS	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	NS	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	NS	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	NS	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	NS	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vanadium	NS	4,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	NS	900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
ug/L - micrograms per liter.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
U - Analyte was not detected at specified quantitation limit.
Values in **bold** indicate the analyte was detected.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.

Table 6
Phase I Initial Site Investigation Report
Groundwater Analytical Results
Atlantic Bridge
Weymouth, Massachusetts

Analysis	Analyte	Sample Location:		MW-409			MW-410			MW-411			MW-412				MW-413			MW-414		
		Sample ID:		MW-409	MW-409	MW-409	MW-410	MW-410	MW-410	MW-411	MW-411	MW-411	MW-412	DUP-1	MW-412	MW-412	MW-413	MW-413	MW-413	MW-414	MW-414	MW-414
		Sample Date:		1/4/2017	3/22/2017	6/6/2017	1/6/2017	3/21/2017	6/7/2017	1/4/2017	3/22/2017	6/7/2017	1/5/2017	1/5/2017 Field Dup	3/22/2017	6/6/2017	1/5/2017	3/22/2017	6/6/2017	1/6/2017	3/21/2017	6/7/2017
		GW-2	GW-3																			
VPH																						
(ug/L)	C9-C10 Aromatics	4,000	50,000	50 U	50 U	50 U	250 U	50 U	50 U	50 U	50 U	50 U	250 U	250 U	50 U	50 U	250 U	50 U	50 U	250 U	50 U	50 U
	C5-C8 Aliphatics	3,000	50,000	50 U	50 U	50 U	250 U	50 U	50 U	50 U	50 U	50 U	250 U	250 U	50 U	50 U	250 U	50 U	50 U	250 U	50 U	50 U
	C9-C12 Aliphatics	5,000	50,000	50 U	50 U	50 U	250 U	50 U	50 U	50 U	50 U	50 U	250 U	250 U	50 U	50 U	250 U	50 U	50 U	250 U	50 U	**58.3**
	Benzene	1,000	10,000	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U
	Toluene	50,000	40,000	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U
	Ethylbenzene	20,000	5,000	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U
	p/m-Xylene	NS	NS	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U
	o-Xylene	NS	NS	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U
	Xylenes (total)	3,000	5,000	2.0 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U	10 U	2.0 U	2.0 U
	Methyl tert butyl ether	50,000	50,000	3.0 U	3.0 U	3.0 U	15 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	15 U	15 U	3.0 U	3.0 U	15 U	3.0 U	3.0 U	15 U	3.0 U	3.0 U
	Naphthalene	700	20,000	4.0 U	4.0 U	4.0 U	20 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	20 U	20 U	4.0 U	4.0 U	20 U	4.0 U	4.0 U	20 U	4.0 U	4.0 U
EPH																						
(ug/L)	C9-C18 Aliphatics	5,000	50,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	C19-C36 Aliphatics	NS	50,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	C11-C22 Aromatics	50,000	5,000	100 U	100 U	100 U	100 U	**125**	100 U	100 U	100 U	100 U	**102**	100 U	100 U	100 U	100 U	100 U	100 U	**188**	**105**	**131**
	Naphthalene	700	20,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
	2-Methylnaphthalene	2,000	20,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
	Acenaphthylene	10,000	40	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
	Acenaphthene	NS	10,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
	Fluorene	NS	40	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
	Phenanthrene	NS	10,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
	Anthracene	NS	30	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
	Fluoranthene	NS	200	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
	Pyrene	NS	20	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
	Benzo(a)anthracene	NS	1,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
	Chrysene	NS	70	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
	Benzo(b)fluoranthene	NS	400	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
	Benzo(k)fluoranthene	NS	100	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
	Benzo(a)pyrene	NS	500	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
	Indeno(1,2,3-cd)Pyrene	NS	100	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
	Dibenzo(a,h)anthracene	NS	40	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
	Benzo(ghi)perylene	NS	20	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.6 U	10.6 U
Metals, dissolved																						
(ug/L)	Antimony	NS	8,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	NS	900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	NS	50,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Beryllium	NS	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	NS	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	NS	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	NS	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	NS	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	NS	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	NS	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	NS	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	NS	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vanadium	NS	4,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	NS	900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals, total																						
(ug/L)	Antimony	NS	8,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	NS	900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	NS	50,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Beryllium	NS	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	NS	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	NS	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	NS	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	NS	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	NS	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	NS	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	NS	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	NS	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vanadium	NS	4,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	NS	900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
ug/L - micrograms per liter.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
U - Analyte was not detected at specified quantitation limit.
Values in **bold** indicate the analyte was detected.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.

Table 6
Phase I Initial Site Investigation Report
Groundwater Analytical Results
Atlantic Bridge
Weymouth, Massachusetts

Analysis	Analyte	Sample Location:		MW-415			MW-416			MW-417			
		Sample ID:		MW-415	MW-415	MW-415	MW-416	MW-416	MW-416	MW-417	MW-417	DUP-2	MW-417
		Sample Date:		1/5/2017	3/23/2017	6/6/2017	1/3/2017	3/23/2017	6/7/2017	1/3/2017	3/23/2017	3/23/2017	6/7/2017
		GW-2	GW-3									Field Dup	
VPH													
(ug/L)	C9-C10 Aromatics	4,000	50,000	250 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
	C5-C8 Aliphatics	3,000	50,000	250 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
	C9-C12 Aliphatics	5,000	50,000	250 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
	Benzene	1,000	10,000	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Toluene	50,000	40,000	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Ethylbenzene	20,000	5,000	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	p/m-Xylene	NS	NS	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	o-Xylene	NS	NS	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Xylenes (total)	3,000	5,000	10 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Methyl tert butyl ether	50,000	50,000	15 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
	Naphthalene	700	20,000	20 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
EPH													
(ug/L)	C9-C18 Aliphatics	5,000	50,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	C19-C36 Aliphatics	NS	50,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	C11-C22 Aromatics	50,000	5,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	Naphthalene	700	20,000	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
	2-Methylnaphthalene	2,000	20,000	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
	Acenaphthylene	10,000	40	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
	Acenaphthene	NS	10,000	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
	Fluorene	NS	40	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
	Phenanthrene	NS	10,000	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
	Anthracene	NS	30	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
	Fluoranthene	NS	200	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
	Pyrene	NS	20	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
	Benzo(a)anthracene	NS	1,000	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
	Chrysene	NS	70	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
	Benzo(b)fluoranthene	NS	400	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
	Benzo(k)fluoranthene	NS	100	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
	Benzo(a)pyrene	NS	500	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
	Indeno(1,2,3-cd)Pyrene	NS	100	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
	Dibenzo(a,h)anthracene	NS	40	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
	Benzo(ghi)perylene	NS	20	10 U	10 U	10 U	10 U	10 U	10 U	10.9 U	10 U	10 U	10 U
Metals, dissolved													
(ug/L)	Antimony	NS	8,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	NS	900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	NS	50,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Beryllium	NS	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	NS	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	NS	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	NS	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	NS	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	NS	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	NS	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	NS	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	NS	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vanadium	NS	4,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	NS	900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals, total													
(ug/L)	Antimony	NS	8,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	NS	900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	NS	50,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Beryllium	NS	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	NS	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	NS	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	NS	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	NS	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	NS	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	NS	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	NS	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	NS	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vanadium	NS	4,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	NS	900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
ug/L - micrograms per liter.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
U - Analyte was not detected at specified quantitation limit.
Values in **bold** indicate the analyte was detected.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.

Table 7
Phase I Initial Site Investigation Report
Well Gauging Data Through June 20, 2017
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Well	Date	Time	Approximate Tidal Elevation (ft MLLW)[1]	TOR Elevation (ft amsl)	DTW (ft-bTOR)	Groundwater Elevation (ft amsl)	DTP (ft bTOR)	TOR Stickup (ft)	DTP (ft-bgs)	Product Thickness (ft)	Estimated Product Thickness Accuracy (ft)	Volume of Product Removed After Gauging (ml)	Notes
MW-201	8/29/2016	945	9.60	15.70	NM[2]	-	13.90	2.78	11.12	-	-	-	
	8/29/2016	1600	0.48	15.70	NM[2]	-	14.80	2.78	12.02	-	-	-	
	9/22/2016	755	4.00	15.70	NM[2]	-	13.80	2.78	11.02	-	-	-	
	9/27/2016	840	9.20	15.70	NM[2]	-	14.10	2.78	11.32	-	-	-	Sock removed, placed in drum, and replaced.
	10/6/2016	930	1.50	15.70	NM[2]	-	13.99	2.78	11.21	-	-	-	Sock removed, placed in drum, and replaced.
	10/13/2016	810	8.50	15.70	NM[2]	-	14.20	2.78	11.42	-	-	-	Sock removed, placed in drum, and replaced.
	10/20/2016	845	0.00	15.70	NM[2]	-	13.20	2.78	10.42	-	-	-	Sock removed, placed in drum, and replaced.
	10/20/2016	NM	NM	15.70	NM[2]	-	NM	2.78	NM	-	-	-	Sock removed, placed in drum, and replaced.
	10/27/2016	1045	9.50	15.70	NM[2]	-	13.80	2.78	11.02	-	-	-	Sock removed, placed in drum, and not replaced.
	11/1/2016	NM	NM	15.70	NM[2]	-	NM	2.78	NM	-	-	-	
	11/1/2016	NM	NM	15.70	NM[2]	-	NM	2.78	NM	-	-	-	Bailer hung in well to attempt to collect product.
	11/3/2016	924	2.40	15.70	NM[2]	-	13.97	2.78	11.19	-	-	-	DTP measured after bailer removed.
	11/3/2016	1517	9.30	15.70	13.54	2.16	13.51	2.78	10.73	0.03	+/- 0.01	-	DTP measured after sampling. Sock deployed
	11/10/2016	NM	NM	15.70	NM[2]	-	NM	2.78	NM	-	-	-	Sock removed, placed in drum.[5]
	11/17/2016	1305	10.94	15.70	12.83	2.87	12.50	2.78	9.72	0.33	+/- 0.01	-	Plunker/water seeking paste.[5]
	12/1/2016	915	6.04	15.70	13.90	1.80	13.75	2.78	10.97	0.15	+/- 0.01	-	Plunker/water seeking paste.[5]
	1/4/2017	1330	7.62	15.70	13.90	1.80	13.65	2.78	10.87	0.25	+ 0 ft /- 0.1	450	Interface probe/water seeking paste.[4,5]
	1/17/2017	1131	4.31	15.70	14.22	1.48	14.05	2.78	11.27	0.17	+/- 0.03	50	interface probe/water seeking paste.[5]
	1/23/2017	1115	5.15	15.70	13.53	2.17	13.38	2.78	10.60	0.15	+/- 0.03	-	interface probe/water seeking paste.[5]
	1/30/2017	1120	9.15	15.70	13.96	1.74	13.84	2.78	11.06	0.12	+/- 0.03	-	interface probe/water seeking paste.[5]
	2/6/2017	1140	1.20	15.70	13.84	1.86	13.51	2.78	10.73	0.33	+/- 0.01	-	interface probe/water seeking paste.[5]
	2/14/2017	850	1.35	15.70	13.14	2.56	12.92	2.78	10.14	0.22	+/- 0.01	300	interface probe/water seeking paste.[5]
	2/20/2017	1100	2.58	15.70	13.71	1.99	13.54	2.78	10.76	0.17	+/- 0.01	-	interface probe/water seeking paste.[5]
	2/27/2017	1015	9.23	15.70	13.96	1.74	13.91	2.78	11.13	0.05	+/- 0.01	-	interface probe/water seeking paste.[5]
	3/8/2017	1013	7.02	15.70	13.23	2.47	13.18	2.78	10.40	0.05	+/- 0.01	-	interface probe/water seeking paste.[5]
	3/13/2017	1115	6.88	15.70	14.09	1.61	14.51	2.78	11.73	0.42	+/- 0.03	-	interface probe/water seeking paste.[5]
	3/20/2017	1035	2.13	15.70	14.26	1.44	13.84	2.78	11.06	0.42	+/- 0.01	-	interface probe/water seeking paste.[5]
	4/3/2017	1105	-0.63	15.70	13.16	2.54	12.83	2.78	10.05	0.33	+/- 0.01	-	interface probe/water seeking paste.[5]
	4/10/2017	940	7.21	15.70	14.12	1.58	13.46	2.78	10.68	0.66	+ 0 /- 0.1	-	interface probe.[5]
	4/17/2017	1125	1.43	15.70	15.01	0.69	13.77	2.78	10.99	1.24	+ 0 /- 0.1	118	interface probe.[5] Gauged prior to attempting skimming test..
	4/18/2017	1021	1.54	15.70	13.83	1.87	13.73	2.78	10.95	0.10	+ 0 /- 0.1	-	interface probe.[5] New sock installed.
	4/25/2017	952	9.49	15.70	13.89	1.81	13.88	2.78	11.10	0.01	+/- 0.01	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	5/1/2017	1105	-0.44	15.70	13.25	2.45	13.25	2.78	10.47	0.00	+/- 0.01	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	5/15/2017	1025	1.58	15.70	13.33	2.37	13.33	2.78	10.55	0.00	+/- 0.01	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	5/30/2017	1102	-0.02	15.70	13.10	2.60	12.98	2.78	10.20	0.12	+/- 0.03	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	6/6/2017	1230	7.12	15.70	13.05	2.65	12.97	2.78	10.19	0.08	+/- 0.03	-	interface probe.[5] Sock removed, well gauged, and no sock installed.
	6/13/2017	1015	1.93	15.70	13.68	2.02	13.64	2.78	10.86	0.04	+/- 0.03	-	interface probe.[5] Well gauged, and no sock installed.
	6/19/2017	1115	3.85	15.70	13.36	2.34	13.35	2.78	10.57	0.01	+/- 0.01	-	interface probe/water seeking paste.[5] No sock installed.
MW-202	8/29/2016	700	4.20	14.50	12.69	1.81	-	2.41	-	-	-	-	
	8/29/2016	1600	0.48	14.50	12.65	1.85	-	2.41	-	-	-	-	
	9/22/2016	722	4.60	14.50	12.40	2.10	-	2.41	-	-	-	-	
	9/27/2016	810	8.80	14.50	12.72	1.78	-	2.41	-	-	-	-	
	10/6/2016	830	2.00	14.50	12.68	1.82	-	2.41	-	-	-	-	
	10/13/2016	735	8.00	14.50	12.78	1.72	-	2.41	-	-	-	-	
	10/20/2016	715	2.00	14.50	12.09	2.41	-	2.41	-	-	-	-	
	10/20/2016	1330	10.00	14.50	12.35	2.15	-	2.41	-	-	-	-	
	10/27/2016	930	9.30	14.50	12.79	1.71	-	2.41	-	-	-	-	
	11/1/2016	800	1.20	14.50	12.54	1.96	-	2.41	-	-	-	-	
	11/1/2016	1701	4.00	14.50	12.39	2.11	-	2.41	-	-	-	-	
	11/3/2016	839	1.30	14.50	12.63	1.87	-	2.41	-	-	-	-	
	11/3/2016	1521	9.15	14.50	12.58	1.92	-	2.41	-	-	-	-	
	11/10/2016	1210	1.46	14.50	12.58	1.92	-	2.41	-	-	-	-	
	11/17/2016	1245	11.00	14.50	12.23	2.27	-	2.41	-	-	-	-	
	12/1/2016	845	5.06	14.50	12.49	2.01	-	2.41	-	-	-	-	
	1/3/2017	1210	6.84	14.50	12.83	1.67	-	2.41	-	-	-	-	
	1/17/2017	812	0.49	14.50	12.72	1.78	-	2.41	-	-	-	-	
	1/23/2017	803	9.17	14.50	12.84	1.66	-	2.41	-	-	-	-	
	1/30/2017	745	1.13	14.50	12.47	2.03	-	2.41	-	-	-	-	
	2/6/2017	732	10.28	14.50	12.72	1.78	-	2.41	-	-	-	-	
	2/14/2017	745	0.05	14.50	11.91	2.59	-	2.41	-	-	-	-	
	2/20/2017	740	7.96	14.50	12.47	2.03	-	2.41	-	-	-	-	
	2/27/2017	725	0.86	14.50	12.51	1.99	-	2.41	-	-	-	-	
	3/8/2017	738	10.54	14.50	12.78	1.72	-	2.41	-	-	-	-	
	3/13/2017	838	1.15	14.50	12.81	1.69	-	2.41	-	-	-	-	
	3/20/2017	802	6.42	14.50	12.64	1.86	-	2.41	-	-	-	-	
	4/3/2017	745	6.82	14.50	11.71	2.79	-	2.41	-	-	-	-	
	4/10/2017	736	2.32	14.50	12.22	2.28	-	2.41	-	-	-	-	
	4/18/2017	816	4.86	14.50	12.60	1.90	-	2.41	-	-	-	-	
	4/25/2017	819	5.70	14.50	12.59	1.91	-	2.41	-	-	-	-	
	5/1/2017	844	0.63	14.50	12.08	2.42	-	2.41	-	-	-	-	
	5/15/2017	728	2.38	14.50	12.12	2.38	-	2.41	-	-	-	-	
	5/30/2017	723	3.57	14.50	11.83	2.67	-	2.41	-	-	-	-	
	6/5/2017	840	8.90	14.50	12.62	1.88	-	2.41	-	-	-	-	
	6/13/2017	727	1.53	14.50	12.44	2.06	-	2.41	-	-	-	-	
	6/19/2017	806	10.55	14.50	12.67	1.83	-	2.41	-	-	-	-	
MW-203	8/29/2016	945	9.60	14.88	13.26	1.62	-	2.86	-	-	-	-	
	8/29/2016	1600	0.48	14.88	13.05	1.83	-	2.86	-	-	-	-	
	9/22/2016	735	4.40	14.88	12.51	2.37	-	2.86	-	-	-	-	
	9/27/2016	820	8.90	14.88	13.32	1.56	-	2.86	-	-	-	-	
	10/6/2016	848	1.90	14.88	13.14	1.74	-	2.86	-	-	-	-	
	10/13/2016	740	8.10	14.88	13.40	1.48	-	2.86	-	-	-	-	
	10/20/2016	720	1.80	14.88	12.25	2.63	-	2.86	-	-	-	-	
	10/20/2016	1332	10.00	14.88	12.87	2.01	-	2.86	-	-	-	-	
	10/27/2016	932	9.30	14.88	13.39	1.49	-	2.86	-	-	-	-	
	11/1/2016	803	1.20	14.88	12.98	1.90	-	2.86	-	-	-	-	
	11/1/2016	1658	4.00	14.88	12.56	2.32	-	2.86	-	-	-	-	
	11/3/2016	841	1.40	14.88	13.08	1.80	-	2.86	-	-	-	-	
	11/3/2016	1522	9.15	14.88	12.87	2.01	-	2.86	-	-	-	-	
	11/10/2016	1212	1.42	14.88	12.86	2.02	-	2.86	-	-	-	-	
	11/17/2016	1246	11.00	14.88	12.51	2.37	-	2.86	-	-	-	-	
	12/1/2016	847	5.07	14.88	13.01	1.87	-	2.86	-	-	-	-	
	1/3/2017	1220	7.19	14.88	13.44	1.44	-	2.86	-	-	-	-	
	1/17/2017	816	0.45	14.88	13.14	1.74	-	2.86	-	-	-	-	
	1/23/2017	806	9.16	14.88	13.27	1.61	-	2.86	-	-	-	-	
	1/30/2017	747	1.19	14.88	12.91	1.97	-	2.86	-	-	-	-	
	2/6/2017	733	10.28	14.88	13.14	1.74	-	2.86	-	-	-	-	
	2/14/2017	750	0.12	14.88	12.11	2.77	-	2.86	-	-	-	-	
	2/20/2017	742	7.91	14.88	12.94	1.94	-	2.86	-	-	-	-	
	2/27/2017	726	0.90	14.88	13.01	1.87	-	2.86	-	-	-	-	
	3/8/2017	739	10.54	14.88	13.21	1.67	-	2.86	-	-	-	-	
	3/13/2017	840	1.20	14.88	13.24	1.64	-	2.86	-	-	-	-	
	3/20/2017	804	6.38	14.88	12.92	1.96	-	2.86	-	-	-	-	
	4/3/2017	747	6.74	14.88	11.84	3.04	-	2.86	-	-	-	-	
	4/10/2017	738	2.38	14.88	12.68	2.20	-	2.86	-	-	-	-	
	4/18/2017	818	4.81	14.88	12.83	2.05	-	2.86	-	-	-	-	
	4/25/2017	821	5.78	14.88	13.06	1.82	-	2.86	-	-	-	-	
	5/1/2017	852	0.31	14.88	12.23	2.65	-	2.86	-	-	-	-	
	5/15/2017	729	2.35	14.88	12.22	2.66	-	2.86	-	-	-	-	
	5/30/2017	724	3.52	14.88	11.84	3.04	-	2.86	-	-	-	-	
	6/5/2017	900	9.10	14.88	13.16	1.72	-	2.86	-	-	-	-	
	6/13/2017	729	1.48	14.88	12.68	2.20	-	2.86	-	-	-	-	
	6/19/2017	807	9.44	14.88	13.08	1.80	-	2.86	-	-	-	-	
MW-204	8/29/2016	945	9.60	15.55	14.04	1.51	-	2.85	-	-	-	-	
	8/29/2016	1500	0.48	15.55	13.80	1.75	-	2.85	-	-	-	-	
	9/22/2016	740	4.20	15.55	13.32	2.23	-	2.85	-	-	-	-	
	9/27/2016	826	9.00	15.55	14.17	1.38	-	2.85	-	-	-	-	
	10/6/2016	905	1.80	15.55	14.01	1.54	-	2.85	-	-	-	-	
	10/13/2016	745	8.20	15.55	14.26	1.29	-	2.85	-	-	-	-	
	10/20/2016	728	1.90	15.55	13.08	2.47	-	2.85	-	-	-	-	
	10/20/2016	1337	10.10	15.55	13.82	1.73	-	2.85	-	-	-	-	
	10/27/2016	1938	9.40	15.55	14.18	1.37	-	2.85	-	-	-	-	
	11/1/2016	807	1.20	15.55	13.87	1.68	-	2.85	-	-	-	-	
	11/1/2016	1655	4.00	15.55	13.33	2.22	-	2.85	-	-	-	-	
	11/3/2016	843	1.40	15.55	13.96	1.59	-	2.85	-	-	-	-	
	11/3/2016	1526	9.18	15.55	13.58	1.97	-	2.85	-	-	-	-	
	11/10/2016	1214	1.39	15.55	13.66	1.89	-	2.85	-	-	-	-	
	11/17/2016	1248	11.01	15.55	13.32	2.23	-	2.85	-	-	-	-	
	12/1/2016	849	5.07	15.55	13.87	1.68	-	2.85	-	-	-	-	
	1/3/2017	1240	7.87	15.55	14.28	1.27	-	2.85	-	-	-	-	
	1/17/2017	819	0.41	15.55	14.04	1.51	-	2.85	-	-	-	-	
	1/23/2017	810	9.13	15.55	14.02	1.53	-	2.85	-	-	-	-	
	1/30/2017	750	1.25	15.55	13.81	1.74	-	2.85	-	-	-	-	
	2/6/2017	737	10.21	15.55	13.92	1.63	-	2.85	-	-	-	-	
	2/14/2017	755	0.16	15.55	12.98	2.57	-	2.85	-	-	-	-	
	2/20/2017	745	7.85	15.55	13.79	1.76	-	2.85	-	-	-	-	
	2/27/2017	728	0.99	15.55	13.96	1.59	-	2.85	-	-	-	-	
	3/8/2017	742	10.53	15.55	14.01	1.54	-	2.85	-	-	-	-	
	3/13/2017	747	0.15	15.55	14.15	1.40	-	2.85	-	-	-	-	
	3/20/2017	807	6.35	15.55	13.65	1.90	-	2.85	-	-	-	-	
	4/3/2017	749	6.65	15.55	12.61	2.94	-	2.85	-	-	-	-	
	4/10/2017	741	2.47	15.55	13.66	1.89	-	2.85	-	-	-	-	
	4/18/2017	821	4.72	15.55	13.67	1.88	-	2.85	-	-	-	-	
	4/25/2017	823	5.87	15.55	13.97	1.58	-	2.85	-	-	-	-	
	5/1/2017	854	0.24	15.55	13.06	2.49	-	2.85	-	-	-	-	
	5/15/2017	730	2.32	15.55	12.99	2.56	-	2.85	-	-	-	-	
	5/30/2017	727	3.37	15.55	12.62	2.93	-	2.85	-	-	-	-	
	6/5/2017	1015	8.89	15.55	13.82	1.73	-	2.85	-	-	-	-	
	6/13/2017	734	1.34	15.55	13.51	2.04	-	2.85	-	-	-	-	
	6/19/2017	809	9.41	15.55	13.85	1.70	-	2.85	-	-	-	-	

Table 7
Phase I Initial Site Investigation Report
Well Gauging Data Through June 20, 2017
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Well	Date	Time	Approximate Tidal Elevation (ft MLLW)[1]	TOR Elevation (ft amsl)	DTW (ft-bTOR)	Groundwater Elevation (ft amsl)	DTP (ft bTOR)	TOR Stickup (ft)	DTP (ft-bgs)	Product Thickness (ft)	Estimated Product Thickness Accuracy (ft)	Volume of Product Removed After Gauging (ml)	Notes
MW-205	8/29/2016	945	9.60	16.63	14.88	1.75	-	2.49	-	-	-	-	
	8/29/2016	1600	0.48	16.63	14.72	1.91	-	2.49	-	-	-	-	
	9/22/2016	745	4.10	16.63	14.30	2.33	-	2.49	-	-	-	-	
	9/27/2016	831	9.10	16.63	14.91	1.72	-	2.49	-	-	-	-	
	10/6/2016	915	1.75	16.63	14.83	1.80	-	2.49	-	-	-	-	
	10/13/2016	750	8.30	16.63	15.20	1.43	-	2.49	-	-	-	-	
	10/20/2016	735	1.50	16.63	13.94	2.69	-	2.49	-	-	-	-	
	10/20/2016	1340	10.20	16.63	14.40	2.23	-	2.49	-	-	-	-	
	10/27/2016	942	9.40	16.63	15.04	1.59	-	2.49	-	-	-	-	
	11/1/2016	812	1.20	16.63	14.62	2.01	-	2.49	-	-	-	-	
	11/1/2016	1652	4.00	16.63	14.37	2.26	-	2.49	-	-	-	-	
	11/3/2016	844	1.50	16.63	14.75	1.88	-	2.49	-	-	-	-	
	11/3/2016	1529	9.03	16.63	14.67	1.96	-	2.49	-	-	-	-	
	11/10/2016	1216	1.36	16.63	15.58	1.05	-	2.49	-	-	-	-	
	11/17/2016	1250	11.00	16.63	14.17	2.46	-	2.49	-	-	-	-	
	12/1/2016	851	5.20	16.63	14.65	1.98	-	2.49	-	-	-	-	
	1/3/2017	1300	8.52	16.63	15.03	1.60	-	2.49	-	-	-	-	
	1/17/2017	823	0.35	16.63	14.81	1.82	-	2.49	-	-	-	-	
	1/23/2017	814	9.11	16.63	14.97	1.66	-	2.49	-	-	-	-	
	1/30/2017	752	1.35	16.63	14.55	2.08	-	2.49	-	-	-	-	
	2/6/2017	740	10.13	16.63	14.88	1.75	-	2.49	-	-	-	-	
	2/14/2017	758	0.20	16.63	13.76	2.87	-	2.49	-	-	-	-	
	2/20/2017	748	7.79	16.63	14.74	1.89	-	2.49	-	-	-	-	
	2/27/2017	730	1.05	16.63	14.60	2.03	-	2.49	-	-	-	-	
	3/8/2017	744	10.52	16.63	14.89	1.74	-	2.49	-	-	-	-	
	3/13/2017	842	1.25	16.63	14.92	1.71	-	2.49	-	-	-	-	
	3/20/2017	809	6.23	16.63	14.72	1.91	-	2.49	-	-	-	-	
	4/3/2017	751	6.57	16.63	13.57	3.06	-	2.49	-	-	-	-	
	4/10/2017	744	2.57	16.63	14.27	2.36	-	2.49	-	-	-	-	
	4/18/2017	823	4.66	16.63	14.64	1.99	-	2.49	-	-	-	-	
	4/25/2017	826	6.01	16.63	14.65	1.98	-	2.49	-	-	-	-	
	5/1/2017	856	0.17	16.63	13.91	2.72	-	2.49	-	-	-	-	
	5/15/2017	734	2.20	16.63	14.00	2.63	-	2.49	-	-	-	-	
	5/30/2017	730	3.22	16.63	13.54	3.09	-	2.49	-	-	-	-	
	6/5/2017	1040	8.53	16.63	14.64	1.99	-	2.49	-	-	-	-	
	6/13/2017	736	1.29	16.63	14.45	2.18	-	2.49	-	-	-	-	
	6/19/2017	812	9.37	16.63	14.79	1.84	-	2.49	-	-	-	-	
MW-206	10/20/2016[3]	747	1.30	16.22	13.79	2.43	-	3.24	-	-	-	-	
	10/20/2016	1325	9.90	16.22	13.93	2.29	-	3.24	-	-	-	-	
	10/27/2016	1946	9.50	16.22	14.43	1.79	-	3.24	-	-	-	-	
	11/1/2016	818	1.20	16.22	14.22	2.00	-	3.24	-	-	-	-	
	11/1/2016	1644	4.00	16.22	14.18	2.04	-	3.24	-	-	-	-	
	11/3/2016	847	1.58	16.22	14.32	1.90	-	3.24	-	-	-	-	
	11/3/2016	1518	9.30	16.22	14.30	1.92	-	3.24	-	-	-	-	
	11/10/2016	1219	1.33	16.22	14.39	1.83	-	3.24	-	-	-	-	
	11/17/2016	1253	11.00	16.22	13.91	2.31	-	3.24	-	-	-	-	
	12/1/2016	854	5.26	16.22	14.34	1.88	-	3.24	-	-	-	-	
	1/3/2017	1340	9.57	16.22	14.54	1.68	-	3.24	-	-	-	-	
	1/17/2017	757	0.76	16.22	14.45	1.77	-	3.24	-	-	-	-	
	1/23/2017	755	9.20	16.22	14.57	1.65	-	3.24	-	-	-	-	
	1/30/2017	806	1.79	16.22	14.14	2.08	-	3.24	-	-	-	-	
	2/6/2017	751	9.92	16.22	14.41	1.81	-	3.24	-	-	-	-	
	2/14/2017	936	2.76	16.22	14.67	1.55	-	3.24	-	-	-	-	
	2/20/2017	759	7.55	16.22	14.14	2.08	-	3.24	-	-	-	-	
	2/27/2017	738	1.32	16.22	14.15	2.07	-	3.24	-	-	-	-	
	3/8/2017	753	10.48	16.22	14.49	1.73	-	3.24	-	-	-	-	
	3/13/2017	815	0.62	16.22	14.57	1.65	-	3.24	-	-	-	-	
	3/20/2017	824	5.81	16.22	14.47	1.75	-	3.24	-	-	-	-	
	4/3/2017	758	6.27	16.22	13.28	2.94	-	3.24	-	-	-	-	
	4/10/2017	757	2.99	16.22	13.88	2.34	-	3.24	-	-	-	-	
	4/18/2017	833	4.37	16.22	14.29	1.93	-	3.24	-	-	-	-	
	4/25/2017	835	6.41	16.22	14.34	1.88	-	3.24	-	-	-	-	
	5/1/2017	906	-0.18	16.22	13.75	2.47	-	3.24	-	-	-	-	
	5/15/2017	742	1.96	16.22	13.99	2.23	-	3.24	-	-	-	-	
	5/30/2017	744	2.53	16.22	13.48	2.74	-	3.24	-	-	-	-	
	6/6/2017	900	0.35	16.22	14.17	2.05	-	3.24	-	-	-	-	
	6/13/2017	750	0.94	16.22	14.15	2.07	-	3.24	-	-	-	-	
	6/19/2017	821	9.22	16.22	14.30	1.92	-	3.24	-	-	-	-	
MW-400	1/3/2017	1230	7.53	14.63	13.30	1.33	-	2.37	-	-	-	-	
	1/17/2017	814	0.47	14.63	13.02	1.61	-	2.37	-	-	-	-	
	1/23/2017	804	9.17	14.63	13.15	1.48	-	2.37	-	-	-	-	
	1/30/2017	815	2.11	14.63	12.78	1.85	-	2.37	-	-	-	-	
	2/6/2017	736	10.21	14.63	12.96	1.67	-	2.37	-	-	-	-	
	2/14/2017	752	0.11	14.63	11.96	2.67	-	2.37	-	-	-	-	
	2/20/2017	807	7.37	14.63	12.77	1.86	-	2.37	-	-	-	-	
	2/27/2017	747	1.68	14.63	12.91	1.72	-	2.37	-	-	-	-	
	3/8/2017	800	10.42	14.63	13.00	1.63	-	2.37	-	-	-	-	
	3/13/2017	745	0.12	14.63	13.13	1.50	-	2.37	-	-	-	-	
	3/20/2017	805	6.35	14.63	12.77	1.86	-	2.37	-	-	-	-	
	4/3/2017	802	6.10	14.63	11.76	2.87	-	2.37	-	-	-	-	
	4/10/2017	809	3.41	14.63	12.58	2.05	-	2.37	-	-	-	-	
	4/18/2017	840	4.17	14.63	12.72	1.91	-	2.37	-	-	-	-	
	4/25/2017	843	6.76	14.63	12.95	1.68	-	2.37	-	-	-	-	
	5/1/2017	914	-0.43	14.63	12.16	2.47	-	2.37	-	-	-	-	
	5/15/2017	750	1.73	14.63	12.12	2.51	-	2.37	-	-	-	-	
	5/30/2017	759	1.80	14.63	12.81	1.82	-	2.37	-	-	-	-	
	6/5/2017	945	9.15	14.63	12.97	1.66	-	2.37	-	-	-	-	
	6/13/2017	758	0.78	14.63	12.62	2.01	-	2.37	-	-	-	-	
	6/19/2017	831	9.02	14.63	12.86	1.77	-	2.37	-	-	-	-	
MW-401	1/3/2017	1250	8.20	15.81	14.38	1.43	-	2.37	-	-	-	-	
	1/17/2017	827	0.34	15.81	14.18	1.63	-	2.37	-	-	-	-	
	1/23/2017	812	9.12	15.81	14.32	1.49	-	2.37	-	-	-	-	
	1/30/2017	743	1.07	15.81	13.87	1.94	-	2.37	-	-	-	-	
	2/6/2017	802	9.66	15.81	14.12	1.69	-	2.37	-	-	-	-	
	2/14/2017	815	0.49	15.81	13.11	2.70	-	2.37	-	-	-	-	
	2/20/2017	808	7.35	15.81	14.06	1.75	-	2.37	-	-	-		
	2/27/2017	748	1.71	15.81	13.96	1.85	-	2.37	-	-	-	-	
	3/8/2017	801	10.41	15.81	14.22	1.59	-	2.37	-	-	-	-	
	3/13/2017	822	0.75	15.81	14.20	1.61	-	2.37	-	-	-	-	
	3/20/2017	831	5.63	15.81	14.07	1.74	-	2.37	-	-	-	-	
	4/3/2017	806	5.92	15.81	13.10	2.71	-	2.37	-	-	-	-	
	4/10/2017	810	3.45	15.81	13.62	2.19	-	2.37	-	-	-	-	
	4/18/2017	841	4.14	15.81	14.02	1.79	-	2.37	-	-	-	-	
	4/25/2017	844	6.81	15.81	14.00	1.81	-	2.37	-	-	-	-	
	5/1/2017	917	-0.52	15.81	13.33	2.48	-	2.37	-	-	-	-	
	5/15/2017	751	1.71	15.81	13.38	2.43	-	2.37	-	-	-	-	
	5/30/2017	801	1.71	15.81	13.02	2.79	-	2.37	-	-	-	-	
	6/5/2017	1155	6.77	15.81	13.87	1.94	-	2.37	-	-	-	-	
	6/13/2017	800	0.74	15.81	13.85	1.96	-	2.37	-	-	-	-	
	6/19/2017	832	9.00	15.81	14.10	1.71	-	2.37	-	-	-	-	
MW-402	1/3/2017	1310	8.81	16.92	15.51	1.41	-	2.30	-	-	-	-	
	1/17/2017	831	0.32	16.92	15.30	1.62	-	2.30	-	-	-	-	
	1/23/2017	816	9.09	16.92	15.26	1.66	-	2.30	-	-	-	-	
	1/30/2017	759	1.57	16.92	15.01	1.91	-	2.30	-	-	-	-	
	2/6/2017	744	10.07	16.92	15.88	1.04	-	2.30	-	-	-	-	
	2/14/2017	803	0.29	16.92	14.30	2.62	-	2.30	-	-	-	-	
	2/20/2017	810	7.30	16.92	14.91	2.01	-	2.30	-	-	-	-	
	2/27/2017	734	1.20	16.92	15.16	1.76	-	2.30	-	-	-	-	
	3/8/2017	747	10.51	16.92	15.20	1.72	-	2.30	-	-	-	-	
	3/13/2017	807	0.47	16.92	15.37	1.55	-	2.30	-	-	-	-	
	3/20/2017	812	6.15	16.92	14.91	2.01	-	2.30	-	-	-	-	
	4/3/2017	753	6.49	16.92	13.79	3.13	-	2.30	-	-	-	-	
	4/10/2017	749	2.71	16.92	14.83	2.09	-	2.30	-	-	-	-	
	4/18/2017	828	4.51	16.92	14.94	1.98	-	2.30	-	-	-	-	
	4/25/2017	829	6.14	16.92	15.20	1.72	-	2.30	-	-	-	-	
	5/1/2017	900	0.02	16.92	14.32	2.60	-	2.30	-	-	-	-	
	5/15/2017	738	2.08	16.92	14.30	2.62	-	2.30	-	-	-	-	
	5/30/2017	735	2.97	16.92	13.85	3.07	-	2.30	-	-	-	-	
	6/5/2017	1335	3.13	16.92	14.75	2.17	-	2.30	-	-	-	-	
	6/13/2017	740	1.18	16.92	14.83	2.09	-	2.30	-	-	-	-	
	6/19/2017	815	9.32	16.92	15.06	1.86	-	2.30	-	-	-	-	
MW-403	1/3/2017	1320	9.12	15.33	14.03	1.30	-	2.22	-	-	-	-	
	1/17/2017	833	0.33	15.33	13.76	1.57	-	2.22	-	-	-	-	
	1/23/2017	818	9.08	15.33	13.68	1.65	-	2.22	-	-	-	-	
	1/30/2017	754	1.40	15.33	13.46	1.87	-	2.22	-	-	-	-	
	2/6/2017	743	10.06	15.33	13.47	1.86	-	2.22	-	-	-	-	
	2/14/2017	800	0.24	15.33	12.75	2.58	-	2.22	-	-	-	-	
	2/20/2017	753	7.68	15.33	13.33	2.00	-	2.22	-	-	-	-	
	2/27/2017	732	1.10	15.33	13.63	1.70	-	2.22	-	-	-	-	
	3/8/2017	745	10.52	15.33	13.62	1.71	-	2.22	-	-	-	-	
	3/13/2017	805	0.41	15.33	13.85	1.48	-	2.22	-	-	-	-	
	3/20/2017	811	6.18	15.33	13.28	2.05	-	2.22	-	-	-	-	
	4/3/2017	752	6.53	15.33	12.10	3.23	-	2.22	-	-	-	-	
	4/10/2017	747	2.65	15.33	13.33	2.00	-	2.22	-	-	-	-	
	4/18/2017	825	4.60	15.33	13.32	2.01	-	2.22	-	-	-	-	
	4/25/2017	828	6.09	15.33	13.68	1.65	-	2.22	-	-	-	-	
	5/1/2017	858	0.09	15.33	12.73	2.60	-	2.22	-	-	-	-	
	5/15/2017	736	2.14	15.33	12.69	2.64	-	2.22	-	-	-	-	
	5/30/2017	733	3.07	15.33	12.19	3.14	-	2.22	-	-	-	-	
	6/5/2017	1150	6.92	15.33	13.01	2.32	-	2.22	-	-	-	-	
	6/13/2017	738	1.23	15.33	13.26	2.07	-	2.22	-	-	-	-	
	6/19/2017	813	9.35	15.33	13.46	1.87	-	2.22	-	-	-	-	

Table 7
Phase I Initial Site Investigation Report
Well Gauging Data Through June 20, 2017
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Well	Date	Time	Approximate Tidal Elevation (ft MLLW)[1]	TOR Elevation (ft amsl)	DTW (ft-bTOR)	Groundwater Elevation (ft amsl)	DTP (ft bTOR)	TOR Stickup (ft)	DTP (ft-bgs)	Product Thickness (ft)	Estimated Product Thickness Accuracy (ft)	Volume of Product Removed After Gauging (ml)	Notes
MW-404	1/4/2017	900	0.69	14.20	12.39	1.81	12.38	1.14	11.24	0.01	+/- 0.0	-	Interface probe.[5]
	1/17/2017	838	0.30	14.20	12.81	1.39	-	1.14	-	-	-	-	
	1/23/2017	828	8.98	14.20	13.62	0.58	-	1.14	-	-	-	-	
	1/30/2017	757	1.49	14.20	12.56	1.64	-	1.14	-	-	-	-	
	2/6/2017	905	7.62	14.20	12.20	2.00	-	1.14	-	-	-	-	
	2/14/2017	1027	4.60	14.20	12.08	2.12	-	1.14	-	-	-	-	
	2/20/2017	849	6.35	14.20	12.15	2.05	-	1.14	-	-	-	-	
	2/27/2017	822	3.06	14.20	12.73	1.47	-	1.14	-	-	-	-	
	3/8/2017	826	10.07	14.20	12.28	1.92	-	1.14	-	-	-	-	
	3/13/2017	709	-0.03	14.20	12.88	1.32	-	1.14	-	-	-	-	
	3/20/2017	853	5.01	14.20	12.20	2.00	-	1.14	-	-	-	-	
	4/3/2017	836	4.62	14.20	11.20	3.00	-	1.14	-	-	-	-	
	4/10/2017	832	4.32	14.20	12.35	1.85	-	1.14	-	-	-	-	
	4/18/2017	924	2.95	14.20	12.38	1.82	-	1.14	-	-	-	-	
	4/25/2017	911	7.98	14.20	12.76	1.44	-	1.14	-	-	-	-	
	5/1/2017	945	-1.09	14.20	11.88	2.32	-	1.14	-	-	-	-	
	5/15/2017	821	0.97	14.20	11.91	2.29	-	1.14	-	-	-	-	
	5/30/2017	835	0.24	14.20	11.50	2.70	-	1.14	-	-	-	-	
	6/6/2017	840	7.79	14.20	12.70	1.50	-	1.14	-	-	-	-	
	6/13/2017	830	0.34	14.20	12.35	1.85	-	1.14	-	-	-	-	
	6/19/2017	932	7.34	14.20	12.15	2.05	-	1.14	-	-	-	-	
MW-405	1/3/2017	1330	9.36	16.19	14.70	1.49	-	2.32	-	-	-	-	
	1/17/2017	835	0.31	16.19	14.50	1.69	-	2.32	-	-	-	-	
	1/23/2017	843	8.80	16.19	14.59	1.60	-	2.32	-	-	-	-	
	1/30/2017	801	1.62	16.19	14.20	1.99	-	2.32	-	-	-	-	
	2/6/2017	747	10.06	16.19	14.44	1.75	-	2.32	-	-	-	-	
	2/14/2017	804	0.30	16.19	13.63	2.56	-	2.32	-	-	-	-	
	2/20/2017	755	7.63	16.19	14.26	1.93	-	2.32	-	-	-	-	
	2/27/2017	736	1.26	16.19	14.29	1.90	-	2.32	-	-	-	-	
	3/8/2017	749	10.50	16.19	14.57	1.62	-	2.32	-	-	-	-	
	3/13/2017	810	0.52	16.19	14.66	1.53	-	2.32	-	-	-	-	
	3/20/2017	814	6.09	16.19	14.42	1.77	-	2.32	-	-	-	-	
	4/3/2017	755	6.39	16.19	13.26	2.93	-	2.32	-	-	-	-	
	4/10/2017	751	2.77	16.19	13.84	2.35	-	2.32	-	-	-	-	
	4/18/2017	829	2.80	16.19	14.31	1.88	-	2.32	-	-	-	-	
	4/25/2017	831	6.23	16.19	14.43	1.76	-	2.32	-	-	-	-	
	5/1/2017	901	-0.01	16.19	13.71	2.48	-	2.32	-	-	-	-	
	5/15/2017	739	2.05	16.19	13.81	2.38	-	2.32	-	-	-	-	
	5/30/2017	739	2.77	16.19	13.37	2.82	-	2.32	-	-	-	-	
	6/6/2017	1025	9.07	16.19	14.15	2.04	-	2.32	-	-	-	-	
	6/13/2017	743	0.29	16.19	14.16	2.03	-	2.32	-	-	-	-	
	6/19/2017	817	9.29	16.19	14.36	1.83	-	2.32	-	-	-	-	
MW-406	1/4/2017	920	0.50	15.58	13.67	1.91	13.64	2.24	11.40	0.03	+/- 0.0	-	Interface probe.[5]
	1/17/2017	901	0.39	15.58	14.10	1.48	13.94	2.24	11.70	0.16	+ 0 /- 0.1	-	Interface probe.[5]
	1/23/2017	910	8.38	15.58	14.04	1.54	13.99	2.24	11.75	0.05	+/- 0.0	-	Interface probe.[5]
	1/30/2017	900	3.82	15.58	13.73	1.85	13.68	2.24	11.44	0.05	+/- 0.0	-	Interface probe.[5]
	2/6/2017	940	10.12	15.58	13.89	1.69	13.84	2.24	11.60	0.05	+/- 0.0	-	Interface probe.[5]
	2/14/2017	955	3.42	15.58	13.25	2.33	13.19	2.24	10.95	0.04	+ 0 / 0.1	-	Interface probe.[5]
	2/20/2017	856	6.19	15.58	13.66	1.92	13.59	2.24	11.35	0.07	+/- 0.0	-	Interface probe.[5]
	2/27/2017	839	3.74	15.58	13.72	1.86	13.71	2.24	11.47	0.01	+/- 0.0	-	interface probe.[5]
	3/8/2017	847	9.66	15.58	13.91	1.67	13.88	2.24	11.64	0.03	+/- 0.0	-	interface probe.[5]
	3/13/2017	945	3.19	15.58	14.11	1.47	14.03	2.24	11.79	0.08	+ 0 /- 0.1	-	Interface probe.[5]
	3/20/2017	921	4.22	15.58	13.86	1.72	13.83	2.24	11.59	0.03	+ 0 /- 0.1	-	Interface probe.[5]
	4/3/2017	911	3.10	15.58	12.85	2.73	12.80	2.24	10.56	0.05	+ 0 /- 0.1	-	Interface probe.[5]
	4/10/2017	855	5.30	15.58	13.21	2.37	13.19	2.24	10.95	0.02	+ 0 /- 0.03	-	Interface probe.[5]
	4/18/2017	930	2.79	15.58	13.90	1.68	13.80	2.24	11.56	0.10	+ 0 /- 0.03	-	interface probe.[5] New sock installed.
	4/25/2017	923	8.46	15.58	13.90	1.68	-	2.24	-	-	-	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	5/1/2017	1002	-1.23	15.58	13.22	2.36	13.22	2.24	10.98	0.00	+ 0 /- 0.01	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	5/15/2017	910	0.44	15.58	13.35	2.23	13.35	2.24	11.11	0.00	+ 0 /- 0.01	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	5/30/2017	932	-1.15	15.58	14.01	1.57	14.00	2.24	11.76	0.01	+ 0 /- 0.03	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	6/6/2017	1107	8.75	15.58	13.51	2.07	13.50	2.24	11.26	0.01	+ 0 /- 0.01	-	interface probe.[5] Sock removed, well gauged, and no sock installed.
	6/13/2017	905	0.40	15.58	13.63	1.95	13.62	2.24	11.38	0.01	+ 0 /- 0.01	-	interface probe.[5] Well gauged, and no sock installed.
	6/19/2017	1000	6.41	15.58	13.76	1.82	13.75	2.24	11.51	0.01	+ 0 /- 0.01	-	interface probe.[5] Well gauged, and no sock installed.
MW-407	1/4/2017	1000	0.67	15.32	13.48	1.84	13.45	2.14	11.31	0.03	+/- 0.0	-	Interface probe.[5]
	1/17/2017	910	0.49	15.32	13.77	1.55	13.72	2.14	11.58	0.05	+/- 0.0	-	Interface probe.[5]
	1/23/2017	846	8.76	15.32	13.81	1.51	13.79	2.14	11.65	0.02	+/- 0.0	-	Interface probe.[5]
	1/30/2017	918	4.53	15.32	13.42	1.90	13.35	2.14	11.21	0.07	+/- 0.0	-	interface probe/water seeking paste.[5]
	2/6/2017	952	5.80	15.32	13.53	1.79	13.47	2.14	11.33	0.06	+/- 0.0	-	Interface probe.[5]
	2/14/2017	939	2.83	15.32	12.96	2.36	12.93	2.14	10.79	0.03	+/- 0.0	-	Interface probe.[5]
	2/20/2027	906	5.91	15.32	13.37	1.95	13.36	2.14	11.22	0.01	+/- 0.0	-	Interface probe.[5]
	2/27/2017	905	4.82	15.32	13.51	1.81	13.48	2.14	11.34	0.03	+ 0 / 0.1	-	interface probe.[5]
	3/8/2017	900	9.35	15.32	13.66	1.66	13.64	2.14	11.50	0.02	+ 0 / 0.1	-	interface probe.[5]
	3/13/2017	1005	3.92	15.32	13.83	1.49	13.81	2.14	11.67	0.02	+ 0 / 0.1	-	interface probe.[5]
	3/20/2017	932	3.90	15.32	13.77	1.55	13.59	2.14	11.45	0.18	+ 0 / 0.1	-	interface probe.[5]
	4/3/2017	927	2.39	15.32	12.52	2.80	12.48	2.14	10.34	0.04	+ 0 / 0.1	-	interface probe.[5]
	4/10/2017	915	6.17	15.32	12.96	2.36	12.93	2.14	10.79	0.03	+ 0 /- 0.03	-	interface probe.[5]
	4/18/2017	945	2.38	15.32	13.59	1.73	13.57	2.14	11.43	0.02	+ 0 /- 0.03	-	interface probe.[5] New sock installed.
	4/25/2017	937	8.99	15.32	13.65	1.67	-	2.14	-	-	-	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	5/1/2017	1029	-1.12	15.32	12.92	2.40	12.92	2.14	10.78	0.00	+ 0 /- 0.01	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	5/15/2017	922	0.47	15.32	13.15	2.17	-	2.14	-	-	-	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	5/30/2017	1003	-1.17	15.32	12.75	2.57	-	2.14	-	-	-	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	6/6/2017	1128	8.45	15.32	13.26	2.06	-	2.14	-	-	-	-	interface probe.[5] Well gauged, and no sock installed.
	6/13/2017	915	0.52	15.32	13.40	1.92	13.39	2.14	11.25	0.01	+ 0 /- 0.01	-	interface probe.[5] Well gauged, and no sock installed.
	6/19/2017	1021	5.69	15.32	13.50	1.82	13.49	2.14	11.35	0.01	+ 0 /- 0.01	-	interface probe.[5] Well gauged, and no sock installed.
MW-408	1/4/2017	1020	1.03	15.34	13.38	1.96	-	2.30	-	-	-	-	
	1/17/2017	759	0.72	15.34	13.61	1.73	-	2.30	-	-	-	-	
	1/23/2017	754	9.20	15.34	13.74	1.60	-	2.30	-	-	-	-	
	1/30/2017	805	1.77	15.34	13.26	2.08	-	2.30	-	-	-	-	
	2/6/2017	749	9.97	15.34	13.52	1.82	-	2.30	-	-	-	-	
	2/14/2017	807	0.34	15.34	12.81	2.53	-	2.30	-	-	-	-	
	2/20/2017	757	7.70	15.34	13.32	2.02	-	2.30	-	-	-	-	
	2/27/2017	727	0.95	15.34	13.34	2.00	-	2.30	-	-	-	-	
	3/8/2017	751	10.49	15.34	13.69	1.65	-	2.30	-	-	-	-	
	3/13/2017	812	0.56	15.34	13.75	1.59	-	2.30	-	-	-	-	
	3/20/2017	822	5.88	15.34	13.57	1.77	-	2.30	-	-	-	-	
	4/3/2017	756	6.35	15.34	12.46	2.88	-	2.30	-	-	-	-	
	4/10/2017	754	2.89	15.34	12.87	2.47	-	2.30	-	-	-	-	
	4/18/2017	831	4.43	15.34	13.46	1.88	-	2.30	-	-	-	-	
	4/25/2017	833	6.32	15.34	13.52	1.82	-	2.30	-	-	-	-	
	5/1/2017	903	-0.08	15.34	12.92	2.42	-	2.30	-	-	-	-	
	5/15/2017	740	2.02	15.34	12.98	2.36	-	2.30	-	-	-	-	
	5/30/2017	742	2.63	15.34	12.64	2.70	-	2.30	-	-	-	-	
	6/6/2017	1205	7.74	15.34	13.15	2.19	-	2.30	-	-	-	-	
	6/13/2017	746	1.04	15.34	13.33	2.01	-	2.30	-	-	-	-	
	6/19/2017	819	9.25	15.34	13.48	1.86	-	2.30	-	-	-	-	
MW-409	1/3/2017	1350	9.80	15.13	13.44	1.69	-	2.29	-	-	-	-	
	1/17/2017	755	0.82	15.13	13.33	1.80	-	2.29	-	-	-	-	
	1/23/2017	757	9.19	15.13	13.46	1.67	-	2.29	-	-	-	-	
	1/30/2017	808	1.85	15.13	13.02	2.11	-	2.29	-	-	-	-	
	2/6/2017	806	9.53	15.13	13.30	1.83	-	2.29	-	-	-	-	
	2/14/2017	810	0.38	15.13	12.55	2.58	-	2.29	-	-	-	-	
	2/20/2017	801	7.50	15.13	13.05	2.08	-	2.29	-	-	-	-	
	2/27/2017	741	1.45	15.13	13.07	2.06	-	2.29	-	-	-	-	
	3/8/2017	753	10.47	15.13	13.40	1.73	-	2.29	-	-	-	-	
	3/13/2017	816	0.64	15.13	13.47	1.66	-	2.29	-	-	-	-	
	3/20/2017	825	5.79	15.13	13.31	1.82	-	2.29	-	-	-	-	
	4/3/2017	800	6.18	15.13	12.27	2.86	-	2.29	-	-	-	-	
	4/10/2017	800	3.10	15.13	12.67	2.46	-	2.29	-	-	-	-	
	4/18/2017	834	4.34	15.13	13.20	1.93	-	2.29	-	-	-	-	
	4/25/2017	835	6.41	15.13	13.23	1.90	-	2.29	-	-	-	-	
	5/1/2017	908	-0.25	15.13	12.66	2.47	-	2.29	-	-	-	-	
	5/15/2017	744	1.91	15.13	12.78	2.35	-	2.29	-	-	-	-	
	5/30/2017	746	2.43	15.13	12.37	2.76	-	2.29	-	-	-	-	
	6/6/2017	1030	9.05	15.13	12.15	2.99	-	2.29	-	-	-	-	
	6/13/2017	753	0.88	15.13	13.06	2.07	-	2.29	-	-	-	-	
	6/19/2017	823	9.18	15.13	13.23	1.90	-	2.29	-	-	-	-	
MW-410	1/4/2017	1500	9.90	14.74	13.10	1.64	12.85	2.29	10.56	0.25	+ 0 ft /- 0.15	30	interface probe/water seeking paste.[5]
	1/17/2017	1255	7.59	14.74	13.44	1.30	13.29	2.29	11.00	0.15	+/- 0.05	220	interface probe/water seeking paste.[5]
	1/23/2017	1030	6.52	14.74	13.18	1.56	13.10	2.29	10.81	0.08	- 0 ft /- 0.1	170	Interface probe after removing 170 ml product.[5]
	1/30/2017	1114	8.98	14.74	13.04	1.70	12.99	2.29	10.70	0.08	+/- 0.0	-	interface probe/water seeking paste.[5]
	2/6/2017	1040	3.78	14.74	13.52	1.22	12.93	2.29	10.64	0.59	+/- 0.01	-	interface probe.[5]
	2/14/2017	1055	5.80	14.74	12.26	2.48	12.24	2.29	9.95	0.02	+/- 0.05	-	interface probe.[5]
	2/20/2017	1017	3.87	14.74	13.36	1.38	12.80	2.29	10.51	0.56	+/- 0.05	-	interface probe.[5]
	2/27/2017	950	6.74	14.74	12.97	1.77	12.95	2.29	10.66	0.02	+/- 0.0	-	interface probe.[5]
	3/8/2017	945	8.02	14.74	12.95	1.79	12.94	2.29	10.65	0.01	+/- 0.0	-	interface probe.[5]
	3/13/2017	1035	5.17	14.74	13.30	1.44	13.12	2.29	10.83	0.18	+/- 0.05	-	interface probe.[5]
	3/20/2017	1012	2.79	14.74	13.29	1.45	13.04	2.29	10.75	0.25	+/- 0.01	-	interface probe.[5]
	4/3/2017	1040	-0.19	14.74	12.29	2.45	12.04	2.29	9.75	0.25	+/- 0.01	-	interface probe/water seeking paste.[5]
	4/10/2017	930	6.80	14.74	12.55	2.19	12.51	2.29	10.22	0.04	+/- 0.0	-	interface probe.[5]
	4/18/2017	1000	2.01	14.74	13.01	1.73	13.00	2.29	10.71	0.01	+/- 0.01	-	interface probe.[5] New sock installed.
	4/25/2017	943	9.20	14.74	13.05	1.69	-	2.29	-	-	-	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	5/1/2017	1050	-0.78	14.74	12.34	2.40	-	2.29	-	-	-	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	5/15/2017	1000	0.98	14.74	12.52	2.22	-	2.29	-	-	-	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	5/30/2017	1033	-0.74	14.74	12.10	2.64	12.09	2.29	9.80	0.01	+/- 0.05	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	6/6/2017	1145	8.15	14.74	12.65	2.09	-	2.29	-	0.00	+/- 0.02	-	interface probe.[5] Well gauged, and no sock installed.
	6/13/2017	930	0.77	14.74	12.86	1.88	12.83	2.29	10.54	0.03	+/- 0.02	-	interface probe.[5] Well gauged, and no sock installed.
	6/19/2017	1033	5.57	14.74	13.06	1.68	13.05	2.29	10.76	0.01	+/- 0.01	-	interface probe.[5] Well gauged, and no sock installed.
MW-411	1/3/2017	1200	6.49	14.94	13.37	1.57	-	2.41	-	-	-	-	
	1/17/2017	802	0.68	14.94	13.26	1.68	-	2.41	-	-	-	-	
	1/23/2017	800	9.19	14.94	13.38	1.56	-	2.41	-	-	-	-	
	1/30/2017	816	2.15	14.94	13.09	1.85	-	2.41	-	-	-	-	
	2/6/2017	800	9.68	14.94	13.08	1.86	-	2.41	-	-	-	-	
	2/14/2017	814	0.49	14.94	12.25	2.69	-	2.41	-	-	-	-	
	2/20/2017	805	7.42	14.94	12.99	1.95	-	2.41	-	-	-	-	
	2/27/2017	745	1.59	14.94	13.19	1.75	-	2.41	-	-	-	-	
	3/8/2017	757	10.44	14.94	13.23	1.71	-	2.41	-	-	-	-	
	3/13/2017	821	0.75	14.94	13.42	1.52	-	2.41	-	-	-	-	
	3/20/2017	830	5.65	14.94	12.94	2.00	-	2.41	-	-	-	-	
	4/3/2017	801	6.14	14.94	12.05	2.89	-	2.41	-	-	-	-	
	4/10/2017	807	3.34	14.94	12.82	2.12	-	2.41	-	-	-	-	
	4/18/2017	839	4.20	14.94	12.96	1.98	-	2.41	-	-	-	-	
	4/25/2017	841	6.67	14.94	13.21	1.73	-	2.41	-	-	-	-	
	5/1/2017	913	-0.40	14.94	12.41	2.53	-	2.41	-	-	-	-	
	5/15/2017	748	1.79	14.94	12.37	2.57	-	2.41	-	-	-	-	
	5/30/2017	1018	-1.00	14.94	12.75	2.19	-	2.41	-	-	-	-	
	6/7/2017	1120	8.95	14.94	12.83	2.11	-	2.41	-	-	-	-	
	6/13/2017	755	0.84	14.94	12.87	2.07	-	2.41	-	-	-	-	
	6/19/2017	829	9.06	14.94	13.07	1.87	-	2.41	-	-	-	-	

Table 7
Phase I Initial Site Investigation Report
Well Gauging Data Through June 20, 2017
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Well	Date	Time	Approximate Tidal Elevation (ft MLLW)[1]	TOR Elevation (ft amsl)	DTW (ft-bTOR)	Groundwater Elevation (ft amsl)	DTP (ft bTOR)	TOR Stickup (ft)	DTP (ft-bgs)	Product Thickness (ft)	Estimated Product Thickness Accuracy (ft)	Volume of Product Removed After Gauging (ml)	Notes
MW-412	1/4/2017	1100	2.20	15.25	13.15	2.10	-	1.64	-	-	-	-	
	1/17/2017	745	1.05	15.25	13.55	1.70	-	1.64	-	-	-	-	
	1/23/2017	822	9.05	15.25	13.61	1.64	-	1.64	-	-	-	-	
	1/30/2017	811	1.97	15.25	13.32	1.93	-	1.64	-	-	-	-	
	2/6/2017	756	9.70	15.25	13.38	1.87	-	1.64	-	-	-	-	
	2/14/2017	812	0.44	15.25	12.54	2.71	-	1.64	-	-	-	-	
	2/20/2017	803	7.46	15.25	13.30	1.95	-	1.64	-	-	-	-	
	2/27/2017	742	1.48	15.25	13.40	1.85	-	1.64	-	-	-	-	
	3/8/2017	754	10.47	15.24	13.53	1.71	-	1.64	-	-	-	-	
	3/13/2017	818	0.68	15.24	13.70	1.54	-	1.64	-	-	-	-	
	3/20/2017	826	5.76	15.24	13.34	1.90	-	1.64	-	-	-	-	
	4/3/2017	803	6.06	15.24	12.32	2.92	-	1.64	-	-	-	-	
	4/10/2017	802	3.17	15.24	13.00	2.24	-	1.64	-	-	-	-	
	4/18/2017	836	4.29	15.24	13.32	1.92	-	1.64	-	-	-	-	
	4/25/2017	837	6.50	15.24	13.47	1.77	-	1.64	-	-	-	-	
	5/1/2017	909	-0.28	15.24	12.75	2.49	-	1.64	-	-	-	-	
	5/15/2017	745	1.88	15.24	12.75	2.49	-	1.64	-	-	-	-	
	5/30/2017	749	2.28	15.24	12.40	2.84	-	1.64	-	-	-	-	
	6/6/2017	1320	5.57	15.24	13.16	2.08	-	1.64	-	-	-	-	
	6/13/2017	1036	2.57	15.24	13.44	1.80	-	1.64	-	-	-	-	
	6/19/2017	825	9.14	15.24	13.07	2.17	-	1.64	-	-	-	-	
MW-413	1/4/2017	1040	1.50	15.45	13.32	2.13	-	1.71	-	-	-	-	
	1/17/2017	750	0.94	15.45	13.80	1.65	-	1.71	-	-	-	-	
	1/23/2017	824	9.03	15.45	13.85	1.60	-	1.71	-	-	-	-	
	1/30/2017	813	2.03	15.45	13.56	1.89	-	1.71	-	-	-	-	
	2/6/2017	758	9.73	15.45	13.63	1.82	-	1.71	-	-	-	-	
	2/14/2017	813	0.47	15.45	12.87	2.58	-	1.71	-	-	-	-	
	2/20/2017	804	7.44	15.45	13.53	1.92	-	1.71	-	-	-	-	
	2/27/2017	743	1.52	15.45	13.67	1.78	-	1.71	-	-	-	-	
	3/8/2017	756	10.45	15.45	13.74	1.71	-	1.71	-	-	-	-	
	3/13/2017	820	0.72	15.45	13.94	1.51	-	1.71	-	-	-	-	
	3/20/2017	828	5.71	15.45	13.52	1.93	-	1.71	-	-	-	-	
	4/3/2017	805	5.98	15.45	14.53	0.92	-	1.71	-	-	-	-	
	4/10/2017	804	3.23	15.45	13.37	2.08	-	1.71	-	-	-	-	
	4/18/2017	837	4.26	15.45	13.52	1.93	-	1.71	-	-	-	-	
	4/25/2017	839	6.58	15.45	13.78	1.67	-	1.71	-	-	-	-	
	5/1/2017	911	-0.34	15.45	12.97	2.48	-	1.71	-	-	-	-	
	5/15/2017	747	1.82	15.45	12.96	2.49	-	1.71	-	-	-	-	
	5/30/2017	755	1.99	15.45	12.67	2.78	-	1.71	-	-	-	-	
	6/6/2017	1240	6.84	15.45	12.82	2.63	-	1.71	-	-	-	-	
	6/13/2017	1039	2.67	15.45	13.65	1.80	-	1.71	-	-	-	-	
	6/19/2017	828	9.08	15.45	13.61	1.84	-	1.71	-	-	-	-	
MW-414	1/4/2017	940	0.49	16.29	14.39	1.90	14.26	2.11	12.15	0.13	+/- 0.03	10	Interface probe.[5]
	1/17/2017	1032	2.37	16.29	13.99	2.30	13.79	2.11	11.68	0.20	+/- 0.06	40	Interface probe.[5]
	1/23/2017	930	7.98	16.29	14.90	1.39	14.54	2.11	12.43	0.36	+ 0 /- 0.10	180	Interface probe.[5]
	1/30/2017	1005	6.40	16.29	14.33	1.96	14.31	2.11	12.20	0.02	+ 0 /- 0.10	-	Interface probe.[5]
	2/6/2017	925	6.91	16.29	14.90	1.39	14.39	2.11	12.28	0.51	+/- 0.0	-	Interface probe.[5]
	2/14/2017	1005	3.80	16.29	14.34	1.95	13.74	2.11	11.63	0.60	+/- 0.0	-	Interface probe.[5]
	2/20/2017	920	5.51	16.29	14.94	1.35	14.14	2.11	12.03	0.80	+/- 0.05	-	Interface probe.[5]
	2/27/2017	825	3.17	16.29	15.06	1.23	14.29	2.11	12.18	0.77	+/- 0.0	-	Interface probe.[5]
	3/8/2017	835	9.92	16.29	15.42	0.87	14.43	2.11	12.32	1.01	+/- 0.03	-	Interface probe.[5]
	3/13/2017	912	2.10	16.29	15.55	0.74	14.61	2.11	12.50	0.94	+/- 0.03	-	Interface probe.[5]
	3/20/2017	905	4.67	16.29	15.17	1.12	14.37	2.11	12.26	0.80	+/- 0.03	-	Interface probe.[5]
	4/3/2017	855	3.79	16.29	14.18	2.11	13.27	2.11	11.16	0.91	+/- 0.01	-	Interface probe.[5]
	4/10/2017	840	4.65	16.29	14.75	1.54	13.78	2.11	11.67	0.97	+/- 0.01	-	interface probe.[5]
	4/17/147	747	4.22	16.29	15.64	0.65	14.25	2.11	12.14	1.39	+/- 0.01	3,868	interface probe.[5] Gauged prior to skimming test.
	4/18/2017	1044	1.15	16.29	14.43	1.86	14.35	2.11	12.24	0.08	+/- 0.03	177	interface probe.[5] Gauged prior to skimming. Product removed on 4/19 and 4/25.
	4/25/2017	1007	9.92	16.29	14.55	1.74	14.52	2.11	14.52	0.03	+/- 0.01	-	interface probe.[5] Gauged after skimming.
	5/1/2017	736	3.76	16.29	13.74	2.55	13.73	2.11	11.62	0.01	+/- 0.01	148	interface probe.[5] Gauged before skimming.
	5/1/2017	1130	0.29	16.29	13.82	2.47	13.82	2.11	11.71	0.00	+/- 0.01	-	interface probe.[5] Gauged after skimming test and before new sock installed.
	5/15/2017	823	0.93	16.29	13.95	2.34	13.94	2.11	11.83	0.01	+/- 0.01	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	5/30/2017	905	-0.70	16.29	14.51	1.78	14.50	2.11	12.39	0.01	+/- 0.01	-	interface probe.[5] Sock removed, well gauged, and new sock installed.
	6/6/2017	1040	9.00	16.29	14.09	2.20	14.09	2.11	11.98	0.00	+/- 0.01	-	interface probe.[5] Well gauged, and no sock installed.
	6/13/2017	848	0.30	16.29	14.24	2.05	14.22	2.11	12.11	0.02	+/- 0.01	-	interface probe.[5] Well gauged, and no sock installed.
	6/19/2017	942	7.02	16.29	14.41	1.88	14.35	2.11	12.24	0.06	+/- 0.01	-	interface probe.[5] Well gauged, and no sock installed.
MW-415	1/4/2017	840	0.88	16.74	14.74	2.00	14.73	2.31	12.42	0.01	+/- 0.0	-	Interface probe.[5]
	1/17/2017	841	0.29	16.74	15.17	1.57	15.14	2.31	12.83	0.03	+ .05 /- 0.0	-	Interface probe.[5]
	1/23/2017	833	8.93	16.74	15.10	1.64	-	2.31	-	-	-	-	
	1/30/2017	852	3.54	16.74	14.84	1.90	-	2.31	-	-	-	-	
	2/6/2017	850	8.16	16.74	14.74	2.00	14.71	2.31	12.40	0.03	+/- 0.0	-	Interface probe.[5]
	2/14/2017	1025	4.56	16.74	14.22	2.52	-	2.31	-	-	-	-	
	2/20/2017	847	6.41	16.74	14.79	1.95	-	2.31	-	-	-	-	
	2/27/2017	815	2.76	16.74	14.94	1.80	14.86	2.31	12.55	0.08	+/- 0.0	-	Interface probe.[5]
	3/8/2017	828	10.04	16.74	14.84	1.90	-	2.31	-	-	-	-	
	3/13/2017	902	1.80	16.74	15.22	1.52	-	2.31	-	-	-	-	
	3/20/2017	855	4.95	16.74	14.84	1.90	-	2.31	-	-	-	-	
	4/3/2017	840	4.44	16.74	13.92	2.82	-	2.31	-	-	-	-	
	4/10/2017	835	4.44	16.74	13.38	3.36	-	2.31	-	-	-	-	
	4/18/2017	926	2.89	16.74	14.93	1.81	-	2.31	-	-	-	-	
	4/25/2017	912	8.02	16.74	14.93	1.81	-	2.31	-	-	-	-	
	5/1/2017	948	-1.13	16.74	14.16	2.58	-	2.31	-	-	-	-	
	5/15/2017	818	1.04	16.74	14.28	2.46	-	2.31	-	-	-	-	
	5/30/2017	838	0.13	16.74	14.00	2.74	-	2.31	-	-	-	-	
	6/6/2017	1140	8.25	16.74	14.56	2.18	-	2.31	-	-	-	-	
	6/13/2017	834	0.32	16.74	14.80	1.94	-	2.31	-	-	-	-	
	6/19/2017	938	7.15	16.74	14.66	2.08	-	2.31	-	-	-	-	
MW-416	1/3/2017	1000	2.06	13.01	11.32	1.69	-	-0.33	-	-	-	-	
	1/17/2017	736	1.30	13.01	11.12	1.89	-	-0.33	-	-	-	-	
	1/23/2017	731	9.18	13.01	11.40	1.61	-	-0.33	-	-	-	-	
	1/30/2017	735	0.86	13.01	11.57	1.44	-	-0.33	-	-	-	-	
	2/6/2017	722	10.44	13.01	11.20	1.81	-	-0.33	-	-	-	-	
	2/14/2017	725	-0.04	13.01	10.09	2.92	-	-0.33	-	-	-	-	
	2/20/2017	733	8.08	13.01	10.98	2.03	-	-0.33	-	-	-	-	
	2/27/2017	715	0.45	13.01	10.95	2.06	-	-0.33	-	-	-	-	
	3/8/2017	730	10.55	13.01	11.31	1.70	-	-0.33	-	-	-	-	
	3/13/2017	728	-0.02	13.01	11.34	1.67	-	-0.33	-	-	-	-	
	3/20/2017	750	6.75	13.01	11.17	1.84	-	-0.33	-	-	-	-	
	4/3/2017	738	7.11	13.01	9.96	3.05	-	-0.33	-	-	-	-	
	4/10/2017	727	2.07	13.01	10.49	2.52	-	-0.33	-	-	-	-	
	4/18/2017	904	3.51	13.01	11.01	2.00	-	-0.33	-	-	-	-	
	4/25/2017	812	4.39	13.01	11.08	1.93	-	-0.33	-	-	-	-	
	5/1/2017	838	0.88	13.01	10.37	2.64	-	-0.33	-	-	-	-	
	5/15/2017	721	2.60	13.01	10.49	2.52	-	-0.33	-	-	-	-	
	5/30/2017	711	4.17	13.01	10.02	2.99	-	-0.33	-	-	-	-	
	6/7/2016	1030	8.87	13.01	10.66	2.35	-	-0.33	-	-	-	-	
	6/13/2017	718	1.79	13.01	10.84	2.17	-	-0.33	-	-	-	-	
	6/19/2017	840	8.82	13.01	11.05	1.96	-	-0.33	-	-	-	-	
MW-417	1/3/2017	1010	2.41	12.76	11.05	1.71	-	-0.51	-	-	-	-	
	1/17/2017	732	1.42	12.76	10.87	1.89	-	-0.51	-	-	-	-	
	1/23/2017	728	9.17	12.76	11.08	1.68	-	-0.51	-	-	-	-	
	1/30/2017	727	0.67	12.76	10.66	2.10	-	-0.51	-	-	-	-	
	2/6/2017	717	10.49	12.76	10.91	1.85	-	-0.51	-	-	-	-	
	2/14/2017	735	-0.01	12.76	10.27	2.49	-	-0.51	-	-	-	-	
	2/20/2017	729	8.16	12.76	10.65	2.11	-	-0.51	-	-	-	-	
	2/27/2017	712	0.54	12.76	10.68	2.08	-	-0.51	-	-	-	-	
	3/8/2017	726	10.54	12.76	11.00	1.76	-	-0.51	-	-	-	-	
	3/13/2017	723	-0.04	12.76	11.09	1.67	-	-0.51	-	-	-	-	
	3/23/2017[6]	940	8.26	12.76	11.16	1.60	-	-0.51	-	-	-	-	
	4/3/2017	735	7.23	12.76	9.72	3.04	-	-0.51	-	-	-	-	
	4/10/2017	718	1.82	12.76	10.60	2.16	-	-0.51	-	-	-	-	
	4/18/2017	849	3.92	12.76	10.76	2.00	-	-0.51	-	-	-	-	
	4/25/2017	802	4.95	12.76	10.84	1.92	-	-0.51	-	-	-	-	
	5/1/2017	832	1.13	12.76	10.19	2.57	-	-0.51	-	-	-	-	
	5/15/2017	718	2.69	12.76	10.29	2.47	-	-0.51	-	-	-	-	
	5/30/2015	704	4.52	12.76	9.89	2.87	-	-0.51	-	-	-	-	
	6/7/2017	1200	8.56	12.76	10.17	2.59	-	-0.51	-	-	-	-	
	6/13/2017	708	2.09	12.76	10.61	2.15	-	-0.51	-	-	-	-	
	6/19/2017	837	8.89	12.76	10.78	1.98	-	-0.51	-	-	-	-	

Abbreviations:
amsl - above mean sea level (vertical datum is North American Vertical Datum of 1988)
bTOR - depth below TOR
DTW - depth to water
DTP - depth to product
ft-bgs - feet below ground surface
TOR - top or well riser
NM - not measured
MLLW - mean lower low water
Stickup - height between TOR and ground surface

Notes:
1 - Based on tidal charts for Oceanic and Atmospheric Administration (NOAA) Weymouth Fore River Station 8444788.
https://tidesandcurrents.noaa.gov/noaatidepredictions.html?id=8444788&units=standard&bdate=20170417&edate=20170417&timezone=LST/LDT&clock=12hour&datum=MLLW&interval=1&action=data
2 - Oil coated the interface probe so DTW could not be measured.
3 - Redeveloped MW-206.
4 - Attempted to purge product from the well with a peristaltic pump equipped with 3/8" inside diameter tubing- unsuccessfully as it was too viscous.
5 - Oil absorbant sock not deployed to allow LNAPL thickness to reach equilibrium as suggested in MassDEP LNAPL CSM Policy #WSC-16-450 guideline regarding product equilibrium prior to bail-down test.
6 - Did not gauge on 3/20/17 due to frozen ice pile over well. Gauged before sampling on 3/23/17.

Table 8
Phase I Initial Site Investigation Report
In-Situ Horizontal Hydraulic Conductivity Estimates
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Monitoring Well Construction Data						Low Flow Sampling Data - January 3-6, 2017				Calculations					
Monitoring Well Identification	Estimated Borehole Diameter (inch)	Well Inside Diameter (inch)	Well Inside Diameter (inch)	Depth Top of Well Screen (ft -bgs)	Depth Base of Well Screen (ft -bgs)	Pre-Pumping DTW (ft -bgs)	Steady-State Pumping DTW (ft -bgs)	Calculated Steady-State Drawdown (ft)	Steady-State Pumping Rate (mls/min)	Intake Screen Length, L (cm)	Hole Intake Diameter, D (cm)	Steady State Pumping Rate, Q (L/min)	Calculated Drawdown, H (cm)	Estimated Kh (cm/s)	Estimated Kh (ft/day)
MW-201	9	2	2	5	20	-	-	-	-	-	-	-	-	-	-
MW-202	9	2	2	4	19	12.23	12.26	0.03	360	206.35	22.86	0.36	0.91	1.47E-02	4.18E+01
MW-203	9	2	2	4	19	13.32	13.39	0.07	270	173.13	22.86	0.27	2.13	5.29E-03	1.50E+01
MW-204	9	2	2	5	20	13.28	13.32	0.04	290	204.83	22.86	0.29	1.22	8.89E-03	2.52E+01
MW-205	9	2	2	5	20	15	15.02	0.02	500	152.40	22.86	0.5	0.61	3.70E-02	1.05E+02
MW-206	9	2	2	9	19	14.18	14.2	0.02	350	146.91	22.86	0.35	0.61	2.65E-02	4.52E+01
MW-400	5	2	2	8	23	11.31	11.35	0.04	220	356.31	12.7	0.22	1.22	5.41E-03	1.53E+01
MW-401	5	2	2	7.6	22.6	14.38	14.42	0.04	150	250.55	12.7	0.15	1.22	4.79E-03	1.36E+01
MW-402	5	2	2	8	23	14.99	15.03	0.04	300	244.14	12.7	0.3	1.22	9.75E-03	2.76E+01
MW-403	5	2	2	8	23	13.65	13.67	0.02	270	284.99	12.7	0.27	0.61	1.57E-02	4.44E+01
MW-404	9	4	4	5.4	20.4	12.85	12.88	0.03	375	230.12	22.86	0.375	0.91	1.43E-02	4.05E+01
MW-405	5	2	2	6.5	21.5	14.33	14.35	0.02	375	218.54	12.7	0.375	0.61	2.64E-02	7.49E+01
MW-406	5	2	2	8	23	13.84	13.89	0.05	320	279.20	12.7	0.32	1.52	7.57E-03	2.15E+01
MW-407	5	2	2	8	23	14.57	14.57	-	-	-	-	-	-	-	-
MW-408	5	2	2	8	23	13.36	13.39	0.03	300	293.83	12.7	0.3	0.91	1.14E-02	3.24E+01
MW-409	5	2	2	8	23	13.08	13.18	0.10	270	302.36	12.7	0.27	3.05	3.00E-03	8.51E+00
MW-410	5	2	2	8	23	-	-	-	-	-	-	-	-	-	-
MW-411	5	2	2	8	23	12.86	12.88	0.02	400	309.07	12.7	0.4	0.61	2.19E-02	6.20E+01
MW-412	9	4	4	8	23	13.37	13.42	0.05	200	293.52	22.86	0.2	1.52	3.86E-03	1.09E+01
MW-413	9	4	4	8	23	13.71	13.75	0.04	330	283.16	22.86	0.33	1.22	8.14E-03	2.31E+01
MW-414	9	4	4	8	23	14.65	14.65	-	-	-	-	-	-	-	-
MW-415	5	2	2	8	23	15.35	15.39	0.04	330	233.17	12.7	0.33	1.22	1.11E-02	3.14E+01
MW-416	5	2	2	8	23	11.32	11.37	0.05	240	356.01	12.7	0.24	1.52	4.74E-03	1.34E+01
MW-417	5	2	2	8	23	11.07	11.07	-	-	-	-	-	-	-	-
													Min	3.00E-03	8.51E+00
													Max	3.70E-02	1.05E+02
													Geomean	9.97E-03	2.75E+01

Abbreviations:
amsl - above mean sea level (vertical datum is North American Vertical Datum of 1988)
cm - centimeters
DTW - Depth to Water
ft-bgs - feet below ground surface
Kh - hydraulic conductivity in the horizontal direction.
L - liters
mls - milliliters

Notes:
1) Kh calculated using the Hvorslev (1951) method.

Table 9
Phase I Initial Site Investigation
Petroleum-Saturated Soil Thickness and Total Petroleum Hydrocarbons Estimates
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Boring ID	Observed Top PSS (ft-bgs)	Observed Bottom PSS (ft-bgs)	PID HS (ppm/v)[1]	Estimated PSS Thickness (ft)[2]	VPH/EPH Sample Depth (ft-bgs)	Calculated TPH (mg/kg)	Observations/Notes
B-105[3]	14	19	-	6	14-17	22,795	Strong petroleum odor, gravel/ sand. 10-14 ft no recovery.
B/MW-201	12	18	54.4	6	6-8	123	Black fill
					10-12	8,548	Black fill, staining and odor
B-301	10.5	11.7	20.8	1.2	-	-	Black oil stained f-m sand
B-303	10.5	10.7	20.1	0.2	-	-	Black oily fill
B-304	10.8	12.5	17.8	1.7	-	-	Oil globules, stained fill
B-305	11.2	17	49.5	5.8	-	-	Oil saturated/stained fill
B-306	11.8	14.8	116	3	-	-	Oil saturated/stained fill
B-309	11.5	16.7	47.7	5.2	-	-	Oil saturated fill
B-311	11.3	17.3	32.7	6			Oil saturated/stained fill
B-312	11.2	16.7	40.9	5.5	-	-	Oil saturated/stained fill
B-313	11.3	14	55.2	2.7	-	-	Oil saturated f-m sand
B-317	11.7	13	97.3	1.3	11.5	ND	Ash and cinders
					13	16,153	Oil saturated fill
B-318	10.7	11.2	22.1	0.5	-	-	Oily silt and slag
B-319	12.5	15	137.8	2.5	-	-	Oil stained sand
B/MW-404	12	12.5	12.3	0.5	11.4	1,151	Black coal dust
					12	62,500	Oily sheen coal, ash cinders
					16.7	ND	F-m sand
B/MW-406	11.5	15	155	3.5	11.8	30,760	Oil globules/oil stained f-m sand
					12.5	48,625	
					21	ND	F-c sand, mild odors
B/MW-407	10.5	13	30.6	2.5	11.8	53,336	Oil stained f-m sand
					12.8	15,686	Oil stained f-m sand
					17.5	ND	Tan f-c sand
B/MW-410	11.3	12.8	0.0	1.5	11	11,107	Fill with sheen/heavy oil
					12.5	16,670	Fill with heavy oil
					14	72	Black fill
B/MW-411	11.1	15.8	14.1	4.7	11.5	357	Fill with sheen
					14	50,300	Fill with viscous oil
					16	ND	Olive-green, wet fine sand
B/MW-412	11.3	16.3	0.0	5	11.5	35,190	Oily fill
					13	63,200	Oily fill
					19	58	Olive-gray fine sand with silt

Table 9
Phase I Initial Site Investigation
Petroleum-Saturated Soil Thickness and Total Petroleum Hydrocarbons Estimates
Enbridge
Atlantic Bridge Project
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Boring ID	Observed Top PSS (ft-bgs)	Observed Bottom PSS (ft-bgs)	PID HS (ppm/v)[1]	Estimated PSS Thickness (ft)[2]	VPH/EPH Sample Depth (ft-bgs)	Calculated TPH (mg/kg)	Observations/Notes
B/MW-413	11.1	16.6	25	5.5	11	12,980	Black fill with oil
					14-15	65,700	Oil saturated fill
					23	35	Silt with clay
B/MW-414	11.4	15	55	3.6	11	501	Black fill
					14	35,520	Oily, black, f-m sand with silt
					15.5	539	F-c sand, some silt, little f gravel
B/MW-415	11.7	16	30.6	4.3	11.8	18,710	Fill with free oil
					12.2	13,890	Fill with free oil
					13.4	2,090	Fill (slag and ash) oily to 16 ft.
Minimum Estimated PSS Impact Thickness (ft):				0.2	Minimum	35	B-413, 23 ft
Maximum Estimated PSS Impact Thickness (ft):				6.0	Maximum	65,700	B-413, 14-15 ft
Average Estimated PSS Thickness (ft).				3.4	Average	21,726	-

Abbreviations:
c - coarse grained
EPH - Extractable Petroleum Hydrocarbons
f - fine grained
ft-bgs - feet below ground surface
LNAPL - Light NonAqeous Phase Liquid
m - medium grained
mg/kg - milligrams per kilogram
PID HS - Photoionization detector jar headspace
ppmv - parts per million volume
PSS - petroleum-saturated soil
TPH - Total Petroleum Hydrocarbons - sum of detected VPH and EPH analytes.
VPH - Volatile Petroleum Hydrocarbons

Notes :
1. Photoionization detector headspace values listed represent highest measured value in depth interval listed.
2. Estimated LNAPL thickness may be larger because of limited soil core recovery.
3. B-107 - LNAPL thickness estimated between 12 and 18 ft bgs (6 ft thickness) based on depth of LNAPL at MW-201.
4. This table summarizes LNAPL thickness and Calculated TPH at borings where product was observed and EPH exceeds applicable MCP S2 or S3 criteria for evaluation of residual saturation.

Table 10
Phase I Initial Site Investigation Report
Soil Total Petroleum Hydrocarbons, UVF Results, and Subcores Selected for Physical Analysis
Enbridge
Weymouth Compressor Station
6 Bridge Street, Weymouth, Massachusetts

Boring ID	Observed Top PSS (ft-bgs)	Observed Bottom PSS (ft-bgs)	PID HS (ppm/v)[1]	Estimated PSS Thickness (ft)[2]	VPH/EPH Sample Depth (ft-bgs)	Calculated TPH (mg/kg)	Product/Soil Observations	Core ID	Depth (ft-bgs)	Core Recovery (ft)	Observed UVF[5] (ft-bgs)	Grain Size[6] (ft-bgs)	Pore Fluid Saturation Package[7] (ft-bgs)	Free Product Mobility[8] (ft-bgs)	O/W Imbibition Capillary Pressure Curve[9] (ft-bgs)	Hydraulic Conductivity and LNAPL Permeability[10,11] (ft-bgs)	Subcore Sampling Rationale
B-404	12	12.5	12.3	0.5	11.4	1,151	Black coal dust	B404A-B	10-12	10-10.8	10.6 - 10.8	-	10.2-10.4	10.4-10.6	10.6-10.8	-	Target zone at/above apparent smear zone in fill.
					12	62,500	Oily sheen coal, ash cinders	B404A-C	12-14	12-12.75	12.2-12.5	-	12-12.2	12.2-12.4	12.4-12.6	12.4-12.6	Target middle part of apparent smear zone in fill.
					16.7	ND	F-m sand	B404A-D	14-16	14-14.85	-	14.6-14.8	14-14.2	14.2-14.4	14.4-14.6	-	Target zone at/below apparent smear zone in fill.
B-406	11.5	15	155	3.5	11.8	30,760	Oil globules/oil stained f-m sand	B406A-B	10-12	10-11.45	11-15.15	-	10.9-11.1	11.1-11.3	11.3-11.5	11.3-11.5	Target upper part of the apparent smear zone in sand
					12.5	48,625		B406A-C	12-14	12-13.4		12.6-12.8	12-12.2	12.2-12.4	12.4-12.6	-	Target middle part of apparent smear zone in fill in sand.
					21	ND	F-c sand, mild odors	B406A-D	14-16	14-15.15		-	14-14.2	14.2-14.4	14.4-14.6	-	Target lower part of apparent smear zone in fill in sand.
B-412	11.3	16.3	0.0	5	11.5	35,190	Oily fill	B412A-B	12-14	12-13.35	11.1-16.3	-	12-12.2	12.2-12.4	12.4-12.6	12.4-12.6	Target upper part of apparent smear zone in fill.
					13	63,200	Oily fill	B412A-C	14-16	14-14.9		14.6-14.8	14-14.2	14.2-14.4	14.4-14.6	-	Target middle part of apparent smear zone in fill.
					19	58	Olive-gray fine sand with silt	B412A-D	16-18	16-16.55		-	16-16.2	16.2-16.4	16.4-16.55	-	Target zone at/below apparent smear zone in fill.
B-413	11.1	16.6	25	5.5	11	12,980	Black fill with oil	B413A-B	12-14	12-12.9	10.85 - 16.9	-	12-12.2	12.2-12.4	12.4-12.6	-	Target upper part of apparent smear zone in fill.
					14-15	65,700	Oil saturated fill	B413A-C	14-16	14-15.2		14.6-14.8	14-14.2	14.2-14.4	14.4-14.6	14.4-14.6	Target middle part of apparent smear zone in fill.
					23	35	Silt with clay	B413A-D	16-18	16-16.9		-	16-16.2	16.2-16.4	16.4-16.6	-	Target zone at/below apparent smear zone in fill.

Abbreviations:
c - coarse grained
EPH - Extractable Petroleum Hydrocarbons
f - fine grained
ft-bgs - feet below ground surface
LNAPL - Light NonAqueous Phase Liquid
m - medium grained
mg/kg - milligrams per kilogram
PID HS - Photoionization detector jar headspace
ppmv - parts per million volume
PSS - petroluem-saturated soil
TPH - Total Petroleum Hydrocarbons - sum of detected VPH and EPH analytes.
UVF - Ultraviolet Fluorescense
VPH - Volatile Petroleum Hydrocarbons

Notes :
1. Photoionization detector headspace values listed represent highest measured value in depth interval listed.
2. Estimated LNAPL thickness may be larger because of limited soil core recovery.
3. B-107 - LNAPL thickness estimated between 12 and 18 ft bgs (6 ft thickness) based on depth of LNAPL at MW-201.
4. Observed UVF was in shades of tan and brown in subtle contrast with non UV light in soil core slabs.
5. Grain Size Analysis: Laser or sieve method; includes tabular data, graphics and statistical sorting in Excel format.
6. Pore Fluid Saturation Package: API RP40 Dean-Stark Method: Includes initial pore fluid saturations, total porosity, air-filled porosity, grain density, dry bulk density and moisture content. Hydraulic conductivity and LNAPL permeability added for four
7. Free Product Mobility Package: Applied centrifugal force demonstrates product mobility; includes residual saturations by Dean-Stark, total porosity, grain and dry bulk density. Test procedure
modified for centrifuge to run at speed and time to simulate 30 days of one gravity drainage (30G x 24hrs).
8. LNAPL/Water Imbibition Capillary Pressure Curve: LNAPL/Water Drainage Capillary Pressure Curve (water displacing LNAPL), includes LNAPL production vs. capillary pressure, total porosity, grain density,
dry bulk density, moisture content and total (water only) pore fluid saturations. .
9. LNAPL properties (viscosity & density) required for special core analysis tests. Three-point viscosity and density determined at three temperatures (50, 70, 100°F).
10. Because LNAPL thickness was less than 0.5 feet, indicating that baildown tests and skimming tests would be difficult and may not result in representative LNAPL transmisivities, TRC added hydraulic conductivity and LNAPL permeability to determine LNAPL transmissivity in the smear zone at two borings (B412, B413) in the vicinity of where product thickness was largest beneath the central portion of the former AST, and at two borings (B404, B406) where product thickness was smaller in the vicinity of AST perimeter. The upper and middle product zones were selected where LNAPL is expected to be the most mobile. LNAPL transmissivity is a key line of evidence identified in the MassDEP LNAPL Policy (#WSC-16-450).
11. On February 13, 2017, PTS Laboratory communicated that only 10 milliliters (mls) remained of the MW-201 LNAPL properties, and requested 0.5-1 liter of LNAPL. On February 14, 2017, following a gauging event, only 300 mls of LNAPL could be recovered from MW-201,. In order to meet the laboratory request, the 300 mls was combined with approximately 420 mls from MW-410, and 230 mls from MW-414, and shipped with a chain of custody to PTS Laboratory. All three LNAPL samples visually were the same. The additional LNAPL volume was needed to run the oil/water imbibition tests, and NAPL permeabilty tests.

FIGURES

LEGEND

APPROXIMATE SITE LOCATION

MASS. COORD. SYSTEM
NAD 1983 - MAINLAND ZONE

ATLANTIC BRIDGE PROJECT
WEYMOUTH COMPRESSOR STATION
BRIDGE ST, WEYMOUTH, MA

ENBRIDGE

SITE LOCUS MAP
RTN's 4-26230 AND 4-26243

PHASE I ISI

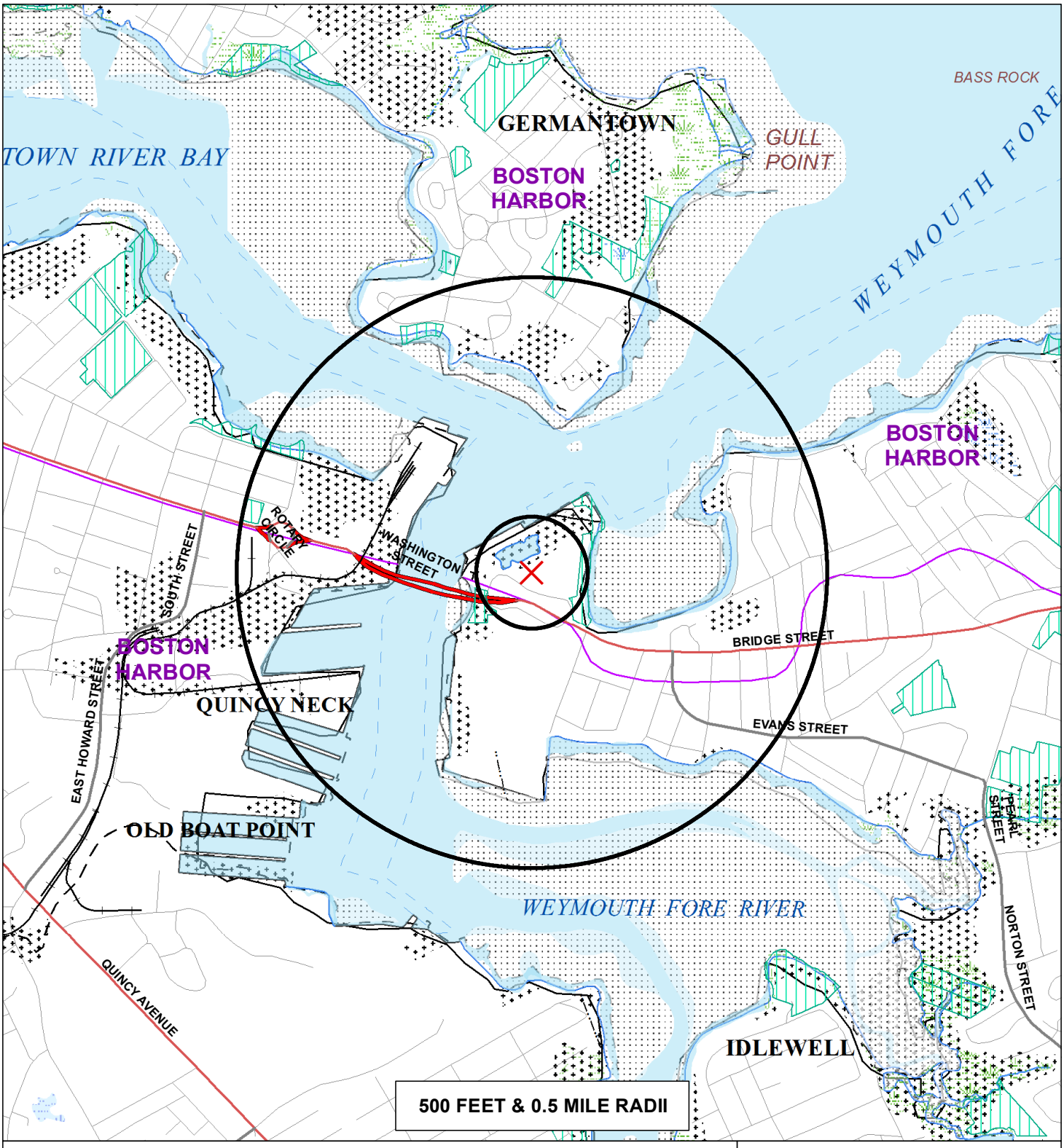
TRC
2 Liberty Sq
6th Floor
Boston, MA 02113
(617)350-3444

FIGURE
1

DRAWN BY: AHC
CHECKED BY: RN

DATE:
07/07/2017

FILE: J:\Projects\140143 - Atlantic Bridge\Weymouth Compressor Station\CAD Files\Boring Plan Jan2017_aul2_a.dwg



Roads: Limited Access, Multi-Lane, Major/Minor, Track, Trail
Railroad, Pipline, Powerline
Major Basin, Sub Basin, Perennial Stream, Intermittent Stream, Shoreline, Man made Shore, Dam, Aqueduct
Wetland, Salt Wetland, Submerged Wetland, Open Water, Reservoir, Tidal Flat/Shoal
Potentially Productive Aquifers: Medium, High Yield
Non-Potential Drinking Water Source Area: Medium, High Yield
EPA Sole Source Aquifer, FEMA 100 Yr. Floodplain, DEP Solid Waste Facility
Approved Zone II, IWPA, Surface Water Supply Zone A
Protected Open Space, ACEC
Priority Habitat, Certified Vernal Pool
Boundaries: County and Town
Public Water Supplies: Ground, Surface, Non-Community (NTNC, TNC)
Source: MassGIS/EOEA

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
978-970-5600

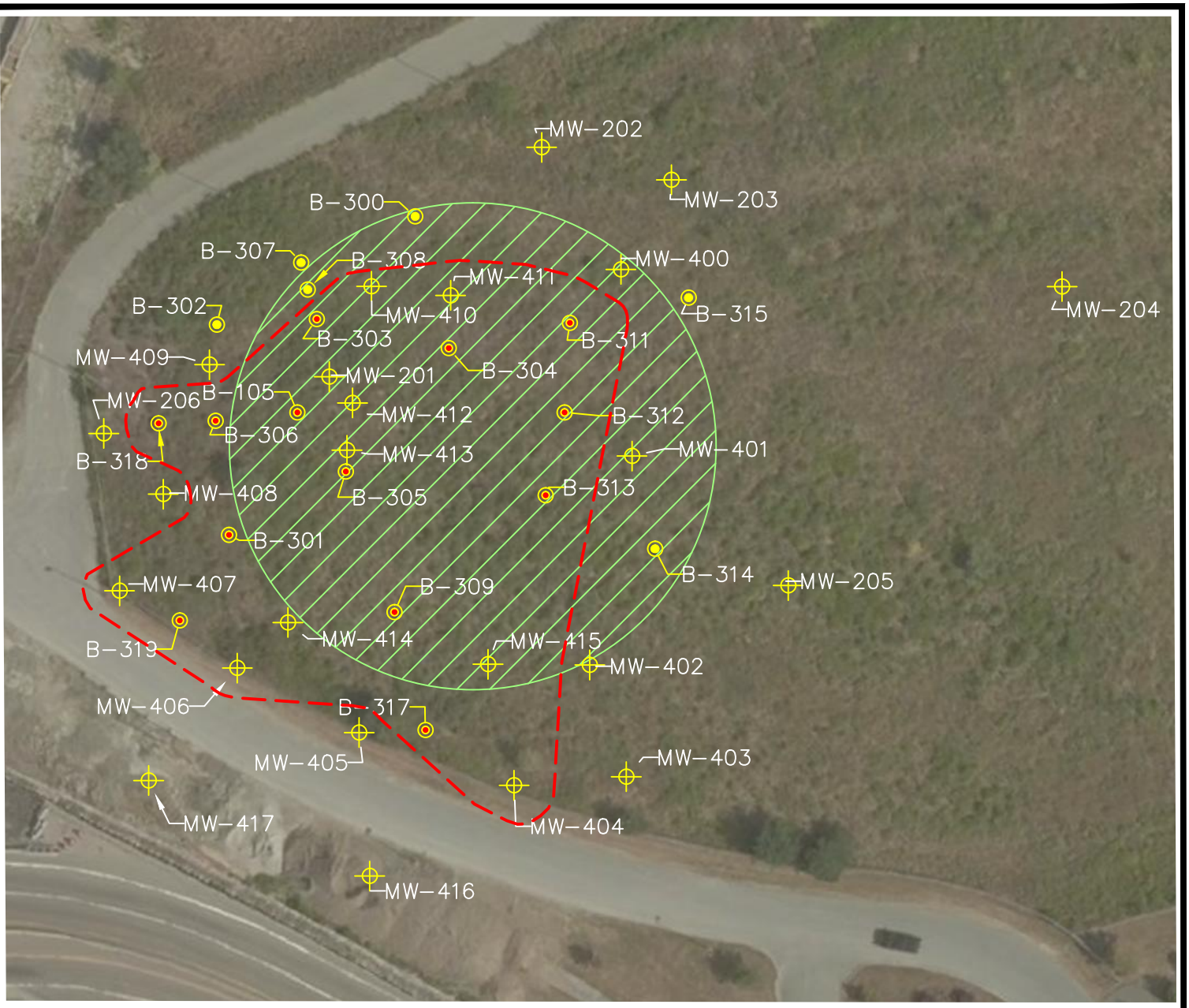
ATLANTIC BRIDGE PROJECT
WEYMOUTH COMPRESSOR STATION
BRIDGE ST., WEYMOUTH, MA
ENBRIDGE

MASSDEP PRIORITY RESOURCES MAP
RTN'S 4-26230 AND 4-26243
PHASE I ISI

N

0 500 1,000 1,500
Feet

Figure 2
JULY 2017



SCALE: 1"=60'

0' 30' 60' 120'

LEGEND

- SOIL BORING
- MONITORING WELL
- APPROXIMATE LOCATION: FORMER ABOVE-GROUND STORAGE TANK 11,256,000-GALLON NO. 2 FUEL OIL
- APPROXIMATE DISPOSAL SITE BOUNDARY

NOTE:
BORING B-316 WAS NOT INSTALLED

MASS. COORD. SYSTEM
NAD 1983 - MAINLAND ZONE

ATLANTIC BRIDGE PROJECT
WEYMOUTH COMPRESSOR STATION
BRIDGE ST, WEYMOUTH, MA

ENBRIDGE

DISPOSAL SITE BOUNDARY
BORING/MONITORING WELL LOCATIONS
RTNs 4-26230 & 4-26243

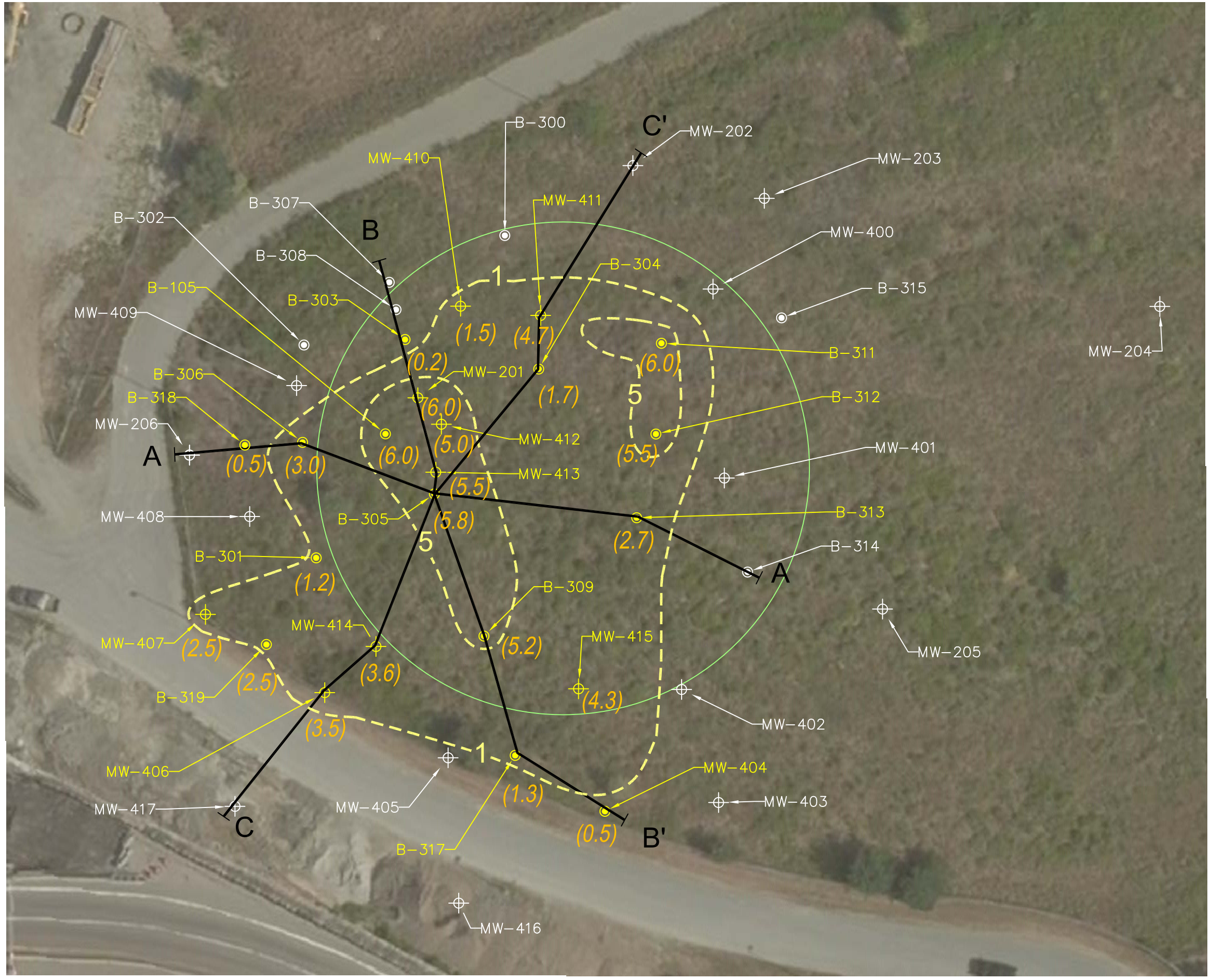
PHASE I ISI

TRC
2 Liberty Sq
6th Floor
Boston, MA 02113
(617)350-3444

DRAWN BY: AHC
CHECKED BY: RN
DATE: 07/17/2017

FIGURE 3

FILE: J:\Projects\140143 - Atlantic Bridge\Weymouth Compressor Station\CAD Files\Boring Plan Jan2017.dwg



NOTES:
NP = NO OBSERVED SEPARATE PHASE PRODUCT (WHITE)

LEGEND

- SOIL BORING
- MONITORING WELL
- APPROXIMATE LOCATION: FORMER ABOVE-GROUND STORAGE TANK 11,256,000-GALLON NO. 2 FUEL OIL
- 5 — APPROXIMATE PRODUCT SATURATED SOIL THICKNESS IN FEET-DECEMBER 2016
- A ⟷ A' GEOLOGIC CROSS SECTION LINE
- (4.3) APPROXIMATE PRODUCT THICKNESS IN SOIL (FT.)
- APPROXIMATE EXTENT OF FORMER FUEL OIL AST

0 40 80 Feet

PROJECT:
ATLANTIC BRIDGE PROJECT-WEYMOUTH COMPRESSOR STATION
BRIDGE ST., WEYMOUTH, MA.
ENBRIDGE

TITLE:
PRODUCT THICKNESS AND GEOLOGIC CROSS SECTION LINES
RTN's 4-26230 and 4-26243
PHASE I ISI

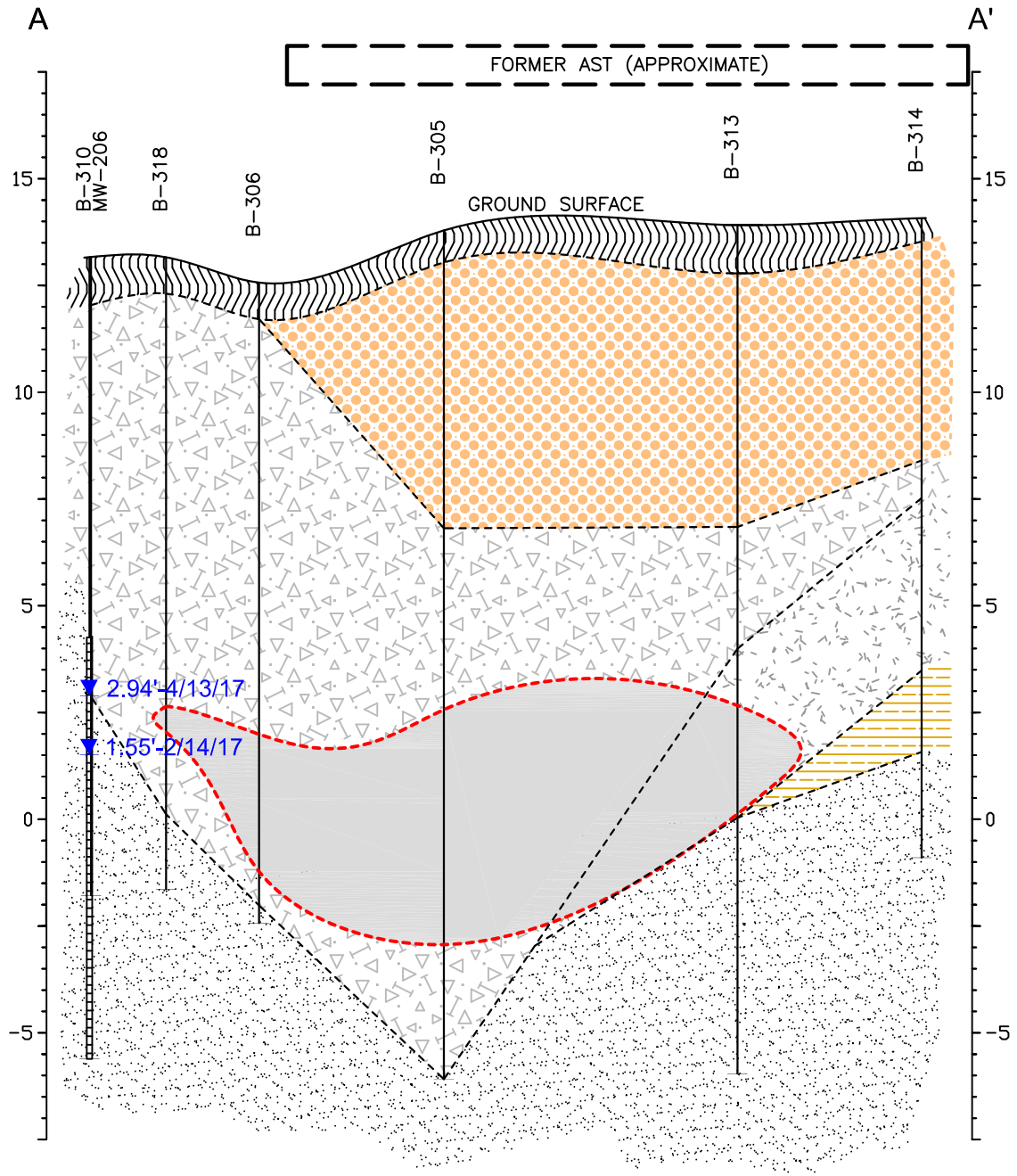
DRAWN BY:	AHC	PROJ NO.:	140143
CHECKED BY:	RN		
APPROVED BY:	RN		4
DATE:	JUNE 22, 2017		

TRC
2 Liberty Sq
6th Floor
Boston, MA 02113
(617)350-3444

FILE NO.: PRODUCT AND GEOLOGIC THICKNESS.dwg

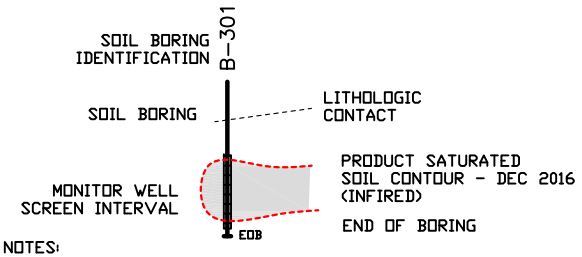
11x17 -- ATTACHED XREFS: -- ATTACHED IMAGES: logo
DRAWING NAME: J:\Projects\140143 - Atlantic Bridge\Weymouth Compressor Station\CAD Files\ PRODUCT AND GEOLOGIC THICKNESS.dwg -- PLOT DATE: July 07, 2017 - 3:40PM -- LAYOUT: DTP Fig 3

Version: 2017-03-03



LEGEND

- TOP SOIL
- FINE TO MEDIUM SAND (FILL)
- SAND, GRAVEL, SILT, CLAY CONTAINING SLAG, BRICK, CONCRETE, CINDERS, AND/OR COAL ASH LIKE MATERIAL (URBAN FILL)
- SILT AND SAND
- FINE TO COARSE SAND WITH TRACE SILT AND/OR GRAVEL
- FINE SAND , SILT AND/OR CLAY, INTERTIDAL-NEAR-SHORE MARINE DEPOSITS
- PRODUCT - SATURATED SOIL
- 2.79-4/03/17, 1.66-1/33/17 — APPROXIMATE GROUNDWATER ELEVATION (DATE-HIGH-LOW)



NOTES:
1) GROUND SURFACE IS BASED UPON THE SURFACE ELEVATION OF THE SOIL BORINGS.
2) CONTACTS ARE DASHED WHERE INFERRED.
3) ELEVATION DATUM NGVD 1988; FEET ABOVE MEAN SEA LEVEL.

ATLANTIC BRIDGE PROJECT
WEYMOUTH COMPRESSOR STATION
BRIDGE ST, WEYMOUTH, MA

ENBRIDGE

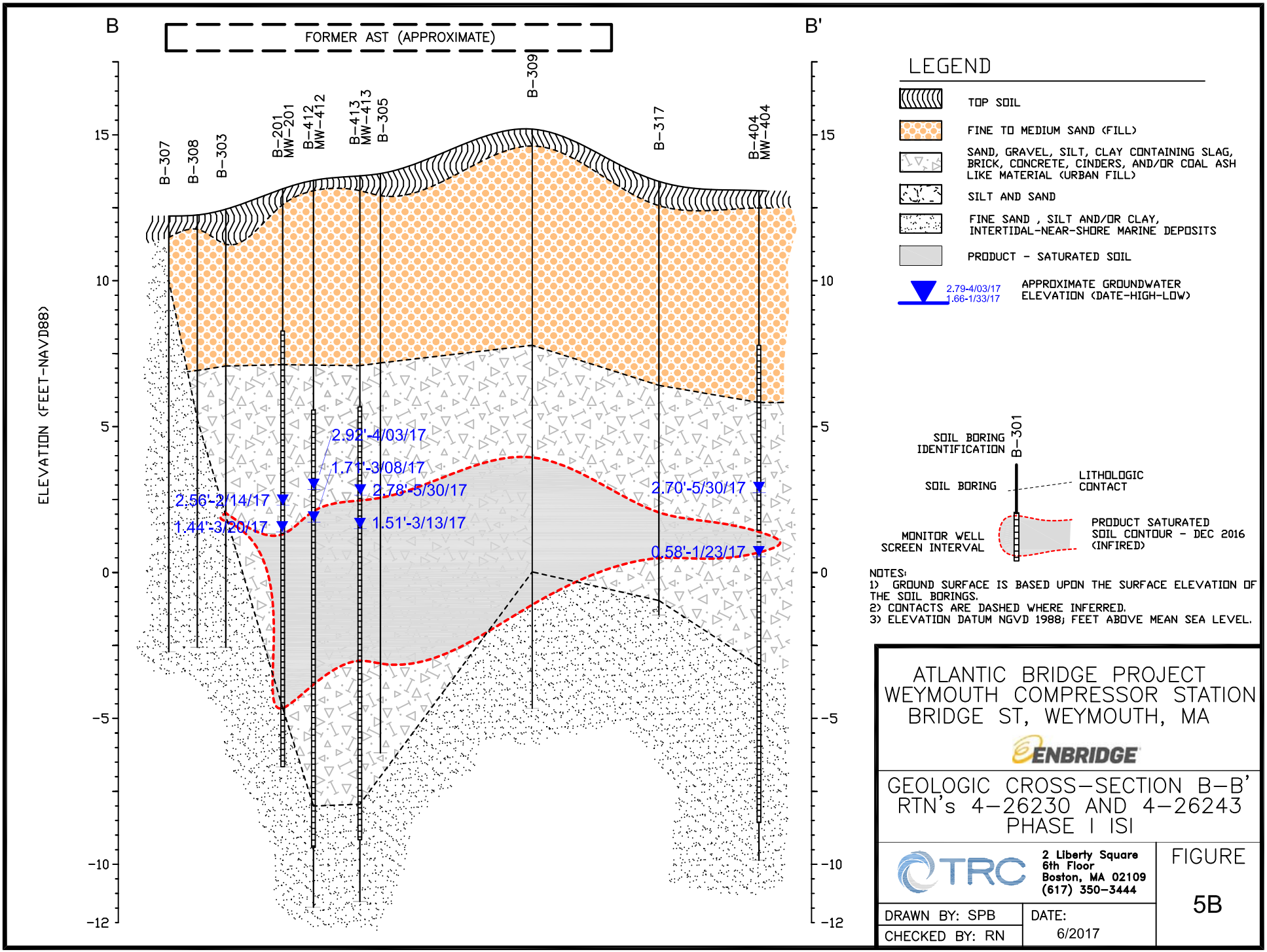
GEOLOGIC CROSS-SECTION A-A'
RTN's 4-26230 AND 4-26243
PHASE I ISI

TRC
2 Liberty Square
6th Floor
Boston, MA 02109
(617) 350-3444

FIGURE 5A

DRAWN BY: SPB
CHECKED BY: RN
DATE: 6/2017

FILE: J:\Projects\140143 - Atlantic Bridge\Weymouth Compressor Station\CAD Files\CrossSection_ABC_july102017.dwg



NOTES:
1) GROUND SURFACE IS BASED UPON THE SURFACE ELEVATION OF THE SOIL BORINGS.
2) CONTACTS ARE DASHED WHERE INFERRED.
3) ELEVATION DATUM NGVD 1988; FEET ABOVE MEAN SEA LEVEL.

ATLANTIC BRIDGE PROJECT
WEYMOUTH COMPRESSOR STATION
BRIDGE ST, WEYMOUTH, MA

ENBRIDGE

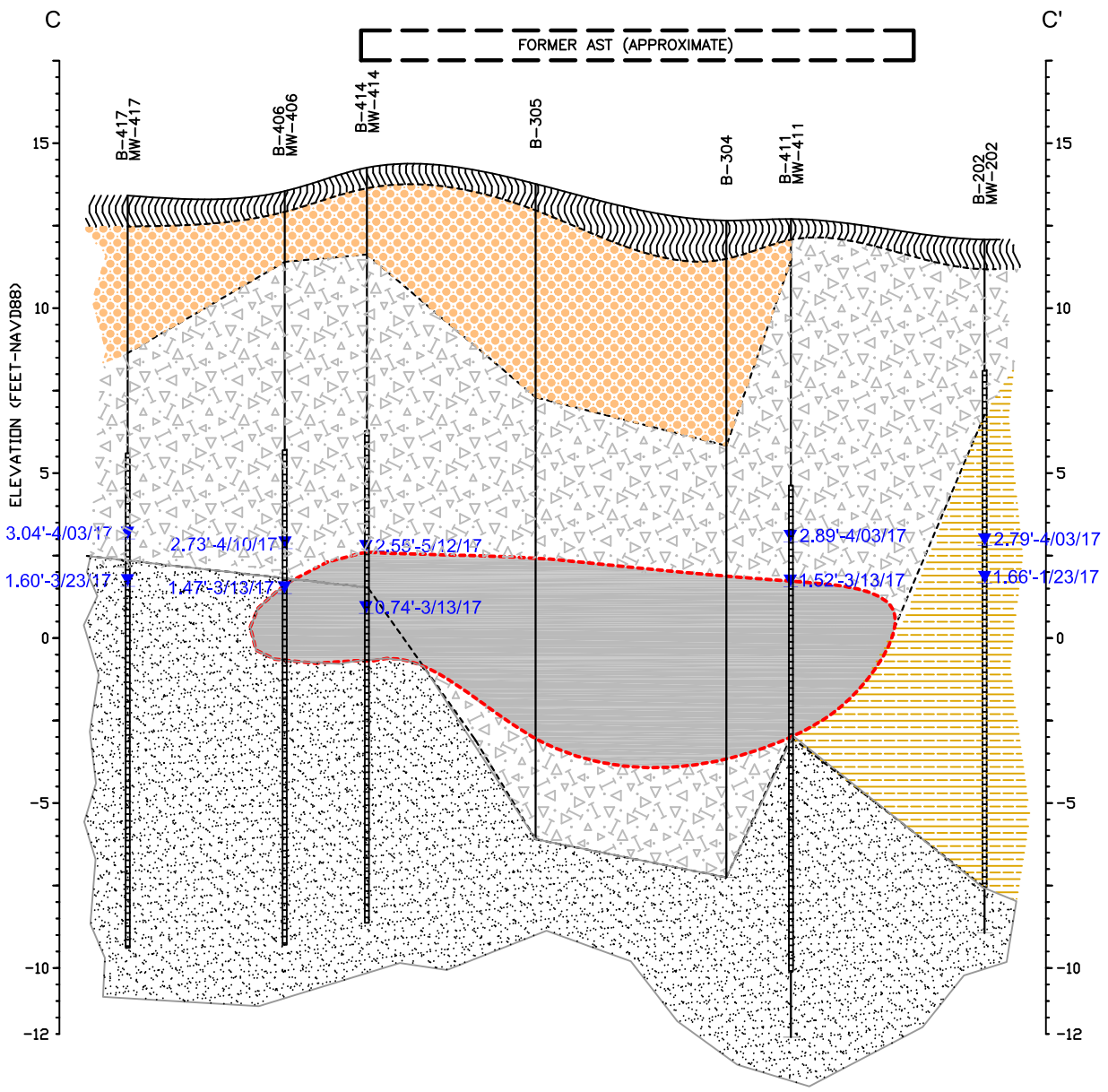
GEOLOGIC CROSS-SECTION B-B'
RTN's 4-26230 AND 4-26243
PHASE I ISI

TRC
2 Liberty Square
6th Floor
Boston, MA 02109
(617) 350-3444

FIGURE
5B

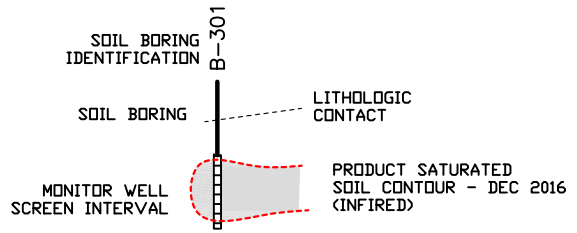
DRAWN BY: SPB
CHECKED BY: RN
DATE: 6/2017

FILE: J:\Projects\140143 - Atlantic Bridge\Weymouth Compressor Station\CAD Files\CrossSection_ABC_july102017.dwg



LEGEND

- TOP SOIL
- FINE TO MEDIUM SAND (FILL)
- SAND, GRAVEL, SILT, CLAY CONTAINING SLAG, BRICK, CONCRETE, CINDERS, AND/OR COAL ASH LIKE MATERIAL (URBAN FILL)
- SILT AND SAND
- FINE TO COARSE SAND WITH TRACE SILT AND/OR GRAVEL
- FINE SAND , SILT AND/OR CLAY, INTERTIDAL-NEAR-SHORE MARINE DEPOSITS
- PRODUCT - SATURATED SOIL
- 2.79-4/03/17 / 1.66-1/33/17 — APPROXIMATE GROUNDWATER ELEVATION (DATE-HIGH-LOW)



NOTES:
1) GROUND SURFACE IS BASED UPON THE SURFACE ELEVATION OF THE SOIL BORINGS.
2) CONTACTS ARE DASHED WHERE INFERRED.
3) ELEVATION DATUM NGVD 1988; FEET ABOVE MEAN SEA LEVEL.

ATLANTIC BRIDGE PROJECT
WEYMOUTH COMPRESSOR STATION
BRIDGE ST, WEYMOUTH, MA

ENBRIDGE

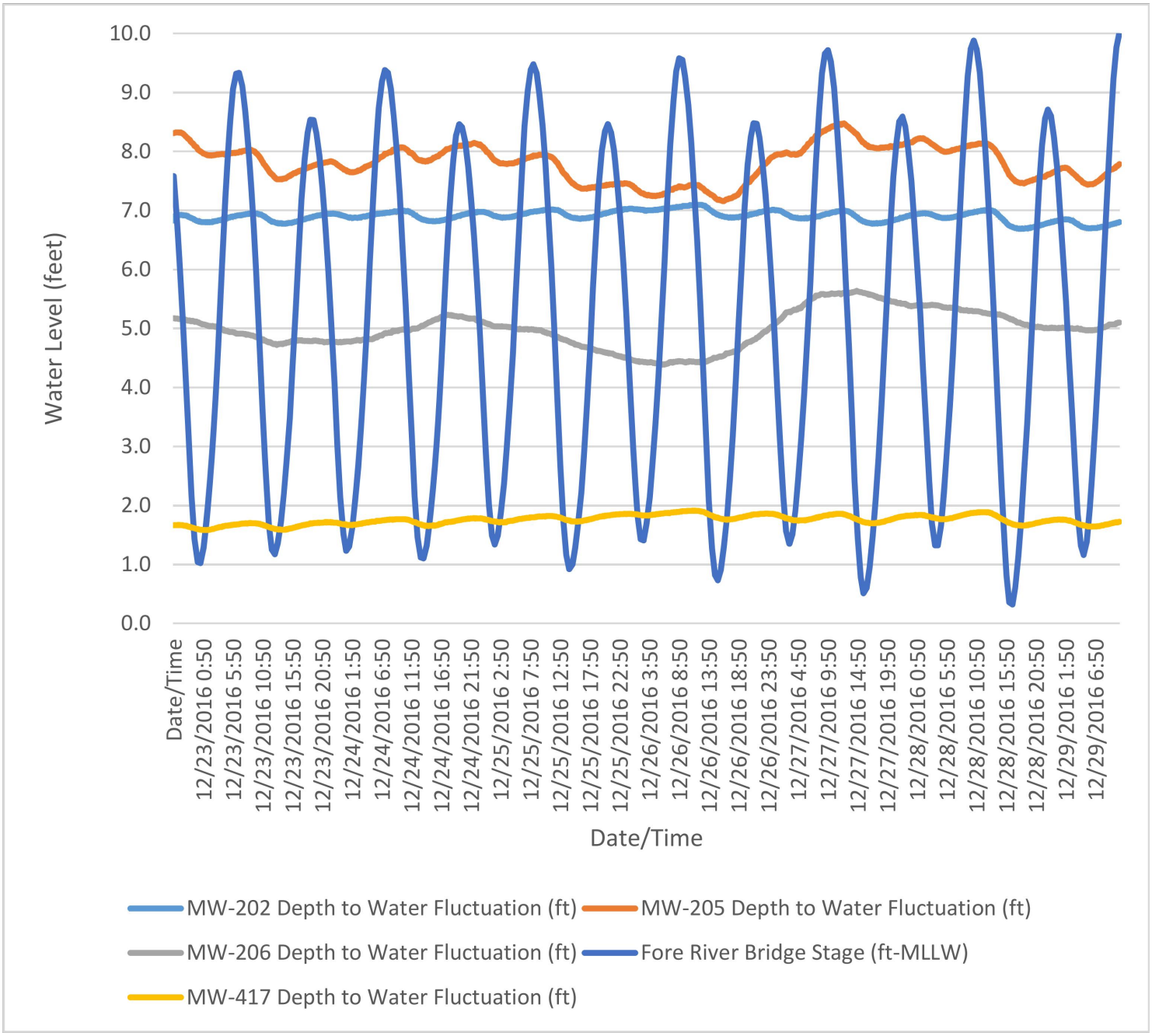
GEOLOGIC CROSS-SECTION C-C'
RTN's 4-26230 AND 4-26243
PHASE I ISI

TRC
2 Liberty Square
6th Floor
Boston, MA 02109
(617) 350-3444

FIGURE 5C

DRAWN BY: SPB
CHECKED BY: RN
DATE: 6/2017

FILE: J:\Projects\140143 - Atlantic Bridge\Weymouth Compressor Station\CAD Files\CrossSection_ABC_july102017.dwg



NOTES:

– THE BLUE CURVE REPRESENTS TIDAL FLUCTUATION AT THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) FORE RIVER STATION (ID 8444788), WHILE THE REMAINING CURVES REPRESENT THE FLUCTUATIONS IN WATER LEVEL IN EACH OF THE MONITORING WELLS.
– THE TIDAL STAGE AT THE FORE RIVER BRIDGE IS RELATIVE TO MEAN LOWER LOW WATER TIDAL DATUM, WHICH DIFFERS FROM THE NORTH AMERICAN VERTICAL DATUM OF 1988 USED FOR GROUNDWATER ELEVATIONS AT THE ATLANTIC BRIDGE WEYMOUTH COMPRESSOR STATION SITE.
– BASED ON THE WATER LEVEL CURVES, THERE ARE VERY SMALL GROUNDWATER LEVEL FLUCTUATIONS RELATIVE TO TIDAL.

SOURCE:
https://tidesandcurrents.noaa.gov/noaatidepredictions/NOAATidesFacade.jsp?Stationid=8444788

ATLANTIC BRIDGE PROJECT
WEYMOUTH COMPRESSOR STATION
BRIDGE ST, WEYMOUTH, MA

ENBRIDGE

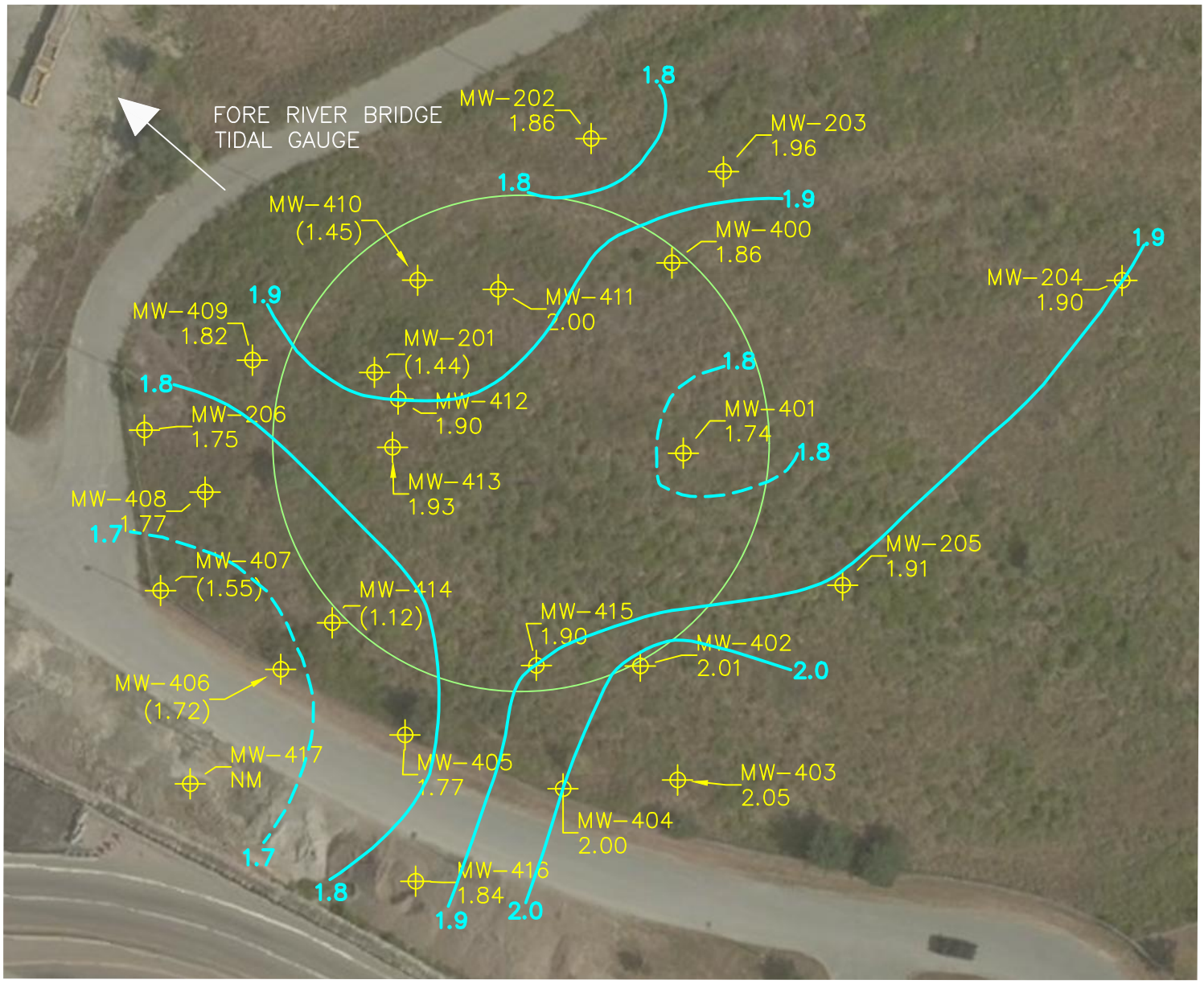
TIDAL AND GROUNDWATER LEVEL FLUCTUATIONS
RTN's 4–26230 and 4–26243
PHASE I ISI

TRC
2 Liberty Sq
6th Floor
Boston, MA 02113
(617)350–3444

FIGURE
6

DRAWN BY: AHC
CHECKED BY: RN
DATE: 02/15/2017

FILE: J:\Projects\140143 – Atlantic Bridge\Weymouth Compressor Station\CAD Files\Boring Plan Jan2017_aul2.dwg



LEGEND

- MONITORING WELL
  GROUNDWATER ELEVATION IN FEET NAVD88
- GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE LOCATION:
  FORMER ABOVE-GROUND STORAGE TANK
  11,256,000-GALLON OF NO. 2 FUEL OIL

SCALE: 1"=60'

0' 30' 60' 120'

NOTES

- (1.45) – GROUNDWATER ELEVATION NOT USED IN CONTOURING DUE TO LNAPL IN WELL DEPRESSING WATER LEVEL
- NM – NOT MEASURED (COVERED BY ICE/SNOW)
- TIDAL ELEVATION RANGE FROM 6.42 TO 4.95 FEET MEAN LOW LOW WATER DATUM AT WELLS NOT CONTAINING MEASURABLE LNAPL

MASS. COOR. SYSTEM
NAD 1983 – MAINLAND ZONE

ATLANTIC BRIDGE PROJECT
WEYMOUTH COMPRESSOR STATION
BRIDGE ST, WEYMOUTH, MA

ENBRIDGE

GROUNDWATER CONTOUR MAP
MARCH 20, 2017
RTN's 4-26230 AND 426243

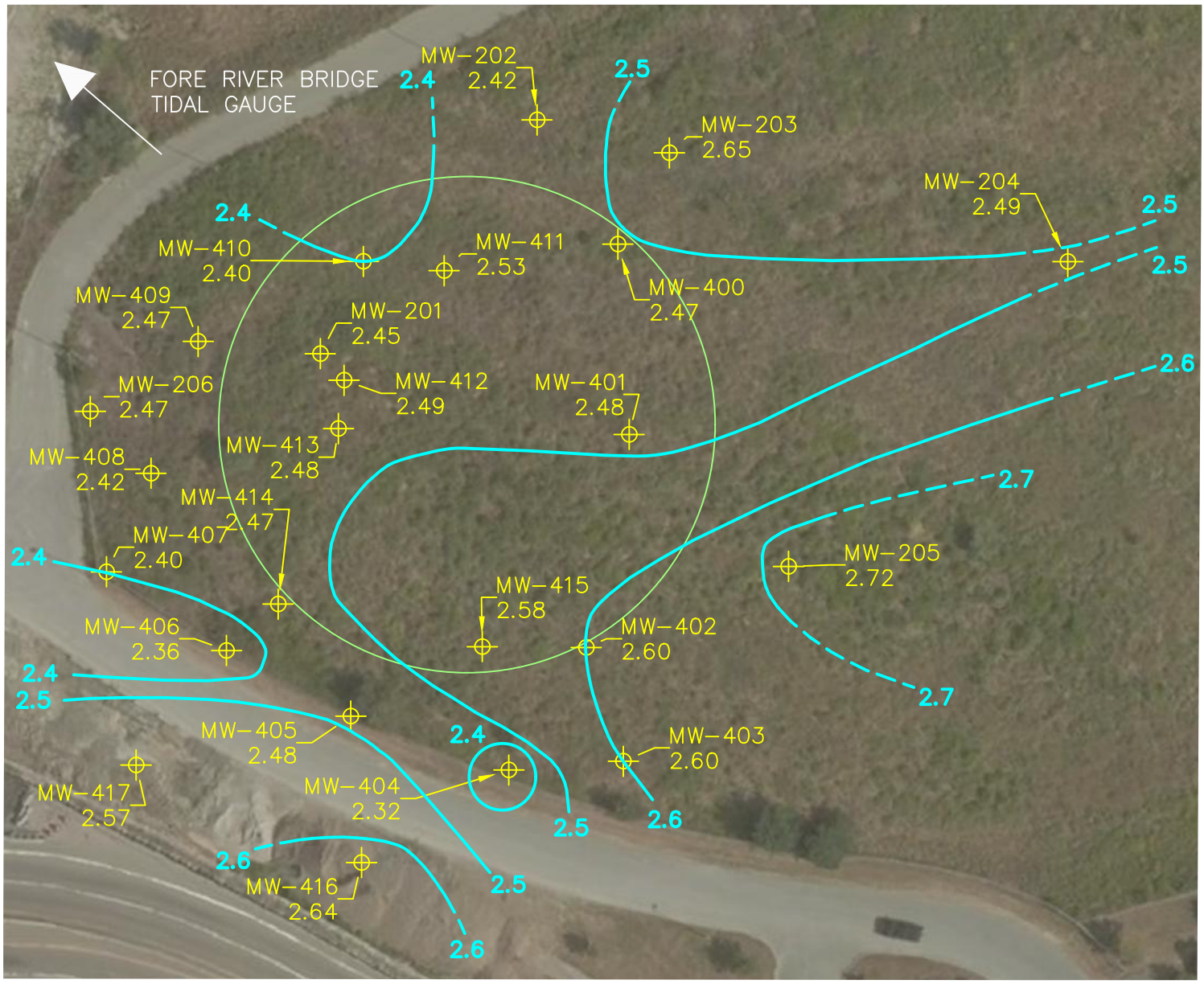
PHASE I ISI

TRC
2 Liberty Sq
6th Floor
Boston, MA 02113
(617)350-3444

FIGURE
7

DRAWN BY: AHC
CHECKED BY: RN
DATE: 04/20/2017

FILE: J:\Projects\140143 - Atlantic Bridge\Weymouth Compressor Station\CAD Files\Boring Plan Jan2017_aul2_a.dwg



LEGEND

- MONITORING WELL
  GROUNDWATER ELEVATION FOR 05/01/2017
- GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE LOCATION:
  FORMER ABOVE-GROUND STORAGE TANK
  11,256,000-GALLON OF NO. 2 FUEL OIL

SCALE: 1"=60'

0' 30' 60' 120'

NOTES

- TIDAL ELEVATION RANGE FROM -1.23 to 1.13 FEET MEAN LOW LOW WATER DATUM AT WELLS NOT CONTAINING MEASURABLE LNAPL

MASS. COOR. SYSTEM NAD 1983 - MAINLAND ZONE

ATLANTIC BRIDGE PROJECT
WEYMOUTH COMPRESSOR STATION
BRIDGE ST, WEYMOUTH, MA

ENBRIDGE

GROUNDWATER CONTOUR MAP
MAY 1, 2017
RTN's 4-26230 AND 4-26243

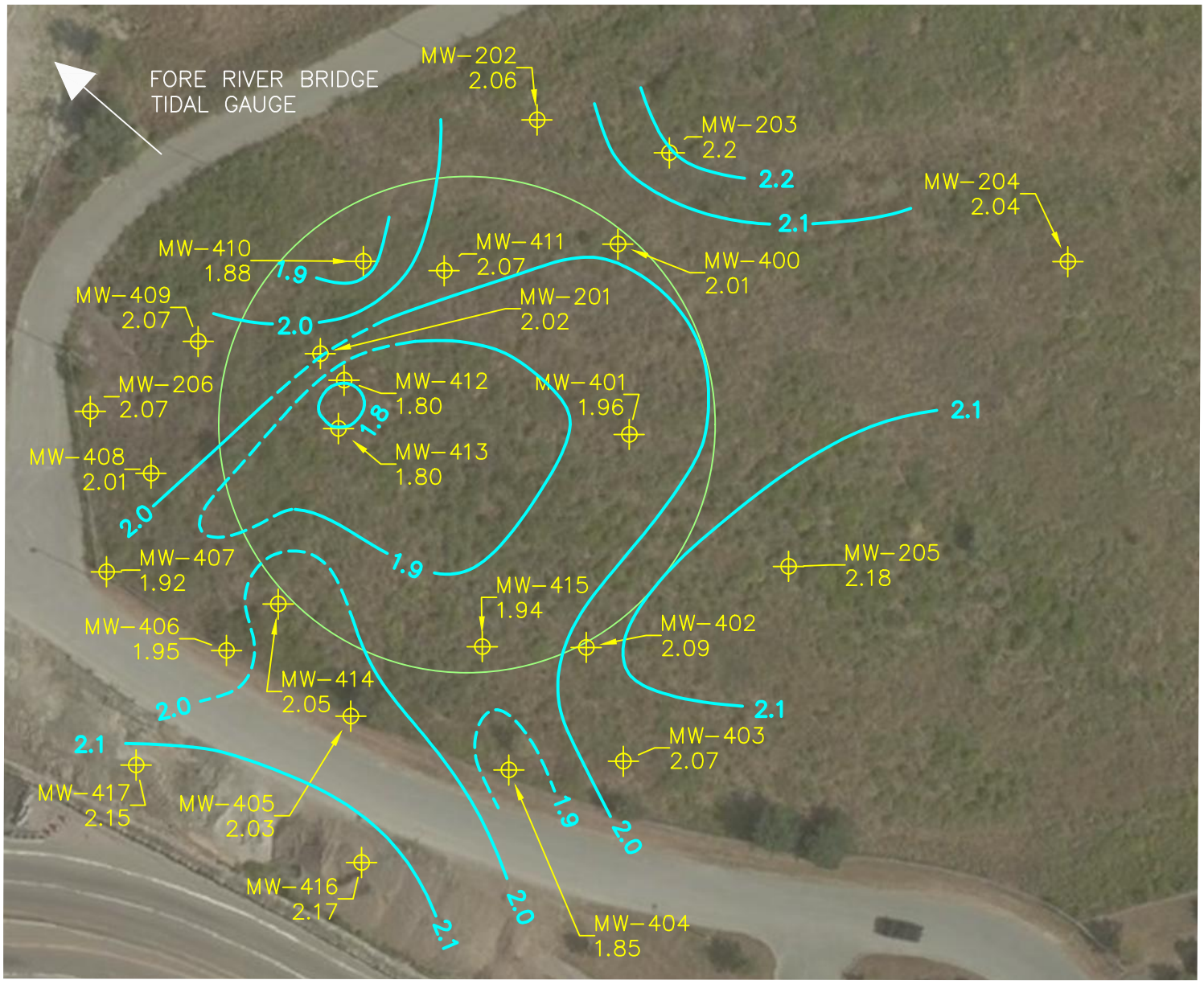
PHASE I ISI

TRC
2 Liberty Sq
6th Floor
Boston, MA 02113
(617)350-3444

FIGURE 8

DRAWN BY: AHC
CHECKED BY: RN
DATE: 05/12/2017

FILE: J:\Projects\140143 - Atlantic Bridge\Weymouth Compressor Station\CAD Files\Boring Plan Jan2017_aul2_a.dwg



LEGEND

MONITORING WELL
GROUNDWATER ELEVATION FOR 06/13/2017
1.85

GROUNDWATER CONTOUR (DASHED WHERE INFERRED)

APPROXIMATE LOCATION:
FORMER ABOVE-GROUND STORAGE TANK
11,256,000-GALLON OF NO. 2 FUEL OIL

NOTES

- TIDAL ELEVATION RANGE FROM 3.85 TO 10.55 FEET MEAN LOW LOW WATER DATUM AT WELLS NOT CONTAINING MEASURABLE LNAPL

SCALE: 1"=60'

0' 30' 60' 120'

MASS. COOR. SYSTEM
NAD 1983 - MAINLAND ZONE

ATLANTIC BRIDGE PROJECT
WEYMOUTH COMPRESSOR STATION
BRIDGE ST, WEYMOUTH, MA

ENBRIDGE

GROUNDWATER CONTOUR MAP
JUNE 13, 2017
RTN's 4-26230 AND 4-26243

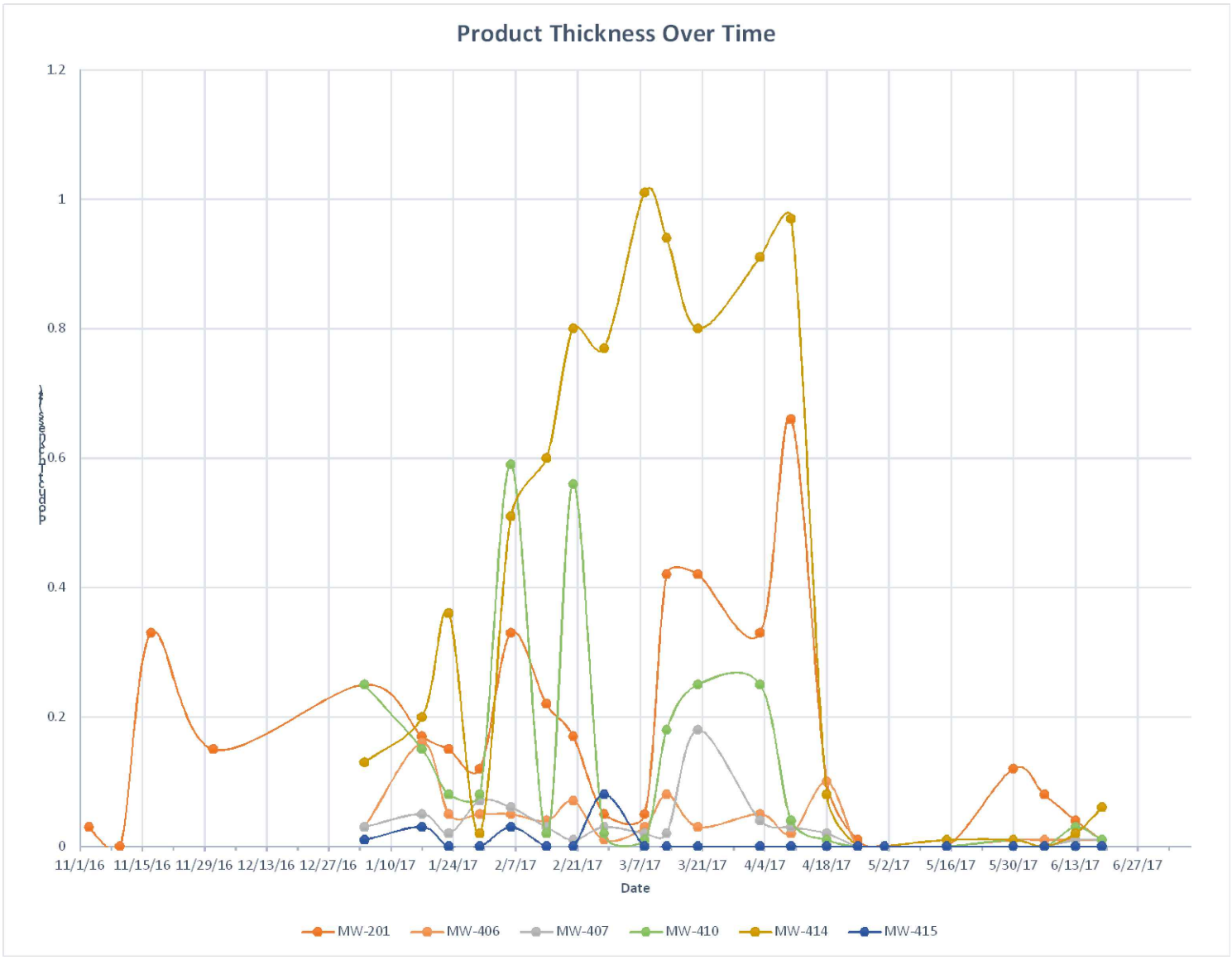
PHASE I ISI

TRC
2 Liberty Sq
6th Floor
Boston, MA 02113
(617)350-3444

FIGURE
9

DRAWN BY: AHC
CHECKED BY: RN
DATE: 07/06/2017

FILE: J:\Projects\140143 - Atlantic Bridge\Weymouth Compressor Station\CAD Files\gwcont_6_13_17_phase_I_ISI.dwg



ATLANTIC BRIDGE PROJECT
WEYMOUTH COMPRESSOR STATION
BRIDGE ST, WEYMOUTH, MA

ENBRIDGE

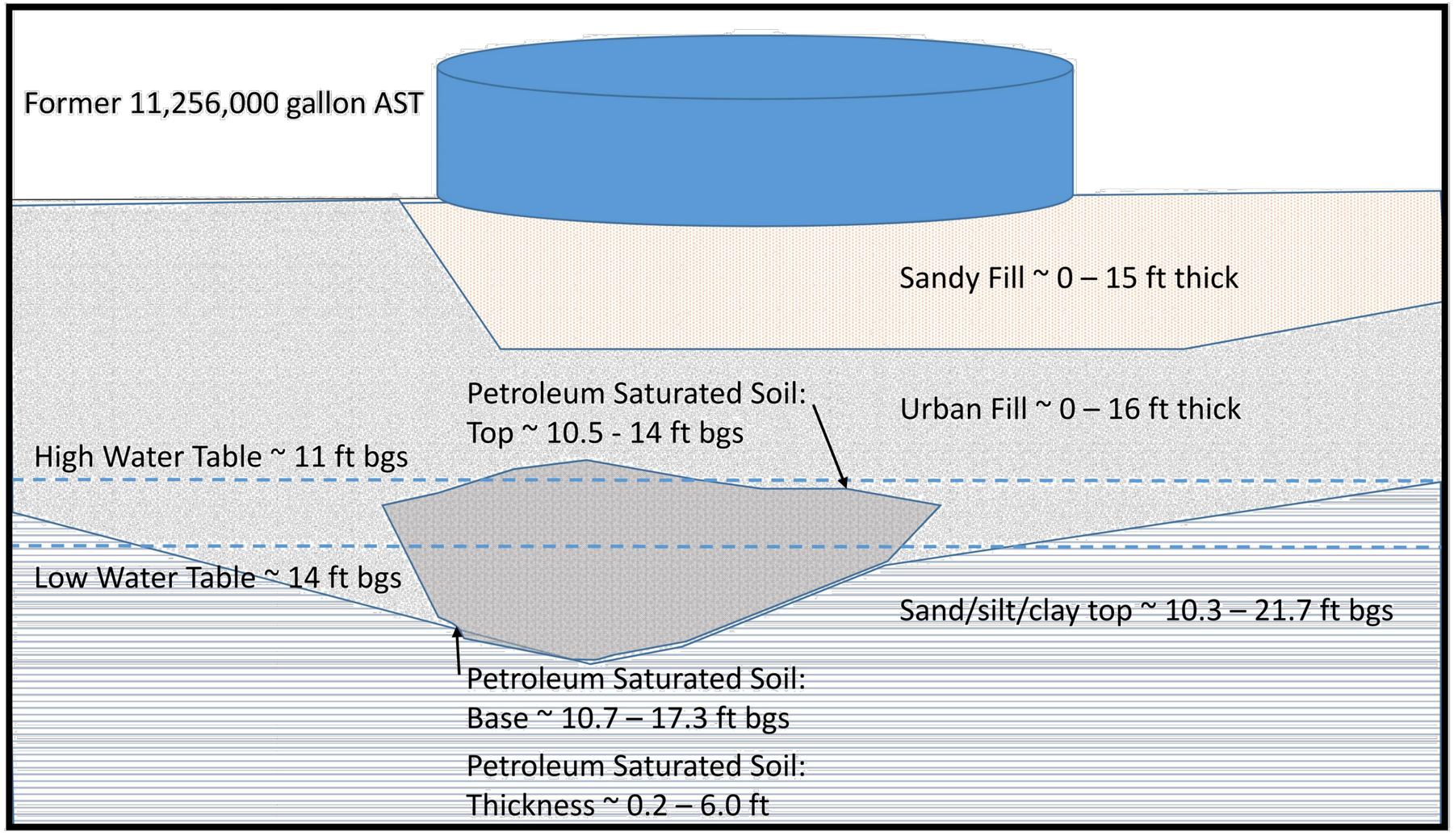
OBSERVED LNAPL THICKNESS IN MONITORING WELLS
RTN's 4-26230 and 4-26243
PHASE I ISI

TRC
2 Liberty Sq
6th Floor
Boston, MA 02113
(617)350-3444

FIGURE
10

DRAWN BY: AHC
CHECKED BY: RN
DATE: 05/01/2017

FILE: J:\Projects\140143 - Atlantic Bridge\Weymouth Compressor Station\CAD Files\Boring Plan Jan2017_aul2.dwg



ATLANTIC BRIDGE PROJECT
WEYMOUTH COMPRESSOR STATION
BRIDGE ST, WEYMOUTH, MA

ENBRIDGE

CONCEPTUAL SITE MODEL
RTN's 4-26230 and 4-26243
PHASE I ISI

TRC
2 Liberty Sq
6th Floor
Boston, MA 02113
(617)350-3444

FIGURE
11

DRAWN BY: AHC
CHECKED BY: RN
DATE: 05/01/2017

FILE: J:\Projects\140143 - Atlantic Bridge\Weymouth Compressor Station\CAD Files\Boring Plan Jan2017_aul2.dwg

APPENDIX A

HISTORICAL INFORMATION

APPENDIX B

FIELD DATA

Monitoring Well Development
Weymouth C/S Site
Weymouth, Massachusetts

Monitoring Well	Development Date	Equipment see notes	Volume Removed (Gal)	Observations/Notes
MW-201	7/29 & 08/03/16	X	30	Purged until visibly clear. Free product (NAPL) noted on water table, Sheen and odor present, purge water drummed.
MW-202	8/2/2016	X	37	Purged until visibly clear. Water clearing with time pumped. Final turbidity = 156 NTU. No odor or sheen. Purged water discharged 25 ft up gradient of the well.
MW-203	8/2/2016	X	35	Purged until visibly clear. Water clearing with time pumped. Final turbidity = 58.4 NTU. No Odor or sheen. Purged water discharged 25 ft up gradient of the well.
MW-204	7/29/2016	X	45	Purged until visibly clear. Water clearing with time pumped. Final turbidity = 97 NTU, No Odor or sheen. Purged water discharged 25 ft up gradient of the well.
MW-205	7/29/2016	X	31	Purged until visibly clear. Water clearing with time pumped. Final turbidity = 38 NTU, No Odor or sheen. Purged water discharged 25 ft up gradient of the well.
MW-206	10/20/2016	X	40	Purged until visibly clear. Water clearing with time pumped. Final turbidity = 100 NTU, No Odor or sheen. Purged water discharged 25 ft up gradient of the well.
MW-400	12/19/2016	X	45	Purged until visibly clear. Water clearing with time pumped and repeated surging of screen. No Odor or sheen. Purged water discharged 25 ft up gradient of the well.
MW-401	12/19/2016	X	90	Purged until visibly clear. Water clearing with time pumped and repeated surging of screen. No Odor or sheen. Purged water discharged 25 ft up gradient of the well.
MW-402	12/19 & 20/2016	X	52	Purged until visibly clear. Free Product (NAPL), Sheen and odor in water and on tubing and surge block, purged water drummed.
MW-403	12/19/2016	X	35	Purged until visibly clear. Water clearing with time pumped. No Odor or sheen. Purged water discharged 25 ft up gradient of the well.
MW-404	12/21/2016	X	35	Purged until visibly clear. Free Product (NAPL), Sheen and moderate odor in water and on tubing and surge block, purged water drummed.
MW-405	12/20/2016	X	35	Purged until visibly clear. Water clearing with time pumped. No Odor or sheen. Purged water discharged 25 ft up gradient of the well.
MW-406	12/21/2016	Y	60	Purged until visibly clear. Free Product (NAPL), Sheen and strong petroleum and sulfur-like odor on water. Staining on tubing and pump housing, purged water drummed.
MW-407	12/21/2016	Y	20	Purged until visibly clear. Free Product (NAPL), Sheen and moderate petroleum and sulfur-like odor on water. Staining on tubing and pump housing, purged water drummed.
MW-408	12/20/2016	X	50	Purged until visibly clear. Water clearing with time pumped. No Odor or sheen. Purged water discharged 25 ft up gradient of the well.
MW-409	12/21/2016	Y	20	Purged until visibly clear. Water clearing with time pumped. No Odor or sheen. Purged water discharged 25 ft up gradient of the well.
MW-410	12/22/2016	Y	45	Purged until visibly clear. Free Product (NAPL), Sheen and odor not extensive but in water and on tubing and surge block, purged water drummed.
MW-411	12/22/2016	Y	40	Purged until visibly clear, Free Product (NAPL), Sheen and petroleum and sulfur-like odor on water and staining on tubing and surge block, purged water drummed.
MW-412	12/22/2016	X	40	Purged until visibly clear. Free Product (NAPL), Sheen and odor in water and on tubing and surge block, purged water drummed.

Monitoring Well Development
Weymouth C/S Site
Weymouth, Massachusetts

Monitoring Well	Development Date	Equipment see notes	Volume Removed (Gal)	Observations/Notes
MW-413	12/22/2016	X	35	Purged until visibly clear, Free Product (NAPL), Sheen and odor in water and on tubing and surge block, purged water drummed.
MW-414	12/21/2016	X	35	Purged until visibly clear, Free Product (NAPL), Sheen and odor in water and on tubing and surge block, purged water drummed.
MW-415	12/20/2016	X	25	Purged until visibly clear, Trace amounts of sheen and odor in water and on tubing and surge block, purged water drummed.
MW-416	12/21/2016	Y	65	Purged until visibly clear. Water clearing with time pumped. No Odor or sheen. Purged water discharged 25 ft up gradient of the well.
MW-417	12/20/2016	X	40	Purged until visibly clear. Water clearing with time pumped and repeated surging of screen. No Odor or sheen. Purged water discharged 25 ft up gradient of the well.

Notes:
X- Watterra hydrolift and check valve with surge block. Unit positioned in water column from top to bottom of screen to remove fines (silt).
Y - Proactive Water Spout 2 submersible pump used. Column surged at 2-3 ft zones throughout screen.
ft- feet
Gal - gallons
gpm - gallons per minute
NAPL - non-aqueous phase liquid
NTU - nephelometric turbidity units

Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-201**
Monitor Well ID No.: **MW-201**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	13.2 feet	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 10.0 feet below ground surface	Dated Drilled:	5/12/2016
Depth to Static Water:		Drill Type:	Hollow Stem Auger
Stabilization Time:		Sampling Method:	Continuous
Blow Count Info	**Notes:**	Drill Rig and Model Number:	Truck / Diedrich D 120
Type: SPT	HS = Headspace PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF =	Drilling Company:	New England Boring Contractors
Hammer: 140 lbs	1.0)	Driller's Name:	Norm and Shawn
Fall: 30 inches		TRC Representative:	C. Ragnelli / L. Hopp

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)
-3 to 0							
1	NA					0 - 6": Topsoil (grass)	Native Fill 0.0-2.0'
2							
3	NA					Advanced vac-rig to 6' below ground surface	Bentonite -2.0-3.0' (1' thickness)
4							
5	NA						Seven (7) Feet 2" Schedule 40 PVC Riser (-)2-5'
6							
7	B/MW 201 (6-8') Submitted for Total Metals, Dissolved Metals, EPH-10, hold SPLP	5,5,7,6	0.5	S-1	24/7	6-8': Dry black f-c SAND, trace f gravel, fill (brick 5%, coal slag 5%)	Filter Sand Pack 3-20' (17' thickness)
8							
9	NA	4,3,2,4	0.0	S-2	24/9	8-10': Moist, brown f-c SAND, trace f gravel, fill (klinkers 40%)	
10							Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 5-20'
11	B/MW 201 (10-12') Submitted for Total Metals, Dissolved Metals, EPH-10, hold SPLP, Collected DUP-1	4,6,15,13	7.0	S-3	24/11	10-12': Moist to wet black f-c SAND, some f gravels, fill (brick 20%, klinkers 20%)	
12							
13	NA	23,13,14,10	47.7	S-4	24/16	12-14': Wet black f-c SAND (50%) and FILL (klinkers 3%, brick 20%) trace f gravel Staining and odor	
14							
15	NA	5,4,3,4	54.4	S-5	24/8	14-16': Wet black f-c SAND and FILL (brick 20%, klinkers 30%), trace f gravel, trace silt Staining and odor	
16							
17	NA	6,3,4,4		S-6	24/9	16-18': Wet black f-c SAND and FILL (brick 20%, klinkers 30%), trace f gravel Staining and odor	
18							
19	NA		60.3 20.8	S-7	24/13	18-20': 7": Wet brown to grey f-c SAND, trace f gravel, little silt 6": Wet black f-c SAND and SILT	
20							

Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

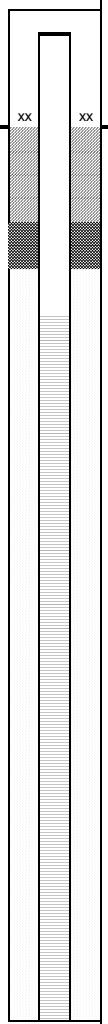
Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-202**
Monitor Well ID No.: **MW-202**
Sheet 1 of 1

Boring Location:	N: 15350438.4477 E: 1108914.0582	Project Number:	140143.0000.7478
Ground Elevation:	12.0 feet	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 10.0 feet below ground surface	Dated Drilled:	5/11/2016
Depth to Static Water:		Drill Type:	Hollow Stem Auger
Stabilization Time:		Sampling Method:	Continuous
Blow Count Info	**Notes:**	Drill Rig and Model Number:	Truck / Diedrich D 120
Type: SPT	HS = Headspace PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF =	Drilling Company:	New England Boring Contractors
Hammer: 140 lbs	1.0)	Driller's Name:	Norm and Shawn
Fall: 30 inches		TRC Representative:	C. Ragnelli / L. Hopp

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)
1						0-6": Topsoil (grass, dirt)	Native Fill 0.0-2.0'
2-3	NA	8,8,10,22	2.6	S-1	24/20	1-3' 4": Dry, topsoil (roots) 6": Dry brown to black f-c SAND, little f gravel, little fill (bricks 10%, very f coal slag 5%)	Bentonite -2.0.-3.0' (1' thickness)
4-5	NA	20,19,20,22	0.3 0.0	S-2	24/22	3-5' Dry, organics, roots Dry black f-m SAND, trace f gravel, FILL (very f coal slag 80%) Dry tan very f SAND, trace silt, trace f gravel	Six (6) Feet 2" Schedule 40 PVC Riser (-)2-4'
6-7	B/MW 202 (5-7') Submitted for Total Metals, Dissolved Metals, EPH-10, SPLP Metals	9,9,6,4	0.2	S-3	24/15	5-7': 3": Dry black f-c SAND, trace FILL (very f coal slag 5%) 3": Dry brown to grey f-c SAND, trace f gravel 3": Dry grey CLAY, little f-m sand 6": Dry brown reddish f-c SAND	
8-9	NA	5,4,5,4	2.7	S-4	24/13	7-9': Dry brown f-c SAND, trace f gravel	Filter Sand Pack 3-19' (16' thickness)
10-11	B/MW 202 (9-11') Submitted for Total Metals, Dissolved Metals, EPH-10, SPLP Metals	4,4,5,5	0.2	S-5	24/12	9-11': Moist, wet brown f-c SAND	Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 4-19'
12-13	NA	2,4,4,5	3.2	S-6	24/15	11-13': Wet brown f-c SAND, trace f gravel	
14-15	NA	4,10,38,43	0.2	S-7	24/17	13-15': Wet brown f-c SAND, trace f gravel, trace silt	
16-17	NA	5,3,7,18	0.5 0.8	S-8	24/20	15-17' 10": Wet brown f-c SAND 5": Wet grey f SILTY SAND	
18-19	NA	1/12",3,4		S-9	24/12	17-19': Wet brown f-c SAND, trace silt	
20-21	NA	6,21,61,66	0.8 0.4	S-10	24/24	19-21' 18": Wet brown f-c SAND, trace f gravel 4": Wet CLAY with some silt 2": Wet brown f-c SAND	



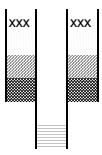
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-203**
Monitor Well ID No.: **MW-203**
Sheet 1 of 1

Boring Location:	N: 15350425.3168 E: 1108966.7489	Project Number:	140143.0000.7478
Ground Elevation:	12.2 feet	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 10.0 feet below ground surface	Dated Drilled:	5/11-12/2016
Depth to Static Water:		Drill Type:	Hollow Stem Auger
Stabilization Time:		Sampling Method:	Continuous
Blow Count Info	**Notes:**	Drill Rig and Model Number:	Truck / Diedrich D 120
Type: SPT	HS = Headspace PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0)	Drilling Company:	New England Boring Contractors
Hammer: 140 lbs		Driller's Name:	Norm and Shawn
Fall: 30 inches		TRC Representative:	C. Ragnelli / L. Hopp

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)
0						0-4": Topsoil (grass, dirt)	Native Fill 0.0-2.0'
2	NA	8,26,29,26	0.2	S-1	24/18	1-3' 14": Dry black f-c SAND, trace f gravel FILL (brick 10%, coal slag 5%) 4": Dry SILTY SAND, trace f gravel	
3			0.1				Bentonite -2.0.-3.0' (1' thickness)
4	NA	9,8,12,9	0.2	S-2	24/15	3-5': Dry black f-c SAND, FILL (brick 10%, kinkers 10%)	
6	B/MW 203 (5-7') Submitted for Total Metals, Dissolved Metals, EPH-10, SPLP Metals	7,6,5,4	0.2	S-3	24/7	5-7': Dry brown to black f-c SAND, trace f gravel, fill (coal slag 20%)	Six (6) Feet 2" Schedule 40 PVC Riser (-)2-4'
8	NA	8,4,5,5	0.4	S-4	24/7	7-9': Dry brown to black f-c SAND, trace f gravel, fill (klinkers 20%, brick 20%)	Filter Sand Pack 3-19' (16' thickness)
10	B/MW 203 (5-7') Submitted for Total Metals, Dissolved Metals, EPH-10, SPLP Metals	9,14,10,9	0.1	S-5	24/12	9-11' 10": Wet black f-c SAND, trace f gravel, fill (brick 5%, klinkers 10%) 2": Wet fine GRAVEL	
11			0.1				Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 4-19'
12	NA	2,10,6,7	6.7	S-6	24/9	11-13' 7": Wet black f-c SAND, trace f gravel, trace silt, FILL (brick 5%, klinker 5%) 2": Wet f SAND, trace silt	
13			4.5				
14	NA	1,1/12,1	0.5	S-7	24/2	13-15': Wet black f-m SAND	
16	NA	4,3,2,4	0.6	S-8	24/8	15-17': Wet black grey f-c SAND, trace f gravel, trace silt	
18	NA	6-100/5	6.1	S-9	24/12	17-19': Wet black-grey f-c SAND, trace f gravel, trace silt	
20	NA	14-10-5-7	8	S-10	24/13	19-21' 3": Wet black f-c SAND, trace silt, trace f gravel 5": Wet black f-c SAND, some f gravel (30%), some wood (organics) 5": Wet brown f- SAND, little silt	
21			36.7				

Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-204**
Monitor Well ID No.: **MW-204**
Sheet 1 of 1

Boring Location:	N: 15350381.9915 E: 1109125.3309	Project Number:	140143.0000.7478
Ground Elevation:	12.9 feet	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 10.0 feet below ground surface	Dated Drilled:	5/10/2016
Depth to Static Water:		Drill Type:	Hollow Stem Auger
Stabilization Time:		Sampling Method:	Continuous
Blow Count Info	**Notes:**	Drill Rig and Model Number:	Truck / Diedrich D 120
Type: SPT	HS = Headspace PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0)	Drilling Company:	New England Boring Contractors
Hammer: 140 lbs		Driller's Name:	Norm and Shawn
Fall: 30 inches		TRC Representative:	C. Ragnelli / L. Hopp

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0								
1	NA					0 - 4": Topsoil (grass)	Native Fill 0.0-2.0'	
3	NA					Advanced vac-rig to 6' below ground surface	Bentonite -2.0-3.0' (1' thickness)	
5	NA						Seven (7) Feet 2" Schedule 40 PVC Riser (-)2-5'	
7	B/MW 204 (6-8') Submitted for Total Metals, Dissolved Metals, EPH-10, hold SPLP	12,9,13,16	0.6	S-1	24/16	6-8': 8": Dry dark f-m SAND, little f gravel, trace silt 8": FILL (coal slag 75%, brick 25%)	Filter Sand Pack 3-20' (17' thickness)	
9	B/MW 204 (8-10') Submitted for Total Metals, Dissolved Metals, EPH-10, hold SPLP	6,5,7,6	0.1	S-2	24/24	8-10': 6": Moist brown f SAND, trace silt 18": Wet dark brown f SAND	Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 5-20'	
11	NA	2,1,1,3	0.1	S-3	24/24	10-12': Wet dark brown f SILTY SAND		
13	NA	2,1,1,1	0.6 0.4	S-4	24/18	12-14' 5": Wet black m-c SAND, trace silt 13": Wet dark brown SILTY SAND		
15	NA	1,5,3,4	10.0 21.5	S-5	24/14	14-16': 7": Wet dark brown f-c SAND and SILT, trace fill (brick 5%) 7": Wet dark brown f-c SAND and f GRAVEL, and FILL (coal slag, 20%, bricks 40%)		
17	NA	4,4,3,4	0.5	S-6	24/10	16-18': Wet dark brown f-c SAND, fill (klinkers 5-10%), trace silt		
19	NA	5,3,5,17	26.2	S-7	24/8	18-20': Wet dark brown f-c SAND, little silt		

Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

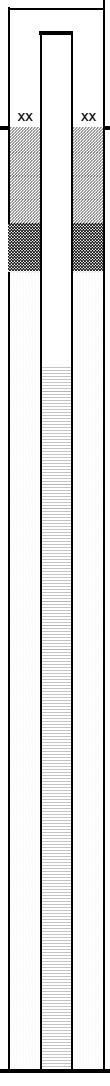
Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-205**
Monitor Well ID No.: **MW-205**
Sheet 1 of 1

Boring Location:	N: 15350260.6793 E: 1109014.1582	Project Number:	140143.0000.7478
Ground Elevation:	14.4 feet	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 10.0 feet below ground surface	Dated Drilled:	5/12/2016
Depth to Static Water:		Drill Type:	Hollow Stem Auger
Stabilization Time:		Sampling Method:	Continuous
Blow Count Info	**Notes:**	Drill Rig and Model Number:	Truck / Diedrich D 120
Type: SPT	HS = Headspace PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0)	Drilling Company:	New England Boring Contractors
Hammer: 140 lbs		Driller's Name:	Norm and Shawn
Fall: 30 inches		TRC Representative:	C. Ragnelli / L. Hopp

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)
-3 to 0							
1	NA					0 - 6": Topsoil (grass)	Native Fill 0.0-2.0'
2							
3	NA					Advanced vac-rig to 6' below ground surface	Bentonite -2.0-3.0' (1' thickness)
4							
5	NA						Seven (7) Feet 2" Schedule 40 PVC Riser (-)2-5'
6							
7	B/MW 205 (6-8)' Submitted for Total Metals, Dissolved Metals, EPH-10, hold SPLP	12,12,18,16	0.6 / 0.0	S-1	24/15	6-8' 3": Dry black f-m SAND 12": Dry light brown f-m SAND, trace f gravel	Filter Sand Pack 3-20' (17' thickness)
8							
9	NA	8,14,13,13	0.0	S-2	24/20	8-10": Dry black-brown f-m SAND and SILT, fill (brick 5%, coal salg 5%	
10							Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 5-20'
11	B/MW 205 (10-12)' Submitted for Total Metals, Dissolved Metals, EPH-10, hold SPLP	7,6,7,6	0.0	S-3	24/22	10-12': Moist to wet black SILTY SAND	
12							
13	NA	8,9,6,6	2.1 / 0.8	S-4	24/12	12-14' 4": Wet grey-black f-m SAND and SILT 8": Wet brown f-c SAND, trace silt, trace f gravel	
14							
15	NA	11,4,4,5	0.0 / 0.2	S-5	24/15	14-16' 2": Wet brown f-c SAND and SILT 13": Wet brown f-c SAND, little f gravel	
16							
17	NA	5,4,410	1.2	S-6	24/13	16-18': Wet grey f-c SAND and SILT, trace f gravel	
18							
19	NA	2,2,3,3	0.4	S-7	24/8	18-20': Wet grey f-c SAND and f SILT, trace f gravel	
20							



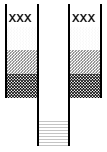
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-300**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	11.59'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0								-3 to 0
1	S-1 0-5 ft.		NA	S-1	60/0	No Recovery 0-5 ft		1
5	S-2 5-10 ft.		0.0	S-2	60/42			5
6						14 " Dark Brown Silt and organic topsil, trace roots and grass (reworked from 0-5 ft but recovered in this liner)		6
7			0.0					7
8						20 " Tan fine to medium SAND		8
9			0.0					9
10								10
11	S-3 10-15 ft.		0.0					11
12					60/46	46 " Tan fine to Medium SAND, trace fine gravel		12
13			0.0					13
14								14
15								15
16								16
17	S-4 15-20 ft.		0.0		60/36	30" Tan fine to medium SAND moist at 11 ft.Wet at 12 ft.		17
18						6 " Gray SILT some fine sand. No odors stain or PID readings		18
19			0.0					19
20						EOB 20 ft.		20

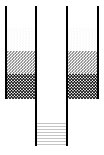
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

TRC

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-301**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	13.7'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0								-3 to 0
1	S-1 0-5 ft.		NA	S-1	60/0	No Recovery 0-5 ft		1
2 to 4								2 to 4
5	S-2 5-10 ft.		0.0	S-2	60/36			5
6						4 " Dark Brown SILT and organic topsoil, trace roots and grass (reworked from 0-5 ft but recovered in this liner) some fine Sand trace fine Gravel		6
7			0.0					7
8						32 " Dark Brown to Tan and Black SLAG, traces of yellow fire brick Pulverized (FILL)		8
9								9
10			0.0					10
11	S-3 10-15 ft.		0.0		60/30	6" SAA moist		11
12								12
13			OS= 4.7, HS = 20.8			14 " Black Oil Stained fine to medium SAND. Wet		13
14								14
15			OS= 0.4			10 " Grey fine SAND Saturated. (water) Mild odor no staining		15
16						EOB 15 ft		16
17 to 20								17 to 20

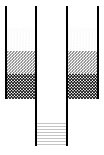
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-302**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	12.55'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0								-3 to 0
1	S-1 0-5 ft.		0.0	S-1	60/30	6" Gray organic topsoil roots and grass. Some Silt Some fine SAND trace fine Gravel		1
2 to 4			0.0			24" Tan fine to Medium SAND, some fine gravel Pulverized		2 to 4
5	S-2 5-10 ft.							5
6						20" Tan fine to Medium SAND, Some uniform Grained very fine SAND		6
7 to 8			0.0	S-2	60/28			7 to 8
9			0.0			8" Black uniform grained fine SAND (coal dust?)		9
10								10
11	S-3 10-15 ft.		0.0			50 " Tan Fine to Medium SAND, Wet at 12 ft. Saturated at 13 ft. no odor no staining		11
12 to 13			0.0		60/50			12 to 13
14 to 15								14 to 15
16						EOB 15 ft		16
17 to 20								17 to 20

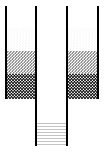
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-303**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	12.48'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/12/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0								-3 to 0
0 to 1	S-1 0-5 ft.		0.0	S-1	60/14	14" Gray to organic topsoil roots and grass.		0 to 1
5 to 6	S-2 5-10 ft.		0.1	S-2	60/40	4" Gray organic SILT 30" Red to Rusty Colored fine to coarse FILL, Slag Coal, Ash Bricks.		5 to 6
9 to 10			0.3			6" Red to Rusty Colored fine to coarse FILL, Slag Coal, Ash Bricks, moist		9 to 10
10 to 11	S-3 10-15 ft.		HS=20.1		60/42	6" Red to Rusty Colored fine to coarse FILL, Slag Coal, Ash Bricks, moist 2 " Black oily saturated FILL, thin oil layer (2 "), mild odor and staining		10 to 11
12 to 13			OS= 4.0 to 5.9			14 " Black Stained fine SAND and SILT, saturated with water, mild odor and staining		12 to 13
14 to 15			OS =3.7 to 1.1			20 " Tan Fine SAND and SILT, saturated with water, no odor or staining		14 to 15
15 to 16						EOB 15 ft		15 to 16
16 to 20								16 to 20

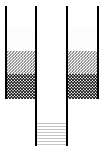
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-304**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	12.68'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/12/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3								-3
-2								-2
-1								-1
0								0
1	S-1 0-5 ft.		0.0	S-1	60/38	14" Gray to black fine SAND and SILT trace fine Gravel trace organic root matter.		1
2						24 " Tan fine SAND , trace fine Gravel (fill)		2
3								3
4								4
5	S-2 5-10 ft.							5
6						16 " Tan fine SAND , some fine Gravel (fill)		6
7			0.1	S-2	60/36	6" Black fine SAND and SILT, some fine gravel (fill), .		7
8								8
9			0.3			14" Red Brick colored and stained SLAG, Coal, Ash, some larger chunks orange SLAG		9
10								10
11	S-3 10-15 ft.		OS= 0.6			10 " Black SLAG fill, moist		11
12								12
13			OS= 0.8		60/30	20 " Oil stained SLAG saturated zone of oil and coincident with the water table. Oil globules mild odor significant staining		13
14								14
15			OS =1.1, HS = 17.8			Headspace at ~ 14 ft.		15
16								16
17	S-4 15-20		0.3		60/20	16" SLAG, Coal Brick Fill Saturated (water)		17
18						4 " Gray SILT some Fine SAND		18
19								19
20						EOB 20 ft		20

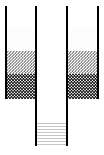
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-305**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	13.82'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/12/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0), Boring	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic	completed in VP-2 pre-cleared location	TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0								-3 to 0
1	S-1 0-5 ft.		0.0	S-1	60/30	10" Black fine to medium SAND, trace Silt trace fine gravel 20" Tan fine to medium SAND		1
5	S-2 5-10 ft.		OS=0.1 OS= 0.2	S-2	60/40	18" Tan fine -medium SAND 22" Black coal SLAG some ash and coal, trace fine sand, trace fine gravel (fill).		5
11	S-3 10-15 ft.		OS= 0.1 OS =4.1, HS = 49.5 OS =1.1		60/42	14 " Black coal SLAG some ash and coal, trace fine gravel (fill), Dry 28 " Black Oil stained and saturated SLAG (fill) coincident with the water table. Highest readings and headspace taken ~ 14 ft		11
17	S-4 15-20		OS =2.2, HS = 14.6		60/24	24" SLAG, loose saturated with oil. No native soil was recoverd at depth due to collapse of loose materials at depth. Stained with oil and in the water table. EOB 20 ft		17

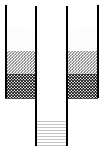
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-306**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	12.67'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/12/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0), Boring	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic	completed in VP-3 in pre-cleared location	TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0								-3 to 0
1	S-1 0-5 ft.		OS=0.2	S-1	60/28	10" Gray fine SAND some Silt, some fine Gravel, (loose)		1
2 to 4						18" Black to Rusty colored SLAG, glass, some fine to coarse SAND, little fine Gravel		2 to 4
5	S-2 5-10 ft.							5
6 to 7			OS=0.1	S-2	60/36	4 Red Bricks (Fill)		6 to 7
8 to 9								8 to 9
10			OS= 0.2			32" Black coal SLAG some ash and coal, trace concrete rubble, some fine gravel (fill).		10
11	S-3 10-15 ft.					10" Black coal SLAG some ash and coal, trace fine gravel (fill), Dry		11
12 to 13			OS =3.8; HS = 116		60/48	28 " Black coal SLAG ash and rubble, Oil stained and saturated, odor and sheen. Oil saturation appx 11.8 to 14.8 ft. (~ 3 ft)		12 to 13
14						4" Gray very Fine SAND, some Silt, Wet		14
15						Highest readings and headspace taken ~ 14 ft		15
16						EOB 15 ft		16
17 to 19								17 to 19
20								20

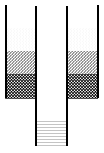
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-307**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	12.32'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/12/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0								-3 to 0
0	S-1 0-5 ft.		OS=0.0	S-1	60/24	8" Black fine SAND some Silt, organic topsoil roots and grass, (loose) 16" Tan fine to medium SAND, trace fine gravel (rounded), trace Silt.		0
5	S-2 5-10 ft.		OS=0.0	S-2	60/40	40" Tan Fine to medium SAND trace fine gravel (rounded)		5
10	S-3 10-15 ft.		OS=0.0	S-3	60/44	44" Tan Fine to medium SAND, trace fine gravel, Wet at 12.5 ft., Saturated to 15 ft Highest readings and headspace taken ~ 14 ft EOB 15 ft		10
15 to 20								15 to 20

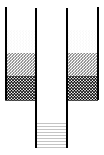
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-308**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	12.32'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/12/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0								-3 to 0
1	S-1 0-5 ft.		NA	S-1	60/0	No recovery 0-5		1
2 to 4								2 to 4
5	S-2 5-10 ft.							5
6			OS=0.0	S-2	60/32	6" Reworked organic topsoil (sluff from -0-5)		6
7 to 8						16" Black to Tan SLAG, trace fine Gravel trace fine SAND		7 to 8
9 to 10						10 " Tan fine SAND, some SILT, trace fine Gravel (rusty laminations around 10 ft)		9 to 10
11	S-3 10-15 ft.							11
12			OS=0.0	S-3	60/46	10" Tan Fine SAND, some fine gravel, trace Silt trace fine gravel		12
13 to 14						36 " Tan Fine to Medium SAND, Wet at 12.5 ft. Saturated to 15 ft No Odors or staining		13 to 14
15						EOB 15 ft		15
16 to 20								16 to 20

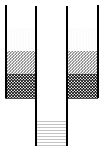
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-309**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	14.26'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/12/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3								-3
-2								-2
-1								-1
0								0
1	S-1 0-5 ft.		OS=0.0	S-1	60/14	6" Topsoil Silt roots and grass, some fine Sand disturbed / reworked 8" Loose Tan fine SAND		1
2								2
3								3
4								4
5	S-2 5-10 ft.		OS=0.1					5
6						30" Tan Fine SAND trace fine Gravel		6
7			OS=0.2	S-2	60/48			7
8						18" Black coal SLAG, trace fine Gravel trace fine SAND		8
9								9
10								10
11	S-3 10-15 ft.		0.4 to 1.2					11
12						18" Black coal SLAG, trace fine Gravel, trace fine SAND, moist on bottom		12
13			HS= 47.7	S-3	60/46	18 " Oil Saturated SLAG fill (SAA) stained with sheen and odor at water table		13
14								14
15						Headspace ~ 14 ft.		15
16								16
17	S-4 15-20 ft.			S-4		4 " Oil Saturated SLAG fill (SAA) stained with sheen and odor at water table 16 " Gray fine SAND stained and globules of oil throughout, saturated 10 " Gray Fine SAND, some silt saturated.		17
18						Fill terminated around 15.5 ft.		18
19								19
20						EOB 20 ft		20

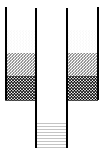
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-310**
Monitor Well ID No.: **MW-206**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	13.1'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/12/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)
-3 to 0							Steel standpipe w/locking cover
0 to 5	S-1 0-5 ft.		OS=0.0	S-1	60/16	16" loose organic topsoil roots and grass, some Silt some fine gravel reworked	Concrete Pad; Native Fill 1.0-2.0'; Bentonite -2.0.-3.0' (1' thickness)
5 to 10	S-2 5-10 ft.		OS=0.0	S-2	60/36	2" pulverized Concrete (fill) 34" Tan Fine to medium SAND, some silt, trace fine gravel	Six (12) Feet 2" Schedule 40 PVC Riser 0 to 9 ft (plus 2 ft Ags)
10 to 15	S-3 10-15 ft.		OS=0.0, HS=0.8	S-3	60/38	4" Tan Fine to medium SAND, some silt, trace fine gravel 12 " Black fine SAND, uniform grain size (coal dust?) dry. 4" Brown to tan fine SAND Silt Moist to wet. 18" Brown to Tan Silt some fine SAND Saturated Headspace taken ~ 14 ft EOB 15 ft	Filter Sand Pack 3-19ft (16' thickness) Ten (10) Feet 2" Schedule 40 0.01 Slotted Screen 9-19'

Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-311**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	12.58'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0								-3 to 0
1	S-1 0-5 ft.		OS=0.0	S-1	60/36	36" Tan Fine to medium SAND, trace fine Gravel		1
2 to 4								2 to 4
5	S-2 5-10 ft.		OS=0.0					5
6						12" Tan Fine to medium SAND, trace fine Gravel		6
7			OS=0.2	S-2	60/48	18" Dark gray SILT and Clay, traces of slag and ash (fill)		7
8 to 9						18" Dark Brown to Black ash and cinders		8 to 9
10								10
11	S-3 10-15 ft.		OS= 0.2			12" Dark Brown to Black ash and cinders, moist at the bottom		11
12						4 " Grey Silt moist		12
13			OS= 4.7, HS= 32.7	S-3	60/42	26 " Oil Saturated and stained SLAG fill, trace fine gravel in shoe		13
14 to 15			OS=2.5			Headspace ~ 12.5 ft. in highest OS reading zone		14 to 15
16						18" Oil Saturated SLAG and Silty SAND Sheen and odor in water table		16
17	S-4 15-20 ft.		OS=3.6, HS=20.6	S-4	60/28			17
18						10 " Gray fine SAND some Silt, staining and odor, saturated		18
19								19
20						EOB 20 ft		20

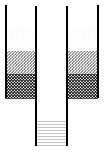
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-312**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	13.12'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0								-3 to 0
0 to 5	S-1 0-5 ft.		OS=0.0	S-1	60/10	10" Organic topsoil grass and roots loose, disturbed		0 to 5
5 to 10	S-2 5-10 ft.		OS=0.0 OS=0.4	S-2	60/56	26" Tan Fine to medium SAND, trace fine Gravel 30" Black SILT and SLAG, coal, Ash, Brick (fill)		5 to 10
10 to 15	S-3 10-15 ft.		OS= 0.3 OS= 5.3; HS= 40.9	S-3	60/40	14" Black SILT and SLAG, coal, Ash, Brick (fill), moist at the bottom 26 " Oil Saturated (globules) and stained SLAG fill, water saturated Headspace ~ 12.5 ft. in highest OS reading zone		10 to 15
15 to 20	S-4 15-20 ft.		OS=4.2 HS=20.1	S-4	60/20	20" loose SLAG with oily saturation, collapsed? No native horizon observed Heaspace at around 18 ft based on recovery EOB 20 ft		15 to 20

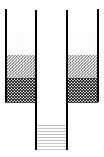
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-313**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	13.91'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3								-3
-2								-2
-1								-1
0								0
1	S-1 0-5 ft.		OS=0.0	S-1	60/48	14" Organic topsoil silt grass and roots loose, some fine gravel disturbed		1
2								2
3			OS=0.0			34" Tan Fine to medium SAND		3
4								4
5	S-2 5-10 ft.		OS=0.0					5
6						24" Tan Fine to medium SAND,		6
7			OS= 0.0	S-2	60/56	32" Black SLAG, multicolored, some fine to coarse SAND, trace fine Gravel		7
8								8
9								9
10								10
11	S-3 10-15 ft.		OS= 0.4			16" Tan Fine to medium SAND, trace fine Gravel		11
12								12
13			OS= 4.2, HS= 55.2	S-3	60/40	30" Oily saturated Fine to medium SAND, saturated		13
14						2" Black SILT		14
15			OS=2.6			Headspace ~ 14 ft. in highest OS reading zone		15
16								16
17	S-4 15-20 ft.		OS=2.3	S-4	60/10	No true recovery all loose sluff / collapse of loose slag.		17
18						Native horizon noted at 14.8 ft (14 ' 10 ")		18
19								19
20						EOB 20 ft		20

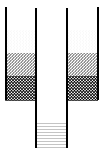
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-314**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	13.97'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0								-3 to 0
0 to 5	S-1 0-5 ft.		OS=0.0 OS=0.0	S-1	60/28	6" Brown Organic topsoil silt grass and roots loose, reworked 22" Tan Fine to medium SAND		0 to 5
5 to 10	S-2 5-10 ft.		OS=0.0 OS= 0.2 OS=0.0	S-2	60/56	8" Tan Fine to medium SAND, 4" Pulverized white gravel 6" Black Slag, coal, some fine Sand and gravel 16" Black organic SILT,		5 to 10
10 to 15	S-3 10-15 ft.		OS=0.0 OS=0.0 OS=0.0	S-3	60/38	8" Black organic SILT, 24" Tan Fine to medium SAND, trace fine Gravel, wet 6" Gray SILT , some Clay saturated EOB 15 ft		10 to 15
15 to 20								15 to 20

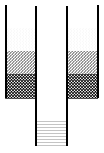
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-315**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	12.36'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore		Drilling Company:	New England Geotech
Hammer: GH-60		Driller's Name:	Hayes Rebijas
Fall: 60 inch pneematic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0								-3 to 0
0–1	S-1 0-5 ft.		OS=0.0	S-1	60/16	16" Dark Brown Organic SILT grass and roots loose, reworked		0–1
5–6	S-2 5-10 ft.		OS=0.0	S-2	60/36	34" SLAG, Black to rusty colored, Bricks ,Ash		5–6
7–8			OS=0.0					7–8
9–10			OS=0.0			2" Black fine SAND		9–10
10–11	S-3 10-15 ft.		OS=0.0	S-3	60/40	6" Black fine SAND, some Slag		10–11
12–13			OS=0.4			24" Gray SILT some Clay, wet at the top (perched?) moist throughout		12–13
14–15			OS=0.1			10" Black SLAG saturated.		14–15
15						EOB 15 ft		15
16–20								16–20

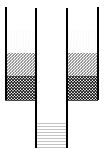
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-317**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	13.66	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pnuematic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3								-3
-2								-2
-1								-1
0								0
1	S-1 0-5 ft.		OS=0.0	S-1	60/18	8" Blackish organic Topsoil Roots and grass (disturbed)		1
2								2
3						10" Tan Fine to medium SAND		3
4								4
5			OS=0.0					5
6						24" Tan Fine to medium SAND, trace fine Gravel		6
7	S-2 5-10 ft.		OS=0.2	S-2	60/50			7
8						26" Black fine SAND (Coal dust?) Black Slag and pulverized Slag (fill)		8
9								9
10								10
11	S-3 10-15 ft.		OS= 0.4	S-3	60/28	4" Dark Brown to Black ash and cinders, moist at the bottom		11
12						4 " White pulverized Gravel		12
13			OS= 1.6, HS= 97.3			16 " Oil Saturated SLAG fill and Oil Stained fine SAND wet		13
14						4" Grey SILT		14
15			OS=0.2			Headspace ~ 12.5 ft. in highest OS reading zone		15
16						EOB 15 ft		16
17								17
18								18
19								19
20								20

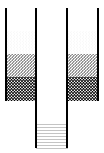
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-318**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	12.98'	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3								-3
-2								-2
-1								-1
0								0
1	S-1 0-5 ft.		OS=0.0	S-1	60/28	8" Brown organic topsoil trace bricks trace fine to coarse SAND, trace fine gravel (disturbed)		1
2								2
3						20" Black Slag and coal, yellow and orange fire brick pulverized		3
4								4
5								5
6								6
7	S-2 5-10 ft.		OS=0.0	S-2	60/32	32 " Orange SLAG		7
8								8
9								9
10								10
11	S-3 10-15 ft.		OS= 0.2			8 " Orange SLAG		11
12						6" Oily SILT and Slag Saturated (water)		12
13			OS= 0.8; HS= 22.1	S-3	60/38	24 " Tan Fine to Medium SAND, saturated		13
14						4" Grey SILT		14
15			OS=0.2			Headspace ~ 12.5 ft. in highest OS reading zone EOB 15 ft		15
16								16
17								17
18								18
19								19
20								20

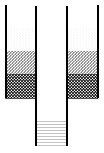
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-319**
Monitor Well ID No.: **NA**
Sheet 1 of 1

Boring Location:	N: 15350345.3936 E: 1108827.8344	Project Number:	140143.0000.7478
Ground Elevation:	13.34	Project Manager:	Ryan Niles
Depth to First Water:	Approximately 12 feet below ground surface	Dated Drilled:	10/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	6620 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 3000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pnuematic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0								-3 to 0
1	S-1 0-5 ft.			S-1	60/0	0-5 No Recovery (pushed cobble) (disturbed)		1
2 to 5								2 to 5
6						6 " Brown organic topsoil roots and grass, trace fine to medium Sand, trace silt		6
7 to 10	S-2 5-10 ft.		OS=0.0	S-2	60/34	28 " Tan to Brown to Rusty colored SLAG. Fire brick, ash cinders, coal, some f gravel		7 to 10
11			OS= 0.0	S-3	60/46	10" Tan to Brown to Rusty colored SLAG. Fire brick, ash cinders, coal, some f gravel		11
12						30" Black Oil stained SAND (saturated from 12.5 to 15 ft.), mild odor		12
13	S-3 10-15 ft.		OS= 4.7 HS= 137.8			6 " Grey SILT some fine Sand, wet		13
14						4" Grey SILT		14
15			OS=0.2			Headspace ~ 12.5 ft. in highest OS reading zone EOB 15 ft		15
16						10" Mixed sluff - no true recovery		16
17	S-4		NA		60/10	(Attempted to confirm native materials at depth below fill , no recovery)		17
18						EOB 17 ft.		18
19 to 20								19 to 20

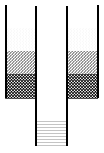
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-400**
Monitor Well ID No.: **MW-400**
Sheet 1 of 2

Boring Location:	N: 15350388.97' E: 1108946.22'	Project Number:	140143.0000.4903
Ground Elevation:	12.26'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11.5 feet below ground surface	Dated Drilled:	12/14/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS =	Drilling Company:	New England Geotech
Hammer: GH-60	Headspace PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)
0							
1-5			OS= 0.1 HS= 0.0	S-1	60/44	4" Organic topsoil, roots and grass, wet. 12" Brown fine to coarse SAND, some fine gravel, trace gravel, trace concrete. 28" Gray and Black fine to medium SAND, trace fine gravel, trace silt, wet.	Quikrete 0-2' (2' thickness) Bentonite -2.0.-3.0' (1' thickness)
6-10			OS= 0.0 HS= 0.0	S-2	60/26	26" fine BRICK, slag, coal, ash, cinders, dry.	Ten (10) Feet 2" Schedule 40 PVC Riser (-)2-8' Filter Sand Pack 3-23' (20' thickness)
11-15	B400 (11.4') @ 1150 B400 (12.4') @ 1155			S-3	60/36	8" SLAG fall in and fine brick, dry. 18" SLAG fall in wet to saturated. 10" Dark brown to black fine to coarse SAND, some fine gravel, trace slag, saturated.	Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 8-23'
16-20			OS= 0.0 HS= 0.0	S-4	60/12	6" Grey silt, wet. 6" Fall in	

Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-400**
Monitor Well ID No.: **MW-400**
Sheet 2 of 2

Boring Location:	see pg 1	Project Number:	140143.0000.4903
Ground Elevation:	12.26'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11.5 feet below ground surface	Dated Drilled:	12/14/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS =	Drilling Company:	New England Geotech
Hammer: GH-60	Headspace PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pnuematic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
-3								-3
-2								-2
-1								-1
20								0
21			OS= 0.0	S-5	60/38	38" Gray SAND and SILT, some clay layers.		21
22			HS= 0.0			End of boring @ 23', MW installed @ 23'.		22
23								23
24								4
25								5
26								6
27								7
28								8
29								9
30								10
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

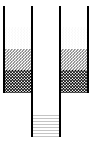
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



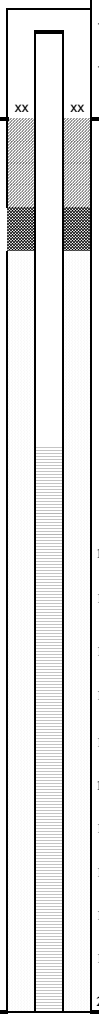
Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-401**
Monitor Well ID No.: **MW-401**
Sheet 1 of 2

Boring Location:	N: 15350313.21' E: 1108950.74'	Project Number:	140143.0000.4903
Ground Elevation:	13.44'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11.5 feet below ground surface	Dated Drilled:	12/14/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS =	Drilling Company:	New England Geotech
Hammer: GH-60	Headspace PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pnuematic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
0								0
1			OS= 0.1 HS= 0.0	S-1	60/40	6" Dark brown ORGANICS, topsoil, roots, grass and moss 8" Tan fine coarse SAND and fine GRAVEL, trace black silt. 28" Tan fine to medium SAND, dry.	Quikrete 0-2' (2' thickness) Bentonite -2.0.-3.0' (1' thickness)	1
5							Ten (10) Feet 2" Schedule 40 PVC Riser (-)2-8'	5
6			OS= 0.0 HS= 0.0	S-2	60/50	30" Tan fine to medium SAND 8" Gray fine SAND 12" Black COAL, slag, dry.	Filter Sand Pack 3-23' (20' thickness)	6
10								10
11	B400 (11.5') @ 1100 B400 (12.2') @ 1110		OS= 0.0 HS= 0.4	S-3	60/28	16" Black COAL and SLAG, last 4" moist to wet. 12" Tan to brown fine to coarse SAND, saturated. No free oil.	Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 7.6-22.6	11
15								15
16			OS= 0.0 HS= 0.0	S-4	60/34	30" gray fine to medium SAND, some silt, saturated. 4" Gray CLAY, saturated.		16
20								20

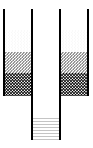


Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency		
0-4	Very Loose	0-2	Very Soft	Concrete
5-9	Loose	3-4	Soft	Silica Sand Pack
10-29	Med. Dense	5-8	M/Stiff	Native Fill
30-49	Dense	9-15	Stiff	Bentonite Seal
50+	Very Dense	16-30	Very Soft	Riser
		31+	Hard	Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-401**
Monitor Well ID No.: **MW-401**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	13.44'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11.5 feet below ground surface	Dated Drilled:	12/14/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS =	Drilling Company:	New England Geotech
Hammer: GH-60	Headspace PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
-3								-3
-2								-2
-1								-1
20								0
21			OS= 0.0 HS= 0.0	S-5	60/38	34" Gray fine to medium SAND, some silt, 4" gray clay, saturated.		21
22						End of boring @ 23', MW installed @ 23'.		22
23								23
24								4
25								5
26								6
27								7
28								8
29								9
30								10
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

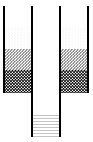
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



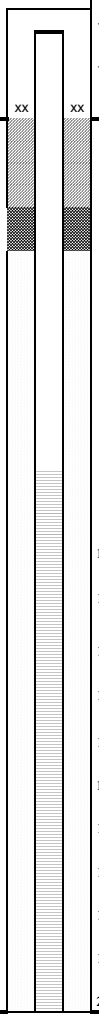
Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-402**
Monitor Well ID No.: **MW-402**
Sheet 1 of 2

Boring Location:	N: 15350228.45' E: 1108933.61'	Project Number:	140143.0000.4903
Ground Elevation:	14.62'	Project Manager:	Ryan Paquette
Depth to First Water:	Approximately 11.5 feet below ground surface	Dated Drilled:	12/14/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS =	Drilling Company:	New England Geotech
Hammer: GH-60	Headspace PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
0								0
1			OS= 0.0 HS= 0.0	S-1	60/44	6" Dark brown ORGANICS, top soil, roots, grass, moist. 18" Gray fine SAND, some silt, trace fine gravel, trace coal. 20" Tan fine to medium SAND.	Quikrete 0-2' (2' thickness) Bentonite -2.0.-3.0' (1' thickness)	1
5			OS= 0.0 HS= 0.0	S-2	60/54	40" Tan fine to medium SAND 14" Black COAL, SLAG and COAL DUST, dry.	Ten (10) Feet 2" Schedule 40 PVC Riser (-)2-8' Filter Sand Pack 3-23' (20' thickness)	5
10	B402 (11.6') @ 1010 B402 (12.2') @ 1015 B402 (12.8') @ 1020		OS= 0.2 HS= 20.1	S-3	60/44	10" Black COAL, SLAG and COAL DUST, dry. 14" Tan fine to coarse SAND, some fine gravel, moist. Bottom 4" mild odor, slight sheen. 20" Tan fine SAND, some silt,	Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 8-23'	10
15			OS= 0.0 HS= 0.0	S-4	60/8	8" Grey fine SAND and CLAY, some silt, wet.		15
20								20

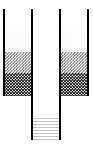


Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency		
0-4	Very Loose	0-2	Very Soft	Concrete
5-9	Loose	3-4	Soft	Silica Sand Pack
10-29	Med. Dense	5-8	M/Stiff	Native Fill
30-49	Dense	9-15	Stiff	Bentonite Seal
50+	Very Dense	16-30	Very Soft	Riser
		31+	Hard	Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-402**
Monitor Well ID No.: **MW-402**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	14.62'	Project Manager:	Ryan Paquette
Depth to First Water:	Approximately 11.5 feet below ground surface	Dated Drilled:	12/14/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS =	Drilling Company:	New England Geotech
Hammer: GH-60	Headspace PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
-3								-3
-2								-2
-1								-1
20								0
21								21
22								22
23			OS= 0.0 HS= 0.0	S-5	60/0	Boring end @ 20', MW installation @ 23'.		23
24								4
25								5
26								6
27								7
28								8
29								9
30								10
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

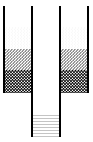
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



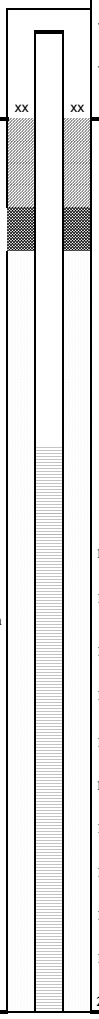
Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-403**
Monitor Well ID No.: **MW-403**
Sheet 1 of 2

Boring Location:	N: 15350183.12' E: 1108948.42'	Project Number:	140143.0000.4903
Ground Elevation:	13.11'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11.5 feet below ground surface	Dated Drilled:	12/14/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS =	Drilling Company:	New England Geotech
Hammer: GH-60	Headspace PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pnuematic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
0								0
1			OS= 0.0 HS= 0.0	S-1	60/60	Vacuum cleared to 5'. 18" Medium to dark brown fine to medium SAND, some silt, trace gravel, no odor, no staining. 42" Medium to light brown, medium to coarse SAND, trace silt, no odor, no staining.	Quikrete 0-2' (2' thickness) Bentonite -2.0.-3.0' (1' thickness)	1
5							Ten (10) Feet 2" Schedule 40 PVC Riser (-)2-8'	5
6			OS= 0.0 HS= 0.0	S-2	60/50	22" Tan fine to medium SAND 14" Black COAL dust, trace slag, trace brick. 8" Tan SILT and CLAY. 6" Tan fine to coarse SAND, moist.	Filter Sand Pack 3-23' (20' thickness)	6
10	B403 (10') @ 1305							10
11			OS= 0.0 HS= 0.0	S-3	60/36	30" Tan fine to coarse SAND, some gravel, saturated. 6" Black fine SAND and COAL DUST, no odor, no sheen.	Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 8-23'	11
12	B403 (12') @ 1310							12
15								15
16			OS= 0.0 HS= 0.0	S-4	60/24	24" Black SLAG, CINDERS, ASH and COAL, saturated.		16
20								20



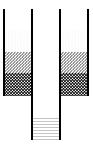
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-403**
Monitor Well ID No.: **MW-403**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	13.11'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11.5 feet below ground surface	Dated Drilled:	12/14/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS =	Drilling Company:	New England Geotech
Hammer: GH-60	Headspace PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
-3								-3
-2								-2
-1								-1
20								0
21			OS= 0.0 HS= 0.0	S-5	60/12	12" Black SLAG, CINDERS and COAL, saturated.		21
22								22
23								23
24								24
25								25
26			OS= 0.0 HS= 0.0	S-5	60/28	28" Black SLAG and FILL, saturated.		26
27						End of Boring @ 30', MW install @ 23'.		27
28								28
29								29
30								30
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

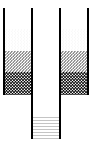
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



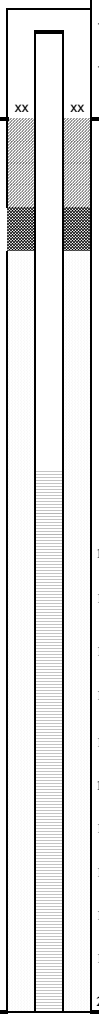
Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-404**
Monitor Well ID No.: **MW-404**
Sheet 1 of 2

Boring Location:	N: 15350179.6' E: 1108902.85'	Project Number:	140143.0000.4903
Ground Elevation:	13.06'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11.5 feet below ground surface	Dated Drilled:	12/14/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT & Truck Mounted CME 75
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS =	Drilling Company:	New England Geotech
Hammer: GH-60	Headspace PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
-3 to 0								-3 to 0
0 to 5			OS= 0.0 HS= 0.0	S-1	60/60	Vacuum truck removed 0-5' 24" Brown fine to coarse SAND, some gravel, trace silt, no odor, no staining. 12" Medium brown fine to medium SAND, trace silt, no odor, no staining. 24" Medium to light brown fine to meidum SAND, no odor, no staining.	Quikrete 0-2' (2' thickness) Bentonite -2.0.-3.0' (1' thickness)	0 to 5
5 to 10			OS= 0.0 HS= 0.0	S-2	60/46	6" Dark brown fine SAND, trace fine gravel. 20" Tan fine to medium SAND 20" Black COAL DUST (fine sand size).	Ten (10) Feet 4" Schedule 40 PVC Riser (-)2-5.4' Filter Sand Pack 3-23' (20' thickness)	5 to 10
10 to 15	B404 (11.4) @ 1350 B404 (12.0) @ 1400		OS= 1.0 HS= 12.3	S-3	60/36	6" Black COAL DUST 6" Black COAL, SLAG, ASH, CINDERS, moist oily sheen. 24" Black COAL, SLAG, ASH, CINDERS	Fifteen (15) Feet 4" Schedule 40 0.01 Slotted Screen 5.4-20.4'	10 to 15
15 to 20	B404 (16.7) @ 1410		OS= 0.2 HS= 1.3	S-4	60/26	16" COAL, SLAG, fill, saturated. 10" Brown fine to medium SAND, saturated.		15 to 20



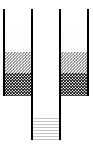
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-404**
Monitor Well ID No.: **MW-404**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	13.06'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11.5 feet below ground surface	Dated Drilled:	12/14/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS =	Drilling Company:	New England Geotech
Hammer: GH-60	Headspace PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
-3								-3
-2								-2
-1								-1
20								0
21			OS= 0.0	S-5	60/20	20" Brown to tan fine SAND, saturated.		21
22			HS= 0.0			End of Boring at 23', MW installed at 20.4'		22
23								23
24								4
25								5
26								6
27								7
28								8
29								9
30								10
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

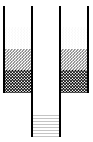
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-405**
Monitor Well ID No.: **MW-405**
Sheet 1 of 2

Boring Location:	N: 15350179.6' E: 1108839.99'	Project Number:	140143.0000.4903
Ground Elevation:	13.87'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11.5 feet below ground surface	Dated Drilled:	12/14/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS =	Drilling Company:	New England Geotech
Hammer: GH-60	Headspace PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
0								0
1			OS= 0.0 HS= 0.0	S-1	60/60	Vacuum truck removed 0-5'. 24" Dark brown medium to coarse SAND, trace gravel, no odor, no staining. 36" Black fine to medium SAND, some silt, no odor, no staining.	Quikrete 0-2' (2' thickness) Bentonite -2.0.-3.0' (1' thickness)	1
5			OS= 0.0 HS= 0.0	S-2	60/34	34" SLAG, COAL DUST, COAL, trace bricks, trace fine sand, moist near 10'.	Ten (10) Feet 2" Schedule 40 PVC Riser (-)2-8' Filter Sand Pack 3-23' (20' thickness)	5
10	B405 (11.5) @ 1440 B405(12.5) @ 1450		OS= 0.1 HS= 0.0	S-3	60/38	16" SLAG, SANDY COAL DUST, COAL, trace bricks. 22" Tan fine to medium SAND, saturated, no oil observed.	Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 6.5 - 21.5	10
15			OS= 0.0 HS= 0.0	S-4	60/34	34" Tan fine to medium SAND, saturated.		15
20								20

Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-405**
Monitor Well ID No.: **MW-405**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	13.87'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11.5 feet below ground surface	Dated Drilled:	12/14/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS =	Drilling Company:	New England Geotech
Hammer: GH-60	Headspace PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
-3								-3
-2								-2
-1								-1
20								0
21						End of Boring @ 20', MW-405 installed at 21.5'.		21
22								22
23								3
24								4
25								5
26								6
27								7
28								8
29								9
30								10
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

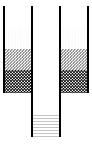
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



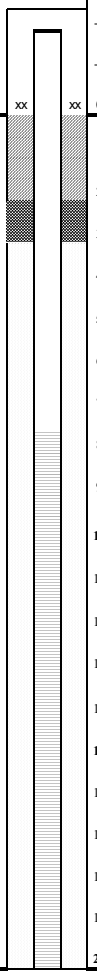
Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-406**
Monitor Well ID No.: **MW-406**
Sheet 1 of 2

Boring Location:	N: 15350227.18' E: 1108790.51'	Project Number:	140143.0000.4903
Ground Elevation:	13.34'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11 feet below ground surface	Dated Drilled:	12/14/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pnuematic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
0								0
1			OS= 0.0 HS= 0.0	S-1	60/60	Vacuum truck removed 0-5'. 12" Dark brown to black, fine to medium SAND, little silt, trace gravel, no odor, no staining. 12" CONCRETE 24" Medium to coarse SAND and GRAVEL, SLAG, some brick, no odor, no staining. 12" Fine to coarse SAND and SILT, some gravel, no odor, no staining.	Quikrete 0-2' (2' thickness) Bentonite -2.0.-3.0' (1' thickness) Ten (10) Feet 2" Schedule 40 PVC Riser (-)2-8' Filter Sand Pack 3-23' (20' thickness) Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 8-23'	5
10			OS= 0.0 HS= 0.1	S-2	60/28	28" Black COAL DUST, SLAG, traces ash and cinder.		10
15	B406 (11.8) EPH B406 (12.5) EPH + VPH		OS= 1.2 HS= 34.1 @ 11.5' OS= 40.0 HS= 155 @ 14.5'	S-3	60/40	10" Black COAL SLAG, oil saturated at 11.5 30" Fine to medium SAND with gray trace of silt/sand, saturated with oil globules.		15
20			OS= 14.3 HS= 88.7 @ 17.5'	S-4	60/30	30" Tan fine to medium SAND, oil stained, odorous, saturated.		20



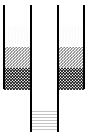
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-406**
Monitor Well ID No.: **MW-406**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	13.34'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11 feet below ground surface	Dated Drilled:	12/14/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
-3								-3
-2								-2
-1								-1
20								0
21	B406 (21) - EPH		OS= 10.6 HS= 40.6 @ 21'	S-5	60/28	28" Tan fine to medium SAND, oil stained, saturated, odors.		21
22						End of Boring at 23', MW install at 23'.		22
23								23
24								4
25								5
26								6
27								7
28								8
29								9
30								10
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

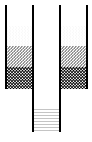
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-407**
Monitor Well ID No.: **MW-407**
Sheet 1 of 2

Boring Location:	N: 15350258.53' E: 1108742.7'	Project Number:	140143.0000.4903
Ground Elevation:	13.18'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11 feet below ground surface	Dated Drilled:	12/15/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample
0						
1			OS= 0.0 HS= 0.0	S-1	60/60	Vacuum truck removed 0-5'. 24" Dark to medium brown, medium to coarse SAND, some gravel, no odor, no staining. 24" Dark brown to black fine to coarse SAND, some gravel, little silt, no odor, no staining. 12" Black fine to coarse SAND, little silt, no odor, no staining.
6			OS= 0.0 HS= 0.0	S-2	60/38	8" Brown to orange SLUFF, trace bricks. 6" Tan SILT, some fine sand, trace clay. 24" Tan fine to coarse SAND, trace fine gravel, moist @ bottom.
11	B407 (11.8) @ 1440 - EPH		OS= 1.4 HS= 30.6	S-3	60/40	10" Tan fine to medium SAND, trace fine gravel, moist @ bottom. 20" Black fine to medium SAND, odorous, oil stained.
12	B407 (12.8) @ 1450 - EPH		OS= 0.6 HS= 14.5			10" Grey fine to medium SAND, saturated.
16				S-4	60/38	16" Tan to grey fine to medium SAND, mild odor. 22" Tan fine to coarse SAND, saturated.
17	B407 (17.5) @ 1500 - EPH		OS= 0.0 HS= 4.8			

Well Construction (Stick-Up)

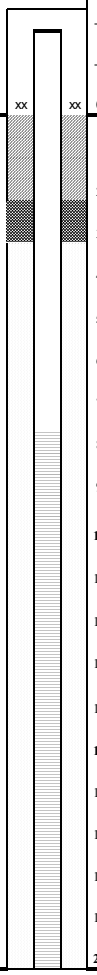
Quikrete 0-2' (2' thickness)

Bentonite -2.0.-3.0' (1' thickness)

Ten (10) Feet 2" Schedule 40 PVC Riser (-)2-8'

Filter Sand Pack 3-23' (20' thickness)

Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 8-23'



Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-407**
Monitor Well ID No.: **MW-407**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	13.18'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11 feet below ground surface	Dated Drilled:	12/15/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
-3								-3
-2								-2
-1								-1
20								0
21						End of Boring @ 20', MW-407 to 23'.		21
22								22
23								23
24								4
25								5
26								6
27								7
28								8
29								9
30								10
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

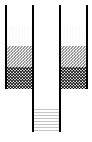
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-408**
Monitor Well ID No.: **MW-408**
Sheet 1 of 2

Boring Location:	N: 15350297.77' E: 1108760.42'	Project Number:	140143.0000.4903
Ground Elevation:	13.04'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11 feet below ground surface	Dated Drilled:	12/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pnuematic		TRC Representative:	J. Stapleton

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample
0						
1-5			OS= 0.0 HS= 0.1 @ 5'	S-1	60/38	7" Dark Brown fine to coarse SAND with some silt and trace gravel 3" Wood 28" Dry FILL. Cinders, ash and fine to medium sand, klinkers.
6-10			OS= 0.0 HS= 0.1 @ 10'	S-2	60/34	14" Dry FILL. Cinders, ash and fine to medium sand, klinkers. 20 " FILL with crushed brick and cinders, klinkers.
11-15	B408 (11') @ 0850 - EPH B408 (15') @ 0855 - EPH		OS= 0.0 HS= 0.0	S-3	60/51	10" Red, moist FILL with klinkers and cinders 8" Black, FILL with cinders, ash and klinkers. 33" Olive green/brown, fine to medium SAND with some silt and coarse sand, trace subangular fine gravel,
16-20			OS= 0.0 HS= 0.0	S-4	60/20	20" Olive green/brown, fine to medium SAND with some silt and coarse sand, trace subangular fine gravel,

Well Construction (Stick-Up)

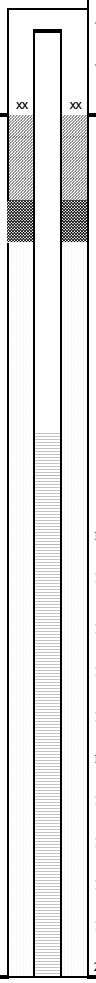
Quikrete 0-2'
(2' thickness)

Bentonite -2.0.-3.0'
(1' thickness)

Ten (10) Feet
2" Schedule 40
PVC Riser
(-)2-8'

Filter Sand Pack
3-23'
(20' thickness)

Fifteen (15) Feet
2" Schedule 40
0.01 Slotted Screen
8-23'



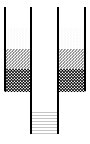
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-408**
Monitor Well ID No.: **MW-408**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	13.04'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11 feet below ground surface	Dated Drilled:	12/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS =	Drilling Company:	New England Geotech
Hammer: GH-60	Headspace PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	J. Stapleton

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
-3								-3
-2								-2
-1								-1
20								0
21						End of Boring @ 20', MW-408 installed at 23'		21
22								22
23								23
24								4
25								5
26								6
27								7
28								8
29								9
30								10
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

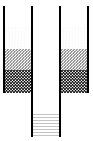
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-409**
Monitor Well ID No.: **MW-409**
Sheet 1 of 1

Boring Location:	N: 15350350.26' E: 1108779.22'	Project Number:	140143.0000.4903
Ground Elevation:	12.84'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 10 feet below ground surface	Dated Drilled:	12/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	J. Stapleton

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
0								0
1			OS= 0.0 HS= 0.0 @ 5'	S-1	54/33	6" SAND and SILT mix, moist, dark brown and black with some angular gravel. 27" Black, dry, FILL with cinders, ash, klinkers and crushed brick.	Quikrete 0-2' (2' thickness) Bentonite -2.0.-3.0' (1' thickness) Ten (10) Feet 2" Schedule 40 PVC Riser (-)2-8'	1
6	B409 (10') @ 1515 - EPH		OS= 0.0 HS= 0.0 @ 10'	S-2	60/41	10" Dry, FILL, ash and cinders. 8" Crushed brick. 23" Cinders, ash and powdered coal.	Filter Sand Pack 3-23' (20' thickness) Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 8-23'	6
11	B409 (11.5') @ 1520 - EPH		OS= 0.0 HS= 0.0 @ 15'	S-3	60/50	15" Black, wet, FILL, cinders, ash and crushed brick. 22" Fine SAND with silt, little clay, medium to coarse sand and fine gravel, bottom 2" crushed shale or coal fragment. 13" Brown, fine to medium SAND with some silt and sand, wet.		11
16			OS= 0.0 HS= 0.0 @ 20'	S-4	60/30	30" Oliver green/brown, fine to medium SAND with some silt and sand, trace subangular small gravel.		16
20								20

Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-409**
Monitor Well ID No.: **MW-409**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	12.84'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 10 feet below ground surface	Dated Drilled:	12/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS =	Drilling Company:	New England Geotech
Hammer: GH-60	Headspace PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	J. Stapleton

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
-3								-3
-2								-2
-1								-1
20								0
21						End of boring @ 20', MW-409 installed at 23'.		21
22								22
23								23
24								4
25								5
26								6
27								7
28								8
29								9
30								10
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

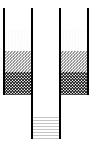
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

TRC		**Project:** 6 Bridge Street, Weymouth, MA	Boring ID No.: **B-410** Monitor Well ID No.: **MW-410** Sheet 1 of 2
Boring Location:	N: 15350382.09' E: 1108844.98'	Project Number:	140143.0000.4903
Ground Elevation:	12.45'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11 feet below ground surface	Dated Drilled:	12/12/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pnuematic		TRC Representative:	J. Stapleton

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0								-3 to 0
1			OS= 0.0 HS= 0.0 @ 5'	S-1	54/33	6" Removed by shovel, not in core. 7" Moist, black, fine SAND with some silt. 26" Dark brown and black FILL with ash, cinders, and klinkers. Klinkers increase with depth. Some powdered coal at 6" to 10".	Quikrete 0-2' (2' thickness) Bentonite -2.0.-3.0' (1' thickness) Ten (10) Feet 2" Schedule 40 PVC Riser (-)2-8' Filter Sand Pack 3-23' (20' thickness) Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 8-23'	1
6			OS= 0.0 HS= 0.0 @ 10'	S-2	60/29	29" Dry, moist FILL (crushed brick, ash, and cinders).		6
11	B410 (11') @ 1430 - EPH B410 (12.5') @ 1435 - EPH B410 (14') @ 1440 - EPH		OS= 0.0 HS= 0.0 @ 15'	S-3	60/33	16" Moist, brick laden FILL with cinders, ash, and klinkers. 17" Wet, black FILL (cinders, ash, klinkers) with sheen. Heavy oil between 12"-30" of recovery.		11
16			OS= 0.0 HS= 0.0 @ 20'	S-4	60/29	29" Wet, olive green (darker on top and lighter on bottom), fine to coarse SAND, little silt and clay, trace small gravel.		16
20								20

Proportions Used
- 0-10% Trace
- 10-20% Little
- 20-35% Some
- 35-50% And

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

- Concrete
- Silica Sand Pack
- Native Fill
- Bentonite Seal
- Riser
- Screen

Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **MW-410**
Monitor Well ID No.: **MW-410**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	12.45'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11 feet below ground surface	Dated Drilled:	12/12/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	J. Stapleton

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
21			OS= 0.0 HS= 0.0 @ 25'	S-5	60/37	37" Wet brown to dark brown fine to coarse SAND with some silt and little clay. Trace gravel at top. Lighter color with depth. End of boring @ 25', MW installed @ 23'.		21
##								22
23								23
24								4
25								5
26								6
27								7
28								8
29								9
30								10
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

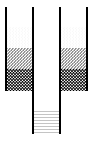
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



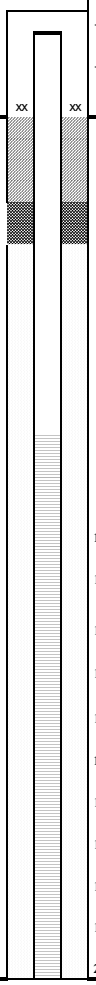
Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-411**
Monitor Well ID No.: **MW-411**
Sheet 1 of 2

Boring Location:	N: 15350378.39' E: 1108877.08'	Project Number:	140143.0000.4903
Ground Elevation:	12.53'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 9.5 feet below ground surface	Dated Drilled:	12/12/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes: Offset 15' north from original boring because of access road**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	J. Stapleton

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)
0							
1-5			OS= 0.0 HS= 0.0 @ 5'	S-1	54/36	6" Removed by shovel, not in core. 6" Moist dark brown/black fine to medium SAND with silt. Little coarse sand and small gravel. 30" FILL (cinders, ash, klinkers, and brick). Increased brick towards bottom.	Quikrete 0-2' (2' thickness) Bentonite -2.0.-3.0' (1' thickness)
6-10			OS= 0.0 HS= 0.0 @ 10'	S-2	60/31	25" red FILL (cinders, ash, klinkers, and brick). 6" Black moist to wet FILL (cinders, ash, klinkers, and brick).	Ten (10) Feet 2" Schedule 40 PVC Riser (-)2-8' Filter Sand Pack 3-23' (20' thickness)
11-15	B411(11.5') @ 1325 - EPH B411(14') @1340 - EPH		OS= 0.0 HS= 14.1 @ 13'	S-3	60/47	13" Wet FILL (brown to red crushed brick with ash). 34" Wet, black FILL (ash, cinders and klinkers) with sheen. Bottom 4" viscous oil.	Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 8-23'
16-20	B411(16') @ 1335 - EPH		OS= 0.0 HS= 0.0 @ 16'	S-4	60/39	10" Wet FILL (ash, cinders, and klinkers) with sheen. 29" Wet, olive green, fine SAND with some silt, increasing silt with depth.	



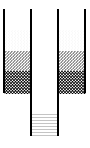
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

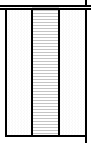


Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-411**
Monitor Well ID No.: **MW-411**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	12.53'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 9.5 feet below ground surface	Dated Drilled:	12/12/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes: Offset 15' north from original boring because of access road**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	J. Stapleton

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
21–25			OS= 0.0 HS= 0.0 @ 21'	S-5	60/34	34" Wet, olive green, medium to coarse SAND with some silt and fine sand. Trace small grey gravel. End of boring @ 25', MW installed @ 23'.		21–5
26–30								6–10
31–35								11–15
36–40								16–20

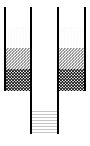
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-412**
Monitor Well ID No.: **MW-412**
Sheet 1 of 2

Boring Location:	N: 15350334.78' E: 1108837.28'	Project Number:	140143.0000.4903
Ground Elevation:	13.61'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11 feet below ground surface	Dated Drilled:	12/12/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes: MW-412 completed 12/20/16**	Drill Rig and Model Number:	7822 DT & Truck Mounted CME 75
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	J. Stapleton

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
0								0
1			OS= 0.0 HS= 0.0 @ 5'	S-1	54/27	6" Removed by shovel, not in core. 14" Black, moist, fine SAND and SILT, trace subangular gravel and clay. 6" Moist, light brown fine SAND with some fine to medium sand and silt, little small gravel. 7" Dry, brown fine to medium SAND with some silt and fine sand.	Quikrete 0-2' (2' thickness) Bentonite -2.0.-3.0' (1' thickness)	1
6			OS= 0.0 HS= 0.0 @ 10'	S-2	60/26	26" Dry FILL (crushed brick, cinders, ash, shattered rock).	Ten (10) Feet 4" Schedule 40 PVC Riser (-)2-8.5' Filter Sand Pack 25-Mar (20' thickness)	6
11	B412(11.5') @ 1135 - EPH B412(13') @ 1145 - EPH		OS= 0.0 HS= 0.0 @ 15'	S-3	60/36	11" dry FILL (crushed brick, ash, cinders). 25" wet FILL(cinders, klinkers, ash). Light brown crushed firebrick at 26" to 28" Oily from 16" to 36".	Fifteen (15) Feet 4" Schedule 40 0.01 Slotted Screen 8-23'	11
16	B412(19') @ 155 - EPH		OS= 0.0 HS= 0.0 @ 16'	S-4	60/24	18" Wet FILL (cinders, ash, klinkers) some fine to coarse sand. Oily from 0" to 15". 6" Wet, olive grey fine SAND with silt.		16
20								20

Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-412**
Monitor Well ID No.: **MW-412**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	13.61'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11 feet below ground surface	Dated Drilled:	12/12/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes: MW-412 completed 12/20/16**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	J. Stapleton

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
21			OS= 0.0 HS= 0.0 @ 25'	S-5	60/28	8" Wet light brown/ olive green fine to medium SAND with some silt.		21
22						8" Black, wet FILL (cinders, ash, trace klinkers).		22
23						8" Moist, olive green SILT with some clay, moderate to highly plastic.		23
24						4" Wet, brown, medium to coarse SAND with little fine sand, silt and clay.		4
25						End of Boring @ 25', MW installed @ 23'.		5
26								6
27								7
28								8
29								9
30								10
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

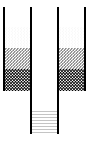
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-413**
Monitor Well ID No.: **MW-413**
Sheet 1 of 2

Boring Location:	N: 15350315.56' E: 1108835.03'	Project Number:	140143.0000.4903
Ground Elevation:	13.74'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11 feet below ground surface	Dated Drilled:	12/12/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT & Truck Mounted CME 75
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	J. Stapleton

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)
0							
1-5			OS= 0.0 HS= 0.0 @ 5'	S-1	54/53	18" Dark black SILT with some fine sand. 35" Dry light brown, medium to coarse SAND with silt and little gravel.	Quikrete 0-2' (2' thickness) Bentonite -2.0.-3.0' (1' thickness) Ten (10) Feet 4" Schedule 40 PVC Riser (-)2-8.3'
6-10			OS= 0.0 HS= 0.0 @ 10'	S-2	60/48	22" Light brown medium to coarse SAND with silt and little gravel. 14" Dark black FILL (ash and cinders).	Filter Sand Pack 3-25' (20' thickness)
11-15	B413(11') @ 1015 - EPH B413(14') @ 1025 - EPH		OS= 9.0 HS= 18.0 @ 13'	S-3	60/31	5" Fine to medium moist light brown SAND with some cinders. 26" Wet FILL with some cinders. Oil saturation at 13" to 31". Klinkers at bottom.	Fifteen (15) Feet 4" Schedule 40 0.01 Slotted Screen 8-23'
16-20			OS= 5.0 HS= 25.0 @ 16'	S-4	60/19	19" Wet, black FILL (cinders, ash) saturated with oil. Gravel size klinkers at bottom.	

Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-413**
Monitor Well ID No.: **MW-413**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	13.74'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11 feet below ground surface	Dated Drilled:	12/12/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS =	Drilling Company:	New England Geotech
Hammer: GH-60	Headspace PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	J. Stapleton

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
21			OS= 0.0			9" Wet dark grey/ green fine SAND with silt.		21
22						12" Wet black FILL (cinders, ash, small klinkers).		22
23	B413(23') @ 1040 - EPH		HS= 0.0	S-5	60/29	8" Wet SILT with some clay, trace sand. Moderately plastic.		23
24								4
25						End of boring @ 25', MW installed @ 23.3'.		5
26								6
27								7
28								8
29								9
30								10
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

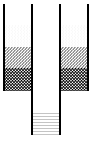
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-414**
Monitor Well ID No.: **MW-414**
Sheet 1 of 2

Boring Location:	N: 15350245.69' E: 1108811.06'	Project Number:	140143.0000.4903
Ground Elevation:	14.18'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 10 feet below ground surface	Dated Drilled:	12/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes: well completed on 12/20/16**	Drill Rig and Model Number:	7822 DT & Truck Mounted CME 75
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	J. Stapleton

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
0								0
1			OS= 0.0 HS= 0.0	S-1	60/48	8" Dark brown fine SAND with some silt, moist. 24" Dark brown fine SAND with some silt, little angular gravel, moist to dry. 16" Black FILL with cinders, ash, fire brick, dry.	Quikrete 0-2' (2' thickness) Bentonite -2.0.-3.0' (1' thickness)	1
5			OS= 0.0 HS= 1.8 @ 10'	S-2	60/31	31" Black FILL with klinkers, cinders, ash and fire brick, dry.	Ten (10) Feet 4" Schedule 40 PVC Riser (-)2-8' Filter Sand Pack 3-23' (20' thickness)	5
10	B414 (11') @ 1120 - EPH		OS= 0.5 @ 11'	S-3	60/39	17" Black FILL, cinders and klinkers, moist to wet. 22" Black fine to medium SAND with some silt, wet, oily.	Fifteen (15) Feet 4" Schedule 40 0.01 Slotted Screen 8-23'	10
14	B414 (14') @ 1128 - EPH		OS= 1.1 HS= 55 @ 14'					14
15	B414 (15.5) @ 1125 - EPH		OS= 0.0 HS= 15 @ 16'	S-4	60/29	29" Olive green to brown fine to coarse SAND with some silt and little fine gravel, wet.		15
20								20

Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-414**
Monitor Well ID No.: **MW-414**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	14.18'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 10 feet below ground surface	Dated Drilled:	12/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes: well completed on 12/20/16**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	J. Stapleton

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3								-3
-2								-2
-1								-1
20								0
21						End of Boring @ 20', MW-414 to 23'.		21
22								22
23								23
24								4
25								5
26								6
27								7
28								8
29								9
30								10
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

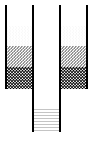
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

TRC		**Project:** 6 Bridge Street, Weymouth, MA	Boring ID No.: **B-415** Monitor Well ID No.: **MW-415** Sheet 1 of 2
Boring Location:	N: 15350228.72' E: 1108892.28'	Project Number:	140143.0000.4903
Ground Elevation:	14.43'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11.5 feet below ground surface	Dated Drilled:	12/14/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Stick-Up)	Depth (feet)
0								0
1			OS= 0.0 HS= 0.0	S-1	60/38	6" ORGANICS, top soil, roots and grass, moist. 16" Brown to white fine to coase SAND, some fine gravel, some concrete. 16" Tan fine to medium SAND.	Quikrete 0-2' (2' thickness) Bentonite -2.0.-3.0' (1' thickness)	1
5							Ten (10) Feet 2" Schedule 40 PVC Riser (-)2-8'	5
6			OS= 0.0 HS= 0.2	S-2	60/50	36" Tan fine to medium SAND. 14" Black COAL SLAG, some ash, some coal dust, dry.	Filter Sand Pack 3-23' (20' thickness)	6
10								10
11	B415 (11.8') @ 0835 - EPH		OS= 0.2 HS= 0.8	S-3	60/28	16" Black COAL SLAG, some ash, some coal dust, dry. 4" Black SLAG and ASH, fall in, moist. 8" Black FILL and FREE OIL, saturated.	Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 8-23'	11
12	B415 (12.2') @ 0840 - EPH							12
13	B415 (13.4') @ 0845 - EPH Duplicate B451 (13.4) - EPH		OS= 1.1 HS= 30.6					13
15								15
16			OS= 1.1 HS= 5.3	S-4	60/30	30" FILL, slag and ash, oily to 16', water saturated.		16
20								20

Proportions Used
- 0-10% Trace
- 10-20% Little
- 20-35% Some
- 35-50% And

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-415**
Monitor Well ID No.: **MW-415**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	14.43'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11.5 feet below ground surface	Dated Drilled:	12/14/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3								-3
-2								-2
-1								-1
20								0
21			.			20" SLAG and FILL, water saturated.		21
22						8" Gray fine SAND, some silt.		22
23			OS= 0.2 HS= 1.1	S-5	60/28	End of boring @ 23', MW Installed @ 23'.		23
24								4
25								5
26								6
27								7
28								8
29								9
30								10
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

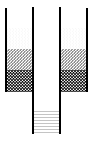
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

Project: 6 Bridge Street, Weymouth, MA

Boring ID No.: **B-416**
Monitor Well ID No.: **MW-416**
Sheet 1 of 2

Boring Location:	N: 15350142.8' E: 1108844.24'	Project Number:	140143.0000.4903
Ground Elevation:	13.34'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11 feet below ground surface	Dated Drilled:	12/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	J. Stapleton

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0							xx xx	-3 to 0
0 to 6			OS= 0.0 HS= 0.0	S-1	60/60	Vacuum truck removed 0-6'. 24" Dark brown to black medium to fine SAND, little coarse sand, trace gravel, no odor, no staining. 24" Dark brown to black medium to fine SAND, some coarse sand, no odor, no staining. 12" Black fine to coarse SAND, trace gravel, no odor, no staining.	Quikrete 0-2' (2' thickness) Bentonite -2.0.-3.0' (1' thickness) Ten (10) Feet 2" Schedule 40 PVC Riser 0-10'	0 to 6
6 to 10			OS= 0.0 HS= 0.0 @ 10'	S-2	48/26	6" FILL with cinders and ash, dry. 20" Fine to medium SAND with some silt and coarse sand, silt decreased with depth, dry.	Filter Sand Pack 3-25' (22' thickness)	6 to 10
10 to 15	B416 (11') @ 1405 - EPH B416 (15') @ 1400 - EPH		OS= 0.0 HS= 0.0 @ 11'	S-3	60/50	12" FILL with cinders and klinkers, moist. 38" Brown fine to coarse SAND with silt, wet.	Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 8-23'	10 to 15
15 to 20			OS= 1.1 HS= 5.3	S-4	60/39	39" Brown fine to coarse SAND with some silt, little fine gravel. Iron staining from 18"-22" of recovery, wet. End of Boring @ 20', MW-414 to 23'.		15 to 20

Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-416**
Monitor Well ID No.: **MW-416**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	13.34'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11 feet below ground surface	Dated Drilled:	12/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	J. Stapleton

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3								-3
-2								-2
-1								-1
20								0
21			.			End of Boring @ 20', MW-416 to 23'.		21
22								22
23								23
24								4
25								5
26								6
27								7
28								8
29								9
30								10
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

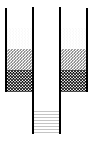
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



Boring & Well Construction Log

TRC		**Project:** 6 Bridge Street, Weymouth, MA	Boring ID No.: **B-417** Monitor Well ID No.: **MW-417** Sheet 1 of 2
Boring Location:	N: 15350181.59' E: 1108754.52'	Project Number:	140143.0000.4903
Ground Elevation:	13.27'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11 feet below ground surface	Dated Drilled:	12/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3 to 0							xx xx	-3 to 0
1 to 6			OS= 0.0 HS= 0.0	S-1	60/60	Vacuum truck removed 0-6'. 24" Dark brown to black medium to fine SAND, little coarse sand, some gravel, no odor, no staining. 24" Dark brown to black medium to fine SAND, some coarse sand, no odor, no staining. 12" Black fine to coarse SAND, trace gravel, no odor, no staining.	Quikrete 0-2' (2' thickness) Bentonite -2.0.-3.0' (1' thickness) Ten (10) Feet 2" Schedule 40 PVC Riser 0-10'	1 to 6
7 to 10			OS= 0.0 HS= 0.0 @ 10'	S-2	48/37	5" Black CLAY with fine sand, ash and cinders 32" Fine to medium SAND with some silt and coarse sand, trace shattered cobble, dry. Decreasing silt with depth.	Filter Sand Pack 3-25' (22' thickness)	7 to 10
11 to 15	B417 (11') @ 1254 - EPH B417 (15') @ 1256 - EPH		OS= 0.0 HS= 0.0 @ 15'	S-3	60/50	7" Fine to medium SAND with some silt and coarse sand, trace shattered cobble, dry. 7" Black FILL with cinders and ash, some fine sand, moist to wet. 36" Fine to coarse SAND with some silt, wet.	Fifteen (15) Feet 2" Schedule 40 0.01 Slotted Screen 8-23'	11 to 15
16 to 20			OS= 0.0 HS= 0.0	S-4	60/31	31" Brown medium to coarse SAND with some fine sand and silt, trace angular gravel, wet. End of Boring @ 20', MW-417 to 23'.		16 to 20

Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

Boring & Well Construction Log

Project: 6 Bridge Street
Weymouth, MA

Boring ID No.: **B-417**
Monitor Well ID No.: **MW-417**
Sheet 2 of 2

Boring Location:	see pg. 1	Project Number:	140143.0000.4903
Ground Elevation:	13.27'	Project Manager:	Rick Paquette
Depth to First Water:	Approximately 11 feet below ground surface	Dated Drilled:	12/13/2016
Depth to Static Water:		Drill Type:	Direct Push - Geoprobe
Stabilization Time:		Sampling Method:	Continuous
Sampler Description	**Notes:**	Drill Rig and Model Number:	7822 DT
Type: 5 foot Macrocore	OS = open liner reading at corresponding depth of Headspace. HS = Headspace	Drilling Company:	New England Geotech
Hammer: GH-60	PID reading with a MiniRAE 2000 (10.6 eV Lamp and RF = 1.0),	Driller's Name:	Hayes Rebijas
Fall: 60 inch pneumatic		TRC Representative:	C. Foster

Depth (feet)	Sample I.D.	Blow Counts	PID HS (ppm/v)	Split Spoon	Pen/Rec (In.)	Description of Sample	Well Construction (Flush Mount)	Depth (feet)
-3								-3
-2								-2
-1								-1
20								0
21			.			End of Boring @ 20', MW-417 to 23'.		21
22								22
23								23
24								4
25								5
26								6
27								7
28								8
29								9
30								10
31								11
32								12
33								13
34								14
35								15
36								16
37								17
38								18
39								19
40								20

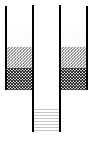
Proportions Used
0-10% Trace
10-20% Little
20-35% Some
35-50% And

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Spectra Energy
Weymouth Compressor Station
Weymouth, Massachusetts

EXPLORATION NO.: B-105
SHEET: 4 of 4
PROJECT NO: 09.0025891.00
REVIEWED BY: A. Blaisdell

Logged By: N. Williams
Drilling Co.: New England Boring
Foreman: G. Twombly, Jr.

Type of Rig: ATV Mounted
Rig Model: Mobile B-53
Drilling Method: Drive & Wash

Boring Location (N,E): 15350331, 1108815
Ground Surface Elev. (ft.): 13.0
Final Boring Depth (ft.): 107.6
Date Start - Finish: 3/29/2016 - 4/15/2016

H. Datum: NAD 83
V. Datum: NAVD 88

Hammer Type: Safety Hammer
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 5.5/5" & 4.5/4"

Sampler Type: SS
Sampler O.D. (in.): 2
Sampler Length (in.): 24
Rock Core Size: None

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (in)	Sample Rec. (in)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
			91.0			31 30	55	wet. (SM)					
												SILT AND SAND	
											94		-81.0
95		S-20	94.0-96.0	24	4	16 19 24 21	43	S-20: Dense, gray, fine to coarse SAND and Gravel, little Silt, wet. (SM)					
100		S-21	99.0-101.0	24	8	21 23 26 37	49	S-21: Dense, gray, fine to coarse SAND and Gravel, trace Silt, wet. (SP)				SAND AND GRAVEL	
105		S-22	104.0-106.0	24	6	11 19 27 19	46	S-22: Dense, gray, fine to coarse SAND and Gravel, trace Silt, wet. (SP)					
		S-23	107.0-107.6	7	5	52 100/1"	R	S-23: Very dense, gray, fine to coarse SAND and Gravel, trace Silt, wet. (SP)	6		107.6		-94.6
110								End of exploration at 107.6 feet.					
115													
120													

REMARKS

6 - Upon completion of drilling, borehole was backfilled with cuttings. Casing was removed as/after cuttings were placed.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: B-105

GZA TEMPLATE TEST BORING: 6/6/2016; 9:23:51 AM

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Spectra Energy
Weymouth Compressor Station
Weymouth, Massachusetts

EXPLORATION NO.: B-105
SHEET: 3 of 4
PROJECT NO: 09.0025891.00
REVIEWED BY: A. Blaisdell

Logged By: N. Williams
Drilling Co.: New England Boring
Foreman: G. Twombly, Jr.

Type of Rig: ATV Mounted
Rig Model: Mobile B-53
Drilling Method: Drive & Wash

Boring Location (N,E): 15350331, 1108815
Ground Surface Elev. (ft.): 13.0
Final Boring Depth (ft.): 107.6
Date Start - Finish: 3/29/2016 - 4/15/2016

H. Datum: NAD 83
V. Datum: NAVD 88

Hammer Type: Safety Hammer
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 5.5/5" & 4.5/4"

Sampler Type: SS
Sampler O.D. (in.): 2
Sampler Length (in.): 24
Rock Core Size: None

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
			61.0			10 10	21						
65		S-14	64.0-66.0	24	16	6 13 9 8	22	S-14: Medium dense, gray, SILT and fine Sand, wet. (ML)					
70		S-15	69.0-71.0	24	18	4 7 20 22	27	S-15: Medium dense, gray, SILT and fine Sand, wet. (ML)					
75		S-16	74.0-76.0	24	18	3 13 30 28	43	S-16: Dense, gray, SILT & CLAY, little fine Sand, wet. (ML)				SILT AND SAND	
80		S-17	79.0-81.0	24	16	23 20 24 9	44	S-17: Dense, gray, SILT and fine Sand, wet. (ML)					
85		S-18	84.0-86.0	24	12	23 28 21 22	49	S-18: Dense, gray, SILT and fine Sand, wet. (ML)					
90		S-19	89.0-	24	18	28 24		S-19: Very dense, gray, fine to medium SAND, little Silt,					

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: B-105

GZA TEMPLATE TEST BORING; 6/6/2016; 9:23:51 AM

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Spectra Energy
Weymouth Compressor Station
Weymouth, Massachusetts

EXPLORATION NO.: B-105
SHEET: 2 of 4
PROJECT NO: 09.0025891.00
REVIEWED BY: A. Blaisdell

Logged By: N. Williams
Drilling Co.: New England Boring
Foreman: G. Twombly, Jr.

Type of Rig: ATV Mounted
Rig Model: Mobile B-53
Drilling Method: Drive & Wash

Boring Location (N,E): 15350331, 1108815
Ground Surface Elev. (ft.): 13.0
Final Boring Depth (ft.): 107.6
Date Start - Finish: 3/29/2016 - 4/15/2016

H. Datum: NAD 83
V. Datum: NAVD 88

Hammer Type: Safety Hammer
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 5.5/5" & 4.5/4"

Sampler Type: SS
Sampler O.D. (in.): 2
Sampler Length (in.): 24
Rock Core Size: None

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (in)	Sample Rec. (in)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
			31.0			11 7	23	wet. (CL)					
35		S-8	34.0-36.0	24	0	10 8 10 10	18	S-8: No recovery.					
40		S-9	39.0-41.0	24	24	4 4 5 12	9	S-9: Stiff, gray, CLAY & SILT, trace fine Sand, wet. (CL)					
45		S-10	44.0-46.0	24	24	4 5 5 3	10	S-10: Stiff, gray, CLAY & SILT, trace fine Sand, wet. (CL) PPv=0.25tsf, PPn=0.25tsf, PPr=0tsf	5			CLAY/SILT	
50		S-11	49.0-51.0	24	24	3 3 5 4	8	S-11: Medium stiff, gray, CLAY & SILT, trace fine Sand, wet. (CL) PPv=0.9tsf, PPn=0.8tsf, PPr=0.25tsf					
55		S-12	54.0-56.0	24	24	4 2 5 4	7	S-12: Medium stiff, gray, CLAY & SILT, trace fine Sand, wet. (CL) PPv=0.75tsf, PPn=1.0tsf, PPr=0.25tsf					
60		S-13	59.0-	24	12	9 11		S-13: Medium dense, gray, SILT and fine Sand, wet. (ML)			59	SILT AND SAND	-46.0

REMARKS

5 - Pocket penetrometer used on cohesive samples collected. PPv= vertical plane, PPh=horizontal plane, PPr= remolded.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: B-105

GZA TEMPLATE TEST BORING; 6/6/2016; 9:23:51 AM

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Spectra Energy
Weymouth Compressor Station
Weymouth, Massachusetts

EXPLORATION NO.: B-105
SHEET: 1 of 4
PROJECT NO: 09.0025891.00
REVIEWED BY: A. Blaisdell

Logged By: N. Williams
Drilling Co.: New England Boring
Foreman: G. Twombly, Jr.

Type of Rig: ATV Mounted
Rig Model: Mobile B-53
Drilling Method: Drive & Wash

Boring Location (N,E): 15350331, 1108815
Ground Surface Elev. (ft.): 13.0
Final Boring Depth (ft.): 107.6
Date Start - Finish: 3/29/2016 - 4/15/2016

H. Datum: NAD 83
V. Datum: NAVD 88

Hammer Type: Safety Hammer
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.): 5.5/5" & 4.5/4"

Sampler Type: SS
Sampler O.D. (in.): 2
Sampler Length (in.): 24
Rock Core Size: None

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (in)	Sample Rec. (in)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Depth (ft.)	Stratum Description	Elev. (ft.)
									1		0.5	TOPSOIL	12.5
									2		2	FILL	11.0
			2.0-6.0					VacuumVacuum excavated cuttings comprised of Slag from 2.0'-6.0' bgs.				SLAG	
5											6		7.0
		S-1	6.0-8.0	24	8	11 6 5 4	11	S-1: Medium dense, brown, GRAVEL, some fine to coarse Sand, trace Silt, wet. (GW)	3				
		S-2	8.0-10.0	24	12	7 4 6 4	10	S-2: Loose, black, GRAVEL, some fine to coarse Sand, trace Silt, wet. (trace Slag) (GW)					
10												FILL	
15		S-3	14.0-16.0	24	6			S-3: Brown, GRAVEL, some fine to coarse Sand, trace Silt, wet. (GW) Strong petroleum odor from 14.0'-19.0' bgs.	4				
		S-4	19.0-21.0	24	12	7 4 3 3	7	S-4: Loose, olive, fine to medium SAND, trace Silt, wet. Slight petroleum odor. (SP)					
20											21		-8.0
		S-5	21.0-23.0	24	16	7 5 5 2	10	S-5: Stiff, gray, CLAY & SILT, some fine Sand, wet.(CL)				CLAY/SILT	
											22.5		-9.5
		S-6	24.0-26.0	24	14	4 3 6 8	9	S-6: Loose, brown, fine to coarse SAND and Clay, wet. (SC)				SAND AND CLAY	
25											27.5		-14.5
		S-7	29.0-	24	24	9 12		S-7: Very stiff, olive-gray, CLAY & SILT, trace fine Sand,				CLAY/SILT	
30													

REMARKS

1 - Boring location surveyed by VHB on 3/29/16, boring elevation noted on stake.
2 - Borehole preexcavated using Vacmaster System 1000 to 6.0' bgs on 3/29/16. Started drilling on 4/12/16.
3 - Drove and washed PW casing incrementally from 6.0'-19.0' bgs. Drove and washed HW casing incrementally from 19.0'-107.0' bgs.
4 - Elevated PID readings were reported and recorded by TRC between 14.0' and 19.0' bgs. Additional split spoon sampling was conducted as directed by TRC. Soil with high PID readings and cuttings in tub were placed in drum.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: B-105

GZA TEMPLATE TEST BORING; 6/6/2016, 9:23:51 AM

Low-Flow System Sampling

Date:	8/30/2016	Turbidity Make/Model:	LaMotte2020we		
Operator Name:	L.Hopp	Well ID:	201		
Pump Model/Type:	Geopump	Well diameter:	2 in PVC		
Company Name:	TRC	Well Total Depth:	NM	Start Time:	1300 hrs
Tubing Type:	LDPE	Screen Length:	10 ft	Sample Collected:	1400 hrs
Project Name:	140143.0000.7478	Depth to Water:	NM		
Site Name:	Weymouth C/S	Final Pumping Rate:	250 mL/min		
Tubing Diameter:	.170 x 1/4 in	Total System Volume:	0.09 L		
Pump in take:	NM	Calculated Sample Rate:	300 sec		
Sonde SN:	387487	Total Volume Pumped:	8 gallons		

Low Flow Stabilization Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature C	Turbidity (NTU)	DTW (ft)
300	6.19	-14.4	11597.3	-0.01	17.03	1.92	NM
600	6.15	-3.4	11711.5	-0.01	16.56	1.65	NM
900	6.15	7.1	11835.6	-0.01	16.33	1.99	NM
1200	6.14	19.3	11917.9	-0.01	16.33	2.05	NM
1500	6.13	32.9	11955.6	-0.01	16.41	2.15	NM
1800	6.13	50.5	11993.1	-0.01	16.38	3.69	NM
2100	6.13	63.5	12336.8	0.5	16.24	3.75	NM
2400	6.14	45.5	12357.5	0	16.14	3.69	NM
2700	6.13	35	12273.7	-0.01	16.28	3.66	NM
3000	6.13	31.6	12165.3	-0.01	16.34	3.72	NM

NOTE:
MW 201 depth to water could not be accurately measured due to the thick, viscous product coating the probe.

Low-Flow System Sampling

Date:	8/29/2016	Turbidity Make/Model:	Lamotte2020we		
Operator Name:	L.Hopp	Well ID:	202		
Pump Model/Type:	Geopump	Well diameter:	2 in PVC		
Company Name:	TRC	Well Total Depth:	19.75 ft	Start Time:	0930 hrs
Tubing Type:	LDPE	Screen Length:	10 ft	Sample Collected:	1130 hrs
Project Name:	140143.0000.7478	Depth to Water:	12.78 ft		
Site Name:	Weymouth C/S	Final Pumping Rate:	300 mL/min		
Tubing Diameter:	.170 x 1/4 in	Total System Volume:	0.09 L		
Pump in take:	16 ft	Calculated Sample Rate:	300 sec		
Sonde SN:	387487	Total Volume Pumped:	10 gallons		

Low Flow Stabilzation Summary

Time	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature C	Turbidity (NTU)	DTW (ft)
300	6.34	-4.7	31094.3	0.06	15.66	NM	12.8
600	6.40	8.5	31340.1	0.03	15.36	NM	12.8
900	6.42	16.6	31614.7	0.03	15.51	NM	12.8
1200	6.43	22.5	31453.2	0.03	15.58	NM	12.8
1500	6.44	27.2	31498.1	0.02	15.59	NM	12.8
1800	6.45	31	31449.2	0.02	15.61	NM	12.8
2100	6.46	33.5	31455.8	0.02	15.61	NM	12.81
2400	6.46	36.1	31509.4	0.02	15.67	NM	12.81
2700	6.47	38	31491.8	0.02	15.77	NM	12.81
3000	6.47	38	31990.4	0.04	15.67	NM	12.81
3300	6.48	38.1	31973.6	0.07	15.64	NM	12.82
3600	6.48	36.8	32025	0.05	15.57	NM	12.82
3900	6.48	36.1	32054.5	0.07	15.48	NM	12.82
4200	6.49	36.6	31940	0.08	15.51	NM	12.82
4500	6.49	36.9	32122	0.07	15.44	NM	12.82
4800	6.49	36.4	32076.5	0.07	15.48	NM	12.83
5100	6.49	36.8	31954.8	0.09	15.26	NM	12.83
5400	6.49	36.9	31961.9	0.05	15.25	NM	12.83
5700	6.49	37	32010.3	0.05	15.23	NM	12.83
6000	6.48	35.2	32164.2	0.02	15.3	3.68	12.84

Low-Flow System Sampling

Date:	8/29/2016	Turbidity Make/Model:	Lamotte2020we		
Operator Name:	L.Hopp	Well ID:	203		
Pump Model/Type:	Geopump	Well diameter:	2 in PVC		
Company Name:	TRC	Well Total Depth:	19.75 ft	Start Time:	1230 hrs
Tubing Type:	LDPE	Screen Length:	10 ft	Sample Collected:	1415 hrs
Project Name:	140143.0000.7478	Depth to Water:	12.78 ft		
Site Name:	Weymouth C/S	Final Pumping Rate:	300 mL/min		
Tubing Diameter:	.170 x 1/4 in	Total System Volume:	0.09 L		
Pump in take:	16 ft	Calculated Sample Rate:	300 sec		
Sonde SN:	387487	Total Volume Pumped:	10 gallons		

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature C	Turbidity (NTU)	DTW (ft)
300	6.46	22.8	41022.8	0	14.98	5.46	12.78
600	6.46	24.6	40807.3	0.01	14.94	5.32	12.78
900	6.46	25.9	41279.3	0.02	14.89	2.22	12.78
1200	6.46	27.6	41328	0.03	14.8	2.31	12.78
1500	6.46	29.7	40879.9	0.04	14.79	2.31	12.8
1800	6.46	31	40799.5	0.05	15.01	2.28	12.8
2100	6.46	31.7	40632.4	0.08	14.91	2.2	12.82
2400	6.46	32.8	40386.3	0.09	15.21	2.35	12.82
2700	6.46	33.7	40547.8	0.13	15.35	2.25	12.84
3000	6.46	34.4	40701.8	0.16	14.98	2.19	12.84
3300	6.46	34.7	40441	0.16	15.21	2.15	12.86
3600	6.46	36	40302.8	0.18	15.3	2.2	12.86
3900	6.46	36.4	40407.8	0.19	15.21	2.23	12.86
4200	6.46	36.5	40604.2	0.22	14.9	2.18	12.86

Low-Flow System Sampling

Date:	8/29/2016	Turbidity Make/Model:	Lamotte2020we		
Operator Name:	L.Hopp	Well ID:	204		
Pump Model/Type:	Geopump	Well diameter:	2 in PVC		
Company Name:	TRC	Well Total Depth:	20.85	Start Time:	1510 hrs
Tubing Type:	LDPE	Screen Length:	10 ft	Sample Collected:	1545 hrs
Project Name:	140143.0000.7478	Depth to Water:	13.8 ft		
Site Name:	Weymouth C/S	Final Pumping Rate:	300 mL/min		
Tubing Diameter:	.170 x 1/4 in	Total System Volume:	0.09 L		
Pump in take:	17 ft	Calculated Sample Rate:	300 sec		
Sonde SN:	387487	Total Volume Pumped:	10 gallons		

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature C	Turbidity (NTU)	DTW (ft)
300	6.82	126.6	29870.8	0.63	15.19	5.07	13.85
600	6.72	107.2	31969.2	0.54	14.6	8	13.85
900	6.69	99.8	30954.9	0.4	14.49	10.17	13.85
1200	6.68	95.1	32159.3	0.17	14.32	4.87	13.87
1500	6.67	92.7	31991.5	0.19	14.38	2.16	13.87
1800	6.67	91	31912.4	0.17	14.33	2.1	13.87

Low-Flow System Sampling

Date:	8/30/2016	Turbidity Make/Model:	Lamotte2020we		
Operator Name:	L.Hopp	Well ID:	205		
Pump Model/Type:	Geopump	Well diameter:	2 in PVC		
Company Name:	TRC	Well Total Depth:	21.9 ft	Start Time:	0750 hrs
Tubing Type:	LDPE	Screen Length:	10 ft	Sample Collected:	1000 hrs
Project Name:	140143.0000.7478	Depth to Water:	14.85 ft		
Site Name:	Weymouth C/S	Final Pumping Rate:	300 mL/min		
Tubing Diameter:	.170 x 1/4 in	Total System Volume:	0.09 L		
Pump in take	18 ft	Calculated Sample Rate:	300 sec		
Sonde SN:	387487	Total Volume Pumped:	10 gallons		

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature C	Turbidity (NTU)	DTW (ft)
300	6.87	-28.8	21618.7	0.03	13.76	6.23	14.85
600	6.94	-14.7	22863.3	0.05	13.63	2.49	14.85
900	6.97	-1.3	22892	0.04	13.62	2.03	14.85
1200	6.98	17.8	22820.2	0.05	13.58	2.13	14.87
1500	6.98	45.7	22814.5	0.04	13.58	2.22	14.87
1800	6.99	84.1	22885.4	0.04	13.58	2.15	14.88
2100	6.99	123.9	23071.8	0.01	13.66	2.08	14.88
2400	7.00	168	22879.4	0.01	13.66	2.14	14.88
2700	7.00	215.4	22821.2	0.01	13.71	2.04	14.9
3000	7.00	271.7	22627.2	0.02	13.76	1.96	14.9
3300	7.00	356	22613.1	0.03	13.81	1.85	14.9

Low-Flow System Sampling

Date:	8/30/2016	Turbidity Make/Model:	Lamotte2020we		
Operator Name:	L.Hopp	Well ID:	205		
Pump Model/Type:	Geopump	Well diameter:	2 in PVC		
Company Name:	TRC	Well Total Depth:	21.9 ft	Start Time:	0750 hrs
Tubing Type:	LDPE	Screen Length:	10 ft	Sample Collected:	1000 hrs
Project Name:	140143.0000.7478	Depth to Water:	14.85 ft		
Site Name:	Weymouth C/S	Final Pumping Rate:	300 mL/min		
Tubing Diameter:	.170 x 1/4 in	Total System Volume:	0.09 L		
Pump in take	18 ft	Calculated Sample Rate:	300 sec		
Sonde SN:	387487	Total Volume Pumped:	10 gallons		

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature C	Turbidity (NTU)	DTW (ft)
3600	7.00	460.5	22692.7	0.03	13.85	1.84	14.91
3900	7.01	538.6	22568.4	0.04	13.85	1.82	14.91
4200	7.01	565.9	22649.7	0.04	13.88	1.8	14.92
4500	7.01	596.1	22579.1	0.04	13.83	1.76	14.92
4800	7.01	631.8	22582.3	0.03	13.92	1.74	14.93
5100	7.01	638.2	22874.1	0.01	13.92	1.7	14.93
5400	7.01	667.3	22749.5	0.02	14.05	1.75	14.94
5700	7.01	695.6	22744.9	0.01	14.12	1.72	14.94
6000	7.01	703.7	22526.4	0.02	14.14	1.68	14.94
6300	7.01	685.9	22654.5	0.01	14.15	1.74	14.95
6600	7.01	636.5	22484	0.01	14.24	1.78	14.95
6900	7.01	564.1	22374.8	0.02	14.22	1.72	14.95

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Weymouth C/S	140143	11/3/16 11:50	

TRC Personnel: Lauren H.

Well ID: MW-201

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: SmartRoll peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	NM
Well Mouth	NM

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER ☒ 2 inch ☐ 4 inch ☐ 6 inch

Other: _____

WELL MATERIAL ☒ PVC ☐ SS

Other: _____

Well Depth 22.9 ft. ☐ top of riser ☒ measured ☐ top of casing ☒ historical

Water Depth 14.01 ft. LNAPL/DNAPL Depth = 13.97

Well Volume _____ NAPL Thickness = ?

Depth of pump intake: 18

Static water level after pump put into well: Could not accurately be determined

Initial purge Rate/ Water Level (100-400 ml/min): ~~200~~ 200

Adjusted purge Rates/time/WL(record changes) No.

Flow rate at time of sampling: 200

Total volume of water purged: 200

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals) 1202 1205 1208 1212

Time	1150	1153	1156	1159	~~1104~~	~~1104~~	~~1107~~	~~1108~~	1213
Temp. (°C)	P	15.30	15.30	15.30	15.24	15.21	15.12	15.12	15.11
Conduct. (µmhos/cm)	P	27550.8	27096.6	27752.7	26934.7	26880.8	26864.5	27229.7	27240.9
DO (mg/L)	U	0.20	0.23	0.23	0.21	0.20	0.18	0.18	0.19
pH (su)	R	7.25	7.23	7.22	7.20	7.19	7.19	7.18	7.19
ORP (millivolts)		-44.90	-42.10	-40.30	-37.60	-35.50	-34.60	-33.70	-32.50
Turbidity (NTU)	41.8	40.1	21.8	20.1	16.3	16.2	17.1	16.5	16.1
Flow (ml/min)	G	~~300~~ 200	~~300~~ 200	200	200	200	200	200	200
Depth To Water (ft)	E	~~14~~ 14	~~14~~ 14	14	14	14	14	14	14
Cumulative Purge Vol. (gal or L)		.5	.7	.8	1	1.2	1.4	1.6	1.8

Time	~~1214~~ 1214
Temp. (°C)	15.08
Conduct. (µmhos/cm)	27283.3
DO (mg/L)	0.18
pH (Std. Units)	7.19
Eh/ORP (millivolts)	-31.60
Turbidity (NTU)	16.0
Flow (ml/min)	200
Depth To Water (ft)	14
Cumulative Purge Vol. (gal or L)	2

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	☒	☒
Submersible Pump	☐	☐
Bladder Pump	☐	☐
Bailer	☐	☐
Other: _____	☐	☐

Comments: ~~Cannot measure DTW due to no probe at use~~ LVH 11/3/16

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH - DELUXE-10	N	HCl	2	1L A	1215	NA	MW-201
VPH - DELUXE 40	N	HCl	3	40mL V	1215	NA	MW-201

- Consult the applicable regulatory guidance for the specific criteria.

Signed: _____

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 5
Weymouth C/S	140143.0000	11/1/16 1100	

TRC Personnel: Lauren Hopp

Well ID: MW 202

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment:

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	NM
Well Mouth	NM

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL [X] PVC [ ] SS

Other: _____

Well Depth 19.95 ft. [X] top of riser [ ] top of casing — [X] measured [X] historical

Water Depth 12.6 ft. LNAPL/DNAPL Depth = N/A

Well Volume _____ NAPL Thickness = N/A

Depth of pump intake: 16.25

Static water level after pump put into well: 12.61

Initial purge Rate/ Water Level (100-400 ml/min): 200

Adjusted purge Rates/time/WL(record changes) NO.

Flow rate at time of sampling: 200

Total volume of water purged: 1.3

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1100	~~1103~~	1103	1106	1109	1112	1115	1118	1121
Temp. (°C)		~~6.11~~ 6.27	10.43	11.01	11.66	11.94	12.13	12.39	12.40
Conduct. (µmhos/cm)	P	~~39744.10~~	38748.6	39319.9	38889.9	~~38898.4~~	38716.4	38723.8	38778.8
DO (mg/L)	U	~~49.48~~ 0.38	0.70	0.45	0.38	0.33	0.29	0.26	0.25
pH (su)	R	~~0.38~~ 6.35	~~6.27~~	6.30	6.35	6.39	6.42	6.46	6.49
ORP (millivolts)	G	~~46.50~~	51.6	49.10	46.50	44.20	42.00	39.40	38.30
Turbidity (NTU)	E		—	9.04	~~9.63~~	9.63	9.40	9.30	8.00
Flow (ml/min)			200	200	200	200	200	200	200
Depth To Water (ft)			12.61	12.61	12.61	12.61	12.61	12.61	12.61
Cumulative Purge Vol. (gal or L)			.2	.3	.4	.5	.6	.7	.8

Time	1124	1127	1130	1133	1138	
Temp. (°C)	12.56	12.63	12.63	12.70	12.82	
Conduct. (µmhos/cm)	38779.0	38767.9	38767	38723	38564.3	
DO (mg/L)	0.24	0.23	0.23	0.22	0.22	
pH (Std. Units)	6.52	6.55	6.55	6.58	6.61	
Eh/ORP (millivolts)	36.30	34.40	~~34.40~~ 33.10	32.70	31.00	
Turbidity (NTU)	6.27	6.15	6.13	6.20	6.14	
Flow (ml/min)	200	200	200	200	200	
Depth To Water (ft)	12.61	12.61	12.61	12.61	12.61	
Cumulative Purge Vol. (gal or L)	.9	1	1.1	1.2	1.3	

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Tubing in shade + sun (varying values)

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH-DELVLE-10	N	~~NONE~~ HCl	2X1LA	1LA	1139	NA	
VPH-DELVLE-10	N	HCl	3x40mLV	40mLV	1138	NA	

* Consult the applicable regulatory guidance for the specific criteria.

Signed: Lauren Hopp

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet
6 Bridge St		11/01/16, 1045	1 of 1

TRC Personnel: Charles Foster

Well ID: MW-203

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume: 95ml

PID SCREENING MEAS.

Background	NA
Well Mouth	

Protective Casing Stick-up (from ground) _____ ft.

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL [X] PVC [ ] SS

Other: _____

Well Depth 19.80 ft. [X] top of riser [ ] top of casing [ ] _____ [X] measured [X] historical

Water Depth 12.98 ft.

Well Volume _____

LNAPL/DNAPL Depth = NA

NAPL Thickness = NA

Depth of pump intake: 16.39

Static water level after pump put into well: 13.20 see comments

Initial purge Rate/ Water Level (100-400 ml/min): 540

Adjusted purge Rates/time/WL(record changes)

Lower at 3 min, Lower to 300

Flow rate at time of sampling: 300

Total volume of water purged: ~4 gallons

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1130	1133	1136	1139	1142	1145	1148	1151	1154
Temp. (°C)	16.64	15.17	15.22	15.21	15.07	14.94	14.80	14.88	14.53
Conduct. (µmhos/cm)	3980	4168	4171	4175	4192	4200	4210	4200	4238
DO (mg/L)	1.34	1.07	0.78	0.62	0.52	0.46	0.40	0.36	0.33
pH (su)	6.49	6.49	6.50	6.50	6.50	6.49	6.49	6.49	6.49
ORP (millivolts)	24.10	12.60	11.30	10.80	10.80	10:10	10:30	10.40	9.50
Turbidity (NTU)	16.2	7.41	7.48	4.49	4.42	3.88	3.94	1.93	1.56
Flow (ml/min)	540	420	420	420	420	420	420	420	420
Depth To Water (ft)	13.26	13.26	13.25	13.24	13.24	13.24	13.24	13.24	13.24
Cumulative Purge Vol. (gal or L)									

Time	1157	1200	1205			
Temp. (°C)	14.88	15.12	S			
Conduct. (µmhos/cm)	4221	4206	A			
DO (mg/L)	0.29	0.28	M			
pH (Std. Units)	6.49	6.49	P			
Eh/ORP (millivolts)	9.50	9.80	L			
Turbidity (NTU)	1.48	1.49	E			
Flow (ml/min)	420	420				
Depth To Water (ft)	13.24	13.24				
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria*
(3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments: Possibly the water level ~~drawdown~~ since am measurement w/ tide cycle? - Will evaluate tide direction

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HCL	3	VOA	1205	NA	MW-203
EPH	N	HCL	2	AL	1205	NA	MW-203

* Consult the applicable regulatory guidance for the specific criteria.

Signed: _____

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet
Weymouth C/S	140143.0000	11/1/16 1108	1 of 1

TRC Personnel: Lauren Hopp

Well ID: MW204

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment:

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	NM
Well Mouth	NM

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up _____ ft. (from ground)

WELL DIAMETER [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL [X] PVC [ ] SS

Other: _____

Well Depth 20.7 ft. [X] top of riser [ ] top of casing [ ] _____ [X] measured [X] historical

Water Depth 13.9 ft.

Well Volume _____

LNAPL/DNAPL Depth = N/A

NAPL Thickness = N/A

Depth of pump intake: 17.29

Static water level after pump put into well: 13.9

Initial purge Rate/ Water Level (100-400 ml/min): 200

Adjusted purge Rates/time/WL(record changes) No.

Flow rate at time of sampling: 200

Total volume of water purged: 1.1

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1300	1303	1306	1309	1312	1315	1318	1321	1324
Temp. (°C)	P	13.46	13.35	13.38	13.37	13.39	13.30	13.19	13.17
Conduct. (µmhos/cm)		31268.9	33371.7	35258.9	36115.0	36618.7	36794.6	37185.5	37378.4
DO (mg/L)	V	1.03	0.50	0.38	0.30	0.28	0.25	0.23	0.21
pH (su)	R	7.20	7.12	7.04	7.00	6.97	6.96	6.95	6.94
ORP (millivolts)		25.5	26.50	27.00	26.50	26.00	25.60	25.10	24.80
Turbidity (NTU)	G	3.09	2.58	2.76	1.03	0.84	0.92	1.65	1.32
Flow (ml/min)		200	200	200	200	200	200	200	200
Depth To Water (ft)	E	13.9	13.85	13.85	13.85	13.85	13.85	13.85	13.80
Cumulative Purge Vol. (gal or L)		.2	.3	.4	.5	.6	.7	.8	.9

Time	1327	1330					Stabilization Criteria* (3 consecutive readings)
Temp. (°C)	13.17	13.17					- Temperature: ± 3 %
Conduct. (µmhos/cm)	37763.3	37689.6					- Conduct. (µmhos/cm): ± 3 %
DO (mg/L)	0.21	0.20					- DO (mg/L): ± 10 % (for values >0.5 mg/L)
pH (Std. Units)	6.93	6.93					- pH (Std. Units): ± 0.1 SU
Eh/ORP (millivolts)	24.4	24.10					- ORP (millivolts): ± 10 mV
Turbidity (NTU)	0.74	0.38					- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
Flow (ml/min)	200	200					- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)
Depth To Water (ft)	13.78	13.75					
Cumulative Purge Vol. (gal or L)	1	1.1					

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments: Tubing in Shade + Sun

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH - DELUXE-10	N	HCl	2x1LA	1 LA	1330	NA	MW204
VPH - DELUXE-10	N	HCl	3x40mLV	40mLV	1330	NA	MW204

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Lauren Hopp

Rev: April 2014

TRC

Groundwater Field Data Record

Project: 6 Bridge St Plymouth	Project No.:	Date/Time: 11/01/16 1300	Sheet 1 of 1
TRC Personnel: Charles Foster		Well ID: MW-205	

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Bailer

Flow-thru Cell Volume: 98 ml

PID SCREENING MEAS.

Background	NA
Well Mouth	

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up _____ ft. (from ground)

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL

[X] PVC [ ] SS

Other: _____

Well Depth 22.00 ft. [X] top of riser [ ] top of casing — [X] measured [X] historical

Water Depth 14.83 ft. LNAPL/DNAPL Depth = _____

Well Volume _____ NAPL Thickness = _____

Depth of pump intake: 18.31

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min):

Adjusted purge Rates/time/WL(record changes)

Slow at initial Rate ~3 min

Flow rate at time of sampling: 250 ml/m

Total volume of water purged: ~2.5 gal

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1335	1338	1341	1344	1347	1350	1355		
Temp. (°C)	17.77	14.72	14.41	14.40	14.45	14.40	S		
Conduct. (µmhos/cm)	2000	2513	2610	2633	2629	2627	A		
DO (mg/L)	0.27	0.12	0.10	0.08	0.07	0.07	M		
pH (su)	7.03	7.03	7.04	7.04	7.04	7.04	P		
ORP (millivolts)	-63.30	-56.7	-53.50	-52.40	-51.20	-50.30	L		
Turbidity (NTU)	0.87	1.32	0.42	0.68	0.87	0.36	E		
Flow (ml/min)	600	400	400	400	400	400			
Depth To Water (ft)	14.89	14.90	14.90	14.90	14.90	14.90			
Cumulative Purge Vol. (gal or L)									

Time						
Temp. (°C)						
Conduct. (µmhos/cm)						
DO (mg/L)						
pH (Std. Units)						
Eh/ORP (millivolts)						
Turbidity (NTU)						
Flow (ml/min)						
Depth To Water (ft)						
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Water level fell from 14.62 to 14.83 since 0812 AM will have to see if that is tidal influence

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HCL	3	VOA	1355	MS	MW-205
EPH	N	HCL	2	AG	1355	NA	MW-205

* Consult the applicable regulatory guidance for the specific criteria.

Signed: _____

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet
6 Bridge St		11/01/16 1445	1 of 1

TRC Personnel: C Foster

Well ID: MW-206

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peri Pump

Flow-thru Cell Volume: 95 ml

PID SCREENING MEAS.

Background	NA
Well Mouth	

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up _____ ft. (from ground)

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch — Other: _____

WELL MATERIAL

[X] PVC [ ] SS — Other: _____

Well Depth 20.98 ft. [X] top of riser [ ] top of casing [X] measured [ ] historical

Water Depth 14.22 ft. — Well Volume _____ — LNAPL/DNAPL Depth = NA — NAPL Thickness = _____

Depth of pump intake: 17.60

Static water level after pump put into well: 14.22

Initial purge Rate/ Water Level (100-400 ml/min): 420 ml/min 1360

Adjusted purge Rates/time/WL(record changes): 420 to 360 to 250 ml/min at sampling

Flow rate at time of sampling: 250

Total volume of water purged: ~3 gals

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1524	1527	1530	1533	1536	1539	1542	1545	1548
Temp. (°C)	18.17	~~19.95~~	16.65	16.14	16.12	16.11	16.12	16.11	16.13
Conduct. (µmhos/cm)	2326	MA*	2989	4074	4872	5290	5328	5368	5441
DO (mg/L)	0.82	MA*	1.02	0.94	0.83	0.73	0.70	0.67	0.68
pH (su)	7.05	MA*	6.88	6.78	6.73	6.71	6.70	6.69	6.68
ORP (millivolts)	-14.20	*	-32.50	-45.80	-50.00	-50.30	-49.90	-49.20	-48.50
Turbidity (NTU)	0.78	*	0.56	0.68	0.28	0.32	0.26	0.28	0.26
Flow (ml/min)	420	*	~~360~~ 360	360	360	360	360	360	360
Depth To Water (ft)	14.22	14.22	14.22	14.22	14.22	14.22	14.22	14.22	14.22
Cumulative Purge Vol. (gal or L)									

Time	1550	1554				
Temp. (°C)	S					
Conduct. (µmhos/cm)	A					
DO (mg/L)	M					
pH (Std. Units)	P					
Eh/ORP (millivolts)	L					
Turbidity (NTU)	E					
Flow (ml/min)	360	360				
Depth To Water (ft)	14.22	14.22				
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Baller		
Other:		

Comments: No clogs from Synaptic

NO Drawdown at 420 ml/min

* Battery Failure 1527 Reading

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HCL	3	VOA	1550	NA	MW-206
EPH	N	HCL	2	AL	1550	NA	MW-206

* Consult the applicable regulatory guidance for the specific criteria.

Signed: _____

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra	140143	1/4/17	

TRC Personnel: Kolleenshea

Well ID: MW-201

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: ____

Flow-thru Cell Volume: ____

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up (from ground) ____ ft.

Riser Stick-up (from ground) ____ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: ____

WELL MATERIAL: [X] PVC [ ] SS

Other: ____

Well Depth ____ ft. [X] top of riser [ ] top of casing [ ] measured [ ] historical

Water Depth — ft.

LNAPL/DNAPL Depth = 13.64

Well Volume ____

NAPL Thickness = ____

Depth of pump intake: 18 ft

Static water level after pump put into well: [illegible]

Initial purge Rate/ Water Level (100-400 ml/min): 300 ml/min

Adjusted purge Rates/time/WL(record changes):

Flow rate at time of sampling: 300 ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0930	0935	0940	0945	0950	0955	1000	1005	1010
Temp. (°C)	P	10.44	11.83	12.02	12.03	12.03	12.12	12.10	12.08
Conduct. (µmhos/cm)		36823	36418	36462	36463	36463	36502	36536	36564
DO (mg/L)	U	3.50	2.21	2.23	2.24	2.16	1.93	1.85	1.85
pH (su)	R	[illegible]	[illegible]	6.27	6.27	6.20	6.25	6.25	6.25
ORP (millivolts)	G	-44.0	-56.9	-64.7	-66.5	-67.1	-69.5	-71.4	-71.5
Turbidity (NTU)	E	13.0	2.90	3.19	2.09	2.05	1.06	1.53	2.06
Flow (ml/min)		300	300	300	300	300	300	300	300
Depth To Water (ft)	13.64	—	—	—	—	—	—	—	—
Cumulative Purge Vol. (gal or L)									

Time	1015	1020	1025	1025		
Temp. (°C)	12.17	12.11	12.10	S		
Conduct. (µmhos/cm)	36586	36650	36654			
DO (mg/L)	1.80	1.75	1.78	A		
pH (Std. Units)	6.25	6.25	6.25	M		
Eh/ORP (millivolts)	-72.0	-73.0	-73.5			
Turbidity (NTU)	2.03	1.41	1.09	P		
Flow (ml/min)	300	300	300	L		
Depth To Water (ft)	—	—	—	E		
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* **(3 consecutive readings)**
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: ____		

Comments: final DTP: 13.89 ft
dump ~ 4 gallons water in labeled drum

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L A	1025	none	
VPH	N	HCl	3	40mL A	1025	none	

* Consult the applicable regulatory guidance for the specific criteria.

Signed: [illegible signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra	143140	1/4/17	

TRC Personnel: Kelleenby

Well ID: MW-202

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: YSI

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER ☐ 2 inch ☐ 4 inch ☐ 6 inch

Other: _____

WELL MATERIAL ☑ PVC ☐ SS

Other: _____

Well Depth 23 ft. ☒ top of riser ☐ top of casing ☐ _____ ☐ measured ☐ historical

Water Depth 12.23 ft.

Well Volume _____

LNAPL/DNAPL Depth = NA

NAPL Thickness = NA

Depth of pump intake: ~18 ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 350 ml/min

Adjusted purge Rates/time/WL(record changes)

350 → 300 @ 0920

Flow rate at time of sampling: 300 ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0910	0915	0920	0925	0930	0935	0940	0945	0950
Temp. (°C)		11.64	11.56	11.65	11.57	11.67	11.69	11.69	11.69
Conduct. (µmhos/cm)		30514	30137	29892	29902	29950	29919	29991	30005
DO (mg/L)		1.10	0.69	.68	.60	.65	.56	.57	.57
pH (su)		6.48	6.27	6.18	6.16	6.12	6.10	6.10	6.10
ORP (millivolts)		-18.2	-15.4	-15.2	-15.6	-15.6	-16.0	-15.8	-16.1
Turbidity (NTU)		25.1	20.0	11.5	6.54	4.83	4.53	4.21	4.12
Flow (ml/min)	350	350	350	300	300	300	300	300	300
Depth To Water (ft)	12.23	12.26	12.27	12.26	12.26	12.26	12.26	12.26	12.26
Cumulative Purge Vol. (gal or L)									

Time	0955	1000	1000
Temp. (°C)	11.65	11.65	S
Conduct. (µmhos/cm)	30001	30000	A
DO (mg/L)	.58	.57	M
pH (Std. Units)	6.10	6.10	P
Eh/ORP (millivolts)	-16.1	-16.2	L
Turbidity (NTU)	4.32	4.11	E
Flow (ml/min)	300	300	
Depth To Water (ft)	12.26	12.26	
Cumulative Purge Vol. (gal or L)			

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	☒	☒
Submersible Pump	☐	☐
Bladder Pump	☐	☐
Bailer	☐	☐
Other: _____	☐	☐

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L AG	1000	none	
VPH	N	HCl	3	40mL A	1000	none	

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Kelleenby

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra Weymouth CS	146483.000 4403	1/3/17 1410	

TRC Personnel: BA

Well ID: MW-203

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic pump

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground) 2 ft.

Riser Stick-up (from ground) 2 ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: ____

WELL MATERIAL

[X] PVC [X] SS

Other: ____

Well Depth ____ ft. [X] top of riser [ ] top of casing [ ] ____ [ ] measured [ ] historical

Water Depth 13.32 ft.

Well Volume ____

LNAPL/DNAPL Depth = ____

NAPL Thickness = ____

Depth of pump intake: ____

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 220

Adjusted purge Rates/time/WL(record changes): 260, 270

Flow rate at time of sampling: 270

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1410	1415	1420	1425	1430	1435	1440	1445	1450
Temp. (°C)	Start	11.37	11.46	11.49	11.54	11.64	11.49	11.50	11.40
Conduct. (µmhos/cm)	Purge	4199.7	4196.4	4193.6	4194.7	4187.5	4187.4	4186.4	4173.3
DO (mg/L)		3.61	2.47	3.73	2.59	4.39	4.62	4.54	4.53
pH (su)		6.51	6.48	6.50	6.48	6.48	6.48	6.47	6.47
ORP (millivolts)		93.4	89.1	92.1	89.3	87.9	89.3	87.1	86.1
Turbidity (NTU)			28.4	23.7	26.4	21.0	19.3	18.7	13.6
Flow (ml/min)	220	260	270	→	→	→	→	→	→
Depth To Water (ft)	13.32	13.39	→	→	→	→	→	→	→
Cumulative Purge Vol. (gal or L)									

Time	1455	1500	1505	1510	1515	1320
Temp. (°C)	11.41	11.47	11.53	11.51	11.56	11.57
Conduct. (µmhos/cm)	4173.4	4183.1	4197.6	4201.6	4163.2	4184.6
DO (mg/L)	4.76	4.41	5.31	5.61	5.50	5.63
pH (Std. Units)	6.46	6.47	6.47	6.45	6.46	6.45
Eh/ORP (millivolts)	85.3	84.4	82.6	83.7	83.4	82.6
Turbidity (NTU)	11.4	9.74	8.76	10.41	11.3	9.70
Flow (ml/min)	270	→	→	→	→	→
Depth To Water (ft)	13.39	→	→	→	→	→
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: ____		

Comments: Clear, NRO, NRS

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VOA	N	HCl	3	40ml Amber	1320		
EPH	N	HCl	2	1L Amber	↓		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra Weymouth CS | Project No.: 140493.0000.4403 | Date/Time: 1/4/17 0845 | Sheet 1 of 1

TRC Personnel: BA | Well ID: MW-204

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground) 2 ft.

Riser Stick-up (from ground) 2 ft.

WELL DIAMETER ☑ 2 inch ☐ 4 inch ☐ 6 inch

Other: ______

WELL MATERIAL ☑ PVC ☐ SS

Other: ______

Well Depth ______ ft. ☑ top of riser ☐ top of casing ☐ measured ☐ historical

Water Depth 13.28 ft.

Well Volume ______

LNAPL/DNAPL Depth = ______

NAPL Thickness = ______

Depth of pump intake: 18

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 230

Adjusted purge Rates/time/WL(record changes) 290

Flow rate at time of sampling: 290

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0850	0855	0900	0905	0910	0915	0920	0925	0930
Temp. (°C)	Start	12.36	12.27	12.24	12.21	12.23	12.18	12.46	12.35
Conduct. (µmhos/cm)	Purge	31913	32059	32147	32269	32373	32471	32502	32673
DO (mg/L)	↓	2.19	2.14	2.01	1.85	1.82	1.87	1.94	1.92
pH (su)		6.76	6.73	6.68	6.66	6.64	6.61	6.58	6.56
ORP (millivolts)		50.3	49.5	49.6	49.1	42.6	40.3	31.1	27.6
Turbidity (NTU)		49.4	47.3	42.1	33.4	24.7	21.3	19.7	6.41
Flow (ml/min)	230	290	→						
Depth To Water (ft)	13.28	13.32	→						
Cumulative Purge Vol. (gal or L)									

Time	0935	0940	0945	0950	0955	
Temp. (°C)	12.37	12.57	12.53	12.53	12.56	
Conduct. (µmhos/cm)	32417	32343	32004	31747	31515	
DO (mg/L)	2.03	2.10	2.24	2.39	2.26	
pH (Std. Units)	6.55	6.53	6.53	6.53	6.54	
Eh/ORP (millivolts)	20.7	15.2	10.5	7.2	6.2	
Turbidity (NTU)	5.31	2.55	2.31	2.01	1.93	
Flow (ml/min)	290	→				
Depth To Water (ft)	13.32	→				
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	✓	✓
Submersible Pump		
Bladder Pump		
Bailer		
Other: ______		

Comments: Clear, N/O, N/S

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L Amber	0955		MW-204
VPH	↓	HCl	3	40mL Amber	↓		↓

* Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

ord	Project: Spectra	Project No.: 140143	Date/Time: 11/3/17
	TRC Personnel: Kathleen Sica		Sheet 1 of 1
		Well ID: MW-205	

	YES	NO
g Secure	X	
ar Intact	X	
p Intact	X	
Present	X	
Lock Present	X	

ng Equipment: YSI

w-thru Cell Volume:

ID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL: [✓] PVC [ ] SS

Other: _____

Well Depth _____ ft. [X] top of riser [ ] top of casing [ ] _____ [ ] measured [ ] historical

Water Depth 15.00 ft. LNAPL/DNAPL Depth = —

Well Volume _____ NAPL Thickness = —

Depth of pump intake: ~18 ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 400ml/min

Adjusted purge Rates/time/WL(record changes) 400 → 350 @ 1430

Flow rate at time of sampling: 350 ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1430	1430	1435	1440	1445	1450	1455	1500	1505
Temp. (°C)	D	12.01	12.02	12.04	12.07	12.08	12.05	12.05	12.04
Conduct. (µmhos/cm)	V	27023	27320	27100	27108	27579	27611	27635	27653
DO (mg/L)	R	1.21	1.20	1.13	1.01	.90	1.12	2.19	2.36
pH (su)	G	7.08	7.08	7.08	7.08	7.07	7.07	7.06	7.06
ORP (millivolts)	E	-94.6	-94.3	-95.6	-96.1	-98.8	-95.6	-96.7	-96.8
Turbidity (NTU)		5.86	5.51	4.23	3.82	3.72	2.89	3.24	3.58
Flow (ml/min)	400	400	350	350	350	350	350	350	350
Depth To Water (ft)	15.02	15.02	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Cumulative Purge Vol. (gal or L)									

Time	1515	1515	1520	1525	1525	
Temp. (°C)	12.03	12.11	12.01	11.99	S	
Conduct. (µmhos/cm)	27810	27899	27911	27944	A	
DO (mg/L)	2.30	2.10	2.51	2.47	M	
pH (Std. Units)	7.06	7.05	7.05	7.05	P	
Eh/ORP (millivolts)	-94.8	-94.6	-84.2	-83.6	L	
Turbidity (NTU)	2.92	3.81	3.92	3.34	E	
Flow (ml/min)	350	350	350	350		
Depth To Water (ft)	15.00	15.00	15.00	15.00		
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPA	N	HCl	2	1LA	1525	none	
VPH	N	HCl	3	40MA	1525	none	

- Consult the applicable regulatory guidance for the specific criteria.

Signed: _____

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TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra	140143	1/4/17	

TRC Personnel: Kolleen Shea

Well ID: MW 206

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: YSI

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL: [✓] PVC [ ] SS

Other: _____

Well Depth _____ ft. [X] top of riser [ ] top of casing [ ] _____ [ ] measured [ ] historical

Water Depth 14.18 ft.

Well Volume _____

LNAPL/DNAPL Depth = —

NAPL Thickness = —

Depth of pump intake: ~18ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 400 ml/min

Adjusted purge Rates/time/WL(record changes): 400 → 350 @ 1220

Flow rate at time of sampling: 350ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1215	1220	1225	1230	1235	1240	1245	1250	1255
Temp. (°C)	p	12.97	12.92	12.91	12.96	13.03	13.01	13.03	12.99
Conduct. (µmhos/cm)	p	5081	5454	5458	5525	5448	5351	5321	5306
DO (mg/L)	U	3.28	2.97	2.97	3.00	3.33	3.36	3.40	3.42
pH (su)	K	6.58	6.44	6.44	6.43	6.42	6.42	6.42	6.41
ORP (millivolts)	G	-68.1	-74.5	-74.5	-73.8	-71.1	-71.0	-70.9	-69.9
Turbidity (NTU)	E	23.1	10.46	6.86	2.47	3.11	3.25	2.17	0.97
Flow (ml/min)	400	400	350	350	350	350	350	350	350
Depth To Water (ft)	14.18	14.21	14.20	14.20	14.20	14.19	14.19	14.19	14.19
Cumulative Purge Vol. (gal or L)									

Time	1300	1305	1310	1310			
Temp. (°C)	13.01	13.00	12.99	S			
Conduct. (µmhos/cm)	5299	5285	5280	S			
DO (mg/L)	3.51	3.50	3.61	A			
pH (Std. Units)	6.42	6.42	6.42	M			
Eh/ORP (millivolts)	-68.8	-68.2	-68.5	P			
Turbidity (NTU)	0.87	0.56	0.61	L			
Flow (ml/min)	350	350	350	E			
Depth To Water (ft)	14.19	14.19	14.19				
Cumulative Purge Vol. (gal or L)							

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1LA	1310	none	
VPH	N	HCl	3	40mlA	1310	none	

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of ___
Spectra Weymouth C/S	HO143.0000	1/3/17 1235	

TRC Personnel: BA

Well ID: MW-400

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic Pump

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): BA ~~N/A~~ 2 ft.

Riser Stick-up (from ground): BA ~~N/A~~ 2 ft.

WELL DIAMETER: ☑ 2 inch ☐ 4 inch ☐ 6 inch

Other: ___

WELL MATERIAL: ☑ PVC ☐ SS

Other: ___

Well Depth ___ ft. ☒ top of riser ☐ top of casing ☐ ___ ☑ measured ☐ historical

Water Depth 13.31 ft.

Well Volume ___

LNAPL/DNAPL Depth = ___

NAPL Thickness = ___

Depth of pump intake: ___

Static water level after pump put into well: ___

Initial purge Rate/ Water Level (100-400 ml/min): 220

Adjusted purge Rates/time/WL(record changes): 260

Flow rate at time of sampling: 260

Total volume of water purged: ___

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1235	1240	1245	1250	1255	1300	1305	1310	1315
Temp. (°C)	Start	12.37	12.24	12.15	12.07	12.0	12.06	12.09	12.11
Conduct. (µmhos/cm)	Purge	4136.4	4127.6	4114.3	4117.7	4128.9	4150.5	4163.1	4171.1
DO (mg/L)		1.23	1.24	3.47	4.46	4.52	4.56	4.49	4.47
pH (su)		6.45	6.39	6.37	6.36	6.36	6.35	6.35	6.35
ORP (millivolts)		151.5	143.6	137.1	134.5	130.6	126.2	120.3	120.4
Turbidity (NTU)			29.6	24.3	21.6	17.7	7.40	2.27	2.17
Flow (ml/min)	220	260	→	→	→	→	→	→	→
Depth To Water (ft)	11.31	11.35	11.37	→	→	→	→	→	→
Cumulative Purge Vol. (gal or L)									

Time	1320	1325	1330	1335		
Temp. (°C)	12.18	12.18	12.28	12.16		
Conduct. (µmhos/cm)	4187.2	4199.8	4198.8	4211.1		
DO (mg/L)	4.47	4.63	4.72	4.75		
pH (Std. Units)	6.35	6.35	6.34	6.35		
Eh/ORP (millivolts)	119.8	118.6	117.7	116.9		
Turbidity (NTU)	2.31	2.10	1.96	1.90		
Flow (ml/min)	260	→	→	→		
Depth To Water (ft)	11.39	→	→	→		
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	☑	☑
Submersible Pump	☐	☐
Bladder Pump	☐	☐
Bailer	☐	☐
Other: ___	☐	☐

Comments: Clear, N/O, N/S

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HNO_3	2	3 X 40mL	1335		
EPH		HCl	3	1L Amber	↓		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra	Project No.: 140145	Date/Time: 1/31/17	Sheet 1 of 1

TRC Personnel: Kellen Nee

Well ID: MW-401

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: YSI

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch — Other: _____

WELL MATERIAL

[X] PVC [ ] SS — Other: _____

Well Depth _____ ft. [X] top of riser [ ] top of casing [ ] _____ [ ] measured [ ] historical

Water Depth 14.38 ft. — Well Volume _____

LNAPL/DNAPL Depth = —

NAPL Thickness = —

Depth of pump intake: ~18ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 200 ml/min

Adjusted purge Rates/time/WL(record changes)

200 → 150 @ 1305

Flow rate at time of sampling: 150 ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1255	1300	1305	1310	1315	1320	1325	1330	1335
Temp. (°C)	P	12.40	12.39	12.51	12.50	12.53	12.69	12.71	12.72
Conduct. (µmhos/cm)		29077	29005	29026	29035	29219	29381	29382	29410
DO (mg/L)	V	1.86	1.71	1.73	1.70	1.60	1.58	1.54	1.55
pH (su)	R	7.02	7.02	7.02	7.02	7.01	7.01	7.01	7.02
ORP (millivolts)	E	21.2	21.2	20.6	20.5	19.6	19.5	16.9	15.0
Turbidity (NTU)		2.95	3.05	2.97	3.75	2.01	3.23	4.01	3.02
Flow (ml/min)	200	200	150	150	150	150	150	150	150
Depth To Water (ft)		14.42	14.42	14.42	14.42	14.42	14.42	14.42	14.42
Cumulative Purge Vol. (gal or L)									

Time	1340	1345	1350	1350		
Temp. (°C)	12.69	12.71	12.72	S		
Conduct. (µmhos/cm)	29398	29518	29879	A		
DO (mg/L)	1.55	1.54	1.54	M		
pH (Std. Units)	7.02	7.02	7.02	P		
Eh/ORP (millivolts)	14.6	14.2	14.1	L		
Turbidity (NTU)	3.12	3.11	3.60	E		
Flow (ml/min)	150	150	150			
Depth To Water (ft)	14.42	14.42	14.42			
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria*
(3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
~~EPH~~	N	HCl	2	1 L A	1350	none	
VPH	N	HCl	3	40 mL A	1350	none	

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Kellen Nee

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra	140143	1/5/17	

TRC Personnel: Kollen Shue

Well ID: MW-402

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: YSI

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch — Other: _____

WELL MATERIAL: [X] PVC [ ] SS — Other: _____

Well Depth _____ ft. [ ] top of riser [ ] top of casing [ ] _____ [ ] measured [ ] historical

Water Depth 14.99 ft. Well Volume _____

LNAPL/DNAPL Depth = —

NAPL Thickness = —

Depth of pump intake: ~15ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 350ml/min

Adjusted purge Rates/time/WL(record changes)

350 @ 300 @ 0840

Flow rate at time of sampling: 300ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0835	0840	0845	0850	0855	0900	0905	0910	0915
Temp. (°C)	P	14.00	14.03	14.4	14.12	14.18	14.18	14.19	14.25
Conduct. (µmhos/cm)	U	35318	35305	35309	35703	36161	36165	35545	35545
DO (mg/L)	R	1.11	1.44	1.21	1.44	1.16	1.18	1.56	1.51
pH (su)	G	6.59	6.60	6.62	6.64	6.67	6.67	6.65	6.68
ORP (millivolts)	E	2.8	-25.2	-31.2	-44.2	-54.3	-54.6	-61.4	-61.6
Turbidity (NTU)		10.3	5.81	1.41	1.24	31.55	21.78	0.87	0.51
Flow (ml/min)	350	350	300	300	300	300	300	300	300
Depth To Water (ft)	14.99	15.03	15.03	15.03	15.03	15.03	15.03	15.03	15.03
Cumulative Purge Vol. (gal or L)									

Time	0920	0925	0930	0930		
Temp. (°C)	14.19	14.21	14.20	S		
Conduct. (µmhos/cm)	34975	34953	34968	A		
DO (mg/L)	1.52	1.59	1.60	M		
pH (Std. Units)	6.69	6.70	6.70	P		
Eh/ORP (millivolts)	-66.9	-66.8	-67.1	L		
Turbidity (NTU)	0.74	0.83	0.92	E		
Flow (ml/min)	300	300	300			
Depth To Water (ft)	15.03	15.03	15.03			
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Were particles (yellow) precipitate that accumulates at bottom of purge bucket

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1LA	0930	none	
VPH	N	HCl	3	40mLA	0930	none	

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Kollen Shue

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra Weymouth C/S	Project No.: 149443.0000 -1403	Date/Time: 1/4/17 1355	Sheet 1 of 1
TRC Personnel: BA		Well ID: MW-403	

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch Other: ______

WELL MATERIAL: [X] PVC [ ] SS Other: ______

Well Depth ______ ft. [X] top of riser [ ] top of casing [X] measured [ ] historical

Water Depth 13.65 ft.

Well Volume ______

LNAPL/DNAPL Depth = ______

NAPL Thickness = ______

Depth of pump intake: 18'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 270

Adjusted purge Rates/time/WL(record changes)

Flow rate at time of sampling: 270

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1355	1400	1405	1410	1415	1420	1425	1430	1435
Temp. (° C)	Start	13.46	13.49	13.51	13.68	13.69	13.41	13.67	13.63
Conduct. (µmhos/cm)	Purge	29052	29431	29606	31343	33593	34172	34379	36967
DO (mg/L)	↓	4.47	4.52	4.69	3.36	3.43	3.21	3.03	2.53
pH (su)		6.47	6.46	6.42	6.39	6.37	6.36	6.36	6.35
ORP (millivolts)		62.4	62.9	63.4	67.4	64.2	69.7	69.6	70.6
Turbidity (NTU)		6.41	6.32	4.48	3.72	3.64	3.60	3.14	2.71
Flow (ml/min)		270	→						
Depth To Water (ft)	13.65	13.67	→						
Cumulative Purge Vol. (gal or L)									

Time	1440	1445	1450	1455		
Temp. (° C)	13.61	13.56	13.59	13.60		
Conduct. (µmhos/cm)	36946	37821	38675	39272		
DO (mg/L)	2.61	2.76	2.53	2.61		
pH (Std. Units)	6.35	6.34	6.34	6.34		
Eh/ORP (millivolts)	70.7	70.7	71.7	72.5		
Turbidity (NTU)	2.96	2.87	2.74	2.68		
Flow (ml/min)	270	→				
Depth To Water (ft)	13.67	→				
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Clear, N/o, N/s

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HCl	3	40ml Ambers	1455		MW-403
EPH	↓	↓	2	1 L Ambers	↓		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet
Spectra	140143	1/5/17	Sheet 1 of 1

TRC Personnel: [illegible]

Well ID: MW-404

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: ______

Flow-thru Cell Volume: ______

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up (from ground) ______ ft.

Riser Stick-up (from ground) ______ ft.

WELL DIAMETER: ☐ 2 inch ☑ 4 inch ☐ 6 inch

Other: ______

WELL MATERIAL: ☑ PVC ☐ SS

Other: ______

Well Depth ______ ft. ☐ top of riser ☐ top of casing ☐ ______ ☐ measured ☐ historical

Water Depth 12.85 ft.

LNAPL/DNAPL Depth = light sheen

Well Volume ______

NAPL Thickness = ______

Depth of pump intake: ~18 ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 400 ml/min

Adjusted purge Rates/time/WL(record changes): 400→375 @ 1315

Flow rate at time of sampling: 375

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1310	1315	1320	1325	1330	1335	1340	1345	1350
Temp. (°C)	13.21	13.37	13.33	13.37	13.35	13.38	13.43	13.44	13.44
Conduct. (μmhos/cm)	45777	45774	45768	45746	45758	45760	45761	45781	45783
DO (mg/L)	1.02	0.55	0.53	0.49	0.47	0.46	0.45	0.42	0.41
pH (su)	6.54	6.40	6.40	6.35	6.34	6.34	6.33	6.32	6.32
ORP (millivolts)	-25.6	-13.5	-13.3	-11.9	-12.0	-12.0	-12.0	-11.6	-11.5
Turbidity (NTU)	4.51	6.59	5.66	2.69	3.25	3.77	3.53	3.21	7.34
Flow (ml/min)	400	400	375	375	375	375	375	375	375
Depth To Water (ft)	12.85	12.88	12.88	12.88	12.88	12.88	12.88	12.88	12.88
Cumulative Purge Vol. (gal or L)									

Time	1355	1400	1405	1405		
Temp. (°C)	13.44	13.44	13.44	S		
Conduct. (μmhos/cm)	45780	45778	45781			
DO (mg/L)	0.42	0.43	0.43	A		
pH (Std. Units)	6.31	6.31	6.31	M		
Eh/ORP (millivolts)	-11.5	-11.5	-11.2	P		
Turbidity (NTU)	3.50	2.96	2.20	L		
Flow (ml/min)	375	375	375			
Depth To Water (ft)	12.88	12.88	12.88	E		
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (μmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: ______		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1 L A	1405	none	
VPH	N	HCl	3	40 mL A	1405	none	

* Consult the applicable regulatory guidance for the specific criteria.

Signed: [illegible]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra	140145	1/4/17	

TRC Personnel: Kollenberg

Well ID: MW-405

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: XSD

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL: [✓] PVC [ ] SS

Other: _____

Well Depth _____ ft. [X] top of riser [ ] top of casing [ ] _____ [ ] measured [ ] historical

Water Depth 14.33 ft.

Well Volume _____

LNAPL/DNAPL Depth = —

NAPL Thickness = —

Depth of pump intake: ~18'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 400 ml/min

Adjusted purge Rates/time/WL(record changes)

100 @ 375 @ 1355

Flow rate at time of sampling: 375 ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1350	1355	1400	1405	1410	1415	1420	1425	1430
Temp. (°C)	P	15.06	15.08	15.11	15.03	15.05	15.06	15.07	15.11
Conduct. (µmhos/cm)	P	32545	33158	35207	35397	36880	36920	36881	36981
DO (mg/L)	U	1.03	1.08	0.74	0.66	0.59	0.57	0.53	0.53
pH (su)	R	5.84	5.86	5.89	5.89	5.88	5.88	5.88	5.87
ORP (millivolts)	G	98.2	98.9	101.2	101.1	101.1	101.2	101.1	101.0
Turbidity (NTU)	E	6.64	3.95	3.52	2.38	1.79	1.50	1.02	1.31
Flow (ml/min)	400	400	375	375	375	375	375	375	375
Depth To Water (ft)	14.33	14.35	14.35	14.35	14.35	14.35	14.35	14.35	14.35
Cumulative Purge Vol. (gal or L)									

Time	1435	1440	1440						
Temp. (°C) 1435 1/4 15.11	~~37141~~	~~37359~~	15.11 1/4						
Conduct. (µmhos/cm)	37141	37359	A						
DO (mg/L)	0.54	0.53							
pH (Std. Units)	5.87	5.87	M						
Eh/ORP (millivolts)	101.0	101.1	P						
Turbidity (NTU)	1.01	1.97	L						
Flow (ml/min)	375	375							
Depth To Water (ft)	14.33	14.33	E						
Cumulative Purge Vol. (gal or L)									

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1-L A	1440	none	
VPH	N	HCl	3	40ML A	1440	none	

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Kollenberg

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra Weymouth C/S
Project No.: 140813.0002.4403
Date/Time: 1/5/17 1510
Sheet 1 of 1

TRC Personnel: BA
Well ID: MW-406

DUP-2

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground) 2 ft.

Riser Stick-up (from ground) 2 ft.

WELL DIAMETER [X] 2 inch [ ] 4 inch [ ] 6 inch
Other:

WELL MATERIAL [✓] PVC [ ] SS
Other:

Well Depth ____ ft. [X] top of riser [ ] top of casing [X] measured [ ] historical

Water Depth 13.84 ft.
Well Volume

LNAPL/DNAPL Depth = 13.80
NAPL Thickness = 0.04

Depth of pump intake: 18'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 280

Adjusted purge Rates/time/WL(record changes): 320

Flow rate at time of sampling: 320

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1510	1515	1520	1525	1530	1535	1540	1545	1550
Temp. (°C)	Start	12.56	12.61	12.59	12.62	12.70	12.66	12.62	12.57
Conduct. (µmhos/cm)	Pumping	976	26311	27401	26407	28614	35281	37205	37477
DO (mg/L)	↓	11.12	3.74	3.01	2.86	2.25	1.80	1.87	2.00
pH (su)		6.91	6.73	6.27	6.19	6.18	6.19	6.22	6.22
ORP (millivolts)		-104.4	-93.6	-84.9	-80.9	-77.4	-73.7	-76.1	-77.2
Turbidity (NTU)		000		20.3	13.9	10.1	8.94	7.31	4.22
Flow (ml/min)	280	320	→						
Depth To Water (ft)	13.84	13.89	→						
Cumulative Purge Vol. (gal or L)									

Time	1555	1600
Temp. (°C)	12.59	12.61
Conduct. (µmhos/cm)	37711	37812
DO (mg/L)	2.10	2.13
pH (Std. Units)	6.22	6.22
Eh/ORP (millivolts)	-78.7	-79.2
Turbidity (NTU)	3.97	3.74
Flow (ml/min)	320	→
Depth To Water (ft)	13.89	→
Cumulative Purge Vol. (gal or L)		

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments:
Product @ 13.80' DTW: 13.84'
Tubing able to pierce through product and into water table
Clear, Sl. odor, Sl. Sheen

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HCl	3	40 ml Amber	1600		MW-406
EPH	↓	↓	2	1 L Amber	↓		↓

DUP-2

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra	140143	1/5/17	

TRC Personnel: Kollenkiea

Well ID: MW-407

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment:

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: ☐ 2 inch ☐ 4 inch ☐ 6 inch — Other: _____

WELL MATERIAL: ☒ PVC ☐ SS — Other: _____

Well Depth _____ ft. ☒ top of riser ☐ top of casing ☐ measured ☐ historical

Water Depth 14.57 ft. — Well Volume _____

LNAPL/DNAPL Depth = 14.54

NAPL Thickness = 0.03

Depth of pump intake: ~ 18ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 300

Adjusted purge Rates/time/WL(record changes)

Flow rate at time of sampling: 350 ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1515	1520	1525	1535	1540	1545	1550	1555	1600
Temp. (°C)	P	13.12	13.14	13.13	13.24	13.24	13.28	13.31	13.32
Conduct. (µmhos/cm)		18080	18065	17947	18014	18001	18013	18020	18035
DO (mg/L)	V	1.74	2.05	2.09	1.87	1.89	1.87	1.89	1.91
pH (su)	K	6.54	6.54	6.53	6.55	6.55	6.55	6.55	6.55
ORP (millivolts)	S	-116.6	-116.7	-114.8	-120.0	-126.0	-127.0	-128.1	-127.9
Turbidity (NTU)	E	11.11	10.16	5.52	3.77	3.09	2.65	2.37	3.15
Flow (ml/min)		350	350	350	350	350	350	350	350
Depth To Water (ft)	14.57	14.57	14.57	14.57	14.57	14.57	14.57	14.57	14.57
Cumulative Purge Vol. (gal or L)									

Time	1605	1610	1610			
Temp. (°C)	13.32	13.33	S			
Conduct. (µmhos/cm)	18016	18000	A			
DO (mg/L)	1.92	1.89	M			
pH (Std. Units)	6.55	6.55	P			
Eh/ORP (millivolts)	-129.2	-128.4	L			
Turbidity (NTU)	3.12	3.05	E			
Flow (ml/min)	350	350				
Depth To Water (ft)	14.57	14.57				
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	☒	☒
Submersible Pump	☐	☐
Bladder Pump	☐	☐
Bailer	☐	☐
Other: _____	☐	☐

Comments: faint sheen in water, dump in drum

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L A	1610		
VPH	N	HCl	3	40mL A	1610		

- Consult the applicable regulatory guidance for the specific criteria.

Signed: _____

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra Weymouth C/S 4003 | Project No.: 140483.0000 | Date/Time: 1/5/17 0845 | Sheet 1 of 1

TRC Personnel: BA | Well ID: MW-408

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: Peristaltic Pump

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground) 2 ft.

Riser Stick-up (from ground) 2 ft.

WELL DIAMETER: ✓ 2 inch; 4 inch; 6 inch

Other:

WELL MATERIAL: [x] PVC [ ] SS

Other:

Well Depth ____ ft. ✓ top of riser; top of casing; ✓ measured; historical

Water Depth 13.36 ft.

Well Volume

LNAPL/DNAPL Depth = ____

NAPL Thickness = ____

Depth of pump intake: 19'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 230

Adjusted purge Rates/time/WL(record changes): 280, 300

Flow rate at time of sampling: 300

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0845	0850	0855	0900	0905	0910	0915	0920	0925
Temp. (°C)	Start	10.31	11.08	10.98	11.39	11.46	11.36	11.35	11.38
Conduct. (µmhos/cm)	purge	6741	7592	7240	6697	6621	6774	6731	6744
DO (mg/L)	↓	6.31	7.69	6.44	7.41	7.24	6.91	6.44	7.31
pH (su)		6.87	6.91	6.86	6.79	6.78	6.76	6.75	6.75
ORP (millivolts)		-130.3	-128.8	-134.2	-151.3	-152.8	-150.8	-154.1	-153.7
Turbidity (NTU)		73.4	68.3	57.4	41.6	35.4	27.1	24.3	18.4
Flow (ml/min)	230	230	280	300	→	→	→	→	→
Depth To Water (ft)	13.36	13.39	13.39	→	→	→	→	→	→
Cumulative Purge Vol. (gal or L)									

Time	0930	0935	0940	0945	0950
Temp. (°C)	11.41	11.63	11.33	11.46	11.60
Conduct. (µmhos/cm)	6725	6954	6568	6454	6457
DO (mg/L)	4.31	4.24	4.11	4.03	3.97
pH (Std. Units)	6.74	6.72	6.76	6.74	6.76
Eh/ORP (millivolts)	-155.5	-160.3	-163.4	-165.0	-162.1
Turbidity (NTU)	16.7	12.7	4.75	5.73	7.31
Flow (ml/min)	300	→	→	→	→
Depth To Water (ft)	13.39	→	→	→	→
Cumulative Purge Vol. (gal or L)					

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	✓	✓
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Clear, N/O, N/S

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HCl	3	3 40ML Amber	0950		MW-408
EPH	↓	↓	2	1L Amber	↓		↓

* Consult the applicable regulatory guidance for the specific criteria.

Signed:

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra Weymouth C/S — Project No.: 140113.0004.4403 — Date/Time: 1/4/17 1025 — Sheet 1 of 1

TRC Personnel: BA — Well ID: MW-409

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic pump

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground) 2 ft.

Riser Stick-up (from ground) 2 ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch — Other:

WELL MATERIAL: [X] PVC [ ] SS — Other:

Well Depth ____ ft. [X] top of riser [ ] top of casing [ ] ____ — [X] measured [ ] historical

Water Depth 13.08 ft. — Well Volume ____ — LNAPL/DNAPL Depth = ____ — NAPL Thickness = ____

Depth of pump intake: 15'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 220

Adjusted purge Rates/time/WL(record changes): 270

Flow rate at time of sampling: 270

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1035	1040	1045	1050	1055	1100	1105	1110	1115
Temp. (°C)	Start		12.23	12.29	12.37	12.50	12.85	12.66	12.14
Conduct. (µmhos/cm)	Purge		6057	7107	6688	6540	3568	6321	6440
DO (mg/L)	↓		6.97	~~6.99~~ 2.99	10.14	11.40	8.85	10.91	10.58
pH (su)	↓		6.85	6.71	6.64	6.70	6.70	6.69	6.67
ORP (millivolts)	↓		-130.0	-127.2	-134.1	-136.7	-133.3	-135.7	-139.9
Turbidity (NTU)	↓		21.6	14.1	10.2	8.16	5.01	7.91	7.31
Flow (ml/min)	~~220~~ 270	270	→	→	→	→	→	→	→
Depth To Water (ft)	~~13.05~~ 13.17	13.17	13.18	→	→	→	→	→	→
Cumulative Purge Vol. (gal or L)									

Time	1120	1125	1130	1135	1140	1145
Temp. (°C)	12.34	12.10	12.31	12.37	12.38	
Conduct. (µmhos/cm)	6315	6251	6166	6260	6269	
DO (mg/L)	9.92	9.54	7.93	7.35	7.39	
pH (Std. Units)	6.68	6.68	6.69	6.69	6.68	
Eh/ORP (millivolts)	-144.0	-145.9	-149.9	-150.3	-151.0	
Turbidity (NTU)	6.21	4.73	3.74	2.94	2.91	
Flow (ml/min)	270	→	→	→	→	
Depth To Water (ft)	13.18	→	→	→	→	
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Clear, NO, NS

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L Amber	1140		MW-409
VPH	↓	↓	3	40mL Amber	↓		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC	Project: Spectra Weymouth	Project No.: 140143	Date/Time: 11/20/17	Sheet 1 of 1
... Record	TRC Personnel: Kolleen Mea		Well ID: MW-410	

... INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up (from ground) ______ ft.

Riser Stick-up (from ground) ______ ft.

WELL DIAMETER [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: ______

WELL MATERIAL

[X] PVC [ ] SS

Other: ______

Well Depth ______ ft. [ ] top of riser [ ] top of casing [ ] ______ [ ] measured [ ] historical

Water Depth — ft.

Well Volume ______

LNAPL/DNAPL Depth = 13.02

NAPL Thickness = ______

Depth of pump intake: 18 ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min):

Adjusted purge Rates/time/WL(record changes)

Flow rate at time of sampling: 300 mL/m

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1135	1140	1145	1150	1155	1200	1205	1210	1215
Temp. (° C)	P	11.78	11.83	11.83	11.76	11.78	11.65	11.78	11.79
Conduct. (µmhos/cm)	U	31990	35260	35522	35898	36233	36653	36901	36920
DO (mg/L)	R	4.91	4.66	4.73	4.82	4.93	5.10	5.26	5.30
pH (su)	G	6.68	6.51	6.49	6.46	6.44	6.41	6.39	6.59
ORP (millivolts)	E	-74.2	-29.8	-27.8	-26.0	-24.3	-24.2	-39.6	-41.6
Turbidity (NTU)		22.2	12.7	8.07	8.04	5.59	2.84	2.98	2.98
Flow (ml/min)		300	300	300	300	300	300	300	300
Depth To Water (ft) product	13.02	—	—	—	—	—	—	—	—
Cumulative Purge Vol. (gal or L)									

Time	1220	1225	1230	1230		
Temp. (° C)	11.81	11.80	11.79	S		
Conduct. (µmhos/cm)	37011	37121	37210	A		
DO (mg/L)	5.34	5.37	5.40	M		
pH (Std. Units)	6.37	6.37	6.37	P		
Eh/ORP (millivolts)	-43.3	-45.9	-46.2	L		
Turbidity (NTU)	1.25	0.89	1.20	E		
Flow (ml/min)	300	300	300			
Depth To Water (ft)	—	—	—			
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: ______		

Comments: Final DTP: 13.08 ft

dump ~6 gallons of water into labeled drum

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L	1230	NA	
VPH	N	HCl	3	40mL	1230	NA	

* Consult the applicable regulatory guidance for the specific criteria.

Signed: Kolleen Mea

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra	14043	1/4/17	

TRC Personnel: Kolleen Shea

Well ID: MW-411

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: YSI

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL: [✓] PVC [ ] SS

Other: _____

Well Depth _____ ft. [X] top of riser [ ] top of casing [ ] _____ [ ] measured [ ] historical

Water Depth 12.86 ft.

Well Volume _____

LNAPL/DNAPL Depth = —

NAPL Thickness = —

Depth of pump intake: ~18ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): ~18ft

Adjusted purge Rates/time/WL(record changes)

400@375@1040

Flow rate at time of sampling: 375ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1035	1040	1045	1050	1055	1100	1105	1110	1115
Temp. (°C)	[illegible]	13.73	13.71	13.68	13.70	13.68	13.66	13.67	13.67
Conduct. (µmhos/cm)	[illegible]	29071	28986	28983	28826	28826	28658	28126	29135
DO (mg/L)	[illegible]	1.01	.99	.56	.61	.52	.49	.49	.51
pH (su)	[illegible]	6.03	6.02	6.02	6.03	6.02	6.02	6.03	6.03
ORP (millivolts)	[illegible]	-39.3	-40.7	-46.6	-49.4	-52.9	-54.2	-57.9	-57.8
Turbidity (NTU)	[illegible]	5.50	4.60	4.12	4.05	4.39	4.05	3.82	3.92
Flow (ml/min)	400	400	375	375	375	375	375	375	375
Depth To Water (ft)	12.86	12.88	12.88	12.88	12.88	12.88	12.89	12.89	12.89
Cumulative Purge Vol. (gal or L)									

Time	1120	1125	1125			
Temp. (°C)	13.72	13.71	S			
Conduct. (µmhos/cm)	29139	29135	A			
DO (mg/L)	.51	.52	M			
pH (Std. Units)	6.02	6.02	P			
Eh/ORP (millivolts)	-58.3	-58.5	L			
Turbidity (NTU)	4.12	3.84	E			
Flow (ml/min)	375	375				
Depth To Water (ft)	12.89	12.89				
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Baifer		
Other: _____		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
FPH	N	HCl	2	1LA	1125	None	
VPH	N	HCl	3	40mL A	1125	None	

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Kolleen Shea

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet ___ of ___
Specra	143140	1/5/17	Sheet 1 of 1

TRC Personnel: Kolleen Sullivan

Well ID: MW-412 (DUP-1)

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment:

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: ☐ 2 inch ☒ 4 inch ☐ 6 inch

Other: _____

WELL MATERIAL: ☒ PVC ☐ SS

Other: _____

Well Depth 15.47 ft. ☒ top of riser ☐ top of casing ☐ _____ ☐ measured ☐ historical

Water Depth 13.37 ft.

Well Volume _____

LNAPL/DNAPL Depth = _____

NAPL Thickness = Sheen

Depth of pump intake: ~18ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 250 ml/min

Adjusted purge Rates/time/WL(record changes) 250 → 200 @1040

Flow rate at time of sampling: 200ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1035	1040	1045	1050	1055	1100	1105	1110	1115
Temp. (°C)	P	12.64	12.57	12.49	12.55	12.59	12.61	12.65	12.70
Conduct. (µmhos/cm)	U	30388	30392	30397	30385	30395	30365	30345	30355
DO (mg/L)	R	1.38	1.13	1.15	1.03	1.07	0.98	0.99	0.94
pH (su)	G	6.30	6.24	6.24	6.22	6.22	6.21	6.21	6.20
ORP (millivolts)	E	8.5	11.5	12.6	11.4	11.4	13.1	12.9	13.2
Turbidity (NTU)	T	21.0	12.5	11.0	9.21	7.28	6.65	7.10	6.44
Flow (ml/min)		250	250	200	200	200	200	200	200
Depth To Water (ft)		13.37	13.42	13.42	13.42	13.42	13.42	13.42	13.42
Cumulative Purge Vol. (gal or L)									

Time	1120	1125	1130	1130		
Temp. (°C)	12.68	12.67	12.66	S		
Conduct. (µmhos/cm)	30359	30316	30317	T		
DO (mg/L)	0.92	0.92	0.91	A		
pH (Std. Units)	6.19	6.18	6.19	B		
Eh/ORP (millivolts)	14.6	14.4	15.4	I		
Turbidity (NTU)	4.89	4.48	4.47	L		
Flow (ml/min)	200	200	200	I		
Depth To Water (ft)	13.42	13.42	13.42	Z		
Cumulative Purge Vol. (gal or L)				E		

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments: ~~fluffy brown ppt~~ fluffy brownish precipitate at bottom of purge bucket

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
TPH	N	HCl	2	1LA	1130	~~MW-12~~	DUP-1
VPH	N	HCl	3	40 MLA	1130	~~MW-12~~	DUP-1

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Kolleen Sullivan

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet
Spectra Weymouth C/S	170145.0000.0000	1/3/17 1030	1 of 1

TRC Personnel: BA **Well ID:** MW-4/13

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: ______

Well Depth ______ ft. [X] top of riser [ ] top of casing [X] measured [ ] historical

Water Depth 13.71 ft.

Well Volume ______

LNAPL/DNAPL Depth = ______

NAPL Thickness = ______

Depth of pump intake: 18'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 300

Adjusted purge Rates/time/WL(record changes): 330

PID SCREENING MEAS.

Background	
Well Mouth	

WELL MATERIAL

[X] PVC [ ] SS

Other: ______

Flow rate at time of sampling: 330

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1030	1035	1040	1045	1050	1055	1100	1105	1110
Temp. (°C)	Start	11.64	11.88	12.14	12.10	11.93	11.91	11.75	11.70
Conduct. (µmhos/cm)	Purge	26013	26174	27066	27641	27655	27806	27884	28030
DO (mg/L)	↓	5.21	4.95	4.29	4.02	3.88	3.30	3.59	1.80
pH (su)		6.37	6.33	6.26	6.24	6.20	6.18	6.17	6.17
ORP (millivolts)		-43.0	-41.4	-40.4	-38.7	-36.7	-34.5	-32.7	-30.2
Turbidity (NTU)		54.3	37.9	31.7	26.9	23.4	20.2	15.6	13.1
Flow (ml/min)	300	330	→						
Depth To Water (ft)	13.71	13.75	→						
Cumulative Purge Vol. (gal or L)									

Time	1115	1120	1125	1130	1135	1140
Temp. (°C)	11.74	11.88	11.72	12.07	11.98	12.09
Conduct. (µmhos/cm)	28134	28165	28128	28147	28150	28141
DO (mg/L)	1.74	1.57	1.50	1.13	1.21	1.21
pH (Std. Units)	6.16	6.16	6.16	6.16	6.16	6.16
Eh/ORP (millivolts)	-29.4	-27.3	-26.2	-25.7	-24.9	-24.6
Turbidity (NTU)	13.4	12.8	10.41	8.85	7.41	7.43
Flow (ml/min)	330	→				
Depth To Water (ft)	13.75	→				
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Note: YSI DO readings high, recalibrated @ 1035, no readings then - Start @ 1040
Clear, sl. sheen, sl. petro odor

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HCl	3	40mL Amber	1140		
EPH	↓	↓	2	1L Amber	↓		↓

* Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra Weymouth NRS	14493.4403	1/6/17 1235	
TRC Personnel: BA		Well ID: MW-414	

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: [ ] 2 inch [X] 4 inch [ ] 6 inch Other:

WELL MATERIAL: [X] PVC [ ] SS Other:

Well Depth ____ ft. [X] top of riser [ ] top of casing [X] measured [ ] historical

Water Depth 14.65 ft.

Well Volume ____

LNAPL/DNAPL Depth = ~~14.65~~ 14.60 BA

NAPL Thickness = 0.05 BA

Depth of pump intake: 18'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 300

Adjusted purge Rates/time/WL(record changes): 330

Flow rate at time of sampling:

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1235	1240	1245	1250	1255	1300	1305	1310	1315
Temp. (°C)	Start	12.05	12.11	12.27	12.16	12.06	12.10	12.17	12.21
Conduct. (μmhos/cm)	Purge	26707	26731	26688	26367	26195	26055	25745	25640
DO (mg/L)	↓	6.31	6.36	6.41	6.50	6.54	6.58	6.64	6.69
pH (su)		6.26	6.26	6.24	6.22	6.21	6.21	6.21	6.21
ORP (millivolts)		-32.4	-33.1	-35.1	-38.4	-34.3	-40.3	-42.2	-43.2
Turbidity (NTU)		42.7	33.9	31.6	22.5	17.2	13.9	9.31	8.84
Flow (ml/min)	300	330	→						
Depth To Water (ft)	14.65	→							
Cumulative Purge Vol. (gal or L)									

Time	1320					
Temp. (°C)	12.22					
Conduct. (μmhos/cm)	25680					
DO (mg/L)	6.70					
pH (Std. Units)	6.21					
Eh/ORP (millivolts)	-43.7					
Turbidity (NTU)	7.31					
Flow (ml/min)	330					
Depth To Water (ft)	14.65					
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria*
(3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (μmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Clear, sl petro odor, sheen

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HCl	3	40mL Amber	1320		MW-414
EPH	↓	↓	2	1L Amber	↓		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet
Spectra/Plymouth CS	M0M3.000.4603	1/5/17 1310	Sheet 1 of 1

TRC Personnel: BA

Well ID: MW-415

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other:

WELL MATERIAL: [X] PVC [ ] SS

Other:

Well Depth ____ ft. [X] top of riser [ ] top of casing [X] measured [ ] historical

Water Depth 15.35 ft.

Well Volume

LNAPL/DNAPL Depth =

NAPL Thickness =

Depth of pump intake: 18'

Static water level after pump put into well:

Initial purge Rate/Water Level (100-400 ml/min): 260

Adjusted purge Rates/time/WL(record changes): 300, 330

Flow rate at time of sampling: 330

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1310	1315	1320	1325	1330	1335	1340	1345	1350
Temp. (°C)	Start Purge ↓	13.03	13.45	13.33	13.65	13.58	13.98	14.01	13.83
Conduct. (µmhos/cm)		25452	25446	25622	25768	25797	25953	26093	26100
DO (mg/L)		1.79	1.89	1.76	1.34	1.22	0.51	0.99	1.05
pH (su)		6.78	6.75	6.72	6.72	6.72	6.72	6.70	6.73
ORP (millivolts)		-43.1	-56.2	-67.8	-72.7	-74.6	-81.0	-85.3	-88.4
Turbidity (NTU)		7.86	4.97	3.98	2.80	2.63	1.65	1.37	1.21
Flow (ml/min)	260	300	330	→	→	→	→	→	→
Depth To Water (ft)	15.35	15.39	→	→	→	→	→	→	→
Cumulative Purge Vol. (gal or L)									

Time	1355	1400	1405	1410	1415	1420
Temp. (°C)	13.84	13.87	13.86	13.86	14.03	14.01
Conduct. (µmhos/cm)	26069	26031	26100	26059	26071	26107
DO (mg/L)	1.19	1.24	1.37	1.55	1.41	1.39
pH (Std. Units)	6.73	6.73	6.73	6.74	6.74	6.74
Eh/ORP (millivolts)	-89.4	-93.4	-97.6	-98.3	-101.2	-103.4
Turbidity (NTU)	0.99	0.91	0.89	0.75	0.59	0.61
Flow (ml/min)	330	→	→	→	→	→
Depth To Water (ft)	15.39	→	→	→	→	→
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Clear, Sheen, Sl. Petro odor

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HCl	3	40ml Amber	1420		MW-415
EPH	↓	↓	2	1 L Amber	↓		↓

* Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra Weymouth C/S | Project No.: 420143.0000 | Date/Time: 1/3/17 0945 | Sheet 1 of 8

TRC Personnel: BA | Well ID: BMW-41B

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic Pump

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): N/A ft.

Riser Stick-up (from ground): N/A ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch — Other: ____

WELL MATERIAL: [X] PVC [ ] SS — Other: ____

Well Depth ____ ft. [X] top of riser [ ] top of casing [ ] ____ | [X] measured [ ] historical

Water Depth 11.32 ft. | Well Volume ____ | LNAPL/DNAPL Depth = ____ | NAPL Thickness = ____

Depth of pump intake: 18'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 240 ML/MIN

Adjusted purge Rates/time/WL(record changes): 270 ML/MIN

Flow rate at time of sampling: 270 m/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0945	0950	0955	1000	1005	1010	1015	1020	1025
Temp. (°C)	Start Purge	11.93	11.91	11.81	11.98	11.86	11.90	11.94	
Conduct. (µmhos/cm)			3174.6	3044.6	3369.0	3571.6	3361.6	3476.1	3481.0
DO (mg/L)		2.21	1.99	1.87	2.11	2.31	2.39	2.41	2.68
pH (su)		6.24	6.25	6.27	6.28	6.28	6.29	6.29	6.29
ORP (millivolts)		191.3	190.1	186.1	181.7	173.4	171.6	174.3	173.7
Turbidity (NTU)		OOR	24.6	24.7	22.7	19.3	17.6	15.5	17.1
Flow (ml/min)	240	270							
Depth To Water (ft)	11.32	11.37	11.37	11.38					
Cumulative Purge Vol. (gal or L)									

Time	1030	1035	1040	1045	1050	1055
Temp. (°C)	12.15	12.10	12.04	12.00	12.14	12.22
Conduct. (µmhos/cm)	3561.3	3571.0	3592	4016.0	3950.1	3957.6
DO (mg/L)	2.71	2.81	3.02	3.16	3.30	3.17
pH (Std. Units)	6.29	6.30	6.31	6.28	6.29	6.29
Eh/ORP (millivolts)	172.9	174.0	172.8	173.1	169.1	168.3
Turbidity (NTU)	16.7	17.2	17.0	22.1	10.01	8.27
Flow (ml/min)	270					
Depth To Water (ft)	10.38					
Cumulative Purge Vol. (gal or L)					5 gal	

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: ____		

Comments: Clear, No, No

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	~~ASTM~~ HCl	2	1L Amber	1055		MW-41B (D)
VPH	↓	HNO_3	3	3 40mL	↓		↓

* Consult the applicable regulatory guidance for the specific criteria.

Signed: ____

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra	140143	11/3/17 0955	

TRC Personnel: Kaileen Shea

Well ID: MW417

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: YSI

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL: [✓] PVC [ ] SS

Other: _____

Well Depth — ft. [X] top of riser [ ] top of casing [ ] _____ [ ] measured [ ] historical

Water Depth 11.05 ft.

Well Volume _____

LNAPL/DNAPL Depth = —

NAPL Thickness = —

Depth of pump intake: ~17 ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 200 ml/min

Adjusted purge Rates/time/WL(record changes) 200 @ 150 @ 1000

Flow rate at time of sampling: 150ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0955	1000	1005	1010	1015	1020	1025	1030	1035
Temp. (°C)	11.62	11.93	11.93	11.94	11.94	11.95	11.99	12.03	12.11
Conduct. (µmhos/cm)	36131	35965	35964	35989	35954	36017	36052	36103	36152
DO (mg/L)	1.33	1.40	1.39	1.38	1.35	1.36	1.26	1.21	1.17
pH (su)	6.62	6.38	6.37	6.35	6.33	6.33	6.33	6.32	6.30
ORP (millivolts)	63.3	104.36	117.5	115.6	117.0	119.1	122.3	126.3	126.4
Turbidity (NTU)	19.37	15.53	15.41	14.32	12.91	10.51	9.97	9.56	10.01
Flow (ml/min)	200	150	150	150	150	150	150	150	150
Depth To Water (ft)	11.07	11.07	11.07	11.07	11.07	11.07	11.07	11.07	11.07
Cumulative Purge Vol. (gal or L)									

Time	1040	1045				
Temp. (°C)	12.12	S				
Conduct. (µmhos/cm)	36163	A				
DO (mg/L)	1.17	M				
pH (Std. Units)	6.30	P				
Eh/ORP (millivolts)	126.9	L				
Turbidity (NTU)	9.98	E				
Flow (ml/min)	150					
Depth To Water (ft)	11.07					
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria*
(3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
TPH	N	HCl	3	1LA	1045	None	MW-417
VPH	N	HCl	3	40mLA	1045	None	

* Consult the applicable regulatory guidance for the specific criteria.

Signed: Kaileen Shea

Rev: April 2014

Low-Flow System Sampling

Date:	3/20/2017	Turbidity Make/Model:	HACH		
Operator Name:	Acornell	Well ID:	MW-205		
Company Name:	TRC	Well diameter:	2 in. PVC	Page 1 of 1	
Project Name:	140143.0000.4903	Well Total Depth:	22.08 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	14.69 ft	Start Time:	1122 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	250 mL/min	Sample Collected:	1240 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec		
Pump in take:	20 ft	Total Volume Pumped:	3.3 gallons		
Sonde SN:	452165				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
180	7.12	-9.9	24297.3	0.13	10.97	7.39	14.74	350
360	7.09	-10	24682.0	0.1	10.97	7.12	14.74	350
540	7.11	-10.1	24774.8	0.09	10.97	6.58	14.74	350
720	7.11	-11.6	24785.6	0.07	11.01	6.24	14.74	350
900	7.10	-10.6	24854.7	0.07	11.05	6.56	14.74	350
1080	7.11	-10.4	24751.0	0.06	11.04	4.53	14.74	350
1260	7.1	-10.6	24779.9	0.06	11.02	4.3	14.74	350
1440	7.1	-10.6	24721.4	0.07	11.01	3.65	14.74	350
1620	7.1	-10.6	24708.5	0.07	11.04	3.48	14.74	350
1800	7.11	-10.4	24541.9	0.07	11.01	2.95	14.74	350
1980	7.10	-10.6	24534.2	0.06	11.01	3.32	14.74	350
2160	7.11	-10.6	24531.0	0.07	11.03	2.77	14.74	350

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40ml V	1240	N	MW-205
EPH-10	N	HCL	2	1L A	1240	N	MW-205

Notes: Water measurements are from top of PVC.

Low-Flow System Sampling

Date:	3/20/2017	Turbidity Make/Model:	HACH		
Operator Name:	Acornell	Well ID:	MW-401		
Company Name:	TRC	Well diameter:	2 in. PVC	Page 1 of 1	
Project Name:	140143.0000.4903	Well Total Depth:	25.08 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	14 ft	Start Time:	1020 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	350 mL/min	Sample Collected:	1120 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec		
Pump in take:	20 ft	Total Volume Pumped:	4.5 gallons		
Sonde SN:	452165				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
180	7.33	-16.2	40815.7	2.53	11.64	94.4	14.04	350
360	7.42	-14.2	40319.1	2.51	11.86	80.6	14.05	350
540	7.42	-9.5	39856.0	2.48	11.93	67.8	14.05	350
720	7.4	-6	39633.1	2.36	11.94	43.8	14.05	350
900	7.37	-3.8	39337.3	2.23	11.94	43.5	14.05	350
1080	7.37	-1.5	39202.2	2.04	11.93	32.2	14.05	350
1260	7.36	0.3	38948.0	1.91	11.89	24.9	14.05	350
1440	7.37	0.7	38867.9	1.78	11.89	20.20	14.05	350
1620	7.36	1.6	38742.9	1.62	11.85	15.7	14.05	350
1800	7.35	2.6	38691.2	1.44	11.85	12.3	14.05	350
1980	7.34	3.4	38581.3	1.23	11.85	10.3	14.05	350
2160	7.34	3.8	38537.0	1.06	11.88	8.34	14.05	350
2340	7.33	4.4	38435.7	0.88	11.85	7.49	14.05	350
2520	7.34	5.3	38340.7	0.75	11.85	5.48	14.05	350
2700	7.33	5.6	38328.0	0.64	11.87	4.83	14.05	350
2882	7.33	6.6	38291.4	0.55	11.89	4.44	14.05	350

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40ml V	1120	N	MW-401
EPH-10	N	HCL	2	1L A	1120	N	MW-401

Notes: Water measurements are from top of PVC.

Low-Flow System Sampling

Date:	3/20/2017	Turbidity Make/Model:	HACH		
Operator Name:	Acornell	Well ID:	MW-402		
Company Name:	TRC	Well diameter:	2 in. PVC	Page 1 of 1	
Project Name:	140143.0000.4903	Well Total Depth:	25.14 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	15.24 ft	Start Time:	1305 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	350 mL/min	Sample Collected:	1345 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec		
Pump in take:	20 ft	Total Volume Pumped:	3.6 gallons		
Sonde SN:	452165				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
180	6.9	45.7	24971.2	0.99	11.11	42.5	15.27	350
360	6.87	43.7	24130.1	0.91	10.97	21.9	15.28	350
540	6.91	37.8	23226.8	0.83	10.92	15.9	15.28	350
720	6.92	30.2	22497.4	0.75	10.92	10.9	15.28	350
901	6.94	16.3	21889.4	0.68	10.97	6.19	15.28	350
1082	6.95	8.9	21261.8	0.63	11.11	5.29	15.28	350
1262	6.96	0.3	20672.4	0.58	11.14	3.4	15.28	350
1442	6.97	-3.1	20338.4	0.57	11.11	2.80	15.28	350
1622	6.96	-6.5	20012.1	0.54	11.15	2.38	15.29	350
1802	6.97	-10.5	19630.9	0.51	11.18	2.17	15.29	350
1982	6.98	-20.3	19142.3	0.47	11.20	3.35	15.3	350
2162	7	-24.4	18846.5	0.45	11.20	1.96	15.3	350
2342	7	-28.6	18661.5	0.42	11.19	2.21	15.3	350

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40mlV	1345	N	MW-402
EPH-10	N	HCL	2	1LA	1345	N	MW-402

Notes: Water measurements are from top of PVC.

Low-Flow System Sampling

Date:	3/23/2017	Turbidity Make/Model:	HACH		
Operator Name:	ACornell	Well ID:	MW-404		
Company Name:	TRC	Well diameter:	in. PVC	Page 1 of 2	
Project Name:	140143.0000.4903	Well Total Depth:	20 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	13.52 ft	Start Time:	0945 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	350 mL/min	Sample Collected:	1100 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec		
Pump in take:	17 ft	Total Volume Pumped:	7.2 gallons		
Sonde SN:	452165				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
181	6.28	38.3	40026.5	0.27	8.90	18.3	13.14	350
361	6.32	32.9	39586.0	0.19	9.38	23.9	13.16	350
541	6.33	31.1	39356.6	0.16	9.61	25	13.16	350
721	6.33	30	39261.5	0.13	9.62	18.3	13.16	350
901	6.33	29.7	39195.9	0.13	9.66	36.8	13.16	350
1081	6.34	29.4	39245.7	0.11	9.66	19.5	13.16	350
1261	6.35	29.4	39222.0	0.11	9.68	24.4	13.16	350
1441	6.36	29.3	39378.6	0.1	9.68	27.3	13.16	350
1621	6.35	29.4	39382.0	0.1	9.71	24.5	13.16	350
1801	6.35	29.5	39232.7	0.1	9.73	10.8	13.16	350
1981	6.36	29.6	39252.1	0.1	9.70	8.63	13.16	350
2161	6.35	29.8	39187.6	0.09	9.71	8.26	13.16	350
2341	6.34	30	39158.6	0.09	9.80	7.02	13.16	350
2521	6.35	30.2	39005.2	0.09	9.84	7.5	13.16	350
2701	6.35	29.2	38931.7	0.09	9.85	6.17	13.16	350
2881	6.36	26.4	38518.6	0.08	9.95	7.13	13.16	350
3061	6.36	24.9	38196.6	0.08	10.06	19	13.16	350
3241	6.34	24.3	38027.2	0.08	10.08	7.92	13.16	350
3421	6.34	24.2	37700.5	0.08	10.11	8.12	13.16	350
3601	6.34	24.2	37547.8	0.08	10.18	10.4	13.16	350
3780	6.34	24.5	37240.6	0.07	10.23	10.1	13.16	350
3960	6.32	24.8	37281.4	0.07	10.24	11.5	13.16	350
4140	6.33	25	37151.2	0.07	10.31	7.82	13.16	350
4320	6.32	24.9	37027.8	0.07	10.31	6.73	13.16	350

Low-Flow System Sampling

Date:	3/23/2017	Turbidity Make/Model:	HACH		
Operator Name:	Acornell	Well ID:	MW-404		
Company Name:	TRC	Well diameter:	in. PVC	Page 2 of 2	
Project Name:	140143.0000.4903	Well Total Depth:	20 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	13.52 ft	Start Time:	0945 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	350 mL/min	Sample Collected:	1100 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec		
Pump in take:	17 ft	Total Volume Pumped:	7.2 gallons		
Sonde SN:	452165				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
4500	6.32	25	36939.8	0.07	10.32	6.62	13.16	350
4680	6.33	25	36914.1	0.07	10.35	6.5	13.16	350

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40ml V	1100	N	MW-404
EPH-10	N	HCL	2	1L A	1100	N	MW-404

Notes: Water measurements are from top of PVC.

Low-Flow System Sampling

Date:	3/23/2017	Turbidity Make/Model:	HACH		
Operator Name:	Acornell	Well ID:	MW-405		
Company Name:	TRC	Well diameter:	4 in. PVC	Page 1 of 1	
Project Name:	140143.0000.4903	Well Total Depth:	21 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	14.75 ft	Start Time:	1130 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	350 mL/min	Sample Collected:	1205 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec		
Pump in take:	18 ft	Total Volume Pumped:	3 gallons		
Sonde SN:	452165				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
180	6.45	74.5	5277.3	0.76	12.70	1.59	14.75	350
360	6.38	75.4	4935.4	0.8	12.77	1.2	14.75	350
540	6.33	75.2	4940.9	0.8	12.84	0.58	14.75	350
720	6.32	74.5	4698.3	0.78	12.89	0.6	14.75	350
900	6.30	74	4618.7	0.77	12.86	0.45	14.75	350
1080	6.29	73.6	4479.4	0.76	12.83	0.92	14.75	350
1260	6.3	72.3	4186.5	0.74	12.76	0.41	14.75	350
1440	6.28	72.2	4274.4	0.72	12.76	0.57	14.75	350
1620	6.28	71.4	4225.3	0.7	12.73	0.28	14.75	350
1800	6.27	71.2	4222.6	0.68	12.72	0.31	14.75	350
1980	6.26	71	4172.3	0.67	12.81	0.22	14.75	350

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40ml V	1205	N	MW-405
EPH-10	N	HCL	2	1L A	1205	N	MW-405

Notes: Water measurements are from top of PVC.

Low-Flow System Sampling

Date:	3/21/2017	Turbidity Make/Model:	HACH	Page 1 of 1	
Operator Name:	Acornell	Well ID:	MW-406		
Company Name:	TRC	Well diameter:	2 in. PVC		
Project Name:	140143.0000.4903	Well Total Depth:	23 ft	Depth to Product:	13.93 ft
Site Name:	Weymouth C/S	Screen Length:	15 ft	Product Thickness:	0.02
Tubing Type:	LDPE	Depth to Water:	13.95 ft		
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	350 mL/min		
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec	Start Time:	1025 hrs
Pump in take:	20 ft	Total Volume Pumped:	3 gallons	Sample Collected:	1100 hrs
Sonde SN:	452165				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
180	5.85	-57	28930.8	0.05	12.65	2.35		350
360	5.87	-59.4	29802.3	0.02	12.54	2.28		350
540	5.88	-59.6	31613.3	0.03	12.57	3.71		350
720	5.91	-61.6	32248.8	0.01	12.63	1.65		350
900	5.93	-64.5	32816.8	0.01	12.67	1.5		350
1080	5.94	-67.9	33362.1	-0.01	12.72	1.48		350
1260	5.95	-72.2	33500.9	-0.02	12.74	1.67		350
1440	5.96	-76.9	34357.1	-0.03	12.76	1.58		350
1620	5.97	-79.4	34401.1	-0.03	12.77	1.68		350
1800	5.97	-83.1	34630.0	-0.03	12.81	1.11		350
1980	5.98	-84.9	34752.9	-0.02	12.82	1.52		350

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40ml V	1100	N	MW-406
EPH-10	N	HCL	2	1L A	1100	N	MW-406

Notes: Water measurements are from top of PVC. DTW was not recorded during sampling due to the thick viscous product.
Dup sample collected.

Low-Flow System Sampling

Date:	3/21/2017	Turbidity Make/Model:	HACH	Page 1 of 1	
Operator Name:	ACornell	Well ID:	MW-407		
Company Name:	TRC	Well diameter:	2 in. PVC		
Project Name:	140143.0000.4903	Well Total Depth:	25.14 ft	Depth to Product:	14.42ft
Site Name:	Weymouth C/S	Screen Length:	15 ft	Product Thickness:	1 ft
Tubing Type:	LDPE	Depth to Water:	15.42 ft		
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	350 mL/min		
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec	Start Time:	1250 hrs
Pump in take:	20 ft	Total Volume Pumped:	3 gallons	Sample Collected:	1330 hrs
Sonde SN:	452165				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
180	6.36	28	40195.9	0.82	12.68	25.4		350
360	6.4	24.2	40231.8	0.7	12.58	22.6		350
540	6.39	21.5	40153.9	0.6	12.52	23.9		350
720	6.4	19	40171.0	0.51	12.49	24.8		350
901	6.40	17.1	40142.0	0.43	12.54	20.2		350
1082	6.42	15.9	40147.7	0.35	12.58	22.9		350
1262	6.41	15.2	40153.0	0.29	12.58	23.2		350
1442	6.42	14.1	40026.7	0.23	12.61	23.00		350
1622	6.43	14	40086.2	0.18	12.62	25.3		350
1802	6.45	13.9	40142.9	0.14	12.58	23.4		350
1982	6.45	13.8	40024.9	0.11	12.63	24.6		350

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40ml V	1330	N	MW-407
EPH-10	N	HCL	2	1L A	1330	N	MW-407

Notes: Water measurements are from top of PVC. DTW was not recorded during sampling due to the thick viscous product.

Low-Flow System Sampling

Date:	3/22/2017	Turbidity Make/Model:	HACH		
Operator Name:	ACornell	Well ID:	MW-412		
Company Name:	TRC	Well diameter:	4 in. PVC	Page 1 of 1	
Project Name:	140143.0000.4903	Well Total Depth:	23 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	13.52 ft	Start Time:	1045 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	300 mL/min	Sample Collected:	1120 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec		
Pump in take:	18 ft	Total Volume Pumped:	2.9 gallons		
Sonde SN:	452165				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
180	6.13	7.1	34596.2	0.14	10.70	8.65	13.46	300
360	6.12	6.1	33848.7	0.11	10.73	25.5	13.46	300
540	6.1	6.1	33361.5	0.09	10.92	5.65	13.46	300
720	6.1	5.6	33062.4	0.07	11.18	5.18	13.46	300
900	6.11	5	32703.5	0.06	11.15	2.69	13.46	300
1080	6.1	4.8	32349.3	0.06	11.09	3.59	13.46	300
1260	6.13	4.2	32207.7	0.06	11.07	3.97	13.46	300
1440	6.13	2.6	32104.3	0.05	10.92	3.37	13.46	300
1620	6.1	4	32409.6	0.05	11.06	3.68	13.46	300
1800	6.10	4.2	31842.1	0.05	11.15	3.3	13.46	300
1980	6.12	4.3	31922.8	0.04	11.11	3.28	13.46	300

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40ml V	1120	N	MW-412
EPH-10	N	HCL	2	1L A	1120	N	MW-412

Notes: Water measurements are from top of PVC.

Low-Flow System Sampling

Date:	3/22/2017	Turbidity Make/Model:	HACH		
Operator Name:	Annie	Well ID:	MW-413		
Company Name:	TRC	Well diameter:	4 in. PVC	Page 1 of 1	
Project Name:	140143.0000.4903	Well Total Depth:	23 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	13.98 ft	Start Time:	0930 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	150 mL/min	Sample Collected:	1015 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec		
Pump in take:	19 ft	Total Volume Pumped:	2 gallons		
Sonde SN:	452165				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
180	6.2	-7.1	18935.6	6.54	11.20	66.2	13.82	150
360	6.22	-16.7	19820.3	6.15	11.10	50.8	13.81	150
540	6.23	-20.5	20503.2	5.89	10.96	49.6	13.81	150
900	6.23	-25	21230.1	5.46	10.92	32.9	13.81	150
1080	6.23	-26	21523.2	5.28	10.85	25.9	13.81	150
1260	6.22	-29.8	21810.5	5.13	10.90	23.5	13.81	150
1440	6.22	-28.4	21963.7	4.99	10.84	18.2	13.81	150
1620	6.21	-27	22096.0	4.83	10.87	14.2	13.81	150
1800	6.21	-26.7	22243.7	4.66	10.84	13.1	13.81	150
1980	6.21	-27.8	22412.3	4.49	10.83	14.7	13.81	150
2161	6.2	-26.6	22441.7	4.35	10.83	14.4	13.81	150
2341	6.2	-26.9	22539.9	4.21	10.83	11.1	13.81	150
2521	6.19	-26.4	22558.9	4.03	10.92	11.20	13.81	150
2701	6.19	-25.6	22631.1	3.89	10.99	10.8	13.81	150

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40ml V	1015	N	MW-413
EPH-10	N	HCL	2	1L A	1015	N	MW-413

Notes: Water measurements are from top of PVC.

Low-Flow System Sampling

Date:	3/21/2017	Turbidity Make/Model:	HACH	Page 1 of 1	
Operator Name:	BAyers	Well ID:	MW-201		
Company Name:	TRC	Well diameter:	2 in. PVC		
Project Name:	140143.0000.4903	Well Total Depth:	20.41 ft	Depth to Product:	13.70 ft
Site Name:	Weymouth C/S	Screen Length:	15 ft	Product Thickness:	0.17
Tubing Type:	LDPE	Depth to Water:	13.87 ft		
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	300 mL/min		
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	300 sec	Start Time:	1136 hrs
Pump in take:	20 ft	Total Volume Pumped:	6 gallons	Sample Collected:	1155 hrs
Sonde SN:	358315				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
300	6.96	-247.1	27161	-0.08	13.46	0.86	13.89	300
600	6.97	-221.4	27472.2	-0.07	12.96	0.74	13.89	300
900	6.96	-211.8	27484.0	-0.08	12.99	0.81	13.89	300
1200	6.94	-207.3	27474.6	-0.08	12.93	0.73	13.89	300
1500	6.93	-204.1	27532.8	-0.07	12.91	0.74	13.89	300
1800	6.93	-203.1	27669.0	-0.08	12.74	0.97	13.89	300
2100	6.93	-202.4	27555.1	-0.08	12.80	1.08	13.89	300
2400	6.92	-202.7	27569.5	-0.09	12.81	1.01	13.89	300

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40ml V	1155	N	MW-201
EPH-10	N	HCL	2	1L A	1155	N	MW-201

Notes: Heavy product, groundwater purged for approximately 3 gallons before water quality parameters gauged/taken, clear, petro odor, sheen in bucket. DTW is not measured due to the thick viscous product.

Low-Flow System Sampling

Date:	3/20/2017	Turbidity Make/Model:	HACH		
Operator Name:	BAyers	Well ID:	MW-204		
Company Name:	TRC	Well diameter:	2 in. PVC	Page 1 of 1	
Project Name:	140143.0000.4903	Well Total Depth:	20 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	13.84 ft	Start Time:	1150 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	300 mL/min	Sample Collected:	1245 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	300 sec		
Pump in take:	19 ft	Total Volume Pumped:	0 gallons		
Sonde SN:	358315				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
300	6.73	-104.7	35100.6	0.15	12.48	19.4	13.86	300
600	6.76	-113.2	35696.8	0.13	12.26	13.6	13.86	300
900	6.78	-117.1	35579.7	0.11	12.42	9.31	13.86	300
1200	6.79	-116.7	35456.1	0.1	12.48	5.96	13.86	300
1500	6.79	-111.9	35647.0	0.32	12.58	4.32	13.86	300
1800	6.79	-108.7	35592.9	0.16	12.57	4.09	13.86	300
2100	6.79	-98.5	35549.5	0.1	12.61	3.96	13.86	300
2400	6.78	-81.2	35461.0	0.09	12.70	4.21	13.86	300
2700	6.76	-63.4	35707.8	0.2	12.47	3.71	13.86	300
3000	6.75	-61.1	35597.7	0.18	12.57	3.67	13.86	300
3300	6.75	-56.9	35540.5	0.18	12.66	3.51	13.86	300
3600	6.74	-53.9	35564.7	0.15	12.62	3.27	13.86	300
3900	6.74	-53.5	35518.7	0.14	12.66	3.19	13.86	300

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40ml V	1245	N	MW-204
EPH-10	N	HCL	2	1L A	1245	N	MW-204

Notes: Clear no odor, no sheen, Water measurements are from top of PVC

Low-Flow System Sampling

Date:	3/20/2017	Turbidity Make/Model:	HACH		
Operator Name:	BAyers	Well ID:	MW-400		
Company Name:	TRC	Well diameter:	in. PVC	Page 1 of 1	
Project Name:	140143.0000.4903	Well Total Depth:	23 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	12.88 ft	Start Time:	1320 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	300 mL/min	Sample Collected:	1415 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	300 sec		
Pump in take:	19 ft	Total Volume Pumped:	0 gallons		
Sonde SN:	358315				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
300	-	-	-	-	-	-	-	-
600	6.61	-13.2	44144.0	0.11	13.25	5.21	12.96	300
900	6.61	-15.6	44044	0.11	13.26	3.46	12.98	300
1200	6.62	-43.4	43909.0	0.09	13.37	1.56	12.98	300
1500	6.62	-49	43845.0	0.08	13.48	1.37	12.98	300
1800	6.61	-41	43757.0	0.07	13.57	0.66	12.98	300
2100	6.6	-10.5	43726.0	0.06	13.66	0.56	12.98	300
2400	6.55	72.1	43652	0.06	13.61	0.39	12.98	300
2700	6.54	64.4	43639	0.06	13.66	0.32	12.98	300
3000	6.54	63.6	43589.8	0.06	13.68	0.2	12.98	300
3300	6.53	63.1	43550.9	0.06	13.7	0.19	12.98	300

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40ml V	1415	N	MW-400
EPH-10	N	HCL	2	1L A	1415	N	MW-400

Notes: Purged first 5 minutes, clear no odor, no staining, water measurements are from top of PVC

Low-Flow System Sampling

Date:	3/22/2017	Turbidity Make/Model:	HACH		
Operator Name:	BAyers	Well ID:	MW-403		
Company Name:	TRC	Well diameter:	2 in. PVC	Page 1 of 2	
Project Name:	140143.0000.4903	Well Total Depth:	23 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	13.51 ft	Start Time:	1030 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	300 mL/min	Sample Collected:	1215 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	300 sec		
Pump in take:	20 ft	Total Volume Pumped:	0 gallons		
Sonde SN:	358315				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
300	-	-	-	-	-	-	-	-
600	6.75	-104.6	43441	0.95	8.47	2.96	13.51	300
900	6.75	-115.1	43314.3	0.68	8.17	2.47	13.51	300
1200	6.74	-122.3	42665.1	0.49	8.17	2.4	13.51	300
1500	6.75	-128.4	41920.8	0.38	8.03	1.31	13.51	300
1800	6.75	-133.2	40897.2	0.29	8.22	0.86	13.51	300
2100	6.78	-137.1	39486.3	0.24	8.33	0.73	13.51	300
2400	6.8	-142	38640.0	0.18	8.35	0.69	13.51	300
2700	6.83	-144.3	37634.0	0.11	8.12	1.28	13.51	300
3000	6.84	-148.7	36282.4	0.09	8.37	1.18	13.51	300
3300	6.88	-149.6	35109.8	0.08	8.26	0.17	13.51	300
3600	6.9	-149.9	34607.1	0.07	8.37	0.39	13.51	300
3900	6.92	-149.9	34105.3	0.06	8.65	0.68	13.51	300
4200	6.93	-150.6	34053.9	0.06	8.93	0.71	13.51	300
4500	6.95	-150.4	33075.0	0.08	9.32	0.53	13.51	300
4800	6.95	-148.2	32693.3	0.1	9.41	0.69	13.51	300
5100	6.95	-147.2	30742.5	0.14	9.45	0.75	13.51	300
5400	6.92	-146.8	31848.4	0.16	9.21	0.79	13.51	300
5700	6.91	-144.7	31260	0.2	8.70	0.71	13.51	300
6000	6.9	-142.9	30439.8	0.22	8.65	0.6	13.51	300
6300	6.91	-141.2	30129.9	0.22	8.62	0.60	13.51	300
6600	6.92	-138.6	28828.1	0.27	8.51	0.57	13.51	300

Low-Flow System Sampling

Date:	3/22/2017	Turbidity Make/Model:	HACH		
Operator Name:	BAyers	Well ID:	MW-403		
Company Name:	TRC	Well diameter:	2 in. PVC	Page 2 of 2	
Project Name:	140143.0000.4903	Well Total Depth:	23 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	15.42 ft	Start Time:	1030 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	300 mL/min	Sample Collected:	1215 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	300 sec		
Pump in take:	20 ft	Total Volume Pumped:	0 gallons		
Sonde SN:	358315				

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40ml V	1215	N	MW-403
EPH-10	N	HCL	2	1L A	1215	N	MW-403

Notes: Purged first 5 minutes, clear, no odor, no sheen, water measurements are from top of PVC

Low-Flow System Sampling

Date:	3/22/2017	Turbidity Make/Model:	HACH		
Operator Name:	BAyers	Well ID:	MW-411		
Company Name:	TRC	Well diameter:	2 in. PVC	Page 1 of 1	
Project Name:	140143.0000.4903	Well Total Depth:	23 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	13.37 ft	Start Time:	0840 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	300 mL/min	Sample Collected:	0930 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	300 sec		
Pump in take:	20 ft	Total Volume Pumped:	0 gallons		
Sonde SN:	358315				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
300	-	-	-	-	-	-	-	-
600	6.31	-47.5	44110.6	0.05	11.28	15.3	13.38	300
900	6.51	-107.8	42757.7	-0.07	12.34	10.9	13.38	300
1200	6.54	-145.8	40587.4	-0.08	11.78	20.3	13.38	300
1500	6.53	-162.9	39579.8	-0.09	11.74	7.31	13.38	300
1800	6.51	-176.5	38790.3	-0.11	12.38	4.26	13.38	300
2100	6.52	-178.9	38984.6	-0.1	11.88	4.07	13.38	300
2400	6.54	-180.4	38443.6	-0.11	12.19	3.75	13.38	300
2700	6.53	-184.3	38511.1	-0.11	12.14	2.46	13.38	300
3000	6.52	-184.3	38481.4	-0.11	12.10	1.47	13.38	300
3300	6.53	-188.6	38725.3	-0.11	11.60	1.39	13.38	300
3600	6.63	-67.2	38391.6	10.76	10.71		13.38	300

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40ml V	930	N	MW-411
EPH-10	N	HCL	2	1L	930	N	MW-411

Notes: Purged first 5 minutes, clear, no oil, no sheen, water measurements are from top of PVC

Low-Flow System Sampling

Date:	3/21/2017	Turbidity Make/Model:	HACH	Page 1 of 1	
Operator Name:	BAyers	Well ID:	MW-414		
Company Name:	TRC	Well diameter:	2 in. PVC		
Project Name:	140143.0000.4903	Well Total Depth:	23 ft	Depth to Product:	14.42 ft
Site Name:	Weymouth C/S	Screen Length:	15 ft	Product Thickness:	1 ft
Tubing Type:	LDPE	Depth to Water:	15.42 ft		
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	300 mL/min		
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	300 sec	Start Time:	1335 hrs
Pump in take:	20 ft	Total Volume Pumped:	0 gallons	Sample Collected:	1425 hrs
Sonde SN:	358315				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
300	6.66	-186.2	37622	0.09	13.52	3.31	15.44	300
600	6.63	185.2	37740	0.05	13.41	2.95	15.44	300
900	6.63	-188.8	37885.2	-0.01	13.36	2.3	15.44	300
1200	6.64	-196.7	37806.8	-0.04	13.48	2.14	15.44	300
1500	6.68	-198	37787.6	-0.06	13.54	2.01	15.44	300
1800	6.64	-199.4	37393.5	-0.07	13.41	1.39	15.44	300
2100	6.52	-200.6	37822.3	-0.08	13.43	1.97	15.44	300
2400	6.5	-201.9	37625.7	-0.09	13.33	1.84	15.44	300
2700	6.5	-202.8	37354.0	-0.1	13.39	1.73	15.44	300
3000	6.5	-203.6	38076.2	-0.1	13.30	1.69	15.44	300
3300	6.5	-204.2	37963	-0.1	13.21	1.58	15.44	300

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40ml V	1425	N	MW-414
EPH-10	N	HCL	2	1L A	1425	N	MW-414

Notes: Began purging MW-414 at 1305 will purge 3 gallons before collecting WQIP. Clear, N/O. N/S LNAPL observed. Water measurements are from top of PVC. DTW is not measured due to the thick viscous product.

Low-Flow System Sampling

Date:	3/23/2017	Turbidity Make/Model:	HACH		
Operator Name:	BAyers	Well ID:	MW-417		
Company Name:	TRC	Well diameter:	2 in. PVC	Page 1 of 1	
Project Name:	140143.0000.4903	Well Total Depth:	23 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	11.16 ft	Start Time:	0940 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	300 mL/min	Sample Collected:	1040 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	300 sec		
Pump in take:	17 ft	Total Volume Pumped:	0 gallons		
Sonde SN:	358315				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
300	-	-	-	-	-	-	-	-
600	7.59	-54.9	1911.2	0.97	9.4	37.3	11.16	300
900	7.21	-83.5	2682.6	0.55	9.68	26	11.16	300
1200	7.19	-89.7	2711.6	0.47	9.74	23.6	11.16	300
1500	7.17	-91.8	2751.3	0.39	9.78	18.7	11.16	300
2100	7.24	-107.4	2774.9	0.33	9.78	13.6	11.16	300
2400	7.26	-123.7	2755.0	0.29	9.82	8.61	11.16	300
3000	7.26	-136.2	2721.2	0.24	9.93	5.31	11.16	300
3300	7.26	-139.5	2682.3	0.23	10.15	4.71	11.16	300
3900	7.26	-148.9	2697.9	0.2	10.22	3.16	11.16	300
4200	7.36	-149.7	2667.3	0.2	10.12	2.93	11.16	300
4500	7.38	-152.8	2655.7	0.17	10.06	2.26	11.16	300
4800	8.36	-87	0.0	11.96	10.66	2.16	11.16	300

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40ml V	1040	N	MW-417
EPH-10	N	HCL	2	1L A	1040	N	MW-417

Note: Purge first 5 minutes, water measurements are from top of PVC. Dup sample collected.

Low-Flow System Sampling

Date:	3/20/2017	Turbidity Make/Model:	HACH		
Operator Name:	L.Hopp	Well ID:	MW-202		
Company Name:	TRC	Well diameter:	2 in. PVC		
Project Name:	140143.0000.4903	Well Total Depth:	19.95 ft	Page 1 of 1	
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	12.64 ft		
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	250 mL/min	Start Time:	1330 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec	Sample Collected:	1406 hrs
Pump in take:	16.3 ft	Total Volume Pumped:	3.3 gallons		
Sonde SN:	358206				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
180	6.54	459.6	30631.8	0.22	10.4	56.6	12.66	250
360	6.49	409.9	30647.1	0.16	10.33	25.1	12.67	250
540	6.48	382.4	30505.3	0.17	10.35	15.9	12.67	250
720	6.48	368.6	30189.5	0.14	10.31	11.8	12.67	250
900	6.48	362.4	29917.5	0.13	10.32	10.8	12.67	250
1080	6.47	360.2	29828.0	0.12	10.36	10.0	12.67	250
1260	6.47	359.2	29772.8	0.12	10.36	7.04	12.67	250
1440	6.47	362.7	29699.4	0.12	10.27	6.85	12.67	250
1620	6.47	364.7	29555.4	0.12	10.31	5.64	12.67	250
1800	6.47	376.2	29436.7	0.12	10.27	4.39	12.67	250
1980	6.47	387.5	29422.3	0.11	10.3	2.1	12.67	250
2160	6.47	388.2	29306.1	0.12	10.29	1.82	12.67	250
2340	6.47	390.8	29318.4	0.12	10.27	1.3	12.67	250

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40mL V	1406	N	MW-202
EPH-10	N	HCL	2	1 L A	1406	N	MW-202

Notes: Water measures are from top of PVC.

Low-Flow System Sampling

Date:	3/20/2017	Turbidity Make/Model:	HACH		
Operator Name:	L.Hopp	Well ID:	MW-203		
Company Name:	TRC	Well diameter:	2 in PVC		
Project Name:	140143.0000.7478	Well Total Depth:	20.62 ft	Page 1 of 1	
Site Name:	Weymouth C/S	Screen Length:	10 ft		
Tubing Type:	LDPE	Depth to Water:	12.96 ft	Start Time:	1200 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	250 mL/min	Sample Collected:	1233 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec		
Pump in take:	16.8 ft	Total Volume Pumped:	3 gallons		
Sonde SN:	358206				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
180	6.43	522.3	36442.5	0.13	11.67	25.5	13.03	250
360	6.45	548.9	36236.2	0.21	11.61	6.89	13.04	250
540	6.46	561.8	36037.7	0.3	11.61	4.21	13.04	250
720	6.46	570.4	35943.5	0.38	11.61	2.95	13.04	250
900	6.44	578.5	35882.9	0.45	11.65	2.89	13.04	250
1080	6.43	589.3	35842.2	0.52	11.67	2.7	13.04	250
1260	6.43	597.2	35713	0.57	11.66	2.9	13.04	250
1440	6.43	607.2	35699.2	0.61	11.66	1.11	13.06	250
1620	6.43	611.9	35660.2	0.64	11.66	1.25	13.06	250
1800	6.43	618.8	35575.5	0.67	11.65	0.95	13.06	250
1980	6.43	624.7	35606	0.69	11.65	0.85	13.06	250
2160	6.43	629.9	35551.5	0.7	11.67	0.75	13.06	250

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	3 40mL V	1233	N	MW-203
EPH-10	N	HCL	2	1 L A	1233	N	MW-203

Notes: Water measures are from top of PVC.

Low-Flow System Sampling

Date:	3/22/2017	Turbidity Make/Model:	HACH		
Operator Name:	L.Hopp	Well ID:	MW-206		
Company Name:	TRC	Well diameter:	2 in. PVC	Page 1 of 2	
Project Name:	140143.0000.4903	Well Total Depth:	20.98 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	14.46 ft	Start Time:	1035 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	250 mL/min	Sample Collected:	1123 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec		
Pump in take:	18 ft	Total Volume Pumped:	4.0 gallons		
Sonde SN:	358206				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
180	-	-	-	-	-	-	-	-
360	6.38	279.3	2843.5	3.57	7.99	69.8	14.46	250
540	6.31	305.6	2830.5	3.33	8.49	33.6	14.46	250
720	6.27	322.4	2883.1	3.18	8.71	26.3	14.46	250
900	6.22	334.6	3060.3	3.12	8.75	24.3	14.46	250
1080	6.38	344.5	3421.4	2.88	8.71	17	14.46	250
1260	6.35	349.6	3601.5	2.75	8.66	14.1	14.46	250
1440	6.34	353.3	3719.4	2.7	8.61	11	14.46	250
1620	6.32	357.6	3745.4	2.61	8.65	8.57	14.46	250
1800	6.32	362	3851.4	2.54	8.7	8.03	14.46	250
1980	6.31	365.6	3797.4	2.53	8.65	6.33	14.46	250
2160	6.31	367.2	3816.5	2.52	8.43	5.8	14.46	250
2340	6.31	369.4	3851.4	2.51	8.4	5.75	14.46	250
2520	6.29	373.5	4010.7	2.46	8.61	4.8	14.46	250

Low-Flow System Sampling

Date:	3/22/2017	Turbidity Make/Model:	HACH		
Operator Name:	L.Hopp	Well ID:	MW-206		
Company Name:	TRC	Well diameter:	2 in. PVC		
Project Name:	140143.0000.4903	Well Total Depth:	20.98 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	14.46 ft	Start Time:	1035 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	250 mL/min	Sample Collected:	1123 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec		
Pump in take:	18 ft	Total Volume Pumped:	4.0 gallons		
Sonde SN:	358206				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
2700	6.3	373.9	3937.4	2.43	8.47	4.72	14.46	250
2880	6.3	374.8	3887.6	2.4	8.62	4.28	14.46	250
3060	6.3	380.9	3874.5	2.37	8.62	4.1	14.46	250

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40mL V	1123	N	MW-206
EPH-10	N	HCL	2	1 L A	1123	N	MW-206

Notes: Purged the first 3 minutes, Water measures are from top of PVC.

Low-Flow System Sampling

Date:	3/21/2017	Turbidity Make/Model:	HACH		
Operator Name:	L.Hopp	Well ID:	MW-408		
Company Name:	TRC	Well diameter:	2 in. PVC	Page 1 of 2	
Project Name:	140143.0000.4903	Well Total Depth:	25.48 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	13.6 ft	Start Time:	1328 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	250 mL/min	Sample Collected:	1448 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec		
Pump in take:	19.5 ft	Total Volume Pumped:	8.0 gallons		
Sonde SN:	358206				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
180	6.7	508.7	7535.8	0.26	12.51	17.6	13.61	250
360	6.64	513.6	7780.3	0.48	12.2	16.4	13.61	250
540	6.66	513.8	7753.9	0.63	12.16	16.4	13.61	250
720	6.66	513.8	7757.1	0.66	12.1	11.7	13.61	250
900	6.59	514.7	9277.2	0.63	12.05	10.8	13.61	250
1080	6.62	511.4	8613.8	0.69	12.07	8.4	13.61	250
1260	6.62	503.8	8534.6	0.68	12.04	6.61	13.62	250
1440	6.62	498.3	8472.4	0.69	12.11	5.37	13.62	250
1620	6.63	504.4	8301.2	0.63	12.14	4.27	13.62	250
1800	6.61	504.4	9103.6	0.58	12.16	404	13.62	250
1980	6.59	503.5	8974.7	0.5	12.12	3.92	13.62	250
2160	6.59	504.2	9255.8	0.46	12.07	4.1	13.62	250
2340	6.61	499	8884.3	0.43	12.07	4.37	13.62	250
2520	6.62	494.7	8576.8	0.37	12.07	4	13.62	250

Low-Flow System Sampling

Date:	3/21/2017	Turbidity Make/Model:	HACH			
Operator Name:	L.Hopp	Well ID:	MW-408			
Company Name:	TRC	Well diameter:	2 in. PVC	Page 2 of 2		
Project Name:	140143.0000.4903	Well Total Depth:	25.48 ft			
Site Name:	Weymouth C/S	Screen Length:	15 ft			
Tubing Type:	LDPE	Depth to Water:	13.6 ft	Start Time:	1328 hrs	
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	250 mL/min	Sample Collected:	1448 hrs	
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec			
Pump in take:	19.5 ft	Total Volume Pumped:	8.0 gallons			
Sonde SN:	358206					

Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping
2700	6.62	561	8691.4	0.34	11.99	4.13	13.62	250
2880	6.61	566.7	8563.2	0.32	11.86	4.22	13.62	250
3060	6.61	535.3	8490.2	0.3	11.93	3.61	13.62	250
3240	6.62	523.4	8657.8	0.28	11.93	3.3	13.62	250
3420	6.59	513	9270.2	0.26	11.93	2.3	13.62	250
3600	6.59	506.7	9222	0.25	11.93	2.2	13.62	250
3780	6.59	496.4	9336.3	0.24	11.84	2.34	13.62	250
3960	6.57	484.5	9587.5	0.24	11.88	2.42	13.62	250
4140	6.59	483.2	9420.8	0.24	11.85	2.12	13.62	250
4320	6.58	503.7	9630.6	0.24	11.84	2.0	13.62	250
4500	6.48	512.9	12595.5	0.21	11.84	4.25	13.62	250
4680	6.47	493.8	13034.8	0.2	11.79	4.82	13.62	250
4860	6.5	544.6	12000.8	0.2	11.79	4.0	13.62	250
5040	6.51	597.3	11765.2	0.21	11.75	3.75	13.62	250

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40mL V	1448	N	MW-408
EPH-10	N	HCL	2	1 L A	1448	N	MW-408

Notes: Water measures are from top of PVC.

Low-Flow System Sampling

Date:	3/22/2017	Turbidity Make/Model:	HACH		
Operator Name:	L.Hopp	Well ID:	MW-409		
Company Name:	TRC	Well diameter:	2 in. PVC	Page 1 of 1	
Project Name:	140143.0000.4903	Well Total Depth:	25.10 ft		
Site Name:	Weymouth C/S	Screen Length:	15 ft		
Tubing Type:	LDPE	Depth to Water:	13.4 ft	Start Time:	0905 hrs
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	250 mL/min	Sample Collected:	0935 hrs
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec		
Pump in take:	19 ft	Total Volume Pumped:	3.3 gallons		
Sonde SN:	358206				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
180	-	-	-	-	-	-	-	-
360	5.75	274.9	27211.3	0.24	10.54	3.69	13.4	250
540	5.84	267.7	24077.2	0.19	10.75	3.63	13.4	250
720	5.83	269.9	24312.9	0.15	10.88	1.05	13.4	250
900	5.83	274.9	24074.3	0.14	11	2.39	13.4	250
1080	5.83	286.3	24282.2	0.13	11.06	3.05	13.4	250
1260	5.83	301.1	24287.3	0.12	11.2	0.74	13.4	250
1440	5.83	320.2	24512.9	0.11	11.2	0.92	13.4	250
1620	5.84	337.6	24231	0.11	11.1	1	13.4	250
1800	5.84	346	24509.4	0.11	10.95	0.64	13.4	250
1980	5.84	347.6	24552.7	0.1	10.9	0.44	13.4	250

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40mL V	935	N	MW-409
EPH-10	N	HCL	2	1 L A	935	N	MW-409

Notes: Wind and snow, flow thru- in shade. Purged first 3 minutes. Water measures are from top of PVC.

Low-Flow System Sampling

Date:	3/21/2017	Turbidity Make/Model:	HACH	Page 1 of 1	
Operator Name:	L.Hopp	Well ID:	MW-410		
Company Name:	TRC	Well diameter:	2 in. PVC		
Project Name:	140143.0000.4903	Well Total Depth:	25.29 ft	Depth to Product:	13.11 ft
Site Name:	Weymouth C/S	Screen Length:	15 ft	Product Thickness:	0.25
Tubing Type:	LDPE	Depth to Water:	13.36 ft		
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	250 mL/min		
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec	Start Time:	1118 hrs
Pump in take:	19 ft	Total Volume Pumped:	1.7 gallons	Sample Collected:	1136 hrs
Sonde SN:	358206				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature C	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
180	6.48	512.3	24907	0.13	13.06	2.64	13.36	250
360	6.53	539.4	25811.2	0.12	12.4	2.71	13.36	250
540	6.56	554.6	26370.7	0.12	12.25	2.52	13.36	250
720	6.56	566.9	26650.8	0.11	12.21	1.37	13.36	250
900	6.57	570.5	27096.9	0.11	12.12	1.88	13.36	250
1080	6.57	569.2	27428.8	0.11	12.09	1.55	13.36	250
1260	6.57	566.5	27716.3	0.11	12.11	1.22	13.36	250

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	3 40mL V	1136	N	MW-410
EPH-10	N	HCL	2	1 L A	1136	N	MW-410

Notes: Purged approximately 3 gallons of water from the well before starting water quality measurements. Odor and sheen visible. DTW could not be measured during stabilization readings due to the thick viscous LNAPL observed in the well.

Low-Flow System Sampling

Date:	3/23/2017	Turbidity Make/Model:	HACH	Page 1 of 1	
Operator Name:	L.Hopp	Well ID:	MW-415		
Company Name:	TRC	Well diameter:	2 in. PVC		
Project Name:	140143.0000.4903	Well Total Depth:	23 ft	Depth to Product:	14.92 ft
Site Name:	Weymouth C/S	Screen Length:	15 ft	Product Thickness:	0.1
Tubing Type:	LDPE	Depth to Water:	15.02 ft		
Tubing Diameter:	.170 x 1/4 in	Final Pumping Rate:	250 mL/min		
Pump Model/Type:	Geopump Peristaltic	Calculated Sample Rate:	180 sec	Start Time:	1213 hrs
Pump in take:	19 ft	Total Volume Pumped:	2.2 gallons	Sample Collected:	1240 hrs
Sonde SN:	387325				

Low Flow Stabilzation Summary

Time (sec)	pH	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Temperature (C)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)
180	-	-	-	-	-	-	-	-
360	6.14	69	15828.3	0.08	11.2	19.8	15.46	250
540	5.91	68.9	29570.4	0.12	10.92	6.29	15.46	250
720	5.99	61.5	32666.6	0.05	11.18	1.98	15.46	250
900	6.02	57.3	33199.8	0.03	11	1.17	15.46	250
1080	6.04	55.6	33301.7	0.02	10.93	1.21	15.46	250
1260	6.04	55	33473.1	0.02	10.84	1.08	15.46	250
1440	6.05	55.6	33711.9	0.01	11.33	0.06	15.46	250
1620	6.05	58.2	33727	0.01	11.4	0.92	15.46	250
1800	6.05	61.9	33457.9	0	11.13	1.06	15.46	250

Analytical Parameter	Filtered (Y/N)	Preserva-tive	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH-10	N	HCL	3	40mL V	1240	N	MW-415
EPH-10	N	HCL	2	1L A	1240	N	MW-415

Notes: Residual product on inside of well, purged 2 gallons and first 3 minutes, no sheen. Water measures are from top of PVC.

TRC

Groundwater Field Data Record

Project: Weymouth Spectra Energy	Project No.: 140143	Date/Time: 6/7/17 0830	Sheet 1 of 1
TRC Personnel: B Ayres		Well ID: MW-201	

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground) 2 ft.

Riser Stick-up (from ground) 2 ft.

WELL DIAMETER: ☑ 2 inch ☐ 4 inch ☐ 6 inch

Other:

WELL MATERIAL: ☑ PVC ☐ SS

Other:

Well Depth ___ ft. ☑ top of riser ☐ top of casing ☐ measured ☑ historical (BA)

Water Depth 13.05 ft.

LNAPL/DNAPL Depth = ~~0~~ 12.97

NAPL Thickness = ~~0~~ 0.8

Well Volume

Depth of pump intake: 19'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 230

Adjusted purge Rates/time/WL(record changes): X

Flow rate at time of sampling: 230

Total volume of water purged: 4 gal

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0830	0835	0840	0845	0850	0855	0900	0905	0910
Temp. (°C)	Start	12.1	12.1	12.0	11.9	11.8	11.8	11.8	11.8
Conduct. (μmhos/cm)	Purge	26061	27101	26031	26059	26051	26094	26019	26070
DO (mg/L)	↓	~~26~~1.41	1.61	1.41	1.30	1.19	0.35	0.31	0.27
pH (su)		6.34	6.33	6.31	6.31	6.24	6.29	6.30	6.32
ORP (millivolts)		10.6	5.3	0.21	-9.5	-9.5	-14.1	-15.7	-16.6
Turbidity (NTU)	↓	10.3	2.66	1.74	1.91	0.95	0.71	0.62	0.54
Flow (ml/min)	230	→							→
Depth To Water (ft)	13.05	13.07	→						→
Cumulative Purge Vol. (gal or L)									

Time	0915	0920	0925	0930		
Temp. (°C)	11.8	11.9	11.9	11.9		
Conduct. (μmhos/cm)	25942	26089	26002	26034		
DO (mg/L)	0.01	0.00	0.00	0.00		
pH (Std. Units)	6.43	6.36	6.37	6.38		
Eh/ORP (millivolts)	-23.0	-25.6	-28.6	-32.2		
Turbidity (NTU)	0.47	0.41	0.39	0.27		
Flow (ml/min)	230	→		→		
Depth To Water (ft)	13.07	→		→		
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (μmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	✓	✓
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: heavy sheen in bucket, small globs of LNAPL product, water clear, petro odor

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L Amb	0930		MW-201
VPH	↓	↓	3	40mL vial	↓		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet
Spectra Weymouth		6/5/17 0840	1 of 1

TRC Personnel: Annie Cornell

Well ID: MW-202

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Smart Troll, Hach

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: ____

WELL MATERIAL

[X] PVC [ ] SS

Other: ____

Well Depth ____ ft. [✓] top of riser [ ] top of casing [ ] ____ [ ] measured [✓] historical

Water Depth 12.62 ft.

Well Volume ____

LNAPL/DNAPL Depth = 0

NAPL Thickness = —

Depth of pump intake: 15FE

Static water level after pump put into well: 12.65

Initial purge Rate/ Water Level (100-400 ml/min): 300

Adjusted purge Rates/time/WL(record changes): 300

Flow rate at time of sampling: 300

Total volume of water purged: 5 gallons

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	842	847	852	857	902	907	912	915	S
Temp. (°C)	12.04	12.04	12.01	11.96	11.95	11.94	11.87	11.91	A
Conduct. (µmhos/cm)	31004	31040	31133	31134	31159	31207	31281	31281	M
DO (mg/L)	0.10	0.08	0.06	0.06	0.05	0.05	0.05	0.04	
pH (su)	~~6.45~~ 6.46	6.47	6.48	6.49	6.49	6.49	6.49	6.49	P
ORP (millivolts)	-49.10	-46.9	-45.0	-43.0	-41.8	-39.8	-38.80	-37.7	L
Turbidity (NTU)	10.3	5.32	9.78	4.64	3.65	5.92	3.25	3.27	E
Flow (ml/min)	300	300	300	300	300	300	300	300	
Depth To Water (ft)	12.65	12.65	12.65	12.65	12.65	12.65	12.65	12.65	
Cumulative Purge Vol. (gal or L)									

Time							
Temp. (°C)							
Conduct. (µmhos/cm)							
DO (mg/L)							
pH (Std. Units)							
Eh/ORP (millivolts)							
Turbidity (NTU)							
Flow (ml/min)							
Depth To Water (ft)							
Cumulative Purge Vol. (gal or L)							

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: ____		

Comments: Clear, N/O, N/S

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCL	2	250A	915		MW-202
VPH	N	HCL	3	VIALS	915		

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Annie Cornell

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet
Spectra Energy	~~404161~~ 140143 (BA)	0900 6/5/17	1 of 1

TRC Personnel: BAyres
Well ID: MW-203

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: Peristaltic
Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): 2 ft.
Riser Stick-up (from ground): 2 ft.

WELL DIAMETER [✓] 2 inch [ ] 4 inch [ ] 6 inch
Other: ______

WELL MATERIAL [✓] PVC [ ] SS
Other: ______

Well Depth ______ ft. [✓] top of riser [ ] top of casing [ ] ______ ; [✓] measured (BA) [✓] historical
Water Depth 13.15 ft.
Well Volume ______
LNAPL/DNAPL Depth = N/A
NAPL Thickness = N/A
Depth of pump intake: 19'
Static water level after pump put into well: 13.20'
Initial purge Rate/ Water Level (100-400 ml/min): 200
Adjusted purge Rates/time/WL(record changes): 240
Flow rate at time of sampling: 240
Total volume of water purged: 4 gal

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0900	0905	0910	0915	0920	0925	0930	0935	0940
Temp. (°C)	Start	13.22	12.56	12.41	12.35	12.35	12.35	12.34	12.35
Conduct. (μmhos/cm)	Purge	34759	35355	35417.8	35467.7	35484.0	35482.6	35439.6	35365.4
DO (mg/L)	↓	0.24	0.14	0.12	6.11	0.10	0.10	0.16	6.10
pH (su)	↓	6.18	6.28	6.31	6.33	6.33	6.34	6.34	6.34
ORP (millivolts)	↓	37.5	23.3	20.2	19.1	19.1	19.1	19.8	20.4
Turbidity (NTU)	↓	OOR	41.9	32.7	26.4	23.4	23.4	21.5	16.6
Flow (ml/min)	200	240	→						→
Depth To Water (ft)	13.15	13.17	→						→
Cumulative Purge Vol. (gal or L)									

Time	0945	0950	0955		
Temp. (°C)	12.35	12.34	12.37		
Conduct. (μmhos/cm)	35359.4	35338	35280.7		
DO (mg/L)	0.09	0.10	0.10		
pH (Std. Units)	6.34	6.34	6.34		
Eh/ORP (millivolts)	20.5	21.1	21.0		
Turbidity (NTU)	13.9	15.1	14.2		
Flow (ml/min)	240	→			
Depth To Water (ft)	13.17	→			
Cumulative Purge Vol. (gal or L)					

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (μmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	✓	✓
Submersible Pump		
Bladder Pump		
Bailer		
Other: ______		

Comments: Cloudy, N/O, N/S → Clear, N/O, N/S
Orange flakes noted in sample jars; was not present during purge

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HCl	3	1L Agl	0900		MW-203
EPH	↓	~~AS IS~~ (BA) HCl	2	40mL Vial	↓		↓

• Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra Energy Weymouth
Project No.: ~~164164~~ 140143 (BA)
Date/Time: 6/5/17 1015
Sheet 1 of 1

TRC Personnel: B Ayres
Well ID: MW-204

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: Peristaltic Pump
Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): 2 ft.
Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: [✓] 2 inch [ ] 4 inch [ ] 6 inch
Other: ______

WELL MATERIAL: [✓] PVC [ ] SS
Other: ______

Well Depth ______ ft. [✓] top of riser [ ] top of casing [ ] ______ [ ] measured [✓] historical

Water Depth 13.82 ft.
Well Volume ______
LNAPL/DNAPL Depth = N/A
NAPL Thickness = N/A

Depth of pump intake: 19'
Static water level after pump put into well: 13.85
Initial purge Rate/ Water Level (100-400 ml/min): 230
Adjusted purge Rates/time/WL(record changes):

Flow rate at time of sampling: 230
Total volume of water purged: 2 gal

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1015	1020	1025	1030	1035	1040	1045	1050	
Temp. (°C)	Start	12.21	11.82	11.77	11.65	11.61	11.64	11.61	
Conduct. (μmhos/cm)	Purge	30184.3	328584.9	322155	322820	322993	324424	327426	
DO (mg/L)	↓	0.55	0.16	0.14	0.12	0.11	0.10	0.09	
pH (su)		6.75	6.59	6.56	6.55	6.55	6.54	6.54	
ORP (millivolts)		76.3	71.9	72.1	68.6	69.5	73.4	70.4	
Turbidity (NTU)		OOR	12.2	9.21	7.39	5.87	1.59	0.64	
Flow (ml/min)	230	→						→	
Depth To Water (ft)	13.82	→						→	
Cumulative Purge Vol. (gal or L)									

Time						
Temp. (°C)						
Conduct. (μmhos/cm)						
DO (mg/L)						
pH (Std. Units)						
Eh/ORP (millivolts)						
Turbidity (NTU)						
Flow (ml/min)						
Depth To Water (ft)						
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* **(3 consecutive readings)**
- Temperature: ± 3 %
- Conduct. (μmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	✓	✓
Submersible Pump		
Bladder Pump		
Bailer		
Other: ______		

Comments: Cloudy, Nro, NIS -> Clear, Nro, NIS
Orange flakes notes noted in sample jars, not present during purge

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L GI Am	1050		MW-204
VPH	↓	↓	3	40mL Vial	↓		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spetra Weymouth		6/5/17	

TRC Personnel: Annie Carnell

Well ID: MW-205

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: smart troll, hach

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch — Other: _____

WELL MATERIAL

[X] PVC [ ] SS

Other: _____

Well Depth _____ ft. [/] top of riser [ ] top of casing [ ] _____ [ ] measured [/] historical

Water Depth 14.64 ft. Well Volume _____

LNAPL/DNAPL Depth = —

NAPL Thickness = —

Depth of pump intake: 18 ft

Static water level after pump put into well: 14.66

Initial purge Rate/ Water Level (100-400 ml/min): 360

Adjusted purge Rates/time/WL(record changes): 300

Flow rate at time of sampling: 306

Total volume of water purged: 3 gallons

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1040	1045	1050	1055	1100	1105	1110		
Temp. (°C)	12.28	11.53	11.45	11.41	11.45	11.41	11.36		
Conduct. (µmhos/cm)	27514	25353	24919	23960	23387	23639	23621		
DO (mg/L)	6.70	0.14	0.09	0.06	0.06	0.05	0.05		
pH (su)	6.84	6.95	6.96	6.99	6.99	6.98	6.99		
ORP (millivolts)	-30.8	-39.5	-45.8	-43.2	-42.5	-42.1	-41.4		
~~Turbidity (NTU)~~ Flow	300	300	300	300	300	300	300		
~~Flow (ml/min)~~ turbidity	3.78	3.04	3.17	3.45	2.55	4.35	2.65		
Depth To Water (ft)	14.66	14.65	14.65	14.64	14.64	14.62	14.62		
Cumulative Purge Vol. (gal or L)									

Time								
Temp. (°C)								
Conduct. (µmhos/cm)								
DO (mg/L)								
pH (Std. Units)								
Eh/ORP (millivolts)								
Turbidity (NTU)								
Flow (ml/min)								
Depth To Water (ft)								
Cumulative Purge Vol. (gal or L)								

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments: Clear, N/O, N/S

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCL	2	250A	1110		MW-205
VPH	N	HCL	3	vials	1110		

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Annie Carnell

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Weymouth Project No.: ~~104116~~ 140143 (Spectra Energy)

Date/Time: 6/6/17 0900

Sheet 1 of 1

TRC Personnel: B Ayres

Well ID: MW-206

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: Peristaltic Pump

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: ✓ 2 inch; 4 inch; 6 inch

Other:

WELL MATERIAL: ✓ PVC; SS

Other:

Well Depth ____ ft. ✓ top of riser; top of casing; ____ ✓ measured; historical

Water Depth 14.17 ft.

Well Volume ____

LNAPL/DNAPL Depth = N/A

NAPL Thickness = N/A

Depth of pump intake: 19'

Static water level after pump put into well: 14.17

Initial purge Rate/ Water Level (100-400 ml/min): 230

Adjusted purge Rates/time/WL(record changes)

Flow rate at time of sampling: 230

Total volume of water purged: 3.5 gal

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0900	0905	0910	0915	0920	0925	0930	0935	0940
Temp. (°C)	Start	10.21	11.00	11.03	11.05	11.10	11.10	11.09	11.05
Conduct. (µmhos/cm)	Purge	3506.6	3510.1	3534.1	3548.6	3572.8	3586.4	3587.3	3591.2
DO (mg/L)		1.67	1.51	1.47	1.43	1.39	1.39	1.37	1.37
pH (su)		7.91	7.81	7.73	7.45	7.33	7.28	7.21	7.19
ORP (millivolts)		143.6	137.6	122.9	113.6	79.2	76.4	71.0	69.5
Turbidity (NTU)		OOR	OOR	64.3	58.6	37.6	19.1	24.5	18.4
Flow (ml/min)	230	→	→	→	→	→	→	→	→
Depth To Water (ft)	14.17	14.19	→	→	→	→	→	→	→
Cumulative Purge Vol. (gal or L)									

Time	0945	0950	0955			
Temp. (°C)	11.05	11.06	11.07			
Conduct. (µmhos/cm)	3588.8	3592.6	3602.5			
DO (mg/L)	1.37	1.36	1.35			
pH (Std. Units)	7.17	7.14	7.13			
Eh/ORP (millivolts)	70.6	67.4	67.1			
Turbidity (NTU)	9.04	8.32	7.61			
Flow (ml/min)	230	→				
Depth To Water (ft)	14.19	→				
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	✓	✓
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Wire @ 11', bolt used to help tubing down

Clear, Slight Sheen in bucket, no odor

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1 L Aqi	0955		MW-206
VPH	↓	↓	3	40mL Vial	↓		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed:

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet
Spectra Weymouth		6/5/17 0945	1 of 1

TRC Personnel: Annie Covell

Well ID: MW-400

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Smart Troll, MACH

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	5
Well Mouth	

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL: [X] PVC [ ] SS

Other: _____

Well Depth _____ ft. [✓] top of riser [ ] top of casing [ ] _____ [ ] measured [✓] historical

Water Depth 11.97 ft.

Well Volume _____

LNAPL/DNAPL Depth = —

NAPL Thickness = —

Depth of pump intake: 15ft

Static water level after pump put into well: 12.92

Initial purge Rate/ Water Level (100-400 ml/min): 300

Adjusted purge Rates/time/WL(record changes): 300

Flow rate at time of sampling: 300

Total volume of water purged: 3 gallons

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	945	950	955	1000	1005	1010	1015		
Temp. (°C)	12.58	12.28	12.28	12.28	12.26	12.24	12.24		
Conduct. (µmhos/cm)	37478	37516	37522	37485	37435	37415	37420		
DO (mg/L)	0.32	0.09	0.06	0.06	0.05	0.05	0.05		
pH (su)	6.55	6.49	6.46	6.45	6.44	6.44	6.43		
ORP (millivolts)	7.5	3.0	2.0	1.5	0.1	-1.4	-1.9		
Turbidity (NTU)	53.9	41.39	2.32	2.43	1.32	0.63	1.36		
Flow (ml/min)	300	300	300	300	300	300	300		
Depth To Water (ft)	12.94	12.92	12.91	12.91	12.91	12.89	12.89		
Cumulative Purge Vol. (gal or L)									

Time									
Temp. (°C)									
Conduct. (µmhos/cm)									
DO (mg/L)									
pH (Std. Units)									
Eh/ORP (millivolts)									
Turbidity (NTU)									
Flow (ml/min)									
Depth To Water (ft)									
Cumulative Purge Vol. (gal or L)									

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Clear, No, No

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCL	2	250A	1015		MW-400
VPH	N	HCL	3	VIALS	1015		

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Annie Covell

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet
Spectra Weymouth		6/5/17 1155	1 of 2

TRC Personnel: Annie Cornell

Well ID: MW-401

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: smart troll, HACH

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL: [X] PVC [ ] SS

Other: _____

Well Depth _____ ft. [✓] top of riser [ ] top of casing [ ] _____ [ ] measured [✓] historical

Water Depth 13.87 ft. **Well Volume** _____

LNAPL/DNAPL Depth = — **NAPL Thickness** = —

Depth of pump intake: 18'

Static water level after pump put into well: 13.89

Initial purge Rate/ Water Level (100-400 ml/min): ~~300~~ 300

Adjusted purge Rates/time/WL(record changes)

300

Flow rate at time of sampling: 300

Total volume of water purged: 2.5 gallons

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1155	1200	1205	1210	1215	1220	1225	1230	
Temp. (°C)	12.09	11.55	11.33	11.31	11.30	11.27	11.27	11.27	
Conduct. (µmhos/cm)	41234	41614	41325	41119	40961	40808	40645	40605	
DO (mg/L)	0.22	0.12	0.07	0.07	0.05	0.05	0.04	0.04	
pH (su)	7.15	7.22	7.27	7.27	7.26	7.26	7.26	7.26	
ORP (millivolts)	-39.3	-45.2	-43.9	-42.1	-42.0	-41.1	-42.0	-41.0	
Turbidity (NTU)	10.9	4.61	6.70	6.57	6.49	4.72	2.40	2.73	
Flow (ml/min)	300	300	300	300	300	300	300	300	
Depth To Water (ft)	13.87	13.88	13.88	13.87	13.87	13.86	13.86	13.86	
Cumulative Purge Vol. (gal or L)									

Time							Stabilization Criteria* (3 consecutive readings)
Temp. (°C)							- Temperature: ± 3 %
Conduct. (µmhos/cm)							- Conduct. (µmhos/cm): ± 3 %
DO (mg/L)							- DO (mg/L): ± 10 % (for values >0.5 mg/L)
pH (Std. Units)							- pH (Std. Units): ± 0.1 SU
Eh/ORP (millivolts)							- ORP (millivolts): ± 10 mV
Turbidity (NTU)							- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
Flow (ml/min)							- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)
Depth To Water (ft)							
Cumulative Purge Vol. (gal or L)							

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCL	2	250A	1230		MW-401
VPH	N	HCL	3	VIALS	1230		

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Annie Cornell

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Energy Spectra Weymouth | Project No.: ~~1641161~~ 140141 (BA) | Date/Time: 6/5/17 1335 | Sheet 1 of 1

TRC Personnel: B Ayres | Well ID: MW-402

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground) 2 ft.

Riser Stick-up (from ground) 2 ft.

WELL DIAMETER ☑ 2 inch ☐ 4 inch ☐ 6 inch

Other: ______

WELL MATERIAL ☑ PVC ☐ SS

Other: ______

Well Depth ______ ft. ☑ top of riser ☐ top of casing ☐ ______ ☐ measured ☑ historical

Water Depth 14.75 ft.

Well Volume______

LNAPL/DNAPL Depth = NM

NAPL Thickness = NA

Depth of pump intake: 19'

Static water level after pump put into well: 14.75

Initial purge Rate/ Water Level (100-400 ml/min): 240

Adjusted purge Rates/time/WL(record changes)

Flow rate at time of sampling: 240

Total volume of water purged: 2.5 gal

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1335	1340	1345	1350	1355	1400	1405	1410	1415
Temp. (°C)	Start	10.49	10.31	10.30	10.26	10.24	10.26	10.21	10.20
Conduct. (μmhos/cm)	Purge	341930	337563	330023	324512	320988	314341	304740	305370
DO (mg/L)	↓	0.35	0.32	0.33	0.33	0.35	0.37	0.38	0.42
pH (su)	↓	6.82	6.78	6.75	6.75	6.75	6.75	6.75	6.76
ORP (millivolts)	↓	69.1	63.2	61.2	60.2	59.8	60.0	58.5	57.9
Turbidity (NTU)	↓	27.1	4.71	1.94	1.32	0.97	1.20	0.71	1.48
Flow (ml/min)	240	→	→	→	→	→	→	→	→
Depth To Water (ft)	14.75	→	→	→	→	→	→	→	→
Cumulative Purge Vol. (gal or L)									

Time						
Temp. (°C)						
Conduct. (μmhos/cm)						
DO (mg/L)						
pH (Std. Units)						
Eh/ORP (millivolts)						
Turbidity (NTU)						
Flow (ml/min)						
Depth To Water (ft)						
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria*
(3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (μmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	✓	✓
Submersible Pump		
Bladder Pump		
Bailer		
Other: ______		

Comments: Clear, N/O, N/S

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L Amber	1415		MW-402
VPH	↓	↓	3	40mL Vial	↓		↓

* Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra Weymouth Energy	Project No.: 140143 (crossed out) 140143
Date/Time: 6/5/17 1150	Sheet 1 of 1
TRC Personnel: B Ayres	Well ID: MW-403

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: [✓] 2 inch [ ] 4 inch [ ] 6 inch

Other: ______

WELL MATERIAL: [✓] PVC [ ] SS

Other: ______

Well Depth ______ ft. [✓] top of riser [ ] top of casing [ ] ______ [ ] measured [✓] historical

Water Depth 13.01 ft.

Well Volume ______

LNAPL/DNAPL Depth = N/M

NAPL Thickness = NM

Depth of pump intake: 19'

Static water level after pump put into well: 13.05

Initial purge Rate/ Water Level (100-400 ml/min): 230

Adjusted purge Rates/time/WL(record changes): 230

Flow rate at time of sampling: 230

Total volume of water purged: 4 gal

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1150	1155	1200	1205	1210	1215	1220	1225	1230
Temp. (°C)	Start	11.32	12.07	12.24	12.36	12.89	11.56	11.27	11.22
Conduct. (µmhos/cm)	purge	37931.3	37941.4	37962.1	37995.4	37986.7	37618	37913.0	37879.3
DO (mg/L)	↓	3.08	3.09	3.17	3.29	3.32	3.19	3.10	3.04
pH (su)	↓	6.86	6.80	6.70	6.66	6.66	6.65	6.66	6.66
ORP (millivolts)	↓	93.5	91.7	96.3	86.2	85.7	86.1	85.0	85.0
Turbidity (NTU)	↓	18.7	11.2	6.71	3.21	0.49	0.61	0.71	0.32
Flow (ml/min)	230	→							→
Depth To Water (ft)	13.01	13.03	→						→
Cumulative Purge Vol. (gal or L)									

Time	1235	1240	1245	1250	1255	1300
Temp. (°C)	11.17	11.08	11.02	10.91	10.85	10.81
Conduct. (µmhos/cm)	37410.6	37312.9	36749.0	36169.0	35609.0	35153.6
DO (mg/L)	2.81	2.63	2.29	1.98	1.67	1.60
pH (Std. Units)	6.66	6.65	6.64	6.63	6.62	6.61
Eh/ORP (millivolts)	85.2	85.5	85.5	84.4	83.9	83.6
Turbidity (NTU)	0.31	0.17	1.01	0.67	0.43	0.37
Flow (ml/min)	230	→				→
Depth To Water (ft)	13.03	→				→
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* **(3 consecutive readings)**

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	✓	✓
Submersible Pump		
Bladder Pump		
Bailer		
Other: ______		

Comments: Clear, N/O, N/S

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L Amber	1300		MW-403
VPH	↓	↓	3	40mL	↓		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet
Spectra Weymouth		6/6/17 0840	1 of 1

TRC Personnel: Annie Cornell

Well ID: MW-404

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: smart troll, mach

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	–
Well Mouth	–

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: ☐ 2 inch ☒ 4 inch ☐ 6 inch

Other: _____

WELL MATERIAL: ☒ PVC ☐ SS

Other: _____

Well Depth _____ ft. ☑ top of riser ☐ top of casing ☐ _____ ☐ measured ☑ historical

Water Depth 12.70 ft.

Well Volume _____

LNAPL/DNAPL Depth = –

NAPL Thickness = –

Depth of pump intake: 17

Static water level after pump put into well: 12.71

Initial purge Rate/ Water Level (100-400 ml/min): 300

Adjusted purge Rates/time/WL(record changes): 300

Flow rate at time of sampling: 300

Total volume of water purged: 6 gallons

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0840	0845	0850	0855	0900	0905	0910	0915	0920
Temp. (°C)	10.95	10.80	10.76	10.74	10.74	10.73	10.71	10.70	10.69
Conduct. (µmhos/cm)	37317	37528	37572	37468	37450	37230	37255	37232	37191
DO (mg/L)	0.12	0.08	.05	.02	.00	.00	.00	0.00	0.00
pH (su)	5.99	6.22	6.41	6.51	6.47	6.50	6.52	6.52	6.53
ORP (millivolts)	42.6	46.8	39.9	37.8	36.9	35.7	36.1	34.0	33.3
Turbidity (NTU)	70.1	43.8	33.8	56.8	41.6	66.7	67.9	47.7	49.1
Flow (ml/min)	300	300	300	300	300	300	300	300	300
Depth To Water (ft)	12.71	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70
Cumulative Purge Vol. (gal or L)									

Time	0925	0930	0935	0940	0945	0950
Temp. (°C)	10.67	10.67	10.66	10.66	10.67	10.66
Conduct. (µmhos/cm)	37104	37011	36919	36822	36743	36590
DO (mg/L)	0.00	0.00	0.00	0.00	0.00	0.00
pH (Std. Units)	6.53	6.53	6.52	6.51	6.51	6.50
Eh/ORP (millivolts)	34.9	33.7	33.3	32.7	32.9	29.1
Turbidity (NTU)	10.9	12.5	18.2	13.5	16.3	19.7
Flow (ml/min)	300	300	300	300	300	300
Depth To Water (ft)	12.70	12.70	12.70	12.70	12.70	12.70
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

0955 – sample

10.66
36953
0.00
6.50
28.2
14.7
300
12.70

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments: Clear, NRO, NIS

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCL	2	250 A	955		MW-404
VPH	N	HCL	3	VIAL	955		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed: _____

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra Weymouth | Project No.: | Date/Time: 6/6/17 1025 | Sheet 1 of 1

TRC Personnel: Annie Cornell | Well ID: MW-405

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: SMALL TROLL, MACH

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	-
Well Mouth	-

Protective Casing Stick-up (from ground) 2 ft.

Riser Stick-up (from ground) 2 ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: ____

WELL MATERIAL

[X] PVC [ ] SS

Other: ____

Well Depth ____ ft. [X] top of riser [ ] top of casing [ ] ____ | [ ] measured [X] historical

Water Depth 14.15 ft. | LNAPL/DNAPL Depth = ____

Well Volume ____ | NAPL Thickness = ____

Depth of pump intake: 17

Static water level after pump put into well: 14.15

Initial purge Rate/ Water Level (100-400 ml/min): 300

Adjusted purge Rates/time/WL(record changes)

300

Flow rate at time of sampling: 300

Total volume of water purged: 3 gal 10273

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1025	1030	1035	1040	1045	1050			
Temp. (°C)	12.51	12.72	12.74	12.76	12.82	12.86			
Conduct. (µmhos/cm)	27358	33737	32922	33785	34396	34713			
DO (mg/L)	0.14	0.06	0.04	0.02	0.01	0.01			
pH (su)	6.48	6.32	6.33	6.32	6.30	6.30			
ORP (millivolts)	83.1	84.7	81.5	82.3	82.3	78.9			
Turbidity (NTU)	11.3	2.8	2.12	1.41	3.14	1.22			
Flow (ml/min)	300	300	300	300	300	300			
Depth To Water (ft)	14.15	14.15	14.15	14.15	14.14	14.14			
Cumulative Purge Vol. (gal or L)									

Time						
Temp. (°C)						
Conduct. (µmhos/cm)						
DO (mg/L)						
pH (Std. Units)						
Eh/ORP (millivolts)						
Turbidity (NTU)						
Flow (ml/min)						
Depth To Water (ft)						
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: ____		

Comments: Clear, No, No

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EDB	N	HCL	2	2.5 VOA	1050		MW-405
VPH	N	HCL	3	VOAs	1050		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra Weymouth		6/7/17	

TRC Personnel: Annie Carroll

Well ID: MW-406 / DUP-2

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: smart roll, nacn

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	/

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch — Other: ____

WELL MATERIAL: [X] PVC [ ] SS — Other: ____

Well Depth ____ ft. [/] top of riser [ ] top of casing [ ] ____ [/] measured [ ] historical

Water Depth 13.39 ft. — Well Volume ____

LNAPL/DNAPL Depth = 13.39

NAPL Thickness = minimal (globs)

Depth of pump intake: 15 ft

Static water level after pump put into well: 13.39

Initial purge Rate/ Water Level (100-400 ml/min): 300

Adjusted purge Rates/time/WL(record changes): 300

Flow rate at time of sampling: 300

Total volume of water purged: 5 gallons

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	845	850	855	900	905	910	915	920	925
Temp. (°C)	12.47	12.47	12.55	12.61	12.67	12.73	12.74	12.77	12.79
Conduct. (µmhos/cm)	39953	13976	23045	28593	30537	31610	32082	32331	32451
DO (mg/L)	0.08	0.06	0.04	0.02	0.01	0.00	0.00	0.00	0.00
pH (su)	6.02	6.06	6.16	6.26	6.31	6.34	6.34	6.34	6.34
ORP (millivolts)	-31.4	-36.1	-23.7	-23.3	-24.0	-28.0	-28.6	-30.1	-32.6
Turbidity (NTU)	27.9	33.8	32.6	100	68.9	42.3	32.7	19.2	13.41
Flow (ml/min)	300	300	300	300	300	300	300	300	300
Depth To Water (ft)									
Cumulative Purge Vol. (gal or L)									

Time	930	935	938	941	945	
Temp. (°C)	12.83	12.88	12.88	12.92	S	
Conduct. (µmhos/cm)	32541	32657	32710	32707	A	
DO (mg/L)	0.00	0.00	0.00	0.00	M	
pH (Std. Units)	6.33	6.32	6.31	6.31	P	
Eh/ORP (millivolts)	-35.7	-40.0	-41.9	-43.6	L	
Turbidity (NTU)	7.52	5.49	5.23	4.67	E	
Flow (ml/min)	300	300	300	300		
Depth To Water (ft)						
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: ____		

Comments: depth to water not taken due to NAPL in the well

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCL	2	250A	945		MW-406 / DUP-2
VPH	N	HCL	3	VIALS	945		

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra Weymouth		6/7/17	

TRC Personnel: Annie Cornell

Well ID: MW-407

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: SMART TROLL, MACH

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	~

Protective Casing Stick-up (from ground) 2 ft.

Riser Stick-up (from ground) 2 ft.

WELL DIAMETER: X 2 inch; 4 inch; 6 inch

Other: ____

WELL MATERIAL

X PVC; SS

Other: ____

Well Depth ____ ft. X top of riser; top of casing; measured; X historical

Water Depth 13.16 ft.

Well Volume ____

LNAPL/DNAPL Depth = minimal ~13.13

NAPL Thickness = ____

Depth of pump intake: ~~15~~ ft

Static water level after pump put into well: 13.13

Initial purge Rate/ Water Level (100-400 ml/min): 300

Adjusted purge Rates/time/WL(record changes): 300

Flow rate at time of sampling: 300

Total volume of water purged: 3 gallons

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1025	1030	1035	1040	1045	1050			
Temp. (°C)	13.11	12.66	12.73	12.74	12.69	12.65			
Conduct. (µmhos/cm)	4003	5574	5768	5749	5765	5840			
DO (mg/L)	0.12	0.06	0.04	0.03	0.02	0.02			
pH (su)	6.72	6.65	6.62	6.62	6.61	6.60			
ORP (millivolts)	-123.9	-128.1	-128.0	-127.4	-127.0	-126.5			
Turbidity (NTU)	8.93	6.51	7.74	7.71	7.84	7.91			
Flow (ml/min)	300	300	300	300	300	300			
Depth To Water (ft)	13.13	13.14	13.14	13.14	13.14	13.13			
Cumulative Purge Vol. (gal or L)									

Time						
Temp. (°C)						
Conduct. (µmhos/cm)						
DO (mg/L)						
pH (Std. Units)						
Eh/ORP (millivolts)						
Turbidity (NTU)						
Flow (ml/min)						
Depth To Water (ft)						
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: ____		

Comments: Clear, NIS, SL Petro odor

Some globulals of NAPL @ ~13.13

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCL	2	250A	1050		MW-407
VPH	N	HCL	3	VIALS	1050		

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Weymouth / Sector Energy | Project No.: 104161 | Date/Time: 6/6/17 0905 | Sheet 1 of 1

TRC Personnel: B Ayres | Well ID: MW-408

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: ✓ 2 inch; 4 inch; 6 inch

Other:

WELL MATERIAL

✓ PVC; SS

Other:

Well Depth ____ ft. ✓ top of riser; top of casing; ____ | ✓ measured; historical

Water Depth 13.15 ft.

Well Volume ____

LNAPL/DNAPL Depth = NM

NAPL Thickness = NM

Depth of pump intake: 18'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 230

Adjusted purge Rates/time/WL(record changes)

Flow rate at time of sampling: 230

Total volume of water purged: 2.5 gal

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0905	0910	0915	1220	1225	1230	1235	1240	1245
Temp. (°C)	Start	11.56	11.41	11.10	11.07	11.04	11.03	11.00	11.01
Conduct. (µmhos/cm)	Purge	3372.8	4169.0	4787	4788	4765	4826	4868	4768
DO (mg/L)		3.69	3.21	2.55	2.51	2.48	2.30	2.19	2.18
pH (su)		7.25	7.10	6.97	6.96	6.95	6.93	6.93	6.93
ORP (millivolts)		57.7	46.2	35.3	32.6	30.9	27.6	24.6	23.1
Turbidity (NTU)		6.91	2.47	1.97	1.76	1.50	1.27	0.85	0.76
Flow (ml/min)	230	→	→	→	→	→	→	→	→
Depth To Water (ft)	13.15	→	→	→	→	→	→	→	→
Cumulative Purge Vol. (gal or L)									

Time									
Temp. (°C)									
Conduct. (µmhos/cm)									
DO (mg/L)									
pH (Std. Units)									
Eh/ORP (millivolts)									
Turbidity (NTU)									
Flow (ml/min)									
Depth To Water (ft)									
Cumulative Purge Vol. (gal or L)									

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	✓	✓
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Clear, N/O, N/S

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1 L Amb	1245		MW-408
VPH	↓	↓	3	40 mL VIAL	↓		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed:

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Wynnewood Spectra Energy	Project No.: 104161	Date/Time: 6/6/17 1030	Sheet 1 of 1

TRC Personnel: B Ayres

Well ID: MW-409

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present		

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: ✓ 2 inch; 4 inch; 6 inch

Other:

WELL MATERIAL: ✓ PVC; SS

Other:

Well Depth ____ ft. ✓ top of riser; top of casing; ____ ✓ measured; historical

Water Depth 12.98 ft.

Well Volume

LNAPL/DNAPL Depth = N/A

NAPL Thickness = N/A

Depth of pump intake: 18.

Static water level after pump put into well: 13.00

Initial purge Rate/ Water Level (100-400 ml/min): 230

Adjusted purge Rates/time/WL(record changes)

Flow rate at time of sampling: 230

Total volume of water purged: 3 gal

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1030	1035	1040	1045	1050	1055	1100	1105	1110
Temp. (°C)	Start	10.92	10.85	10.87	10.91	10.88	10.87	10.88	10.88
Conduct. (µmhos/cm)	purge	5600.9	5721.6	5757	5686.0	5560	5417.3	5421.9	5263.1
DO (mg/L)	↓	0.31	0.24	0.19	0.18	0.17	0.16	0.17	0.16
pH (su)		6.99	6.92	6.92	6.91	6.91	6.91	6.91	6.90
ORP (millivolts)		-13.8	-15.4	-16.4	-18.2	-17.3	-16.9	-15.8	-14.2
Turbidity (NTU)				2.04	1.31	0.08	0.91	2.01	1.93
Flow (ml/min)	230	→	→	→	→	→	→	→	→
Depth To Water (ft)	12.98	13.00	→	→	→	→	→	→	→
Cumulative Purge Vol. (gal or L)									

Time	1115	1120	~~1125~~ (SA)			
Temp. (°C)	10.86	10.87				
Conduct. (µmhos/cm)	5007.6	4981.0				
DO (mg/L)	0.15	0.15				
pH (Std. Units)	6.89	6.89				
Eh/ORP (millivolts)	-13.6	-13.1				
Turbidity (NTU)	2.16	1.97				
Flow (ml/min)	230	230				
Depth To Water (ft)	13.00	13.06				
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	✓	✓
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Clear, No Odor, No Sheen

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1 L Amb	1120		MW-409
VPH	↓	↓	3	40 mL Vial	↓		↓

* Consult the applicable regulatory guidance for the specific criteria.

Signed:

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet
Weymouth C/S	140143.0000.4903	6/7/17 0915	Sheet 1 of 1

TRC Personnel: L. Hopp **Well ID:** MW 410

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	☒	☐
Concrete Collar Intact	☒	☐
PVC Stick-up Intact	☒	☐
Well Cap Present	☒	☐
Security Lock Present	☒	☐

Sampling Equipment: ______

Flow-thru Cell Volume: ______

PID SCREENING MEAS.

Background	NM
Well Mouth	NM

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: ☒ 2 inch ☐ 4 inch ☐ 6 inch Other: ______

WELL MATERIAL: ☒ PVC ☐ SS Other: ______

Well Depth ______ ft. ☑ top of riser ☐ top of casing ☐ ______ ☐ measured ☑ historical

Water Depth 12.65 ft. LNAPL/DNAPL Depth = ND

Well Volume ______ NAPL Thickness = NM

Depth of pump intake: 18'

Static water level after pump put into well: 18'

Initial purge Rate/ Water Level (100-400 ml/min): 400 mL/min

Adjusted purge Rates/time/WL(record changes): 300 mL/min

Flow rate at time of sampling: 300

Total volume of water purged: 1.75

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0915	0920	0925	0930	0935	0940	0945	0950	
Temp. (°C)	P	12.36	12.03	12.05	12.06	12.11	12.14	12.15	
Conduct. (µmhos/cm)		~~30532~~ 40905	~~306441~~ 40851	41204	41456	41534	41487	41477	
DO (mg/L)	U	0.75	.77	.70	.57	.55	.54	.54	
pH (su)		6.58	6.66	6.67	6.67	6.68	6.69	6.68	
ORP (millivolts)	R	67.3	66.3	67.7	69.2	70.4	71.9	73.0	
Turbidity (NTU)		3.67	3.58	2.05	1.97	1.84	2.06	1.71	
Flow (ml/min)	G	300	300	300	300	300	300	300	
Depth To Water (ft)		18'	18'	18'	18'	18'	18'	18'	
Cumulative Purge Vol. (gal or L)	E	.25	.50	.75	1.00	1.25	1.50	1.75	

Time						
Temp. (°C)						
Conduct. (µmhos/cm)						
DO (mg/L)						
pH (Std. Units)						
Eh/ORP (millivolts)						
Turbidity (NTU)						
Flow (ml/min)						
Depth To Water (ft)						
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	☒	☒
Submersible Pump	☐	☐
Bladder Pump	☐	☐
Bailer	☐	☐
Other: ______	☐	☐

Comments:
Started 0900 - purged 2 gallons
Flow Thru Cell in Shade and Sun

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH Deluxe	N	HCl	2	1LA	0950	LH	MW410
VPH Deluxe	N	HCl	3	340mLV	0950	LH	MW410

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [illegible]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Weymouth c/s	140143	6/7/17 1120	

TRC Personnel: L. Hopp

Well ID: MW 411

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment:

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	NM
Well Mouth	NM

Protective Casing Stick-up 2 ft. (from ground)

Riser Stick-up 2 ft. (from ground)

WELL DIAMETER [X] 2 inch [ ] 4 inch [ ] 6 inch

Other:

WELL MATERIAL [X] PVC [ ] SS

Other:

Well Depth ____ ft. [✓] top of riser [ ] top of casing [ ] measured [X] historical

Water Depth 12.83 ft.

Well Volume 3

LNAPL/DNAPL Depth = ND

NAPL Thickness = ND

Depth of pump intake:

Static water level after pump put into well: 12.86

Initial purge Rate/ Water Level (100-400 ml/min): 300

Adjusted purge Rates/time/WL(record changes) NA

Flow rate at time of sampling: 300

Total volume of water purged: 1.75

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1120	1125	1130	1135	1140	1145	1150	1155
Temp. (°C)	P	12.56	12.73	12.70	12.70	12.79	12.70	12.75
Conduct. (µmhos/cm)		36818	37295	36548	35172	35320	34913	34543
DO (mg/L)	U	.19	.16	.13	.12	.10	.10	.08
pH (su)	R	6.37	6.38	6.38	6.36	6.36	6.37	6.36
ORP (millivolts)		70.1	70.1	70.0	69.9	69.9	70.2	70.4
Turbidity (NTU)	G	2.49	1.53	0.83	0.82	.77	.32	.39
Flow (ml/min)		300	300	300	300	300	300	300
Depth To Water (ft)	E	12.86	12.86	12.86	12.86	12.86	12.86	12.86
Cumulative Purge Vol. (gal or L)		.25	.50	.75	1	1.25	1.50	1.75

Time							
Temp. (°C)							
Conduct. (µmhos/cm)							
DO (mg/L)							
pH (Std. Units)							
Eh/ORP (millivolts)							
Turbidity (NTU)							
Flow (ml/min)							
Depth To Water (ft)							
Cumulative Purge Vol. (gal or L)							

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: LVH 6/7/17

Flow Thru Cell in shade/sun

Purged a gallon before starting

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH Deluxe	N	HCl	3	40 mL V	1155	LH	MW 411
EPH Deluxe			2	1 LA		LH	MW 411

* Consult the applicable regulatory guidance for the specific criteria.

Signed: Lauren V. Hopp

TRC

Groundwater Field Data Record

Project: Wegmann Project No.:	Date/Time:	Sheet 1 of 1
Spectra Energy 104161	6/6/17 1320	

TRC Personnel: B Ayes

Well ID: MW-412

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: peristaltic pump

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: ✓ 2 inch; 4 inch; 6 inch

Other:

WELL MATERIAL: ✓ PVC; SS

Other:

Well Depth ____ ft. ✓ top of riser; top of casing; ____ ✓ measured; ✓ historical

Water Depth 13.16 ft. Well Volume ____

LNAPL/DNAPL Depth = N/A

NAPL Thickness = N/A

Depth of pump intake: 19'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 230

Adjusted purge Rates/time/WL(record changes)

Flow rate at time of sampling: 230

Total volume of water purged: 2 gal

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1320	1325	1330	1335	1340	1345	1350	1355	
Temp. (°C)	Start	11.98	11.72	11.61	11.58	11.56	11.56	11.56	
Conduct. (µmhos/cm)	Purge	29862.3	29398	29811.8	29869.7	29870.6	29847.4	29846.1	
DO (mg/L)		0.16	0.13	0.07	0.07	0.04	0.04	0.04	
pH (su)		6.44	6.42	6.40	6.39	6.39	6.39	6.39	
ORP (millivolts)		-5.0	-4.7	-5.0	-5.2	-6.1	-6.7	-6.4	
Turbidity (NTU)		4.6	4.17	3.91	1.80	1.21	1.31	0.97	
Flow (ml/min)	230	→	→	→	→	→	→	→	
Depth To Water (ft)	13.16	→	→	→	→	→	→	→	
Cumulative Purge Vol. (gal or L)									

Time							
Temp. (°C)							
Conduct. (µmhos/cm)							
DO (mg/L)							
pH (Std. Units)							
Eh/ORP (millivolts)							
Turbidity (NTU)							
Flow (ml/min)							
Depth To Water (ft)							
Cumulative Purge Vol. (gal or L)							

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	✓	✓
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Clear, No, No

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	3	1L Amber	1355		MW-412
VPH	↓	↓	3	40ml Vial	↓		↓

* Consult the applicable regulatory guidance for the specific criteria.

Signed:

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time: 1240	Sheet 1 of 1
Spectra Weymouth		6/6/17	
TRC Personnel: Annie Cornell		Well ID: MW-413	

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: smart troll, hach

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	–
Well Mouth	–

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: [ ] 2 inch [X] 4 inch [ ] 6 inch

Other: ______

WELL MATERIAL: [ ] PVC [ ] SS

Other: ______

Well Depth ____ ft. [✓] top of riser [ ] top of casing [ ] ______ [ ] measured [✓] historical

Water Depth 12.82 ft.

Well Volume ______

LNAPL/DNAPL Depth = ______

NAPL Thickness = ______

Depth of pump intake: 16

Static water level after pump put into well: 12.81

Initial purge Rate/ Water Level (100-400 ml/min): 300

Adjusted purge Rates/time/WL(record changes): 300

Flow rate at time of sampling: 300

Total volume of water purged: 3 gallons, sample

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1240	1245	1250	1255	1300	1305	1310	1315	
Temp. (°C)	11.64	11.78	11.78	11.78	11.77	11.78	11.79		
Conduct. (µmhos/cm)	31235	30815	30865	31135	31587	32008	32114		
DO (mg/L)	0.52	0.13	0.06	0.01	0.00	0.00	0.00		
pH (su)	6.38	6.32	6.30	6.29	6.28	6.28	6.28		
ORP (millivolts)	-30.8	-35.9	-38.8	-41.3	-43.3	-44.9	-45.4		
Turbidity (NTU)	10.8	8.84	11.2	9.89	1.89	1.21	1.64		
Flow (ml/min)	200	300	300	300	300	300	300		
Depth To Water (ft)	12.81	12.80	12.80	12.80	12.80	12.80	12.80		
Cumulative Purge Vol. (gal or L)									

Time						
Temp. (°C)						
Conduct. (µmhos/cm)						
DO (mg/L)						
pH (Std. Units)						
Eh/ORP (millivolts)						
Turbidity (NTU)						
Flow (ml/min)						
Depth To Water (ft)						
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria*
(3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: ______		

Comments: Clear, Nro, NS

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCL	2	250A	1315		MW-413
VPH	N	HCL	3	vials	1315		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet
Spectra Weymouth		6/7/17 1210	1 of 1

TRC Personnel: Annie Cornell

Well ID: MW-414

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: SMART TROLL, PUMP

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: Other: ____ — [ ] 2 inch [X] 4 inch [ ] 6 inch

WELL MATERIAL: [X] PVC [ ] SS Other: ____

Well Depth ____ ft. [ ] top of riser [ ] top of casing — [ ] measured [X] historical

Water Depth 13.96 ft. **Well Volume** ____

LNAPL/DNAPL Depth = 13.94

NAPL Thickness = 0.02

Depth of pump intake: 18ft

Static water level after pump put into well: 13.96

Initial purge Rate/ Water Level (100-400 ml/min): 300

Adjusted purge Rates/time/WL(record changes) 300

Flow rate at time of sampling: 300

Total volume of water purged: 4 gallons

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1210	1215	1220	1225	1230	1235	1240	1245	1250
Temp. (°C)	13.61	12.88	12.89	12.92	12.90	13.02	12.99	13.10	13.15
Conduct. (µmhos/cm)	4004	4612	5240	5767	6091	6217	6390	6426	6288
DO (mg/L)	0.13	0.05	0.03	0.02	0.01	0.01	0.01	0.00	0.00
pH (su)	6.91	6.66	6.55	6.50	6.48	6.46	6.45	6.44	6.44
ORP (millivolts)	-23.3	-25.1	-25.2	-24.9	-24.8	-25.1	-25.3	-25.4	-26.6
Turbidity (NTU)	69.9	53.6	40.4	38.4	35.8	31.7	21.6	18.8	17.3
Flow (ml/min)	300	300	300	200	300	300	300	300	300
Depth To Water (ft)									
Cumulative Purge Vol. (gal or L)									

Time	1255	1300				
Temp. (°C)	13.32	13.34				
Conduct. (µmhos/cm)	5992	5983				
DO (mg/L) 0.01	0.02	0.01				
pH (Std. Units)	6.45	6.44				
Eh/ORP (millivolts)	-27.5	-27.9				
Turbidity (NTU)	16.7	17.2				
Flow (ml/min)	300	300				
Depth To Water (ft)						
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: depth to water was not taken due to NAPL in the well

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPA	N	HCL	2	250A	1300		MW-414
VPH	N	HCL	3	VIALS	1300		D

* Consult the applicable regulatory guidance for the specific criteria.

Signed: _____

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra Weymouth	**Project No.:**	**Date/Time:** 6/6/17 1140	**Sheet** 1 of 1
TRC Personnel: Annie Carroll		**Well ID:** MW-415	

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	Y	

Sampling Equipment: SMART TROLL, HACH

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	–
Well Mouth	–

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch — Other: _____

WELL MATERIAL: [X] PVC [ ] SS — Other: _____

Well Depth _____ ft. [/] top of riser [ ] top of casing [ ] _____ — [ ] measured [/] historical

Water Depth 14.56 ft. — **Well Volume** _____ — **LNAPL/DNAPL Depth =** – — **NAPL Thickness =** –

Depth of pump intake: 17

Static water level after pump put into well: 14.45

Initial purge Rate/ Water Level (100-400 ml/min): 300

Adjusted purge Rates/time/WL(record changes) 300

Flow rate at time of sampling: 300

Total volume of water purged: 3 gallons

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1140	1145	1150	1155	1200	1205	1210 sample		
Temp. (°C)	16.36	10.33	10.24	10.24	16.24	10.24			
Conduct. (µmhos/cm)	349610	35227	35613	35715	35926	35925			
DO (mg/L)	0.05	0.02	0.00	0.00	0.00	0.00			
pH (su)	6.36	6.35	6.33	6.31	6.30	6.29			
ORP (millivolts)	33.0	31.5	29.9	29.5	29.2	29.1			
Turbidity (NTU)	26.2	5.00	1.27	3.39	0.56	1.30			
Flow (ml/min)	300	300	300	300	300	300			
Depth To Water (ft)	14.45	14.45	14.41	14.41	14.34	14.39			
Cumulative Purge Vol. (gal or L)									

Time						
Temp. (°C)						
Conduct. (µmhos/cm)						
DO (mg/L)						
pH (Std. Units)						
Eh/ORP (millivolts)						
Turbidity (NTU)						
Flow (ml/min)						
Depth To Water (ft)						
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments: Clear, No, No

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCL	2	250A	1210		MW415
VPH	N	HCL	3	VIALS	1210		d

* Consult the applicable regulatory guidance for the specific criteria.

Signed: _____

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Weymouth Spectra Energy	Project No.: 140143	Date/Time: 6/7/17 1030	Sheet 1 of 1
TRC Personnel: BAyres		Well ID: MW-416	

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): N/A ft.

Riser Stick-up (from ground): N/A ft.

WELL DIAMETER: ✓ 2 inch; 4 inch; 6 inch

Other:

WELL MATERIAL

☒ PVC ☐ SS

Other:

Well Depth ____ ft. ✓ top of riser; top of casing; ✓ measured; historical

Water Depth 10.66 ft.

Well Volume

LNAPL/DNAPL Depth = N/A

NAPL Thickness = N/A

Depth of pump intake: 17'

Static water level after pump put into well: 10.67

Initial purge Rate/ Water Level (100-400 ml/min): 230

Adjusted purge Rates/time/WL(record changes)

Flow rate at time of sampling: 230

Total volume of water purged: 3.5 gal

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1030	1035	1040	1045	1050	1055	1100	1105	1110
Temp. (°C)	Start	12.6	12.4	12.4	12.3	12.4	12.5	12.4	12.4
Conduct. (µmhos/cm)	Purge	3426	8749	9237	10125	10462	10770	11422	12479
DO (mg/L)		3.31	2.49	2.39	2.26	2.20	2.16	2.07	2.00
pH (su)		6.73	6.58	6.59	6.59	6.59	6.58	6.58	6.58
ORP (millivolts)		6.4	15.1	15.8	17.3	18.4	19.7	20.7	21.7
Turbidity (NTU)		7.9	7.83	7.94	7.64	6.98	6.27	6.01	5.91
Flow (ml/min)	230	→	→	→	→	→	→	→	→
Depth To Water (ft)	10.66	10.68	10.69	→	→	→	→	→	→
Cumulative Purge Vol. (gal or L)									

Time	1115	1120	1125			
Temp. (°C)	12.4	12.5	12.5			
Conduct. (µmhos/cm)	13330	13461	14133			
DO (mg/L)	1.85	1.90	1.86			
pH (Std. Units)	6.58	6.58	6.58			
Eh/ORP (millivolts)	22.8	23.3	23.7			
Turbidity (NTU)	4.63	4.50				
Flow (ml/min)	230	→				
Depth To Water (ft)	10.69	→				
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	✓	✓
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Clear, No, No

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPA	N	HCl	3	1L Amb	1125		MW-416
VOA	↓	↓	3	40ML VOA	↓		↓

* Consult the applicable regulatory guidance for the specific criteria.

Signed:

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Weymouth Spectra Energy | Project No.: 140143 | Date/Time: 6/7/17 1200 | Sheet 1 of 1

TRC Personnel: B Agnes | Well ID: MW-417

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): N/A ft.

Riser Stick-up (from ground): N/A ft.

WELL DIAMETER: [✓] 2 inch [ ] 4 inch [ ] 6 inch

Other: ______

WELL MATERIAL: [✓] PVC [ ] SS

Other: ______

Well Depth ______ ft. [✓] top of riser [ ] top of casing [ ] measured [✓] historical

Water Depth 10.17 ft.

Well Volume ______

LNAPL/DNAPL Depth = N/A

NAPL Thickness = N/A

Depth of pump intake: 17'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 230

Adjusted purge Rates/time/WL(record changes)

Flow rate at time of sampling: 230

Total volume of water purged: 2 gal

FB

FB 1310

TB 1315

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1200	1205	1210	1215	1220	1225	1230		
Temp. (° C)	Start	12.8	12.8	13.0	12.9	12.8	12.8		
Conduct. (µmhos/cm)	Purge	6259	6010	5680	5631	5586	5531		
DO (mg/L)	↓	0.67	0.39	0.35	0.35	0.35	0.35		
pH (su)		6.64	6.61	6.58	6.57	6.57	6.56		
ORP (millivolts)		24.4	23.0	20.1	18.9	17.3	15.0		
Turbidity (NTU)		37.9	26.8	8.50	7.43	3.34	2.94		
Flow (ml/min)	230	→							
Depth To Water (ft)	10.17	10.26	10.28	→					
Cumulative Purge Vol. (gal or L)									

Time						
Temp. (° C)						
Conduct. (µmhos/cm)						
DO (mg/L)						
pH (Std. Units)						
Eh/ORP (millivolts)						
Turbidity (NTU)						
Flow (ml/min)						
Depth To Water (ft)						
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* **(3 consecutive readings)**

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	✓	✓
Submersible Pump		
Bladder Pump		
Bailer		
Other: ______		

Comments: Clear, N/O, N/S

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L Amg1	1230		MW-417
VPH	↓	↓	3	40mL VIal	↓		↓

• Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

Appendix B-3
Tidal Study Data
ENBRIDGE
Atlantic Bridge Project
Weymouth Compressor Station,
6 Bridge Street, Weymouth, Massachusetts

Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/22/2016 20:00	6.83			8.31			5.17		1.66			7.58	
12/22/2016 20:10	6.91			8.32			5.17		1.67				
12/22/2016 20:20	6.91			8.33			5.17		1.67				
12/22/2016 20:30	6.91			8.32			5.17		1.67			6.9	
12/22/2016 20:40	6.92			8.32			5.17		1.67				
12/22/2016 20:50	6.92			8.32			5.16		1.67				
12/22/2016 21:00	6.92			8.32			5.16		1.67			6.11	
12/22/2016 21:10	6.93			8.32			5.16		1.67				
12/22/2016 21:20	6.92			8.31			5.15		1.67				
12/22/2016 21:30	6.92			8.31			5.16		1.66			5.2	
12/22/2016 21:40	6.92			8.29			5.15		1.66				
12/22/2016 21:50	6.92			8.28			5.15		1.66				
12/22/2016 22:00	6.92			8.26			5.15		1.65			4.19	
12/22/2016 22:10	6.91			8.25			5.14		1.65				
12/22/2016 22:20	6.90			8.23			5.14		1.64				
12/22/2016 22:30	6.89			8.21			5.14		1.64			3.13	
12/22/2016 22:40	6.89			8.20			5.14		1.64				
12/22/2016 22:50	6.88			8.17			5.12		1.63				
12/22/2016 23:00	6.87			8.15			5.12		1.63			2.16	
12/22/2016 23:10	6.86			8.14			5.13		1.62				
12/22/2016 23:20	6.86			8.13			5.12		1.62				
12/22/2016 23:30	6.84			8.10			5.11		1.61			1.43	
12/22/2016 23:40	6.84			8.09			5.12		1.61				
12/22/2016 23:50	6.82			8.07			5.11		1.60				
12/23/2016 0:00	6.82			8.04			5.11		1.60			1.04	
12/23/2016 0:10	6.82			8.02			5.10		1.60				
12/23/2016 0:20	6.81			8.01			5.09		1.59				
12/23/2016 0:30	6.81			8.00			5.09		1.59			1.02	low
12/23/2016 0:40	6.81			7.99			5.08		1.59				
12/23/2016 0:50	6.80	0:20		7.98			5.07		1.58				
12/23/2016 1:00	6.80			7.97			5.07		1.59			1.29	
12/23/2016 1:10	6.80			7.96			5.07		1.59				
12/23/2016 1:20	6.80			7.95			5.06		1.58	0:50			
12/23/2016 1:30	6.80			7.95			5.05		1.58			1.74	
12/23/2016 1:40	6.80			7.94			5.05		1.58				
12/23/2016 1:50	6.80			7.94			5.05		1.59				

Appendix B-3
Tidal Study Data
ENBRIDGE
Atlantic Bridge Project
Weymouth Compressor Station,
6 Bridge Street, Weymouth, Massachusetts

Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/23/2016 2:00	6.80			7.93	1:30		5.04		1.59			2.31	
12/23/2016 2:10	6.80			7.94			5.04		1.59				
12/23/2016 2:20	6.81			7.93			5.04		1.60				
12/23/2016 2:30	6.81			7.94			5.04		1.60			2.98	
12/23/2016 2:40	6.81			7.94			5.04		1.60				
12/23/2016 2:50	6.82			7.94			5.04		1.61				
12/23/2016 3:00	6.82			7.94			5.03		1.61			3.78	
12/23/2016 3:10	6.82			7.95			5.03		1.62				
12/23/2016 3:20	6.83			7.95			5.03		1.62				
12/23/2016 3:30	6.83			7.95			5.01		1.63			4.73	
12/23/2016 3:40	6.83			7.95			5.02		1.63				
12/23/2016 3:50	6.84			7.95			5.00		1.63				
12/23/2016 4:00	6.84			7.96			4.99		1.63			5.78	
12/23/2016 4:10	6.85			7.96			4.99		1.64				
12/23/2016 4:20	6.85			7.96			4.98		1.65				
12/23/2016 4:30	6.86			7.95			4.96		1.65			6.84	
12/23/2016 4:40	6.86			7.95			4.96		1.65				
12/23/2016 4:50	6.87			7.96			4.96		1.66				
12/23/2016 5:00	6.87			7.96			4.96		1.65			7.78	
12/23/2016 5:10	6.88			7.96			4.95		1.66				
12/23/2016 5:20	6.88			7.96			4.94		1.66				
12/23/2016 5:30	6.89			7.97			4.94		1.67			8.54	
12/23/2016 5:40	6.89			7.97			4.94		1.66				
12/23/2016 5:50	6.89			7.98			4.94		1.67				
12/23/2016 6:00	6.90			7.97			4.93		1.67			9.06	
12/23/2016 6:10	6.90			7.98			4.93		1.68				
12/23/2016 6:20	6.91			7.98			4.93		1.68				
12/23/2016 6:30	6.91			7.98			4.92		1.68			9.32	
12/23/2016 6:40	6.91			7.98			4.91		1.68				
12/23/2016 6:50	6.92			7.98			4.91		1.68				
12/23/2016 7:00	6.92			7.99			4.91		1.68			9.33	high
12/23/2016 7:10	6.92			8.00			4.92		1.69				
12/23/2016 7:20	6.92			7.99			4.91		1.69				
12/23/2016 7:30	6.93			8.00			4.92		1.69			9.11	
12/23/2016 7:40	6.93			8.01			4.91		1.69				
12/23/2016 7:50	6.93			8.01			4.91		1.69				
12/23/2016 8:00	6.93			8.01			4.91		1.70	1:00	0.11	8.7	

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Atlantic Bridge Project
Weymouth Compressor Station,
6 Bridge Street, Weymouth, Massachusetts

Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/23/2016 8:10	6.94			8.02			4.89		1.70				
12/23/2016 8:20	6.94			8.02			4.90		1.69				
12/23/2016 8:30	6.94			8.03	1:30	0.09	4.90		1.70			8.13	
12/23/2016 8:40	6.95	1:40	0.15	8.03			4.89		1.70				
12/23/2016 8:50	6.94			8.02			4.89		1.70				
12/23/2016 9:00	6.94			8.03			4.88		1.70			7.44	
12/23/2016 9:10	6.95			8.02			4.88		1.70				
12/23/2016 9:20	6.95			8.01			4.88		1.70				
12/23/2016 9:30	6.95			8.01			4.87		1.70			6.62	
12/23/2016 9:40	6.95			8.00			4.87		1.70				
12/23/2016 9:50	6.95			7.97			4.86		1.70				
12/23/2016 10:00	6.95			7.97			4.85		1.69			5.66	
12/23/2016 10:10	6.95			7.94			4.85		1.69				
12/23/2016 10:20	6.94			7.92			4.84		1.69				
12/23/2016 10:30	6.93			7.90			4.83		1.69			4.59	
12/23/2016 10:40	6.93			7.87			4.82		1.68				
12/23/2016 10:50	6.92			7.84			4.82		1.68				
12/23/2016 11:00	6.91			7.82			4.82		1.67			3.47	
12/23/2016 11:10	6.91			7.79			4.80		1.66				
12/23/2016 11:20	6.89			7.77			4.80		1.66				
12/23/2016 11:30	6.88			7.74			4.78		1.65			2.45	
12/23/2016 11:40	6.87			7.72			4.77		1.64				
12/23/2016 11:50	6.86			7.70			4.77		1.64				
12/23/2016 12:00	6.85			7.67			4.76		1.63			1.68	
12/23/2016 12:10	6.83			7.64			4.77		1.63				
12/23/2016 12:20	6.83			7.63			4.76		1.62				
12/23/2016 12:30	6.81			7.61			4.75		1.62			1.25	
12/23/2016 12:40	6.81			7.60			4.74		1.61				
12/23/2016 12:50	6.80			7.57			4.74		1.61				
12/23/2016 13:00	6.80			7.56			4.74		1.60			1.17	low
12/23/2016 13:10	6.79			7.54			4.74		1.60				
12/23/2016 13:20	6.79			7.53	0:20	0.50	4.72		1.60				
12/23/2016 13:30	6.78	0:30	0.16	7.53			4.73		1.59	0:30	0.10	1.36	
12/23/2016 13:40	6.78			7.53			4.74		1.59				
12/23/2016 13:50	6.78			7.53			4.74		1.59				
12/23/2016 14:00	6.78			7.54			4.74		1.59			1.72	
12/23/2016 14:10	6.78			7.53			4.73		1.59				

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Tidal Study Data
ENBRIDGE
Atlantic Bridge Project
Weymouth Compressor Station,
6 Bridge Street, Weymouth, Massachusetts

Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/23/2016 14:20	6.78			7.54			4.74		1.59				
12/23/2016 14:30	6.78			7.54			4.75		1.59			2.18	
12/23/2016 14:40	6.78			7.54			4.75		1.59				
12/23/2016 14:50	6.78			7.55			4.75		1.59				
12/23/2016 15:00	6.78			7.55			4.76		1.60			2.76	
12/23/2016 15:10	6.78			7.57			4.76		1.60				
12/23/2016 15:20	6.79			7.58			4.76		1.60				
12/23/2016 15:30	6.79			7.58			4.77		1.61			3.48	
12/23/2016 15:40	6.79			7.60			4.78		1.61				
12/23/2016 15:50	6.79			7.61			4.78		1.61				
12/23/2016 16:00	6.80			7.62			4.79		1.62			4.36	
12/23/2016 16:10	6.80			7.63			4.80		1.62				
12/23/2016 16:20	6.80			7.64			4.79		1.63				
12/23/2016 16:30	6.81			7.64			4.79		1.63			5.33	
12/23/2016 16:40	6.81			7.65			4.79		1.64				
12/23/2016 16:50	6.82			7.66			4.80		1.64				
12/23/2016 17:00	6.83			7.67			4.80		1.65			6.31	
12/23/2016 17:10	6.83			7.67			4.80		1.65				
12/23/2016 17:20	6.83			7.68			4.79		1.66				
12/23/2016 17:30	6.84			7.69			4.80		1.66			7.18	
12/23/2016 17:40	6.84			7.69			4.79		1.66				
12/23/2016 17:50	6.85			7.69			4.79		1.67				
12/23/2016 18:00	6.85			7.70			4.79		1.67			7.87	
12/23/2016 18:10	6.86			7.71			4.79		1.67				
12/23/2016 18:20	6.87			7.72			4.79		1.68				
12/23/2016 18:30	6.87			7.73			4.79		1.68			8.32	
12/23/2016 18:40	6.87			7.73			4.79		1.68				
12/23/2016 18:50	6.87			7.74			4.79		1.69				
12/23/2016 19:00	6.88			7.74			4.78		1.70			8.54	high
12/23/2016 19:10	6.89			7.75			4.79		1.69				
12/23/2016 19:20	6.89			7.76			4.79		1.70				
12/23/2016 19:30	6.90			7.76			4.79		1.70			8.53	
12/23/2016 19:40	6.90			7.77			4.79		1.70				
12/23/2016 19:50	6.91			7.77			4.80		1.70				
12/23/2016 20:00	6.91			7.78			4.79		1.70			8.31	
12/23/2016 20:10	6.91			7.79			4.79		1.71				
12/23/2016 20:20	6.92			7.78			4.79		1.71				

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Atlantic Bridge Project
Weymouth Compressor Station,
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Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/23/2016 20:30	6.92			7.79			4.78		1.71			7.92	
12/23/2016 20:40	6.92			7.79			4.78		1.71				
12/23/2016 20:50	6.92			7.80			4.78		1.71				
12/23/2016 21:00	6.93			7.80			4.78		1.71			7.38	
12/23/2016 21:10	6.94	2:10	0.15	7.80			4.77		1.71				
12/23/2016 21:20	6.93			7.81			4.77		1.71				
12/23/2016 21:30	6.94			7.81			4.77		1.72	2:30	0.12	6.73	
12/23/2016 21:40	6.94			7.82			4.78		1.71				
12/23/2016 21:50	6.95			7.82			4.77		1.72				
12/23/2016 22:00	6.95			7.82			4.77		1.71			5.96	
12/23/2016 22:10	6.94			7.83			4.78		1.72				
12/23/2016 22:20	6.95			7.83			4.78		1.72				
12/23/2016 22:30	6.95			7.84	3:30	0.31	4.77		1.71			5.06	
12/23/2016 22:40	6.95			7.83			4.77		1.72				
12/23/2016 22:50	6.95			7.82			4.77		1.71				
12/23/2016 23:00	6.94			7.81			4.77		1.71			4.06	
12/23/2016 23:10	6.95			7.80			4.77		1.71				
12/23/2016 23:20	6.94			7.79			4.77		1.71				
12/23/2016 23:30	6.94			7.77			4.77		1.70			3.04	
12/23/2016 23:40	6.94			7.77			4.76		1.70				
12/23/2016 23:50	6.93			7.76			4.77		1.70				
12/24/2016 0:00	6.93			7.75			4.78		1.69			2.14	
12/24/2016 0:10	6.92			7.73			4.77		1.69				
12/24/2016 0:20	6.92			7.72			4.77		1.68				
12/24/2016 0:30	6.91			7.70			4.77		1.68			1.51	
12/24/2016 0:40	6.90			7.69			4.78		1.68				
12/24/2016 0:50	6.90			7.68			4.78		1.68				
12/24/2016 1:00	6.89			7.68			4.78		1.67	0:00	0.05	1.23	low
12/24/2016 1:10	6.89			7.67			4.78		1.67				
12/24/2016 1:20	6.89			7.66			4.78		1.67				
12/24/2016 1:30	6.88			7.66			4.78		1.67			1.3	
12/24/2016 1:40	6.88			7.64	0:40	0.19	4.78		1.67				
12/24/2016 1:50	6.88			7.65			4.78		1.67				
12/24/2016 2:00	6.87	1:00	0.06	7.65			4.79		1.67			1.61	
12/24/2016 2:10	6.87			7.65			4.78		1.67				
12/24/2016 2:20	6.88			7.65			4.79		1.67				
12/24/2016 2:30	6.88			7.65			4.79		1.67			2.07	

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Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/24/2016 2:40	6.88			7.66			4.80		1.67				
12/24/2016 2:50	6.87			7.66			4.80		1.68				
12/24/2016 3:00	6.88			7.68			4.80		1.68			2.64	
12/24/2016 3:10	6.88			7.68			4.80		1.69				
12/24/2016 3:20	6.88			7.68			4.79		1.69				
12/24/2016 3:30	6.89			7.69			4.80		1.69			3.32	
12/24/2016 3:40	6.89			7.70			4.80		1.70				
12/24/2016 3:50	6.89			7.72			4.81		1.70				
12/24/2016 4:00	6.90			7.72			4.81		1.70			4.14	
12/24/2016 4:10	6.90			7.74			4.82		1.70				
12/24/2016 4:20	6.90			7.74			4.82		1.71				
12/24/2016 4:30	6.91			7.75			4.82		1.71			5.1	
12/24/2016 4:40	6.91			7.76			4.82		1.71				
12/24/2016 4:50	6.92			7.76			4.82		1.72				
12/24/2016 5:00	6.92			7.77			4.82		1.72			6.15	
12/24/2016 5:10	6.93			7.78			4.82		1.72				
12/24/2016 5:20	6.93			7.78			4.82		1.72				
12/24/2016 5:30	6.93			7.80			4.82		1.73			7.17	
12/24/2016 5:40	6.93			7.81			4.84		1.73				
12/24/2016 5:50	6.93			7.82			4.84		1.73				
12/24/2016 6:00	6.94			7.85			4.85		1.73			8.06	
12/24/2016 6:10	6.94			7.86			4.85		1.74				
12/24/2016 6:20	6.95			7.86			4.87		1.74				
12/24/2016 6:30	6.95			7.88			4.87		1.74			8.74	
12/24/2016 6:40	6.95			7.90			4.88		1.74				
12/24/2016 6:50	6.95			7.91			4.88		1.74				
12/24/2016 7:00	6.95			7.91			4.88		1.74			9.19	
12/24/2016 7:10	6.95			7.92			4.90		1.75				
12/24/2016 7:20	6.96			7.94			4.91		1.75				
12/24/2016 7:30	6.96			7.96			4.92		1.75			9.38	
12/24/2016 7:40	6.96			7.97			4.92		1.75				
12/24/2016 7:50	6.96			7.96			4.92		1.76				
12/24/2016 8:00	6.96			7.97			4.92		1.76			9.33	high
12/24/2016 8:10	6.97			7.98			4.93		1.76				
12/24/2016 8:20	6.97			7.99			4.92		1.76				
12/24/2016 8:30	6.97			7.99			4.92		1.76			9.06	
12/24/2016 8:40	6.97			8.00			4.94		1.76				

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Tidal Study Data
ENBRIDGE
Atlantic Bridge Project
Weymouth Compressor Station,
6 Bridge Street, Weymouth, Massachusetts

Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/24/2016 8:50	6.97			8.03			4.96		1.76				
12/24/2016 9:00	6.98			8.03			4.96		1.76			8.6	
12/24/2016 9:10	6.99	1:10	0.11	8.03			4.95		1.76				
12/24/2016 9:20	6.98			8.05			4.96		1.77	1:20	0.09		
12/24/2016 9:30	6.98			8.05			4.96		1.77			8	
12/24/2016 9:40	6.99			8.04			4.96		1.77				
12/24/2016 9:50	6.99			8.06			4.97		1.77				
12/24/2016 10:00	6.99			8.06			4.97		1.77			7.27	
12/24/2016 10:10	7.00			8.07	2:10	0.43	4.98		1.77				
12/24/2016 10:20	6.99			8.07			4.98		1.77				
12/24/2016 10:30	6.99			8.07			4.98		1.77			6.4	
12/24/2016 10:40	7.00			8.07			4.99		1.77				
12/24/2016 10:50	6.99			8.06			4.97		1.77				
12/24/2016 11:00	6.99			8.04			4.97		1.76			5.39	
12/24/2016 11:10	6.99			8.03			4.97		1.76				
12/24/2016 11:20	6.99			8.02			4.98		1.75				
12/24/2016 11:30	6.99			8.00			4.97		1.76			4.27	
12/24/2016 11:40	6.97			7.98			4.97		1.75				
12/24/2016 11:50	6.97			7.97			4.98		1.74				
12/24/2016 12:00	6.96			7.97			4.99		1.74			3.15	
12/24/2016 12:10	6.95			7.95			5.00		1.73				
12/24/2016 12:20	6.94			7.94			5.00		1.72				
12/24/2016 12:30	6.92			7.92			5.00		1.72			2.16	
12/24/2016 12:40	6.92			7.90			5.00		1.71				
12/24/2016 12:50	6.90			7.88			5.00		1.70				
12/24/2016 13:00	6.89			7.87			5.00		1.70			1.46	
12/24/2016 13:10	6.88			7.85			5.01		1.69				
12/24/2016 13:20	6.87			7.85			5.02		1.68				
12/24/2016 13:30	6.86			7.85			5.03		1.68			1.12	
12/24/2016 13:40	6.85			7.85			5.05		1.67				
12/24/2016 13:50	6.85			7.84			5.04		1.67				
12/24/2016 14:00	6.84			7.83	0:00	0.24	5.06		1.66			1.1	low
12/24/2016 14:10	6.84			7.84			5.06		1.66				
12/24/2016 14:20	6.84			7.83			5.07		1.65				
12/24/2016 14:30	6.83			7.84			5.08		1.66			1.32	
12/24/2016 14:40	6.83			7.84			5.09		1.65	0:40	0.11		
12/24/2016 14:50	6.83			7.85			5.10		1.65				

Appendix B-3
Tidal Study Data
ENBRIDGE
Atlantic Bridge Project
Weymouth Compressor Station,
6 Bridge Street, Weymouth, Massachusetts

Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/24/2016 15:00	6.82	1:00	0.17	7.85			5.11		1.65			1.69	
12/24/2016 15:10	6.82			7.85			5.11		1.66				
12/24/2016 15:20	6.82			7.86			5.12		1.65				
12/24/2016 15:30	6.82			7.87			5.13		1.66			2.16	
12/24/2016 15:40	6.82			7.89			5.14		1.66				
12/24/2016 15:50	6.82			7.90			5.14		1.65				
12/24/2016 16:00	6.82			7.90			5.15		1.66			2.76	
12/24/2016 16:10	6.82			7.92			5.16		1.66				
12/24/2016 16:20	6.82			7.91			5.16		1.66				
12/24/2016 16:30	6.82			7.92			5.17		1.67			3.52	
12/24/2016 16:40	6.82			7.94			5.18		1.69				
12/24/2016 16:50	6.83			7.96			5.18		1.68				
12/24/2016 17:00	6.83			7.96			5.20		1.69			4.43	
12/24/2016 17:10	6.83			7.97			5.20		1.69				
12/24/2016 17:20	6.84			7.99			5.21		1.70				
12/24/2016 17:30	6.84			8.01			5.22		1.71			5.42	
12/24/2016 17:40	6.85			8.02			5.22		1.71				
12/24/2016 17:50	6.85			8.04			5.22		1.71				
12/24/2016 18:00	6.85			8.04			5.23		1.72			6.39	
12/24/2016 18:10	6.85			8.04			5.23		1.72				
12/24/2016 18:20	6.86			8.05			5.23		1.72				
12/24/2016 18:30	6.87			8.06			5.22		1.72			7.23	
12/24/2016 18:40	6.87			8.07			5.22		1.72				
12/24/2016 18:50	6.88			8.07			5.22		1.73				
12/24/2016 19:00	6.88			8.07			5.22		1.73			7.87	
12/24/2016 19:10	6.89			8.08			5.21		1.73				
12/24/2016 19:20	6.89			8.08			5.21		1.74				
12/24/2016 19:30	6.89			8.09			5.21		1.74			8.28	
12/24/2016 19:40	6.90			8.09			5.20		1.75				
12/24/2016 19:50	6.90			8.09			5.20		1.75				
12/24/2016 20:00	6.91			8.10			5.20		1.75			8.46	high
12/24/2016 20:10	6.91			8.10			5.20		1.75				
12/24/2016 20:20	6.92			8.09			5.20		1.76				
12/24/2016 20:30	6.93			8.10			5.20		1.76			8.41	
12/24/2016 20:40	6.93			8.10			5.20		1.76				
12/24/2016 20:50	6.93			8.11			5.19		1.77				
12/24/2016 21:00	6.94			8.11			5.18		1.77			8.16	

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6 Bridge Street, Weymouth, Massachusetts

Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/24/2016 21:10	6.94			8.12			5.18		1.77				
12/24/2016 21:20	6.94			8.12			5.17		1.77				
12/24/2016 21:30	6.95			8.12			5.17		1.78	1:30	0.12	7.74	
12/24/2016 21:40	6.95			8.12			5.17		1.78				
12/24/2016 21:50	6.95			8.11			5.17		1.78				
12/24/2016 22:00	6.96			8.12			5.17		1.78			7.2	
12/24/2016 22:10	6.96			8.13			5.17		1.78				
12/24/2016 22:20	6.96			8.14			5.17		1.78				
12/24/2016 22:30	6.97			8.15	2:30	0.31	5.17		1.78			6.54	
12/24/2016 22:40	6.97			8.14			5.16		1.78				
12/24/2016 22:50	6.98	2:50	0.16	8.13			5.15		1.78				
12/24/2016 23:00	6.97			8.13			5.14		1.78			5.75	
12/24/2016 23:10	6.98			8.12			5.13		1.78				
12/24/2016 23:20	6.98			8.11			5.12		1.78				
12/24/2016 23:30	6.98			8.12			5.12		1.78			4.83	
12/24/2016 23:40	6.97			8.10			5.11		1.78				
12/24/2016 23:50	6.98			8.09			5.11		1.78				
12/25/2016 0:00	6.97			8.08			5.11		1.77			3.82	
12/25/2016 0:10	6.98			8.05			5.10		1.77				
12/25/2016 0:20	6.97			8.04			5.10		1.76				
12/25/2016 0:30	6.97			8.01			5.09		1.76			2.83	
12/25/2016 0:40	6.96			7.99			5.08		1.76				
12/25/2016 0:50	6.96			7.98			5.07		1.76				
12/25/2016 1:00	6.95			7.97			5.07		1.75			2.01	
12/25/2016 1:10	6.94			7.94			5.06		1.75				
12/25/2016 1:20	6.93			7.93			5.06		1.74				
12/25/2016 1:30	6.93			7.90			5.05		1.74			1.5	
12/25/2016 1:40	6.92			7.88			5.04		1.73				
12/25/2016 1:50	6.91			7.86			5.04		1.73				
12/25/2016 2:00	6.91			7.85			5.04		1.73			1.34	low
12/25/2016 2:10	6.90			7.84			5.04		1.72				
12/25/2016 2:20	6.90			7.83			5.03		1.72				
12/25/2016 2:30	6.90			7.82			5.04		1.72			1.5	
12/25/2016 2:40	6.89			7.81			5.04		1.71	0:40	0.06		
12/25/2016 2:50	6.89			7.80			5.03		1.71				
12/25/2016 3:00	6.88	1:00	0.09	7.80			5.03		1.72			1.87	
12/25/2016 3:10	6.88			7.80			5.04		1.72				

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Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/25/2016 3:20	6.88			7.80			5.03		1.72				
12/25/2016 3:30	6.88			7.80			5.03		1.72			2.37	
12/25/2016 3:40	6.88			7.79	1:40	0.36	5.03		1.72				
12/25/2016 3:50	6.88			7.79			5.03		1.72				
12/25/2016 4:00	6.88			7.79			5.03		1.72			2.97	
12/25/2016 4:10	6.89			7.79			5.03		1.73				
12/25/2016 4:20	6.88			7.80			5.03		1.73				
12/25/2016 4:30	6.89			7.80			5.02		1.73			3.7	
12/25/2016 4:40	6.89			7.80			5.02		1.74				
12/25/2016 4:50	6.89			7.80			5.02		1.74				
12/25/2016 5:00	6.90			7.80			5.01		1.74			4.57	
12/25/2016 5:10	6.90			7.80			5.00		1.75				
12/25/2016 5:20	6.91			7.81			4.99		1.75				
12/25/2016 5:30	6.91			7.82			4.99		1.76			5.56	
12/25/2016 5:40	6.91			7.82			4.99		1.75				
12/25/2016 5:50	6.92			7.83			4.99		1.76				
12/25/2016 6:00	6.92			7.84			4.99		1.77			6.61	
12/25/2016 6:10	6.93			7.84			4.99		1.77				
12/25/2016 6:20	6.93			7.84			4.98		1.78				
12/25/2016 6:30	6.93			7.85			4.98		1.77			7.6	
12/25/2016 6:40	6.94			7.86			4.99		1.78				
12/25/2016 6:50	6.94			7.86			4.99		1.78				
12/25/2016 7:00	6.95			7.87			4.99		1.78			8.43	
12/25/2016 7:10	6.95			7.88			4.99		1.79				
12/25/2016 7:20	6.95			7.89			4.99		1.79				
12/25/2016 7:30	6.96			7.90			4.99		1.79			9.03	
12/25/2016 7:40	6.97			7.89			4.98		1.79				
12/25/2016 7:50	6.97			7.90			4.98		1.79				
12/25/2016 8:00	6.97			7.90			4.98		1.80			9.38	
12/25/2016 8:10	6.98			7.92			4.99		1.80				
12/25/2016 8:20	6.98			7.91			4.98		1.80				
12/25/2016 8:30	6.98			7.93			4.98		1.80			9.48	high
12/25/2016 8:40	6.99			7.92			4.97		1.80				
12/25/2016 8:50	6.99			7.93			4.98		1.80				
12/25/2016 9:00	6.98			7.93			4.97		1.80			9.33	
12/25/2016 9:10	6.99			7.93			4.97		1.81				
12/25/2016 9:20	6.99			7.94			4.97		1.81				

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Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/25/2016 9:30	6.99			7.95	1:00	0.16	4.97		1.82	1:00	0.10	8.98	
12/25/2016 9:40	7.00			7.94			4.97		1.81				
12/25/2016 9:50	7.00			7.95			4.96		1.81				
12/25/2016 10:00	7.00			7.94			4.96		1.82			8.44	
12/25/2016 10:10	7.01			7.94			4.94		1.81				
12/25/2016 10:20	7.01			7.94			4.94		1.82				
12/25/2016 10:30	7.01			7.94			4.93		1.81			7.77	
12/25/2016 10:40	7.01			7.94			4.93		1.82				
12/25/2016 10:50	7.01			7.93			4.92		1.82				
12/25/2016 11:00	7.01			7.93			4.92		1.82			6.96	
12/25/2016 11:10	7.01			7.92			4.91		1.82				
12/25/2016 11:20	7.01			7.91			4.91		1.82				
12/25/2016 11:30	7.01			7.91			4.90		1.82			6.02	
12/25/2016 11:40	7.02	3:10	0.13	7.89			4.89		1.82				
12/25/2016 11:50	7.01			7.88			4.89		1.82				
12/25/2016 12:00	7.02			7.87			4.89		1.82			4.94	
12/25/2016 12:10	7.01			7.85			4.87		1.81				
12/25/2016 12:20	7.01			7.82			4.87		1.81				
12/25/2016 12:30	7.01			7.81			4.86		1.80			3.79	
12/25/2016 12:40	7.00			7.77			4.85		1.80				
12/25/2016 12:50	7.00			7.75			4.84		1.80				
12/25/2016 13:00	6.98			7.72			4.83		1.79			2.67	
12/25/2016 13:10	6.97			7.70			4.82		1.79				
12/25/2016 13:20	6.97			7.66			4.82		1.78				
12/25/2016 13:30	6.95			7.64			4.81		1.77			1.75	
12/25/2016 13:40	6.94			7.63			4.81		1.77				
12/25/2016 13:50	6.93			7.61			4.81		1.76				
12/25/2016 14:00	6.92			7.59			4.80		1.75			1.16	
12/25/2016 14:10	6.91			7.56			4.79		1.75				
12/25/2016 14:20	6.90			7.54			4.78		1.75				
12/25/2016 14:30	6.90			7.53			4.78		1.74			0.92	low
12/25/2016 14:40	6.89			7.50			4.77		1.74				
12/25/2016 14:50	6.89			7.48			4.76		1.73				
12/25/2016 15:00	6.88			7.46			4.76		1.73			1	
12/25/2016 15:10	6.88			7.46			4.75		1.73				
12/25/2016 15:20	6.87			7.44			4.74		1.73				
12/25/2016 15:30	6.87			7.42			4.73		1.73			1.28	

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Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/25/2016 15:40	6.87			7.42			4.72		1.72	1:10	0.09		
12/25/2016 15:50	6.87			7.40			4.72		1.73				
12/25/2016 16:00	6.86	1:30	0.15	7.40			4.72		1.73			1.69	
12/25/2016 16:10	6.86			7.39			4.71		1.73				
12/25/2016 16:20	6.86			7.38			4.70		1.73				
12/25/2016 16:30	6.86			7.38			4.69		1.73			2.22	
12/25/2016 16:40	6.87			7.37	2:10	0.58	4.69		1.74				
12/25/2016 16:50	6.86			7.37			4.69		1.74				
12/25/2016 17:00	6.87			7.37			4.69		1.75			2.88	
12/25/2016 17:10	6.87			7.37			4.68		1.75				
12/25/2016 17:20	6.87			7.37			4.68		1.75				
12/25/2016 17:30	6.87			7.37			4.68		1.75			3.71	
12/25/2016 17:40	6.87			7.38			4.68		1.76				
12/25/2016 17:50	6.87			7.39			4.68		1.76				
12/25/2016 18:00	6.88			7.38			4.67		1.77			4.68	
12/25/2016 18:10	6.88			7.39			4.67		1.77				
12/25/2016 18:20	6.88			7.40			4.66		1.77				
12/25/2016 18:30	6.89			7.39			4.65		1.78			5.69	
12/25/2016 18:40	6.90			7.39			4.64		1.79				
12/25/2016 18:50	6.90			7.39			4.64		1.79				
12/25/2016 19:00	6.91			7.40			4.63		1.79			6.64	
12/25/2016 19:10	6.91			7.40			4.62		1.80				
12/25/2016 19:20	6.92			7.41			4.62		1.80				
12/25/2016 19:30	6.92			7.41			4.62		1.80			7.44	
12/25/2016 19:40	6.93			7.42			4.62		1.81				
12/25/2016 19:50	6.93			7.42			4.61		1.81				
12/25/2016 20:00	6.93			7.42			4.61		1.81			8.01	
12/25/2016 20:10	6.94			7.42			4.60		1.82				
12/25/2016 20:20	6.95			7.42			4.60		1.82				
12/25/2016 20:30	6.95			7.43			4.60		1.82			8.35	
12/25/2016 20:40	6.95			7.42			4.59		1.82				
12/25/2016 20:50	6.96			7.44			4.59		1.83				
12/25/2016 21:00	6.96			7.43			4.59		1.83			8.46	high
12/25/2016 21:10	6.97			7.43			4.58		1.83				
12/25/2016 21:20	6.97			7.44			4.58		1.83				
12/25/2016 21:30	6.98			7.44			4.58		1.84			8.33	
12/25/2016 21:40	6.98			7.44			4.57		1.84				

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Weymouth Compressor Station,
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Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/25/2016 21:50	6.99			7.44			4.57		1.84				
12/25/2016 22:00	6.99			7.45			4.56		1.84			8.02	
12/25/2016 22:10	6.99			7.44			4.55		1.84				
12/25/2016 22:20	7.00			7.44			4.54		1.85				
12/25/2016 22:30	7.00			7.44			4.54		1.85			7.55	
12/25/2016 22:40	7.01			7.45			4.54		1.85				
12/25/2016 22:50	7.00			7.45			4.53		1.85				
12/25/2016 23:00	7.01			7.45			4.53		1.85			6.96	
12/25/2016 23:10	7.01			7.46			4.53		1.85				
12/25/2016 23:20	7.02			7.45			4.52		1.85				
12/25/2016 23:30	7.01			7.45			4.52		1.85			6.25	
12/25/2016 23:40	7.02			7.46	2:40	0.09	4.51		1.85				
12/25/2016 23:50	7.02			7.46			4.51		1.86	2:50	0.13		
12/26/2016 0:00	7.03	3:00	0.16	7.46			4.50		1.86			5.41	
12/26/2016 0:10	7.02			7.46			4.51		1.86				
12/26/2016 0:20	7.03			7.45			4.48		1.86				
12/26/2016 0:30	7.03			7.45			4.49		1.86			4.46	
12/26/2016 0:40	7.03			7.44			4.49		1.86				
12/26/2016 0:50	7.03			7.44			4.47		1.86				
12/26/2016 1:00	7.03			7.42			4.47		1.85			3.45	
12/26/2016 1:10	7.03			7.42			4.46		1.85				
12/26/2016 1:20	7.03			7.40			4.46		1.85				
12/26/2016 1:30	7.03			7.39			4.45		1.85			2.52	
12/26/2016 1:40	7.02			7.37			4.45		1.85				
12/26/2016 1:50	7.03			7.36			4.45		1.85				
12/26/2016 2:00	7.02			7.35			4.44		1.85			1.81	
12/26/2016 2:10	7.02			7.34			4.45		1.84				
12/26/2016 2:20	7.02			7.32			4.43		1.84				
12/26/2016 2:30	7.01			7.31			4.44		1.84			1.43	
12/26/2016 2:40	7.01			7.29			4.44		1.83				
12/26/2016 2:50	7.01			7.29			4.44		1.83				
12/26/2016 3:00	7.00	0:00	0.02	7.29			4.43		1.83	0:00	0.03	1.41	low
12/26/2016 3:10	7.01			7.27			4.43		1.83				
12/26/2016 3:20	7.00			7.27			4.43		1.83				
12/26/2016 3:30	7.00			7.26			4.43		1.83			1.69	
12/26/2016 3:40	7.00			7.26			4.42		1.83				
12/26/2016 3:50	7.00			7.26			4.43		1.83				

Appendix B-3
Tidal Study Data
ENBRIDGE
Atlantic Bridge Project
Weymouth Compressor Station,
6 Bridge Street, Weymouth, Massachusetts

Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/26/2016 4:00	7.00			7.25	1:00	0.20	4.43		1.83			2.14	
12/26/2016 4:10	7.00			7.25			4.43		1.84				
12/26/2016 4:20	7.00			7.25			4.42		1.84				
12/26/2016 4:30	7.00			7.25			4.42		1.84			2.71	
12/26/2016 4:40	7.01			7.25			4.42		1.84				
12/26/2016 4:50	7.01			7.25			4.41		1.84				
12/26/2016 5:00	7.01			7.25			4.41		1.85			3.38	
12/26/2016 5:10	7.01			7.25			4.41		1.85				
12/26/2016 5:20	7.01			7.25			4.41		1.85				
12/26/2016 5:30	7.02			7.26			4.40		1.85			4.17	
12/26/2016 5:40	7.02			7.26			4.39		1.86				
12/26/2016 5:50	7.02			7.27			4.40		1.86				
12/26/2016 6:00	7.02			7.27			4.40		1.86			5.11	
12/26/2016 6:10	7.03			7.27			4.39		1.86				
12/26/2016 6:20	7.03			7.28			4.39		1.87				
12/26/2016 6:30	7.03			7.29			4.39		1.87			6.14	
12/26/2016 6:40	7.03			7.29			4.39		1.87				
12/26/2016 6:50	7.03			7.30			4.40		1.87				
12/26/2016 7:00	7.03			7.31			4.40		1.87			7.19	
12/26/2016 7:10	7.04			7.33			4.41		1.87				
12/26/2016 7:20	7.04			7.34			4.42		1.87				
12/26/2016 7:30	7.04			7.35			4.43		1.88			8.12	
12/26/2016 7:40	7.05			7.36			4.43		1.88				
12/26/2016 7:50	7.05			7.35			4.42		1.88				
12/26/2016 8:00	7.05			7.37			4.44		1.88			8.86	
12/26/2016 8:10	7.05			7.38			4.43		1.89				
12/26/2016 8:20	7.05			7.39			4.44		1.89				
12/26/2016 8:30	7.06			7.38			4.44		1.89			9.36	
12/26/2016 8:40	7.06			7.39			4.44		1.89				
12/26/2016 8:50	7.06			7.39			4.45		1.89				
12/26/2016 9:00	7.06			7.41			4.45		1.89			9.58	high
12/26/2016 9:10	7.06			7.40			4.44		1.89				
12/26/2016 9:20	7.06			7.41			4.44		1.90				
12/26/2016 9:30	7.07			7.40			4.44		1.90			9.55	
12/26/2016 9:40	7.08			7.40			4.44		1.90				
12/26/2016 9:50	7.08			7.39			4.43		1.90				
12/26/2016 10:00	7.08			7.40			4.42		1.90			9.27	

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Weymouth Compressor Station,
6 Bridge Street, Weymouth, Massachusetts

Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/26/2016 10:10	7.08			7.40			4.42		1.90				
12/26/2016 10:20	7.08			7.40			4.44		1.91	1:20	0.08		
12/26/2016 10:30	7.08			7.42			4.43		1.91			8.79	
12/26/2016 10:40	7.08			7.43	1:40	0.17	4.44		1.91				
12/26/2016 10:50	7.09			7.43			4.44		1.91				
12/26/2016 11:00	7.09			7.43			4.44		1.91			8.15	
12/26/2016 11:10	7.09			7.43			4.44		1.91				
12/26/2016 11:20	7.09			7.43			4.44		1.91				
12/26/2016 11:30	7.09			7.43			4.44		1.91			7.38	
12/26/2016 11:40	7.10	2:40	0.09	7.43			4.43		1.91				
12/26/2016 11:50	7.09			7.43			4.43		1.91				
12/26/2016 12:00	7.10			7.43			4.43		1.91			6.48	
12/26/2016 12:10	7.09			7.43			4.43		1.91				
12/26/2016 12:20	7.09			7.42			4.44		1.91				
12/26/2016 12:30	7.09			7.41			4.43		1.90			5.46	
12/26/2016 12:40	7.09			7.39			4.44		1.90				
12/26/2016 12:50	7.09			7.38			4.44		1.90				
12/26/2016 13:00	7.08			7.37			4.44		1.89			4.32	
12/26/2016 13:10	7.08			7.35			4.43		1.88				
12/26/2016 13:20	7.08			7.33			4.43		1.88				
12/26/2016 13:30	7.06			7.33			4.45		1.87			3.15	
12/26/2016 13:40	7.06			7.32			4.44		1.86				
12/26/2016 13:50	7.04			7.30			4.45		1.85				
12/26/2016 14:00	7.02			7.29			4.46		1.85			2.08	
12/26/2016 14:10	7.01			7.28			4.47		1.84				
12/26/2016 14:20	7.00			7.26			4.47		1.83				
12/26/2016 14:30	6.99			7.26			4.48		1.82			1.27	
12/26/2016 14:40	6.98			7.25			4.50		1.82				
12/26/2016 14:50	6.96			7.24			4.50		1.81				
12/26/2016 15:00	6.95			7.22			4.50		1.81			0.82	
12/26/2016 15:10	6.94			7.20			4.50		1.80				
12/26/2016 15:20	6.93			7.19			4.51		1.79				
12/26/2016 15:30	6.93			7.18			4.51		1.79			0.73	low
12/26/2016 15:40	6.92			7.18			4.52		1.78				
12/26/2016 15:50	6.91			7.17			4.53		1.78				
12/26/2016 16:00	6.91			7.17			4.52		1.78			0.92	
12/26/2016 16:10	6.90			7.16	0:40	0.26	4.53		1.77				

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Weymouth Compressor Station,
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Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/26/2016 16:20	6.90			7.16			4.53		1.77				
12/26/2016 16:30	6.90			7.16			4.54		1.77			1.3	
12/26/2016 16:40	6.89			7.17			4.55		1.76	1:10	0.14		
12/26/2016 16:50	6.89			7.18			4.57		1.76				
12/26/2016 17:00	6.89			7.19			4.58		1.76			1.8	
12/26/2016 17:10	6.89			7.19			4.58		1.76				
12/26/2016 17:20	6.88	1:50	0.22	7.20			4.58		1.76				
12/26/2016 17:30	6.88			7.21			4.59		1.76			2.42	
12/26/2016 17:40	6.88			7.21			4.59		1.77				
12/26/2016 17:50	6.88			7.21			4.60		1.77				
12/26/2016 18:00	6.88			7.22			4.60		1.77			3.18	
12/26/2016 18:10	6.88			7.24			4.61		1.77				
12/26/2016 18:20	6.88			7.24			4.61		1.77				
12/26/2016 18:30	6.88			7.25			4.62		1.78			4.1	
12/26/2016 18:40	6.89			7.26			4.61		1.79				
12/26/2016 18:50	6.89			7.27			4.61		1.79				
12/26/2016 19:00	6.89			7.29			4.63		1.79			5.12	
12/26/2016 19:10	6.89			7.31			4.65		1.79				
12/26/2016 19:20	6.90			7.33			4.67		1.80				
12/26/2016 19:30	6.90			7.36			4.69		1.80			6.14	
12/26/2016 19:40	6.90			7.38			4.70		1.80				
12/26/2016 19:50	6.91			7.40			4.72		1.81				
12/26/2016 20:00	6.91			7.42			4.74		1.81			7.06	
12/26/2016 20:10	6.91			7.43			4.74		1.82				
12/26/2016 20:20	6.91			7.45			4.76		1.82				
12/26/2016 20:30	6.92			7.47			4.76		1.83			7.77	
12/26/2016 20:40	6.92			7.48			4.77		1.83				
12/26/2016 20:50	6.93			7.49			4.77		1.83				
12/26/2016 21:00	6.93			7.51			4.78		1.83			8.25	
12/26/2016 21:10	6.94			7.53			4.79		1.84				
12/26/2016 21:20	6.94			7.55			4.80		1.84				
12/26/2016 21:30	6.95			7.57			4.81		1.85			8.48	high
12/26/2016 21:40	6.95			7.58			4.81		1.85				
12/26/2016 21:50	6.95			7.60			4.82		1.85				
12/26/2016 22:00	6.96			7.62			4.84		1.85			8.47	
12/26/2016 22:10	6.96			7.64			4.85		1.85				
12/26/2016 22:20	6.96			7.66			4.86		1.86	0:50	0.09		

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Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/26/2016 22:30	6.98			7.68			4.88		1.86			8.23	
12/26/2016 22:40	6.97			7.70			4.89		1.86				
12/26/2016 22:50	6.98			7.73			4.90		1.86				
12/26/2016 23:00	6.98			7.75			4.92		1.86			7.82	
12/26/2016 23:10	6.99			7.77			4.93		1.86				
12/26/2016 23:20	6.99			7.79			4.95		1.86				
12/26/2016 23:30	6.99			7.79			4.95		1.86			7.26	
12/26/2016 23:40	6.99			7.81			4.96		1.86				
12/26/2016 23:50	7.00			7.82			4.98		1.86				
12/27/2016 0:00	7.00			7.84			4.99		1.86			6.59	
12/27/2016 0:10	7.00			7.87			5.00		1.86				
12/27/2016 0:20	7.00			7.88			5.02		1.86				
12/27/2016 0:30	7.01	3:00	0.13	7.90			5.03		1.86			5.82	
12/27/2016 0:40	7.01			7.91			5.03		1.86				
12/27/2016 0:50	7.01			7.92			5.05		1.85				
12/27/2016 1:00	7.01			7.93			5.07		1.85			4.93	
12/27/2016 1:10	7.00			7.94			5.08		1.85				
12/27/2016 1:20	7.01			7.94			5.10		1.84				
12/27/2016 1:30	7.00			7.95			5.11		1.84			3.96	
12/27/2016 1:40	7.00			7.95			5.13		1.83				
12/27/2016 1:50	7.00			7.95			5.14		1.83				
12/27/2016 2:00	6.99			7.95			5.16		1.82			2.97	
12/27/2016 2:10	6.99			7.96			5.17		1.82				
12/27/2016 2:20	6.98			7.95			5.19		1.81				
12/27/2016 2:30	6.97			7.97			5.21		1.80			2.12	
12/27/2016 2:40	6.96			7.96			5.23		1.80				
12/27/2016 2:50	6.95			7.98			5.25		1.79				
12/27/2016 3:00	6.94			7.99	5:30	0.82	5.27		1.79			1.55	
12/27/2016 3:10	6.93			7.98			5.28		1.78				
12/27/2016 3:20	6.92			7.97			5.28		1.77				
12/27/2016 3:30	6.91			7.96			5.28		1.77			1.35	low
12/27/2016 3:40	6.91			7.95			5.27		1.77				
12/27/2016 3:50	6.89			7.95			5.29		1.76				
12/27/2016 4:00	6.89			7.96			5.30		1.76			1.5	
12/27/2016 4:10	6.88			7.95			5.31		1.75				
12/27/2016 4:20	6.88			7.96			5.32		1.75				
12/27/2016 4:30	6.88			7.94	1:00	0.04	5.32		1.75			1.91	

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Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/27/2016 4:40	6.87			7.95			5.32		1.75				
12/27/2016 4:50	6.87			7.95			5.32		1.75				
12/27/2016 5:00	6.87			7.96			5.34		1.74	1:30	0.11	2.47	
12/27/2016 5:10	6.87			7.97			5.35		1.74				
12/27/2016 5:20	6.87			7.97			5.34		1.75				
12/27/2016 5:30	6.87			7.98			5.35		1.75			3.13	
12/27/2016 5:40	6.87			8.00			5.37		1.75				
12/27/2016 5:50	6.87			8.02			5.39		1.75				
12/27/2016 6:00	6.86	2:30	0.14	8.05			5.41		1.75			3.89	
12/27/2016 6:10	6.87			8.06			5.42		1.75				
12/27/2016 6:20	6.88			8.08			5.44		1.75				
12/27/2016 6:30	6.87			8.10			5.45		1.76			4.78	
12/27/2016 6:40	6.87			8.13			5.47		1.76				
12/27/2016 6:50	6.87			8.14			5.47		1.76				
12/27/2016 7:00	6.88			8.15			5.48		1.77			5.78	
12/27/2016 7:10	6.88			8.18			5.51		1.77				
12/27/2016 7:20	6.88			8.21			5.51		1.77				
12/27/2016 7:30	6.89			8.20			5.51		1.78			6.84	
12/27/2016 7:40	6.88			8.22			5.52		1.78				
12/27/2016 7:50	6.88			8.24			5.54		1.79				
12/27/2016 8:00	6.90			8.27			5.56		1.79			7.85	
12/27/2016 8:10	6.90			8.27			5.55		1.80				
12/27/2016 8:20	6.90			8.27			5.56		1.79				
12/27/2016 8:30	6.90			8.30			5.57		1.81			8.71	
12/27/2016 8:40	6.91			8.31			5.57		1.81				
12/27/2016 8:50	6.92			8.33			5.58		1.81				
12/27/2016 9:00	6.92			8.33			5.59		1.81			9.32	
12/27/2016 9:10	6.92			8.35			5.59		1.82				
12/27/2016 9:20	6.93			8.35			5.58		1.82				
12/27/2016 9:30	6.93			8.35			5.57		1.83			9.66	
12/27/2016 9:40	6.94			8.37			5.57		1.83				
12/27/2016 9:50	6.95			8.38			5.58		1.83				
12/27/2016 10:00	6.95			8.39			5.57		1.83			9.72	high
12/27/2016 10:10	6.94			8.39			5.58		1.84				
12/27/2016 10:20	6.96			8.41			5.58		1.84				
12/27/2016 10:30	6.96			8.42			5.59		1.84			9.52	
12/27/2016 10:40	6.96			8.43			5.60		1.85				

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Weymouth Compressor Station,
6 Bridge Street, Weymouth, Massachusetts

Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/27/2016 10:50	6.97			8.42			5.59		1.84				
12/27/2016 11:00	6.97			8.44			5.59		1.85			9.08	
12/27/2016 11:10	6.97			8.44			5.59		1.86	1:10	0.11		
12/27/2016 11:20	6.98			8.44			5.59		1.85				
12/27/2016 11:30	6.99			8.46			5.59		1.86			8.46	
12/27/2016 11:40	6.99			8.46			5.60		1.86				
12/27/2016 11:50	6.99			8.47			5.60		1.86				
12/27/2016 12:00	6.99			8.47			5.60		1.86			7.69	
12/27/2016 12:10	6.99			8.45			5.58		1.86				
12/27/2016 12:20	6.99			8.47			5.59		1.86				
12/27/2016 12:30	7.00	2:30	0.14	8.48	2:30	0.53	5.60		1.85			6.81	
12/27/2016 12:40	7.00			8.48			5.60		1.85				
12/27/2016 12:50	7.00			8.47			5.60		1.85				
12/27/2016 13:00	6.99			8.45			5.59		1.84			5.82	
12/27/2016 13:10	6.99			8.43			5.60		1.84				
12/27/2016 13:20	6.99			8.42			5.60		1.83				
12/27/2016 13:30	6.98			8.41			5.60		1.82			4.72	
12/27/2016 13:40	6.97			8.39			5.60		1.82				
12/27/2016 13:50	6.96			8.38			5.61		1.81				
12/27/2016 14:00	6.96			8.37			5.61		1.80			3.55	
12/27/2016 14:10	6.94			8.35			5.62		1.80				
12/27/2016 14:20	6.93			8.34			5.62		1.78				
12/27/2016 14:30	6.91			8.32			5.62		1.78			2.41	
12/27/2016 14:40	6.90			8.31			5.63		1.77				
12/27/2016 14:50	6.89			8.30			5.64		1.76				
12/27/2016 15:00	6.88			8.27			5.63		1.76			1.44	
12/27/2016 15:10	6.86			8.25			5.63		1.75				
12/27/2016 15:20	6.85			8.22			5.62		1.75				
12/27/2016 15:30	6.84			8.20			5.62		1.74			0.78	
12/27/2016 15:40	6.83			8.18			5.61		1.73				
12/27/2016 15:50	6.82			8.16			5.61		1.73				
12/27/2016 16:00	6.82			8.15			5.60		1.72			0.51	low
12/27/2016 16:10	6.81			8.13			5.60		1.71				
12/27/2016 16:20	6.80			8.12			5.60		1.71				
12/27/2016 16:30	6.80			8.10			5.59		1.71			0.6	
12/27/2016 16:40	6.79			8.10			5.59		1.71				
12/27/2016 16:50	6.79			8.08			5.57		1.71				

Appendix B-3
Tidal Study Data
ENBRIDGE
Atlantic Bridge Project
Weymouth Compressor Station,
6 Bridge Street, Weymouth, Massachusetts

Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/27/2016 17:00	6.79			8.08			5.58		1.70	1:00	0.16	0.95	
12/27/2016 17:10	6.78	1:10	0.22	8.07			5.57		1.70				
12/27/2016 17:20	6.78			8.07			5.57		1.70				
12/27/2016 17:30	6.78			8.07			5.56		1.70			1.46	
12/27/2016 17:40	6.78			8.07			5.56		1.70				
12/27/2016 17:50	6.78			8.06			5.55		1.70				
12/27/2016 18:00	6.78			8.06			5.54		1.70			2.08	
12/27/2016 18:10	6.79			8.06			5.54		1.70				
12/27/2016 18:20	6.78			8.06			5.53		1.71				
12/27/2016 18:30	6.78			8.06			5.52		1.71			2.81	
12/27/2016 18:40	6.79			8.05	2:40	0.42	5.51		1.71				
12/27/2016 18:50	6.78			8.06			5.52		1.71				
12/27/2016 19:00	6.79			8.06			5.51		1.72			3.69	
12/27/2016 19:10	6.79			8.07			5.51		1.72				
12/27/2016 19:20	6.79			8.06			5.50		1.73				
12/27/2016 19:30	6.80			8.06			5.50		1.73			4.69	
12/27/2016 19:40	6.80			8.07			5.49		1.73				
12/27/2016 19:50	6.80			8.07			5.48		1.74				
12/27/2016 20:00	6.81			8.07			5.48		1.75			5.74	
12/27/2016 20:10	6.81			8.07			5.47		1.75				
12/27/2016 20:20	6.82			8.08			5.47		1.75				
12/27/2016 20:30	6.82			8.09			5.46		1.76			6.74	
12/27/2016 20:40	6.82			8.08			5.46		1.77				
12/27/2016 20:50	6.83			8.08			5.46		1.77				
12/27/2016 21:00	6.84			8.09			5.46		1.77			7.57	
12/27/2016 21:10	6.84			8.09			5.45		1.78				
12/27/2016 21:20	6.85			8.09			5.45		1.79				
12/27/2016 21:30	6.85			8.09			5.44		1.79			8.17	
12/27/2016 21:40	6.85			8.09			5.43		1.79				
12/27/2016 21:50	6.86			8.10			5.43		1.80				
12/27/2016 22:00	6.86			8.11			5.43		1.80			8.51	
12/27/2016 22:10	6.87			8.12			5.44		1.81				
12/27/2016 22:20	6.87			8.11			5.42		1.81				
12/27/2016 22:30	6.87			8.12			5.42		1.81			8.59	high
12/27/2016 22:40	6.88			8.12			5.42		1.82				
12/27/2016 22:50	6.89			8.12			5.42		1.82				
12/27/2016 23:00	6.89			8.14			5.42		1.82			8.42	

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Weymouth Compressor Station,
6 Bridge Street, Weymouth, Massachusetts

Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/27/2016 23:10	6.89			8.13			5.40		1.82				
12/27/2016 23:20	6.90			8.14			5.40		1.82				
12/27/2016 23:30	6.91			8.13			5.39		1.82			8.04	
12/27/2016 23:40	6.91			8.14			5.38		1.83				
12/27/2016 23:50	6.92			8.15			5.38		1.83				
12/28/2016 0:00	6.92			8.16			5.38		1.83			7.5	
12/28/2016 0:10	6.92			8.16			5.38		1.83				
12/28/2016 0:20	6.93			8.17			5.38		1.83				
12/28/2016 0:30	6.93			8.19			5.38		1.83			6.84	
12/28/2016 0:40	6.93			8.19			5.38		1.84	2:10	0.14		
12/28/2016 0:50	6.94			8.21			5.39		1.84				
12/28/2016 1:00	6.94			8.21			5.40		1.83			6.09	
12/28/2016 1:10	6.94			8.22			5.39		1.84				
12/28/2016 1:20	6.94			8.22			5.38		1.84				
12/28/2016 1:30	6.95	3:00	0.17	8.23	3:00	0.17	5.40		1.84			5.25	
12/28/2016 1:40	6.95			8.22			5.40		1.84				
12/28/2016 1:50	6.95			8.22			5.40		1.84				
12/28/2016 2:00	6.95			8.22			5.39		1.83			4.32	
12/28/2016 2:10	6.95			8.21			5.39		1.84				
12/28/2016 2:20	6.95			8.20			5.39		1.83				
12/28/2016 2:30	6.95			8.20			5.39		1.82			3.34	
12/28/2016 2:40	6.95			8.18			5.39		1.82				
12/28/2016 2:50	6.95			8.17			5.39		1.82				
12/28/2016 3:00	6.94			8.16			5.39		1.81			2.42	
12/28/2016 3:10	6.94			8.15			5.40		1.81				
12/28/2016 3:20	6.94			8.14			5.40		1.80				
12/28/2016 3:30	6.93			8.13			5.40		1.80			1.7	
12/28/2016 3:40	6.92			8.11			5.40		1.79				
12/28/2016 3:50	6.92			8.10			5.40		1.79				
12/28/2016 4:00	6.91			8.09			5.40		1.79			1.32	low
12/28/2016 4:10	6.90			8.08			5.39		1.79				
12/28/2016 4:20	6.90			8.06			5.39		1.78				
12/28/2016 4:30	6.89			8.05			5.39		1.78			1.32	
12/28/2016 4:40	6.89			8.04			5.39		1.77	0:10	0.06		
12/28/2016 4:50	6.89			8.03			5.38		1.77				
12/28/2016 5:00	6.88			8.02			5.38		1.77			1.66	
12/28/2016 5:10	6.88			8.01			5.37		1.77				

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Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/28/2016 5:20	6.88			8.01			5.36		1.77				
12/28/2016 5:30	6.87	1:00	0.08	8.00	1:00	0.23	5.36		1.77			2.22	
12/28/2016 5:40	6.88			8.00			5.36		1.77				
12/28/2016 5:50	6.87			8.00			5.36		1.77				
12/28/2016 6:00	6.87			8.00			5.35		1.77			2.91	
12/28/2016 6:10	6.88			8.00			5.35		1.77				
12/28/2016 6:20	6.87			8.00			5.35		1.78				
12/28/2016 6:30	6.88			8.00			5.35		1.78			3.69	
12/28/2016 6:40	6.88			8.01			5.35		1.78				
12/28/2016 6:50	6.88			8.02			5.35		1.78				
12/28/2016 7:00	6.88			8.03			5.35		1.79			4.55	
12/28/2016 7:10	6.89			8.03			5.35		1.79				
12/28/2016 7:20	6.90			8.03			5.35		1.80				
12/28/2016 7:30	6.90			8.04			5.35		1.80			5.52	
12/28/2016 7:40	6.90			8.04			5.34		1.81				
12/28/2016 7:50	6.90			8.04			5.33		1.81				
12/28/2016 8:00	6.91			8.04			5.33		1.82			6.58	
12/28/2016 8:10	6.92			8.05			5.33		1.82				
12/28/2016 8:20	6.92			8.06			5.31		1.83				
12/28/2016 8:30	6.92			8.06			5.31		1.83			7.62	
12/28/2016 8:40	6.93			8.07			5.31		1.84				
12/28/2016 8:50	6.93			8.08			5.31		1.84				
12/28/2016 9:00	6.94			8.07			5.30		1.85			8.56	
12/28/2016 9:10	6.94			8.08			5.31		1.85				
12/28/2016 9:20	6.94			8.09			5.31		1.85				
12/28/2016 9:30	6.95			8.09			5.30		1.86			9.28	
12/28/2016 9:40	6.96			8.10			5.30		1.86				
12/28/2016 9:50	6.96			8.09			5.30		1.87				
12/28/2016 10:00	6.96			8.11			5.30		1.87			9.73	
12/28/2016 10:10	6.97			8.11			5.30		1.87				
12/28/2016 10:20	6.96			8.11			5.30		1.87				
12/28/2016 10:30	6.97			8.12			5.29		1.88			9.88	high
12/28/2016 10:40	6.97			8.12			5.29		1.87				
12/28/2016 10:50	6.98			8.12			5.29		1.88				
12/28/2016 11:00	6.98			8.13			5.29		1.88			9.74	
12/28/2016 11:10	6.98			8.12			5.29		1.88				
12/28/2016 11:20	6.99			8.13			5.29		1.88				

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Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/28/2016 11:30	6.99			8.13			5.28		1.88			9.34	
12/28/2016 11:40	6.99			8.13			5.28		1.88				
12/28/2016 11:50	7.00			8.14	1:20	0.14	5.27		1.89	1:20	0.11		
12/28/2016 12:00	7.00			8.14			5.27		1.89			8.72	
12/28/2016 12:10	7.00			8.14			5.27		1.89				
12/28/2016 12:20	7.01	1:50	0.13	8.13			5.26		1.89				
12/28/2016 12:30	7.00			8.14			5.26		1.89			7.94	
12/28/2016 12:40	7.00			8.13			5.26		1.88				
12/28/2016 12:50	7.00			8.13			5.25		1.89				
12/28/2016 13:00	7.01			8.12			5.25		1.88			7.05	
12/28/2016 13:10	7.00			8.12			5.25		1.88				
12/28/2016 13:20	7.01			8.10			5.25		1.87				
12/28/2016 13:30	7.00			8.09			5.25		1.87			6.06	
12/28/2016 13:40	7.00			8.07			5.24		1.86				
12/28/2016 13:50	6.99			8.06			5.25		1.85				
12/28/2016 14:00	6.98			8.04			5.24		1.84			5	
12/28/2016 14:10	6.97			8.02			5.24		1.83				
12/28/2016 14:20	6.96			7.99			5.24		1.83				
12/28/2016 14:30	6.94			7.97			5.24		1.81			3.86	
12/28/2016 14:40	6.92			7.95			5.24		1.80				
12/28/2016 14:50	6.90			7.91			5.24		1.79				
12/28/2016 15:00	6.89			7.89			5.23		1.79			2.69	
12/28/2016 15:10	6.88			7.85			5.23		1.77				
12/28/2016 15:20	6.86			7.82			5.22		1.76				
12/28/2016 15:30	6.84			7.80			5.21		1.76			1.63	
12/28/2016 15:40	6.82			7.76			5.21		1.75				
12/28/2016 15:50	6.81			7.73			5.20		1.74				
12/28/2016 16:00	6.79			7.70			5.19		1.73			0.81	
12/28/2016 16:10	6.77			7.67			5.18		1.72				
12/28/2016 16:20	6.75			7.64			5.18		1.71				
12/28/2016 16:30	6.74			7.61			5.17		1.71			0.36	
12/28/2016 16:40	6.73			7.58			5.16		1.70				
12/28/2016 16:50	6.73			7.56			5.16		1.69				
12/28/2016 17:00	6.72			7.55			5.15		1.69			0.32	low
12/28/2016 17:10	6.71			7.53			5.14		1.68				
12/28/2016 17:20	6.71			7.52			5.13		1.68				
12/28/2016 17:30	6.70			7.50			5.13		1.67			0.61	

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Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/28/2016 17:40	6.70			7.49			5.12		1.67				
12/28/2016 17:50	6.70			7.49			5.10		1.67				
12/28/2016 18:00	6.69	1:00	0.32	7.47			5.10		1.66	1:00	0.22	1.14	
12/28/2016 18:10	6.69			7.47			5.10		1.66				
12/28/2016 18:20	6.69			7.46	1:20	0.67	5.09		1.66				
12/28/2016 18:30	6.69			7.47			5.08		1.66			1.79	
12/28/2016 18:40	6.69			7.47			5.08		1.66				
12/28/2016 18:50	6.69			7.46			5.07		1.66				
12/28/2016 19:00	6.69			7.46			5.06		1.66			2.54	
12/28/2016 19:10	6.70			7.47			5.06		1.66				
12/28/2016 19:20	6.70			7.48			5.06		1.66				
12/28/2016 19:30	6.70			7.49			5.06		1.67			3.4	
12/28/2016 19:40	6.70			7.49			5.05		1.67				
12/28/2016 19:50	6.71			7.50			5.04		1.67				
12/28/2016 20:00	6.70			7.50			5.04		1.68			4.38	
12/28/2016 20:10	6.71			7.51			5.04		1.68				
12/28/2016 20:20	6.71			7.51			5.04		1.68				
12/28/2016 20:30	6.72			7.52			5.03		1.69			5.43	
12/28/2016 20:40	6.72			7.52			5.03		1.69				
12/28/2016 20:50	6.73			7.53			5.03		1.70				
12/28/2016 21:00	6.73			7.53			5.02		1.70			6.48	
12/28/2016 21:10	6.74			7.55			5.03		1.70				
12/28/2016 21:20	6.74			7.55			5.03		1.71				
12/28/2016 21:30	6.74			7.56			5.02		1.71			7.41	
12/28/2016 21:40	6.75			7.57			5.03		1.72				
12/28/2016 21:50	6.75			7.57			5.02		1.72				
12/28/2016 22:00	6.76			7.57			5.01		1.72			8.11	
12/28/2016 22:10	6.76			7.57			5.01		1.73				
12/28/2016 22:20	6.76			7.57			5.01		1.73				
12/28/2016 22:30	6.77			7.57			5.01		1.73			8.55	
12/28/2016 22:40	6.78			7.59			5.01		1.73				
12/28/2016 22:50	6.78			7.60			5.01		1.74				
12/28/2016 23:00	6.79			7.61			5.01		1.74			8.71	high
12/28/2016 23:10	6.79			7.61			5.01		1.74				
12/28/2016 23:20	6.80			7.62			5.01		1.74				
12/28/2016 23:30	6.80			7.63			5.01		1.75			8.6	
12/28/2016 23:40	6.81			7.64			5.02		1.75				

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Weymouth Compressor Station,
6 Bridge Street, Weymouth, Massachusetts

Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/28/2016 23:50	6.81			7.65			5.01		1.75				
12/29/2016 0:00	6.81			7.65			5.00		1.76	1:00	0.09	8.25	
12/29/2016 0:10	6.82			7.66			5.01		1.76				
12/29/2016 0:20	6.82			7.67			5.01		1.76				
12/29/2016 0:30	6.83			7.68			5.00		1.76			7.72	
12/29/2016 0:40	6.83			7.69			5.00		1.76				
12/29/2016 0:50	6.83			7.69			5.01		1.76				
12/29/2016 1:00	6.83			7.70			5.00		1.76			7.04	
12/29/2016 1:10	6.84			7.71			5.01		1.76				
12/29/2016 1:20	6.84			7.72	2:20	0.25	5.01		1.76				
12/29/2016 1:30	6.85	2:30	0.15	7.72			5.02		1.76			6.28	
12/29/2016 1:40	6.85			7.72			5.01		1.76				
12/29/2016 1:50	6.85			7.73			5.01		1.76				
12/29/2016 2:00	6.85			7.72			5.01		1.76			5.45	
12/29/2016 2:10	6.85			7.72			5.01		1.75				
12/29/2016 2:20	6.85			7.71			5.01		1.75				
12/29/2016 2:30	6.85			7.70			5.01		1.74			4.56	
12/29/2016 2:40	6.84			7.68			5.01		1.74				
12/29/2016 2:50	6.83			7.67			5.00		1.73				
12/29/2016 3:00	6.83			7.65			5.00		1.73			3.61	
12/29/2016 3:10	6.82			7.63			4.99		1.72				
12/29/2016 3:20	6.81			7.62			5.00		1.72				
12/29/2016 3:30	6.80			7.60			5.00		1.71			2.67	
12/29/2016 3:40	6.79			7.59			4.99		1.70				
12/29/2016 3:50	6.78			7.58			5.00		1.70				
12/29/2016 4:00	6.77			7.55			5.00		1.69			1.86	
12/29/2016 4:10	6.75			7.54			4.99		1.69				
12/29/2016 4:20	6.74			7.52			4.99		1.68				
12/29/2016 4:30	6.73			7.52			5.00		1.67			1.32	
12/29/2016 4:40	6.72			7.49			4.98		1.67				
12/29/2016 4:50	6.72			7.48			4.98		1.66				
12/29/2016 5:00	6.71			7.47			4.98		1.66			1.16	low
12/29/2016 5:10	6.71			7.46			4.97		1.66				
12/29/2016 5:20	6.71			7.45			4.97		1.65				
12/29/2016 5:30	6.70	0:30	0.14	7.44	0:30	0.28	4.97		1.65			1.39	
12/29/2016 5:40	6.70			7.44			4.97		1.65				
12/29/2016 5:50	6.70			7.44			4.97		1.65				

Appendix B-3
Tidal Study Data
ENBRIDGE
Atlantic Bridge Project
Weymouth Compressor Station,
6 Bridge Street, Weymouth, Massachusetts

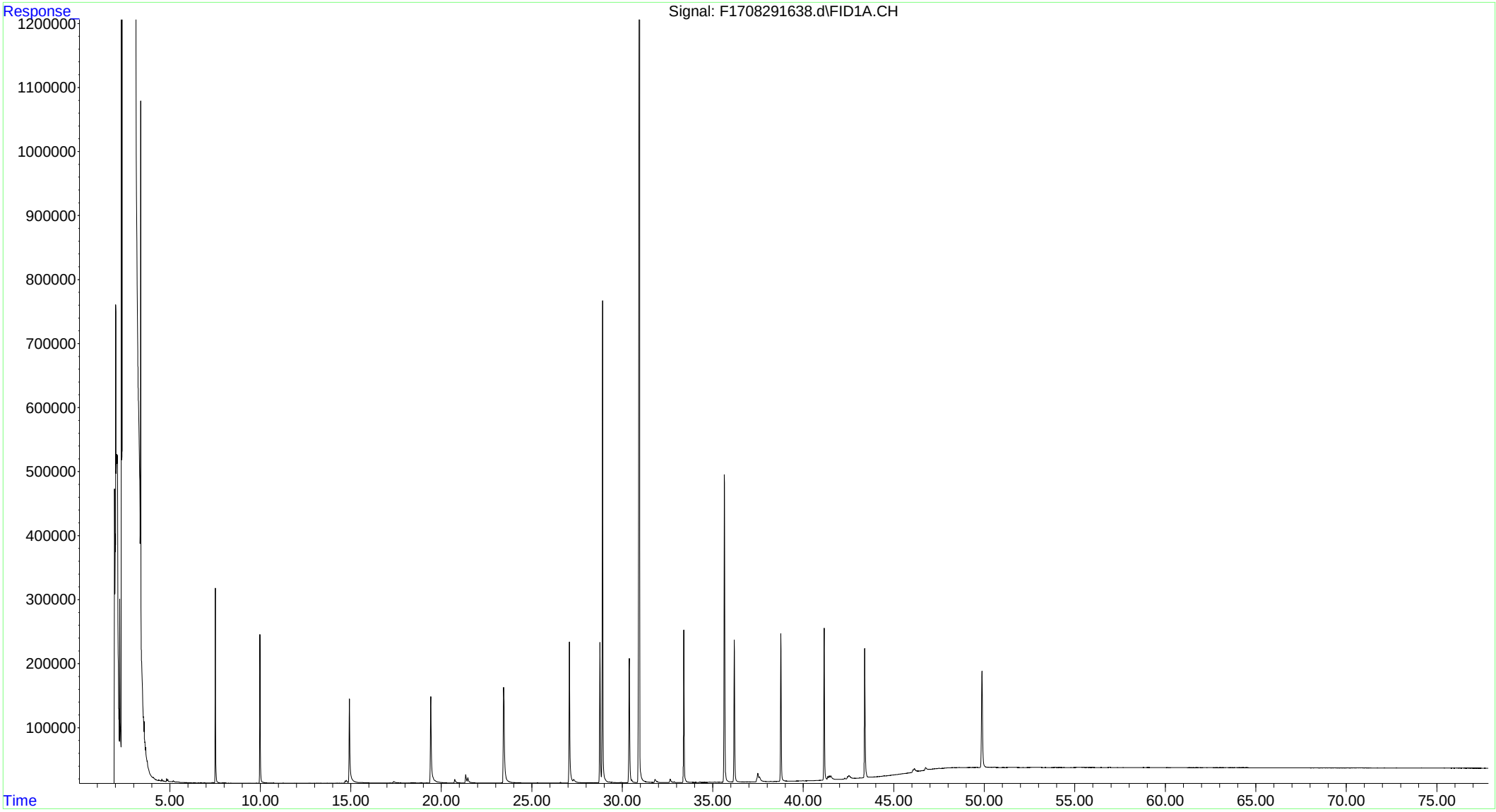
Date/Time	MW-202 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-205 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	MW-206 Depth to Water (ft)	Lag Time (hr:min)	MW-417 Depth to Water (ft)	Lag Time (hr:min)	Delta (ft)	Fore River Bridge Stage (ft-MLLW)	Observed High and low Tide
12/29/2016 6:00	6.70			7.45			4.97		1.64	1:00	0.11	1.94	
12/29/2016 6:10	6.70			7.45			4.97		1.64				
12/29/2016 6:20	6.70			7.45			4.97		1.64				
12/29/2016 6:30	6.70			7.44			4.97		1.64			2.66	
12/29/2016 6:40	6.70			7.45			4.97		1.64				
12/29/2016 6:50	6.70			7.46			4.98		1.64				
12/29/2016 7:00	6.70			7.48			4.98		1.64			3.49	
12/29/2016 7:10	6.70			7.49			4.98		1.65				
12/29/2016 7:20	6.71			7.49			4.98		1.65				
12/29/2016 7:30	6.71			7.50			4.99		1.65			4.37	
12/29/2016 7:40	6.72			7.52			4.99		1.65				
12/29/2016 7:50	6.72			7.53			5.00		1.66				
12/29/2016 8:00	6.73			7.55			5.00		1.66			5.33	
12/29/2016 8:10	6.72			7.57			5.01		1.66				
12/29/2016 8:20	6.72			7.58			5.02		1.67				
12/29/2016 8:30	6.73			7.59			5.02		1.67			6.36	
12/29/2016 8:40	6.74			7.61			5.03		1.68				
12/29/2016 8:50	6.74			7.62			5.04		1.68				
12/29/2016 9:00	6.74			7.64			5.04		1.68			7.43	
12/29/2016 9:10	6.75			7.66			5.05		1.68				
12/29/2016 9:20	6.75			7.68			5.07		1.69				
12/29/2016 9:30	6.76			7.69			5.07		1.69			8.42	
12/29/2016 9:40	6.76			7.70			5.07		1.70				
12/29/2016 9:50	6.77			7.70			5.07		1.70				
12/29/2016 10:00	6.77			7.71			5.07		1.71			9.23	
12/29/2016 10:10	6.78			7.72			5.07		1.71				
12/29/2016 10:20	6.78			7.72			5.07		1.71				
12/29/2016 10:30	6.79			7.75			5.09		1.72			9.77	
12/29/2016 10:40	6.79			7.76			5.09		1.72				
12/29/2016 10:50	6.79			7.77			5.10		1.72				
12/29/2016 11:00	6.80			7.79			5.10		1.72			10.01	
Averages	---	1:42	0.14	---	1:46	0.31	---			1:06	0.11	---	
Min	---	0:00	0.02	---	0:00	0.04	---	no apparent Tidal		0:00	0.03	---	
Max	---	3:10	0.32	---	5:30	0.82	---	influence		2:50	0.22	---	

Notes:
Fore River Bridge stage data from NOAA Station 344788, relative to mean low low water (MLLW) datum.

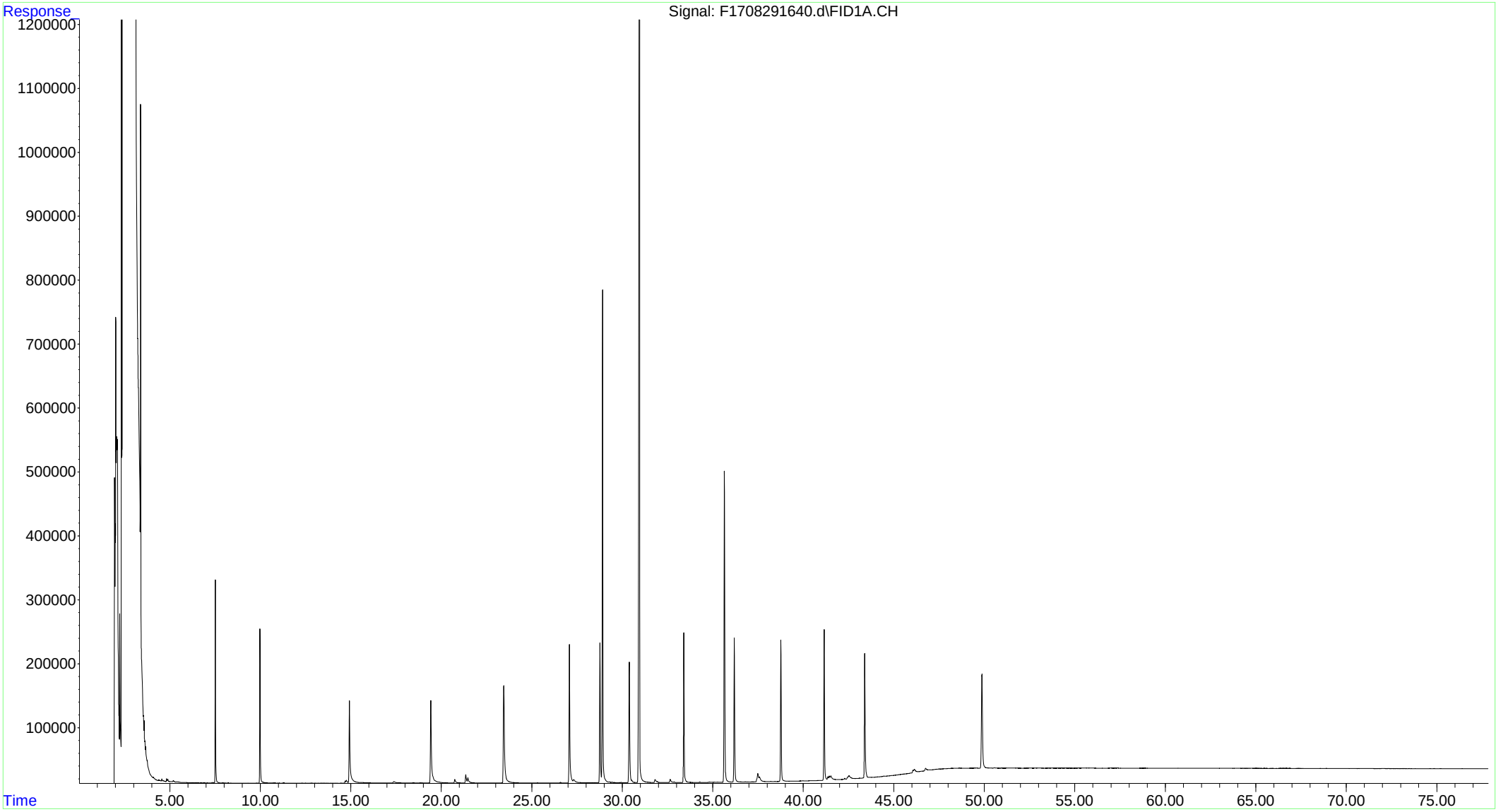
APPENDIX C

LABORATORY REPORTS

File :O:\Forensics\Data\FID17\2016\Aug\Aug29\F1708291638.d
Operator : FID17:WR
Acquired : 30 Aug 2016 11:25 am using AcqMethod FID17.M
Instrument : FID17
Sample : WG927146-2 (Laboratory Control Sample)
Misc Info : WG927410,WG927146,ICAL11783
ALS Vial : 19



File :O:\Forensics\Data\FID17\2016\Aug\Aug29\F1708291640.d
Operator : FID17:WR
Acquired : 30 Aug 2016 12:53 pm using AcqMethod FID17.M
Instrument : FID17
Sample : WG927146-3 (Laboratory Control Sample Duplicate)
Misc Info : WG927410,WG927146,ICAL11783
ALS Vial : 20



Petroleum Reference Standards

Data Path : O:\Forensics\Data\FID17\2016\Aug\Aug29\
Data File : F1708291646.d
Signal(s) : FID1A.CH
Acq On : 30 Aug 2016 5:19 pm
Operator : FID17:WR
Sample : Alkane Reference Standard (C8 - C40)
Misc : WG927410,FRAX49
ALS Vial : 23 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Aug 31 10:05:54 2016
Quant Method : O:\Forensics\Data\FID17\2016\Aug\Aug29\HC17102615F.M
Quant Title : FID Forensics
QLast Update : Tue Aug 30 09:55:44 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

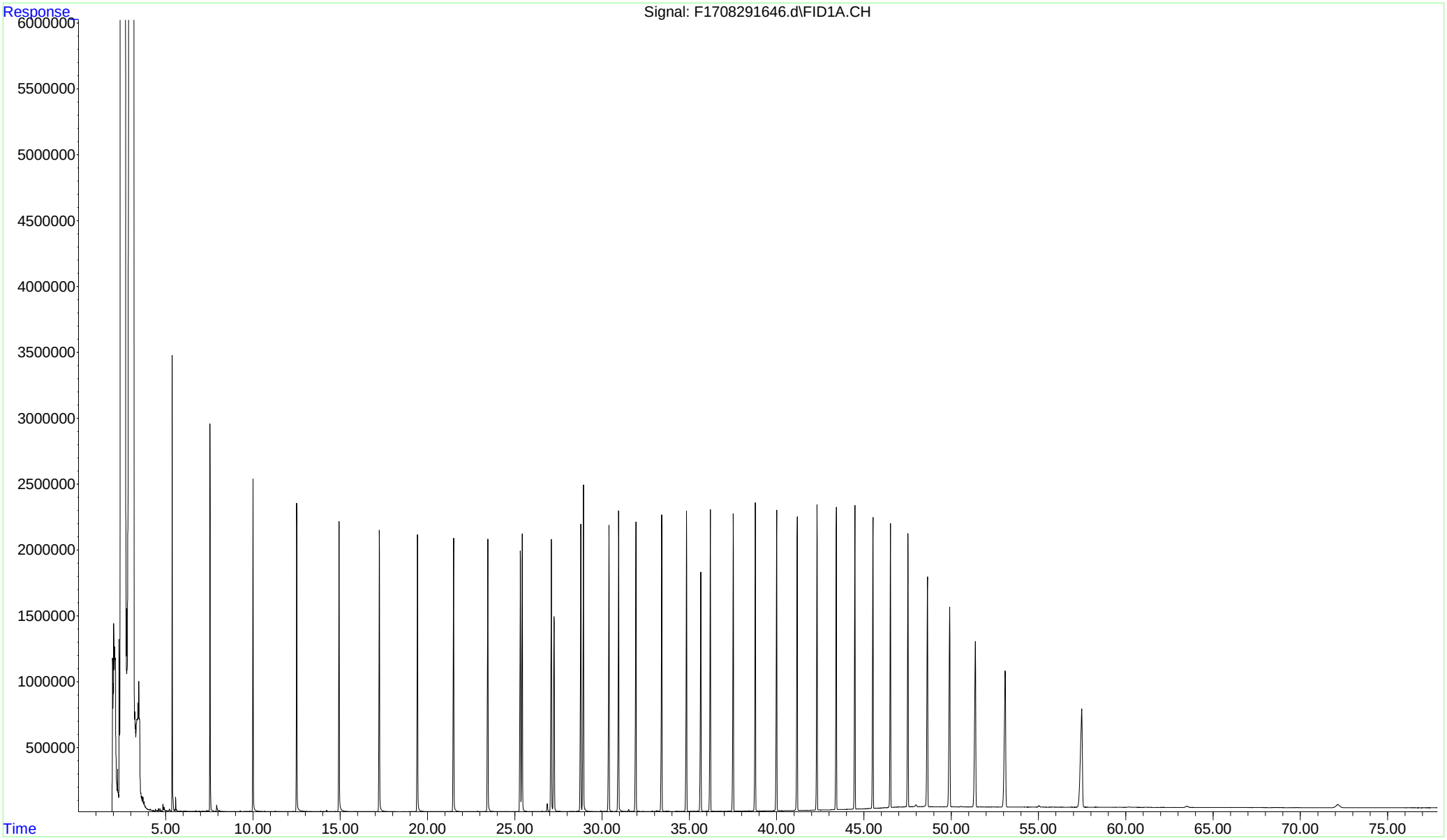
Sub List : CCAL - CCAL

	Compound	R.T.	Response	Conc Units
	Internal Standards			
1) I	5-alpha-androstane	30.949	58901570	50.000 ug/mL M4
	System Monitoring Compounds			
19) s	ortho-terphenyl	28.933	63551905	50.752 ug/mL M4
Spiked Amount	50.000 Range 50 - 130		Recovery = 101.50%	
24) s	d50-Tetracosane	35.654	51543199	49.142 ug/mL M4
Spiked Amount	50.000 Range 50 - 130		Recovery = 98.28%	
	Target Compounds			
2) t	n-Octane (C8)	5.368	43434341	45.473 ug/mL M4
3) t	n-Nonane (C9)	7.534	45928865	46.551 ug/mL M4
4) t	n-Decane (C10)	9.999	48346475	47.440 ug/mL M4
5) t	n-Undecane (C11)	12.504	49561403	48.210 ug/mL M4
6) t	n-Dodecane (C12)	14.929	51399059	49.152 ug/mL M4
7) t	n-Tridecane (C13)	17.238	52467545	49.919 ug/mL M4
9) t	n-Tetradecane (C14)	19.425	53452943	50.248 ug/mL M4
11) t	n-Pentadecane (C15)	21.494	54979172	50.786 ug/mL M4
12) t	n-Hexadecane (C16)	23.454	55504875	51.345 ug/mL M4
14) t	n-Heptadecane (C17)	25.319	55049109	50.383 ug/mL M4
15) t	Pristane	25.427	57053658	51.845 ug/mL M4
16) t	n-Octadecane (C18)	27.091	57019124	51.382 ug/mL M4
17) t	Phytane	27.251	50065683	51.482 ug/mL M4
18) t	n-Nonadecane (C19)	28.782	56709327	51.410 ug/mL M4
20) t	n-Eicosane (C20)	30.396	56670814	51.508 ug/mL M4
21) t	n-Heneicosane (C21)	31.939	57266169	51.610 ug/mL M4
22) t	n-Docosane (C22)	33.419	57534914	51.453 ug/mL M4
23) t	n-Tricosane (C23)	34.836	57915797	51.362 ug/mL M4
25) t	n-Tetracosane (C24)	36.202	57975971	51.263 ug/mL M4
26) t	n-Pentacosane (C25)	37.515	57406299	51.215 ug/mL M4
27) t	n-Hexacosane (C26)	38.782	58536715	51.118 ug/mL M4
28) t	n-Heptacosane (C27)	40.000	57821608	51.000 ug/mL M4
29) t	n-Octacosane (C28)	41.180	57723599	51.180 ug/mL M4
30) t	n-Nonacosane (C29)	42.317	57696990	50.894 ug/mL M4
31) t	n-Triacontane (C30)	43.420	57695232	50.803 ug/mL M4
32) t	n-Hentriacontane (C31)	44.486	57722753	50.696 ug/mL M4
33) t	n-Dotriacontane (C32)	45.519	58189009	50.763 ug/mL M4
34) t	n-Tritriacontane (C33)	46.521	54900357	50.694 ug/mL M4
35) t	n-tetratriacontane (C34)	47.524	57414025	50.647 ug/mL M4
36) t	n-Pentatriacontane (C35)	48.641	57725878	50.638 ug/mL M4
37) t	n-Hexatriacontane (C36)	49.915	59109947	50.508 ug/mL M4
38) t	n-Heptatriacontane (C37)	51.381	57562682	50.398 ug/mL M4
39) t	n-Octatriacontane (C38)	53.094	56248451	50.218 ug/mL M4
41) t	n-Tetracontane (C40)	57.482	57472467	49.402 ug/mL M4
	SemiQuant Compounds - Not Calibrated on this Instrument			

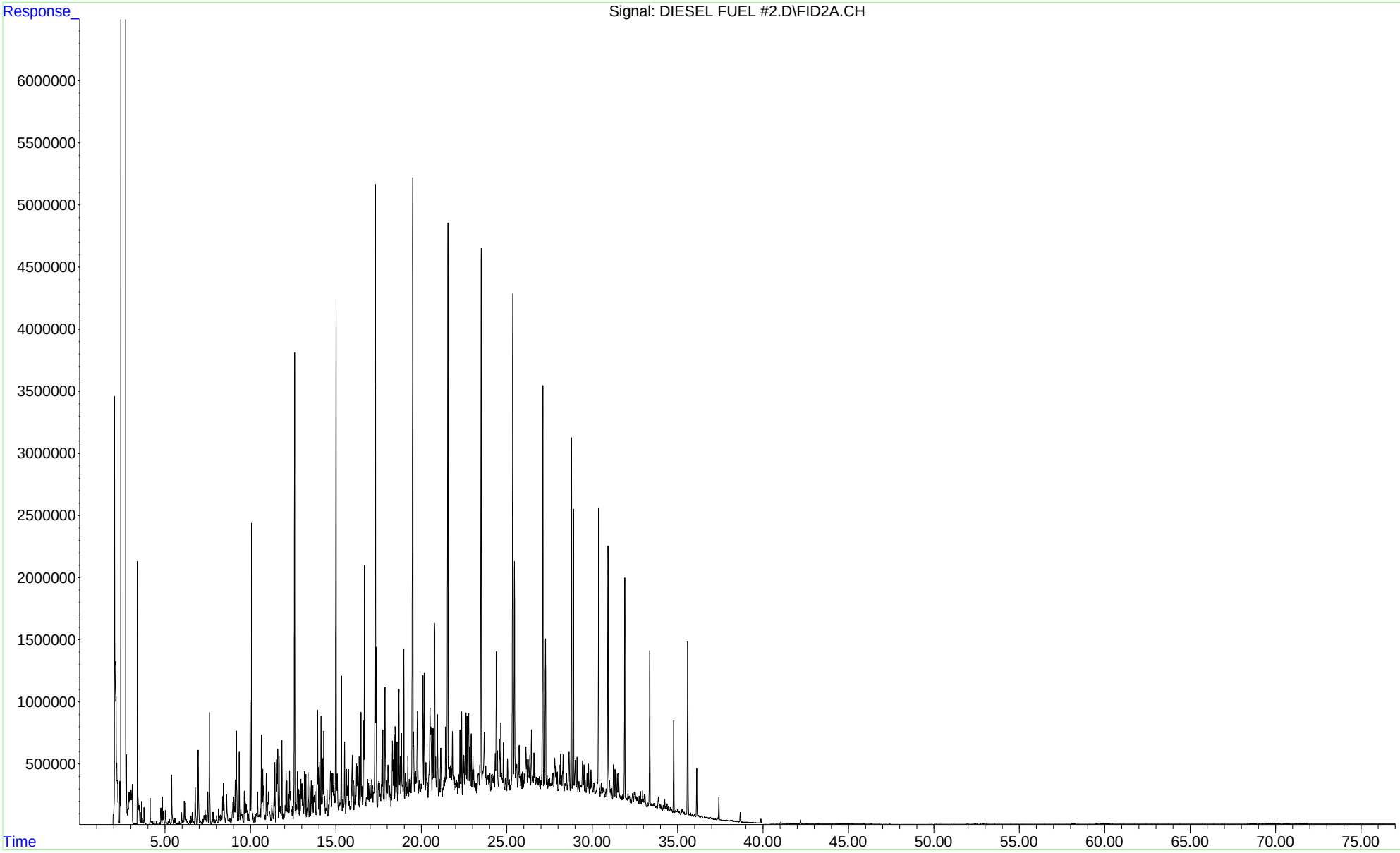
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

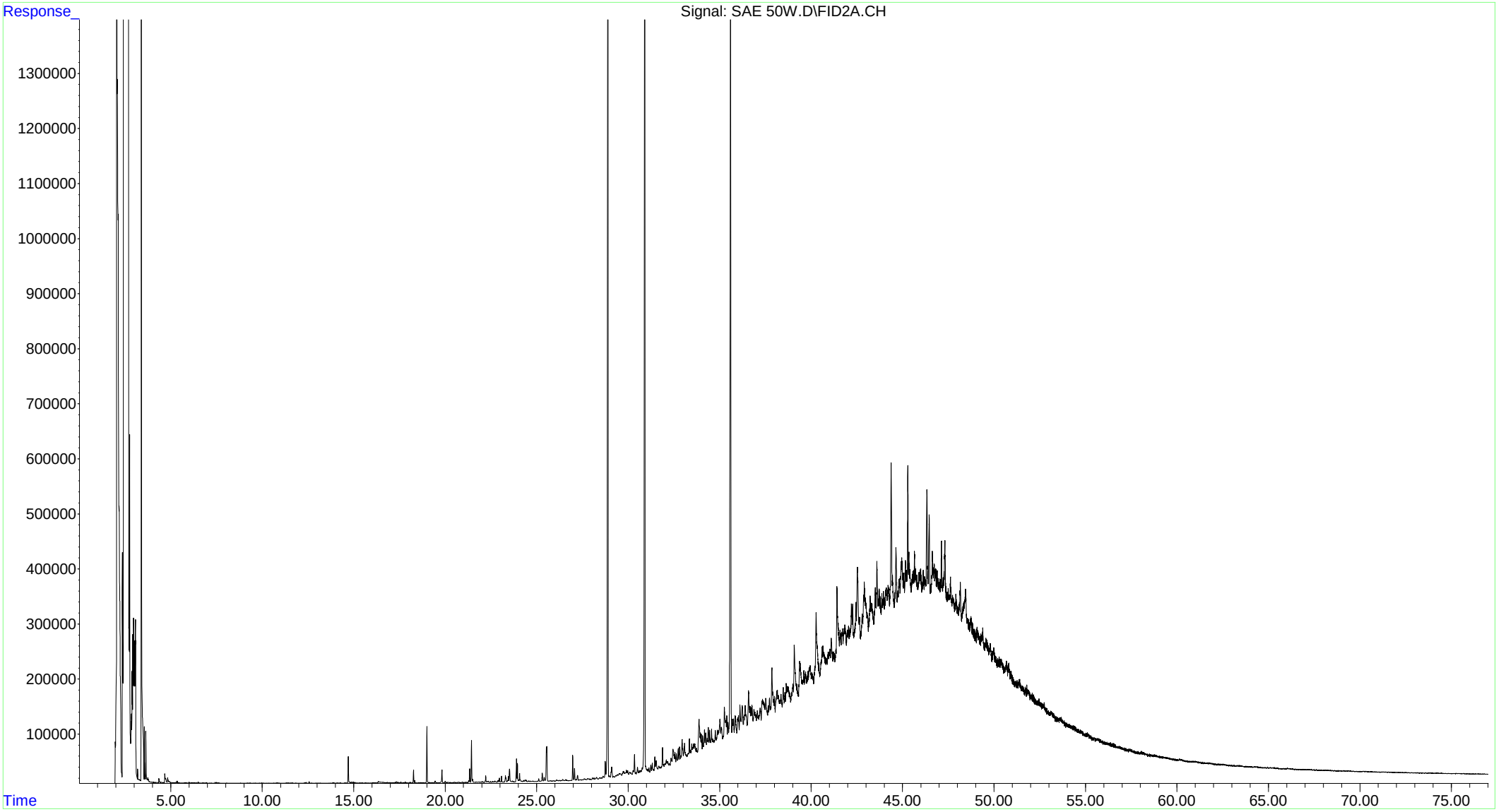
Data Path : O:\Forensics\Data\FID17\2016\Aug\Aug29\
Data File : F1708291646.d
Operator : FID17:WR
Acquired : 30 Aug 2016 5:19 pm using AcqMethod FID17.M
Instrument: FID17
Sample : Alkane Reference Standard (C8 - C40)
Misc Info : WG927410,FRAX49
ALS Vial : 23



File :O:\FORENSICS\LIBRARY\HYDROCARBON REFERENCE STANDARDS\DIESEL
... FUEL #2.D
Operator : PAH2:AC
Instrument : PAH 2
Acquired : 18 Nov 2011 8:19 pm using AcqMethod FRNC2AF.M
Sample : #2 DIESEL FUEL
Misc Info : F050410A



```
File       :O:\Forensics\LIBRARY\Hydrocarbon Reference Standards\SAE 50W
...         .D
Operator  : PAH2:AC
Instrument :   PAH 2
Acquired  : 19 Nov 2011   2:34 am using AcqMethod FRNC2AF.M
Sample    : SAE 50W Motor Oil
Misc Info : 1X
```



Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7478

Lab Number: L1635614
Report Date: 11/29/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1635614-01	MW-201 (LNAPL)	OIL	WEYMOUTH, MA	11/03/16 09:30	11/03/16

Project Name: ATLANTIC BRIDGE **Lab Number:** L1635614

Project Number: 140143.0000.7478 **Report Date:** 11/29/16

MADEP MCP Response Action Analytical Report Certification

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

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

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

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

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

Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7478

Lab Number: L1635614
Report Date: 11/29/16

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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

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

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	ATLANTIC BRIDGE	**Lab Number:**	L1635614
Project Number:	140143.0000.7478	**Report Date:**	11/29/16

Case Narrative (continued)

Report Submission

This final report replaces the partial report issued November 10, 2016 and includes the results of all requested analyses.

The analyses of Viscosity, Density, and Molecular Weight were subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

MCP Related Narratives

VPH

L1635614-01: The sample has elevated detection limits due to the dilution required by the sample matrix.

In reference to question H:

L1635614-01: The surrogate recovery is outside the acceptance criteria for 2,5-Dibromotoluene-FID (167%); however, the sample was not re-analyzed due to coelution with obvious interferences. A copy of the chromatogram is included as an attachment to this report. The results are not considered to be biased.

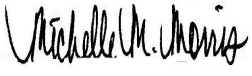
EPH

L1635614-01: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

In reference to question H:

L1635614-01: The surrogate recoveries are below the acceptance criteria for chloro-octadecane (0%) and o-terphenyl (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

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

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 11/29/16

APPENDIX D

FIELD DATA SHEETS/CALCULATIONS

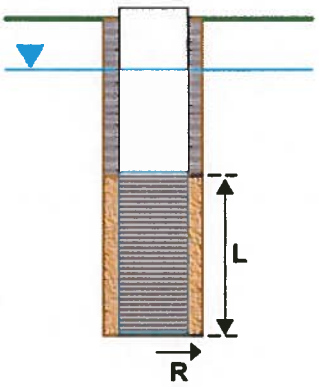
MW-202
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	206.35	cm
Intake (hole) diameter (cm)	D=	22.860	cm
Steady state discharge (L/min)	Q=	0.36	L/min
Steady state drawdown (cm)	H=	0.91	cm
* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).	Computed Values		
	K=	1.47E-02	cm/s
	K=	4.18E+01	ft/day

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1+\left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1+\left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

MW-203
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

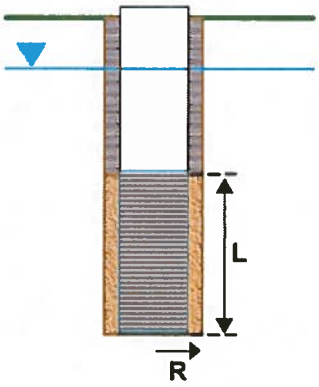
Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	173.13	cm
Intake (hole) diameter (cm)	D=	22.860	cm
Steady state discharge (L/min)	Q=	0.27	L/min
Steady state drawdown (cm)	H=	2.13	cm
	Computed Values		
	K=	5.29E-03	cm/s
	K=	1.50E+01	ft/day

* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1+\left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1+\left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

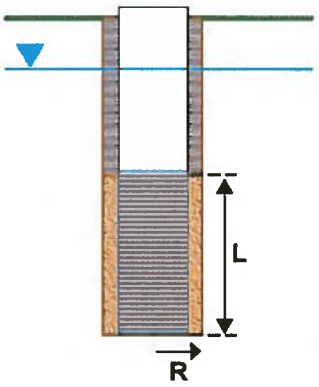
MW-204
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	204.83	cm
Intake (hole) diameter (cm)	D=	22.860	cm
Steady state discharge (L/min)	Q=	0.29	L/min
Steady state drawdown (cm)	H=	1.22	cm
* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).	Computed Values		
	K=	8.89E-03	cm/s
	K=	2.52E+01	ft/day

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

MW-205
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

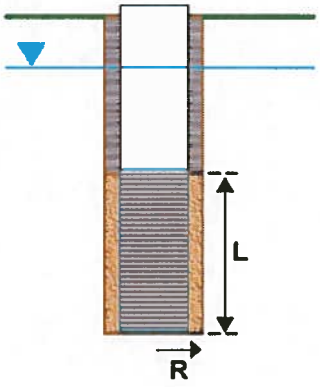
Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	152.40	cm
Intake (hole) diameter (cm)	D =	22.860	cm
Steady state discharge (L/min)	Q=	0.5	L/min
Steady state drawdown (cm)	H=	0.61	cm
	Computed Values		
	K=	3.70E-02	cm/s
	K=	1.05E+02	ft/day

* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

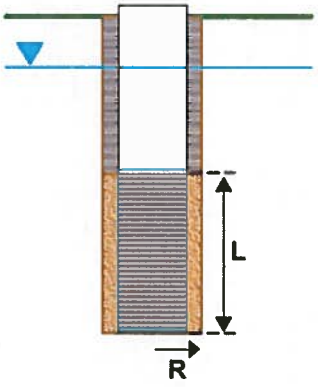
MW-206
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	146.91	cm
Intake (hole) diameter (cm)	D=	22.860	cm
Steady state discharge (L/min)	Q=	0.35	L/min
Steady state drawdown (cm)	H=	0.61	cm
* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).	Computed Values		
	K=	2.65E-02	cm/s
	K=	7.52E+01	ft/day

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

MW-400
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

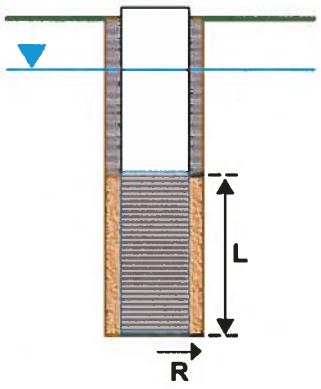
Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	356.31	cm
Intake (hole) diameter (cm)	D=	12.700	cm
Steady state discharge (L/min)	Q=	0.22	L/min
Steady state drawdown (cm)	H=	1.22	cm
	Computed Values		
	K=	5.41E-03	cm/s
	K=	1.53E+01	ft/day

* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

MW-401
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

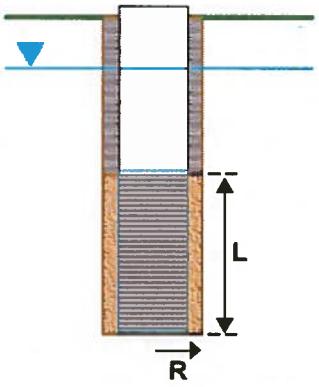
Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	250.55	cm
Intake (hole) diameter (cm)	D* =	12.700	cm
Steady state discharge (L/min)	Q=	0.15	L/min
Steady state drawdown (cm)	H=	1.22	cm
	Computed Values		
	K=	4.79E-03	cm/s
	K=	1.36E+01	ft/day

* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single O/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

MW-402
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

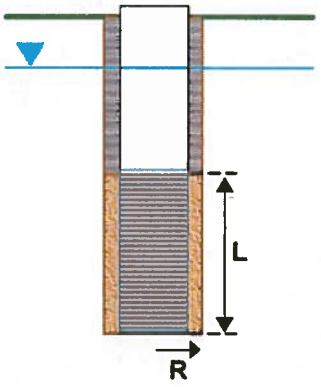
Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	244.14	cm
Intake (hole) diameter (cm)	D=	12.700	cm
Steady state discharge (L/min)	Q=	0.3	L/min
Steady state drawdown (cm)	H=	1.22	cm
	Computed Values		
	K=	9.75E-03	cm/s
	K=	2.76E+01	ft/day

* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

MW-403
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

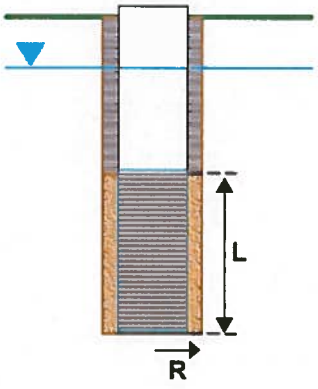
Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	284.99	cm
Intake (hole) diameter (cm)	D* =	12.700	cm
Steady state discharge (L/min)	Q=	0.27	L/min
Steady state drawdown (cm)	H=	0.61	cm
	Computed Values		
	K=	1.57E-02	cm/s
	K=	4.44E+01	ft/day

* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

MW-404
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

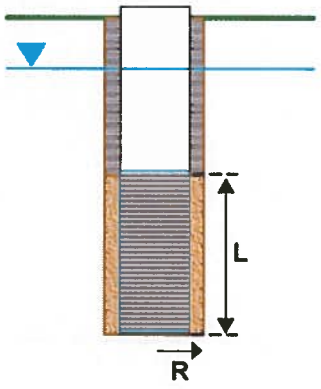
Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	230.12	cm
Intake (hole) diameter (cm)	D=	22.860	cm
Steady state discharge (L/min)	Q=	0.375	L/min
Steady state drawdown (cm)	H=	0.91	cm
	Computed Values		
	K=	1.43E-02	cm/s
	K=	4.05E+01	ft/day

* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

MW-405
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

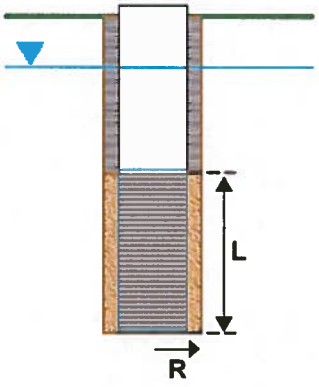
Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	218.54	cm
Intake (hole) diameter (cm)	D=	12.700	cm
Steady state discharge (L/min)	Q=	0.375	L/min
Steady state drawdown (cm)	H=	0.61	cm
	Computed Values		
	K=	2.64E-02	cm/s
	K=	7.49E+01	ft/day

* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

MW-406
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

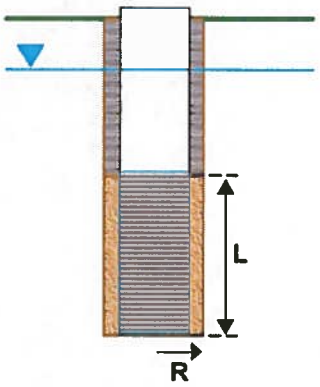
Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	279.20	cm
Intake (hole) diameter (cm)	D=	12.700	cm
Steady state discharge (L/min)	Q=	0.32	L/min
Steady state drawdown (cm)	H=	1.52	cm
	Computed Values		
	K=	7.57E-03	cm/s
	K=	2.15E+01	ft/day

* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

MW-408
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

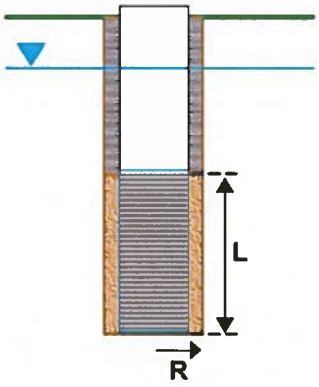
Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	293.83	cm
Intake (hole) diameter (cm)	D=	12.700	cm
Steady state discharge (L/min)	Q=	0.3	L/min
Steady state drawdown (cm)	H=	0.91	cm
	Computed Values		
	K=	1.14E-02	cm/s
	K=	3.24E+01	ft/day

* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single O/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

MW-409
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

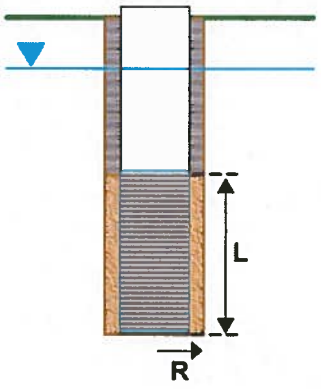
Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	302.36	cm
Intake (hole) diameter (cm)	D=	12.700	cm
Steady state discharge (L/min)	Q=	0.27	L/min
Steady state drawdown (cm)	H=	3.05	cm
	Computed Values		
	K=	3.00E-03	cm/s
	K=	8.51E+00	ft/day

* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

MW-411
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

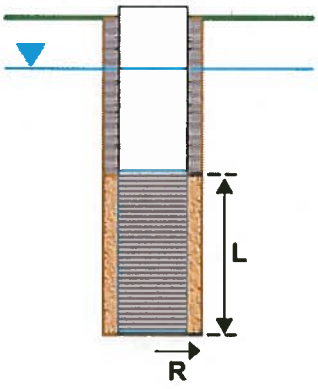
Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	309.07	cm
Intake (hole) diameter (cm)	D=	12.700	cm
Steady state discharge (L/min)	Q=	0.4	L/min
Steady state drawdown (cm)	H=	0.61	cm
	Computed Values		
	K=	2.19E-02	cm/s
	K=	6.20E+01	ft/day

* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

MW-412
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

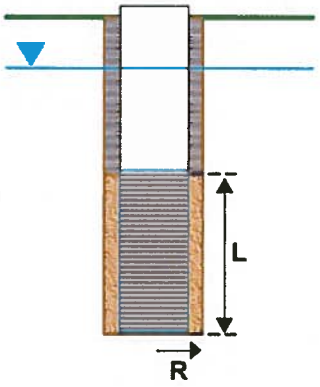
Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	293.52	cm
Intake (hole) diameter (cm)	D=	22.860	cm
Steady state discharge (L/min)	Q=	0.2	L/min
Steady state drawdown (cm)	H=	1.52	cm
	Computed Values		
	K=	3.86E-03	cm/s
	K=	1.09E+01	ft/day

* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

MW-413
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

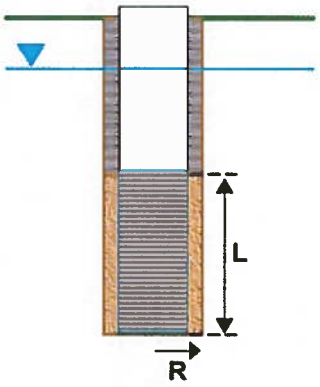
Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	283.16	cm
Intake (hole) diameter (cm)	D=	22.860	cm
Steady state discharge (L/min)	Q=	0.33	L/min
Steady state drawdown (cm)	H=	1.22	cm
	Computed Values		
	K=	8.14E-03	cm/s
	K=	2.31E+01	ft/day

* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

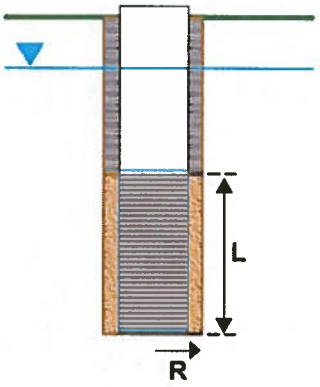
MW-415
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	233.17	cm
Intake (hole) diameter (cm)	D=	12.700	cm
Steady state discharge (L/min)	Q=	0.33	L/min
Steady state drawdown (cm)	H=	1.22	cm
* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).	Computed Values		
	K=	1.11E-02	cm/s
	K=	3.14E+01	ft/day

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

MW-416
Low Flow Kh Calculation Sheet
Spectra Energy Partners
Atlantic Bridge Project
Weymouth Compressor Station,
Weymouth, Massachusetts

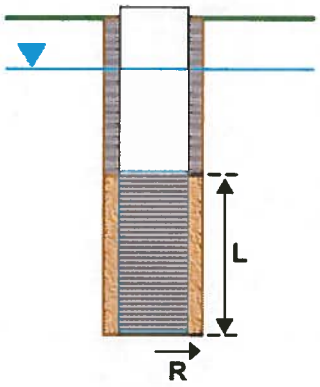
Ellipsoidal Flow Steady State Model
Single Pair of Discharge and Drawdown

Intake (screen) length (cm)	L=	356.01	cm
Intake (hole) diameter (cm)	D* =	12.700	cm
Steady state discharge (L/min)	Q=	0.24	L/min
Steady state drawdown (cm)	H=	1.52	cm
	Computed Values		
	K=	4.74E-03	cm/s
	K=	1.34E+01	ft/day

* This workbook can be used with the half ellipsoidal model by subsitituting the intake hole radius (R) instead of the intake hole diameter (D).

Formula

$$Q = \frac{2\pi LKH}{2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}$$



Single Q/H

$$K = \frac{Q * 2.303 \log\left[\frac{L}{D} + \sqrt{1 + \left(\frac{L}{D}\right)^2}\right]}{2\pi LH}$$

Model based on Hvorslev (1951)

TRC

Groundwater Field Data Record

Project: Spectra	Project No.: 140143	Date/Time: 1/6/17	Sheet 1 of 1
TRC Personnel: Kolleen Shea		Well ID: MW-201	

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: ______

Flow-thru Cell Volume: ______

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up (from ground) ______ ft.

Riser Stick-up (from ground) ______ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch Other: ______

WELL MATERIAL: [X] PVC [ ] SS Other: ______

Well Depth ______ ft. [X] top of riser [ ] top of casing [ ] ______ [ ] measured [ ] historical

Water Depth — ft.

Well Volume ______

LNAPL/DNAPL Depth = 13.64

NAPL Thickness = ______

Depth of pump intake: 18 ft

Static water level after pump put into well: [illegible]

Initial purge Rate/ Water Level (100-400 ml/min): 300 ml/min

Adjusted purge Rates/time/WL(record changes):

Flow rate at time of sampling: 300 ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0930	0935	0940	0945	0950	0955	1000	1005	1010
Temp. (°C)	P	10.44	11.83	12.02	12.03	12.02	12.12	12.10	12.08
Conduct. (μmhos/cm)		36823	36418	36462	36463	36462	36502	36536	36564
DO (mg/L)	U	3.50	2.21	2.23	2.24	2.16	1.93	1.85	1.85
pH (su)	R	[illegible]	[illegible]	6.27	6.27	6.20	6.25	6.25	6.25
ORP (millivolts)	G	-44.0	-56.9	-64.7	-66.5	-67.1	-69.5	-71.4	-71.5
Turbidity (NTU)	E	13.0	2.90	3.19	2.09	2.05	1.06	1.53	2.06
Flow (ml/min)		300	300	300	300	300	300	300	300
Depth To Water (ft)	13.64	—	—	—	—	—	—	—	—
Cumulative Purge Vol. (gal or L)									

Time	1015	1020	1025	1025		
Temp. (°C)	12.17	12.11	12.10	S		
Conduct. (μmhos/cm)	36586	36650	36654			
DO (mg/L)	1.80	1.75	1.78	A		
pH (Std. Units)	6.25	6.25	6.25	M		
Eh/ORP (millivolts)	-72.0	-73.0	-73.5			
Turbidity (NTU)	2.03	1.41	1.09	P		
Flow (ml/min)	300	300	300	L		
Depth To Water (ft)	—	—	—	E		
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria*
(3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (μmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: ______		

Comments: final DTP: 13.89 ft
dump ~ 6 gallons water in labeled drum

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L A	1025	none	
VPH	N	HCl	3	40mL A	1025	none	

* Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra	143140	1/4/17	

TRC Personnel: Kelleenby

Well ID: MW-202

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: YSI

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER ☐ 2 inch ☐ 4 inch ☐ 6 inch

Other: _____

WELL MATERIAL ☑ PVC ☐ SS

Other: _____

Well Depth 23 ft. ☒ top of riser ☐ top of casing ☐ _____ ☐ measured ☐ historical

Water Depth 12.23 ft.

Well Volume _____

LNAPL/DNAPL Depth = NA

NAPL Thickness = NA

Depth of pump intake: ~18 ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 350 ml/min

Adjusted purge Rates/time/WL(record changes)

350 → 300 @ 0920

Flow rate at time of sampling: 300 ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0910	0915	0920	0925	0930	0935	0940	0945	0950
Temp. (°C)		11.64	11.56	11.65	11.57	11.67	11.69	11.69	11.69
Conduct. (µmhos/cm)		30514	30137	29892	29902	29950	29919	29991	30005
DO (mg/L)		1.10	0.69	.68	.60	.65	.56	.57	.57
pH (su)		6.48	6.27	6.18	6.16	6.12	6.10	6.10	6.10
ORP (millivolts)		-18.2	-15.4	-15.2	-15.6	-15.6	-16.0	-15.8	-16.1
Turbidity (NTU)		25.1	20.0	11.5	6.54	4.83	4.53	4.21	4.12
Flow (ml/min)	350	350	350	300	300	300	300	300	300
Depth To Water (ft)	12.23	12.26	12.27	12.26	12.26	12.26	12.26	12.26	12.26
Cumulative Purge Vol. (gal or L)									

Time	0955	1000	1000
Temp. (°C)	11.65	11.65	S
Conduct. (µmhos/cm)	30001	30000	A
DO (mg/L)	.58	.57	M
pH (Std. Units)	6.10	6.10	P
Eh/ORP (millivolts)	-16.1	-16.2	L
Turbidity (NTU)	4.32	4.11	E
Flow (ml/min)	300	300	
Depth To Water (ft)	12.26	12.26	
Cumulative Purge Vol. (gal or L)			

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	☒	☒
Submersible Pump	☐	☐
Bladder Pump	☐	☐
Bailer	☐	☐
Other: _____	☐	☐

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L AG	1000	none	
VPH	N	HCl	3	40mL A	1000	none	

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Kelleenby

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra Weymouth CS	146483.000 4403	1/3/17 1410	

TRC Personnel: BA

Well ID: MW-203

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic pump

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground) 2 ft.

Riser Stick-up (from ground) 2 ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: ____

WELL MATERIAL

[X] PVC [X] SS

Other: ____

Well Depth ____ ft. [X] top of riser [ ] top of casing [ ] ____ [ ] measured [ ] historical

Water Depth 13.32 ft.

Well Volume ____

LNAPL/DNAPL Depth = ____

NAPL Thickness = ____

Depth of pump intake: ____

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 220

Adjusted purge Rates/time/WL(record changes): 260, 270

Flow rate at time of sampling: 270

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1410	1415	1420	1425	1430	1435	1440	1445	1450
Temp. (°C)	Start	11.37	11.46	11.49	11.54	11.64	11.49	11.50	11.40
Conduct. (µmhos/cm)	Purge	4199.7	4196.4	4193.6	4194.7	4187.5	4187.4	4186.4	4173.3
DO (mg/L)		3.61	2.47	3.73	2.59	4.39	4.62	4.54	4.53
pH (su)		6.51	6.48	6.50	6.48	6.48	6.48	6.47	6.47
ORP (millivolts)		93.4	89.1	92.1	89.3	87.9	89.3	87.1	86.1
Turbidity (NTU)			28.4	23.7	26.4	21.0	19.3	18.7	13.6
Flow (ml/min)	220	260	270	→	→	→	→	→	→
Depth To Water (ft)	13.32	13.39	→	→	→	→	→	→	→
Cumulative Purge Vol. (gal or L)									

Time	1455	1500	1505	1510	1515	1320
Temp. (°C)	11.41	11.47	11.53	11.51	11.56	11.57
Conduct. (µmhos/cm)	4173.4	4183.1	4197.6	4201.6	4163.2	4184.6
DO (mg/L)	4.76	4.41	5.31	5.61	5.50	5.63
pH (Std. Units)	6.46	6.47	6.47	6.45	6.46	6.45
Eh/ORP (millivolts)	85.3	84.4	82.6	83.7	83.4	82.6
Turbidity (NTU)	11.4	9.74	8.76	10.41	11.3	9.70
Flow (ml/min)	270	→	→	→	→	→
Depth To Water (ft)	13.39	→	→	→	→	→
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: ____		

Comments: Clear, NRO, NRS

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VOA	N	HCl	3	40ml Amber	1320		
EPH	N	HCl	2	1L Amber	↓		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Speedway Weymouth #C13 | Project No.: 140493.0000.4003 | Date/Time: 1/4/17 0845 | Sheet 1 of 1

TRC Personnel: BA | Well ID: MW-204

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: ☑ 2 inch ☐ 4 inch ☐ 6 inch

Other:

WELL MATERIAL: ☑ PVC ☐ SS

Other:

Well Depth ____ ft. ☑ top of riser ☐ top of casing ☐ measured ☐ historical

Water Depth 13.28 ft.

Well Volume

LNAPL/DNAPL Depth =

NAPL Thickness =

Depth of pump intake: 18

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 230

Adjusted purge Rates/time/WL(record changes): 290

Flow rate at time of sampling: 290

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0850	0855	0900	0905	0910	0915	0920	0925	0930
Temp. (°C)	Start	12.36	12.27	12.24	12.21	12.23	12.48	12.46	12.35
Conduct. (µmhos/cm)	Purge	31913	32059	32147	32269	32373	32471	32502	32673
DO (mg/L)	↓	2.19	2.14	2.01	1.85	1.82	1.87	1.94	1.92
pH (su)		6.76	6.73	6.68	6.66	6.64	6.61	6.58	6.56
ORP (millivolts)		50.3	49.5	46.6	44.7	42.6	40.3	31.1	27.6
Turbidity (NTU)		49.4	47.3	42.1	33.4	24.7	21.3	19.7	6.41
Flow (ml/min)	230	290	→						
Depth To Water (ft)	13.28	13.32	→						
Cumulative Purge Vol. (gal or L)									

Time	0935	0940	0945	0950	0955	
Temp. (°C)	12.37	12.57	12.53	12.53	12.56	
Conduct. (µmhos/cm)	32417	32313	32004	31747	31515	
DO (mg/L)	2.03	2.10	2.24	2.39	2.26	
pH (Std. Units)	6.53	6.53	6.53	6.53	6.54	
Eh/ORP (millivolts)	20.7	15.2	10.5	7.2	6.2	
Turbidity (NTU)	5.31	2.55	2.31	2.01	1.93	
Flow (ml/min)	290	→				
Depth To Water (ft)	13.32	→				
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	✓	✓
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Clear, N/O, N/S

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L Amber	0955		MW-204
VPH	↓	HCl	3	40mL Amber	↓		↓

* Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

ord	Project: Spectra	Project No.: 140143	Date/Time: 11/3/17
	TRC Personnel: Kathleen Sica		Sheet 1 of 1
		Well ID: MW-205	

	YES	NO
g Secure	X	
ar Intact	X	
p Intact	X	
Present	X	
Lock Present	X	

ng Equipment: YSI

w-thru Cell Volume:

ID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL: [✓] PVC [ ] SS

Other: _____

Well Depth _____ ft. [X] top of riser [ ] top of casing [ ] _____ [ ] measured [ ] historical

Water Depth 15.00 ft. LNAPL/DNAPL Depth = —

Well Volume _____ NAPL Thickness = —

Depth of pump intake: ~18 ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 400ml/min

Adjusted purge Rates/time/WL(record changes) 400 → 350 @ 1430

Flow rate at time of sampling: 350 ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1430	1430	1435	1440	1445	1450	1455	1500	1505
Temp. (°C)	D	12.01	12.02	12.04	12.07	12.08	12.05	12.05	12.04
Conduct. (µmhos/cm)	V	27023	27320	27100	27108	27579	27611	27635	27653
DO (mg/L)	R	1.21	1.20	1.13	1.01	.90	1.12	2.19	2.36
pH (su)	G	7.08	7.08	7.08	7.08	7.07	7.07	7.06	7.06
ORP (millivolts)	E	-94.6	-94.3	-95.6	-96.1	-98.8	-95.6	-96.7	-96.8
Turbidity (NTU)		5.86	5.51	4.23	3.82	3.72	2.89	3.24	3.58
Flow (ml/min)	400	400	350	350	350	350	350	350	350
Depth To Water (ft)	15.02	15.02	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Cumulative Purge Vol. (gal or L)									

Time	1515	1515	1520	1525	1525	
Temp. (°C)	12.03	12.11	12.01	11.99	S	
Conduct. (µmhos/cm)	27810	27899	27911	27944	A	
DO (mg/L)	2.30	2.10	2.51	2.47	M	
pH (Std. Units)	7.06	7.05	7.05	7.05	P	
Eh/ORP (millivolts)	-94.8	-94.6	-84.2	-83.6	L	
Turbidity (NTU)	2.92	3.81	3.92	3.34	E	
Flow (ml/min)	350	350	350	350		
Depth To Water (ft)	15.00	15.00	15.00	15.00		
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPA	N	HCl	2	1LA	1525	none	
VPH	N	HCl	3	40MA	1525	none	

- Consult the applicable regulatory guidance for the specific criteria.

Signed: _____

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra	140143	1/4/17	

TRC Personnel: Kolleen Shea

Well ID: MW 206

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: YSI

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL: [✓] PVC [ ] SS

Other: _____

Well Depth _____ ft. [X] top of riser [ ] top of casing [ ] _____ [ ] measured [ ] historical

Water Depth 14.18 ft.

Well Volume _____

LNAPL/DNAPL Depth = —

NAPL Thickness = —

Depth of pump intake: ~18ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 400 ml/min

Adjusted purge Rates/time/WL(record changes): 400 → 350 @ 1220

Flow rate at time of sampling: 350ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1215	1220	1225	1230	1235	1240	1245	1250	1255
Temp. (°C)	p	12.97	12.92	12.91	12.96	13.03	13.01	13.03	12.99
Conduct. (µmhos/cm)	p	5081	5454	5458	5525	5448	5351	5321	5306
DO (mg/L)	U	3.28	2.97	2.97	3.00	3.33	3.36	3.40	3.42
pH (su)	K	6.58	6.44	6.44	6.43	6.42	6.42	6.42	6.41
ORP (millivolts)	G	-68.1	-74.5	-74.5	-73.8	-71.1	-71.0	-70.9	-69.9
Turbidity (NTU)	E	23.1	10.46	6.86	2.47	3.11	3.25	2.17	0.97
Flow (ml/min)	400	400	350	350	350	350	350	350	350
Depth To Water (ft)	14.18	14.21	14.20	14.20	14.20	14.19	14.19	14.19	14.19
Cumulative Purge Vol. (gal or L)									

Time	1300	1305	1310	1310			
Temp. (°C)	13.01	13.00	12.99	S			
Conduct. (µmhos/cm)	5299	5285	5280	S			
DO (mg/L)	3.51	3.50	3.61	A			
pH (Std. Units)	6.42	6.42	6.42	M			
Eh/ORP (millivolts)	-68.8	-68.2	-68.5	P			
Turbidity (NTU)	0.87	0.56	0.61	L			
Flow (ml/min)	350	350	350	E			
Depth To Water (ft)	14.19	14.19	14.19				
Cumulative Purge Vol. (gal or L)							

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1LA	1310	none	
VPH	N	HCl	3	40mlA	1310	none	

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of ___
Spectra Weymouth C/S	HO143.0000	1/3/17 1235	

TRC Personnel: BA

Well ID: MW-400

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic Pump

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): BA ~~N/A~~ 2 ft.

Riser Stick-up (from ground): BA ~~N/A~~ 2 ft.

WELL DIAMETER: ☑ 2 inch ☐ 4 inch ☐ 6 inch

Other: ___

WELL MATERIAL: ☑ PVC ☐ SS

Other: ___

Well Depth ___ ft. ☒ top of riser ☐ top of casing ☐ ___ ☑ measured ☐ historical

Water Depth 13.31 ft.

Well Volume ___

LNAPL/DNAPL Depth = ___

NAPL Thickness = ___

Depth of pump intake: ___

Static water level after pump put into well: ___

Initial purge Rate/ Water Level (100-400 ml/min): 220

Adjusted purge Rates/time/WL(record changes): 260

Flow rate at time of sampling: 260

Total volume of water purged: ___

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1235	1240	1245	1250	1255	1300	1305	1310	1315
Temp. (°C)	Start	12.37	12.24	12.15	12.07	12.0	12.06	12.09	12.11
Conduct. (µmhos/cm)	Purge	4136.4	4127.6	4114.3	4117.7	4128.9	4150.5	4163.1	4171.1
DO (mg/L)		1.23	1.24	3.47	4.46	4.52	4.56	4.49	4.47
pH (su)		6.45	6.39	6.37	6.36	6.36	6.35	6.35	6.35
ORP (millivolts)		151.5	143.6	137.1	134.5	130.6	126.2	120.3	120.4
Turbidity (NTU)			29.6	24.3	21.6	17.7	7.40	2.27	2.17
Flow (ml/min)	220	260	→	→	→	→	→	→	→
Depth To Water (ft)	11.31	11.35	11.37	→	→	→	→	→	→
Cumulative Purge Vol. (gal or L)									

Time	1320	1325	1330	1335		
Temp. (°C)	12.18	12.18	12.28	12.16		
Conduct. (µmhos/cm)	4187.2	4199.8	4198.8	4211.1		
DO (mg/L)	4.47	4.63	4.72	4.75		
pH (Std. Units)	6.35	6.35	6.34	6.35		
Eh/ORP (millivolts)	119.8	118.6	117.7	116.9		
Turbidity (NTU)	2.31	2.10	1.96	1.90		
Flow (ml/min)	260	→	→	→		
Depth To Water (ft)	11.39	→	→	→		
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	☑	☑
Submersible Pump	☐	☐
Bladder Pump	☐	☐
Bailer	☐	☐
Other: ___	☐	☐

Comments: Clear, N/O, N/S

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HNO_3	2	3 X 40mL	1335		
EPH		HCl	3	1L Amber	↓		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra	Project No.: 140145	Date/Time: 1/31/17	Sheet 1 of 1

TRC Personnel: Kellen Nee

Well ID: MW-401

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: YSI

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch — Other: _____

WELL MATERIAL

[X] PVC [ ] SS — Other: _____

Well Depth _____ ft. [X] top of riser [ ] top of casing [ ] _____ [ ] measured [ ] historical

Water Depth 14.38 ft. — Well Volume _____

LNAPL/DNAPL Depth = —

NAPL Thickness = —

Depth of pump intake: ~18ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 200 ml/min

Adjusted purge Rates/time/WL(record changes)

200 → 150 @ 1305

Flow rate at time of sampling: 150 ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1255	1300	1305	1310	1315	1320	1325	1330	1335
Temp. (°C)	P	12.40	12.39	12.51	12.50	12.53	12.69	12.71	12.72
Conduct. (µmhos/cm)		29077	29005	29026	29035	29219	29381	29382	29410
DO (mg/L)	V	1.86	1.71	1.73	1.70	1.60	1.58	1.54	1.55
pH (su)	R	7.02	7.02	7.02	7.02	7.01	7.01	7.01	7.02
ORP (millivolts)	E	21.2	21.2	20.6	20.5	19.6	19.5	16.9	15.0
Turbidity (NTU)		2.95	3.05	2.97	3.75	2.01	3.23	4.01	3.02
Flow (ml/min)	200	200	150	150	150	150	150	150	150
Depth To Water (ft)		14.42	14.42	14.42	14.42	14.42	14.42	14.42	14.42
Cumulative Purge Vol. (gal or L)									

Time	1340	1345	1350	1350		
Temp. (°C)	12.69	12.71	12.72	S		
Conduct. (µmhos/cm)	29398	29518	29879	A		
DO (mg/L)	1.55	1.54	1.54	M		
pH (Std. Units)	7.02	7.02	7.02	P		
Eh/ORP (millivolts)	14.6	14.2	14.1	L		
Turbidity (NTU)	3.12	3.11	3.60	E		
Flow (ml/min)	150	150	150			
Depth To Water (ft)	14.42	14.42	14.42			
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria*
(3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
~~EPH~~	N	HCl	2	1 L A	1350	none	
VPH	N	HCl	3	40 mL A	1350	none	

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Kellen Nee

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra	140143	1/5/17	

TRC Personnel: Kollen Shue

Well ID: MW-402

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: YSI

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch — Other: _____

WELL MATERIAL: [X] PVC [ ] SS — Other: _____

Well Depth _____ ft. [ ] top of riser [ ] top of casing [ ] _____ [ ] measured [ ] historical

Water Depth 14.99 ft. Well Volume _____

LNAPL/DNAPL Depth = —

NAPL Thickness = —

Depth of pump intake: ~15ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 350ml/min

Adjusted purge Rates/time/WL(record changes)

350 @ 300 @ 0840

Flow rate at time of sampling: 300ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0835	0840	0845	0850	0855	0900	0905	0910	0915
Temp. (°C)	P	14.00	14.03	14.4	14.12	14.18	14.18	14.19	14.25
Conduct. (µmhos/cm)	U	35318	35305	35309	35703	36161	36165	35545	35545
DO (mg/L)	R	1.11	1.44	1.21	1.44	1.16	1.18	1.56	1.51
pH (su)	G	6.59	6.60	6.62	6.64	6.67	6.67	6.65	6.68
ORP (millivolts)	E	2.8	-25.2	-31.2	-44.2	-54.3	-54.6	-61.4	-61.6
Turbidity (NTU)		10.3	5.81	1.41	1.24	31.55	21.78	0.87	0.51
Flow (ml/min)	350	350	300	300	300	300	300	300	300
Depth To Water (ft)	14.99	15.03	15.03	15.03	15.03	15.03	15.03	15.03	15.03
Cumulative Purge Vol. (gal or L)									

Time	0920	0925	0930	0930		
Temp. (°C)	14.19	14.21	14.20	S		
Conduct. (µmhos/cm)	34975	34953	34968	A		
DO (mg/L)	1.52	1.59	1.60	M		
pH (Std. Units)	6.69	6.70	6.70	P		
Eh/ORP (millivolts)	-66.9	-66.8	-67.1	L		
Turbidity (NTU)	0.74	0.83	0.92	E		
Flow (ml/min)	300	300	300			
Depth To Water (ft)	15.03	15.03	15.03			
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Were particles (yellow) precipitate that accumulates at bottom of purge bucket

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1LA	0930	none	
VPH	N	HCl	3	40mLA	0930	none	

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Kollen Shue

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra Weymouth C/S | Project No.: 140443.0000.1403 | Date/Time: 1/4/17 1355 | Sheet 1 of 1

TRC Personnel: BA | Well ID: MW-403

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch; Other:

WELL MATERIAL: [X] PVC [ ] SS; Other:

Well Depth ____ ft. [X] top of riser [ ] top of casing; [X] measured [ ] historical

Water Depth 13.65 ft.

LNAPL/DNAPL Depth =

NAPL Thickness =

Well Volume

Depth of pump intake: 18'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 270

Adjusted purge Rates/time/WL(record changes)

Flow rate at time of sampling: 270

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1355	1400	1405	1410	1415	1420	1425	1430	1435
Temp. (°C)	Start	13.46	13.49	13.51	13.68	13.69	13.41	13.67	13.63
Conduct. (µmhos/cm)	Purge	29052	29431	29606	31343	33593	34172	34379	36967
DO (mg/L)	↓	4.47	4.52	4.69	8.3.50	3.43	3.21	3.03	2.53
pH (su)		6.47	6.46	6.42	6.39	6.37	6.36	6.36	6.35
ORP (millivolts)		62.4	62.9	63.4	67.4	64.2	69.7	69.6	70.6
Turbidity (NTU)		6.91	6.32	4.48	3.72	3.64	3.60	3.14	2.71
Flow (ml/min)		270	→						
Depth To Water (ft)	13.65	13.67	→						
Cumulative Purge Vol. (gal or L)									

Time	1440	1445	1450	1455		
Temp. (°C)	13.61	13.56	13.59	13.60		
Conduct. (µmhos/cm)	36.946	37821	38675	39272		
DO (mg/L)	2.61	2.76	2.53	2.61		
pH (Std. Units)	6.35	6.34	6.34	6.34		
Eh/ORP (millivolts)	70.7	70.7	71.7	72.5		
Turbidity (NTU)	2.96	2.87	2.74	2.68		
Flow (ml/min)	270	→				
Depth To Water (ft)	13.67	→				
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Clear, N/o, N/s

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HCl	3	40mL Ambers	1455		MW-403
EPH	↓	↓	2	1 L Ambers	↓		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra	Project No.: 140143	Date/Time: 1/5/17	Sheet 1 of 1
TRC Personnel: Kolleen		Well ID: MW-404	

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment:

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up (from ground) ____ ft.

Riser Stick-up (from ground) ____ ft.

WELL DIAMETER ☐ 2 inch ☑ 4 inch ☐ 6 inch Other: ____

WELL MATERIAL ☑ PVC ☐ SS Other: ____

Well Depth ____ ft. ☐ top of riser ☐ top of casing ☐ ____ ☐ measured ☐ historical

Water Depth 12.85 ft.

LNAPL/DNAPL Depth = light sheen

Well Volume ____

NAPL Thickness = ____

Depth of pump intake: ~18 ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 400 ml/min

Adjusted purge Rates/time/WL(record changes): 400→375 @ 1315

Flow rate at time of sampling: 375

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1310	1315	1320	1325	1330	1335	1340	1345	1350
Temp. (°C)	13.21	13.37	13.33	13.37	13.35	13.38	13.43	13.44	13.44
Conduct. (µmhos/cm)	45777	45774	45768	45746	45758	45760	45761	45781	45783
DO (mg/L)	1.02	0.55	0.53	0.49	0.47	0.46	0.45	0.42	0.41
pH (su)	6.54	6.40	6.40	6.35	6.34	6.34	6.33	6.32	6.32
ORP (millivolts)	-25.6	-13.5	-13.3	-11.9	-12.0	-12.0	-12.0	-11.6	-11.5
Turbidity (NTU)	4.51	6.59	5.66	2.69	3.25	3.77	3.53	3.21	7.34
Flow (ml/min)	400	400	375	375	375	375	375	375	375
Depth To Water (ft)	12.85	12.88	12.88	12.88	12.88	12.88	12.88	12.88	12.88
Cumulative Purge Vol. (gal or L)									

Time	1355	1400	1405	1405		
Temp. (°C)	13.44	13.44	13.44	S		
Conduct. (µmhos/cm)	45780	45778	45781			
DO (mg/L)	0.42	0.43	0.43	A		
pH (Std. Units)	6.31	6.31	6.31	M		
Eh/ORP (millivolts)	-11.5	-11.5	-11.0	P		
Turbidity (NTU)	3.50	2.96	2.20	L		
Flow (ml/min)	375	375	375			
Depth To Water (ft)	12.88	12.88	12.88	E		
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: ____		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L A	1405	none	
VPH	N	HCl	3	40 mL VOA	1405	none	

• Consult the applicable regulatory guidance for the specific criteria.

Signed: Kolleen

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra	140145	1/4/17	

TRC Personnel: Kollenberg

Well ID: MW-405

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: XSD

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL: [✓] PVC [ ] SS

Other: _____

Well Depth _____ ft. [X] top of riser [ ] top of casing [ ] _____ [ ] measured [ ] historical

Water Depth 14.33 ft.

Well Volume _____

LNAPL/DNAPL Depth = —

NAPL Thickness = —

Depth of pump intake: ~18'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 400 ml/min

Adjusted purge Rates/time/WL(record changes)

100 @ 375 @ 1355

Flow rate at time of sampling: 375 ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1350	1355	1400	1405	1410	1415	1420	1425	1430
Temp. (°C)	P	15.06	15.08	15.11	15.03	15.05	15.06	15.07	15.11
Conduct. (µmhos/cm)	P	32545	33158	35207	35397	36880	36920	36881	36981
DO (mg/L)	U	1.03	1.08	0.74	0.66	0.59	0.57	0.53	0.53
pH (su)	R	5.84	5.86	5.89	5.89	5.88	5.88	5.88	5.87
ORP (millivolts)	G	98.2	98.9	101.2	101.1	101.1	101.2	101.1	101.0
Turbidity (NTU)	E	6.64	3.95	3.52	2.38	1.79	1.50	1.02	1.31
Flow (ml/min)	400	400	375	375	375	375	375	375	375
Depth To Water (ft)	14.33	14.35	14.35	14.35	14.35	14.35	14.35	14.35	14.35
Cumulative Purge Vol. (gal or L)									

Time	1435	1440	1440						
Temp. (°C) 1435 1/4 15.11	~~37141~~	~~37359~~	15.11 1/4						
Conduct. (µmhos/cm)	37141	37359	A						
DO (mg/L)	0.54	0.53							
pH (Std. Units)	5.87	5.87	M						
Eh/ORP (millivolts)	101.0	101.1	P						
Turbidity (NTU)	1.01	1.97	L						
Flow (ml/min)	375	375							
Depth To Water (ft)	14.33	14.33	E						
Cumulative Purge Vol. (gal or L)									

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1-L A	1440	none	
VPH	N	HCl	3	40ML A	1440	none	

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Kollenberg

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra Weymouth C/S	14003.0002 4403	1/5/17 1510	

TRC Personnel: BA

Well ID: MW-406 — DUP-2

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): 2 ft.

Riser Stick-up (from ground): 2 ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch
Other: ______

WELL MATERIAL: [✓] PVC [ ] SS
Other: ______

Well Depth ______ ft. [X] top of riser [ ] top of casing [X] measured [ ] historical

Water Depth 13.84 ft.

Well Volume ______

LNAPL/DNAPL Depth = 13.80

NAPL Thickness = 0.04

Depth of pump intake: 18'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 280

Adjusted purge Rates/time/WL(record changes): 320

Flow rate at time of sampling: 320

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1510	1515	1520	1525	1530	1535	1540	1545	1550
Temp. (°C)	Start	12.56	12.61	12.59	12.62	12.70	12.66	12.62	12.57
Conduct. (µmhos/cm)	Purging	9726	26311	27401	26407	28614	35281	37205	37477
DO (mg/L)	↓	11.12	3.74	3.01	2.86	2.25	1.80	1.87	2.00
pH (su)		6.91	6.73	6.27	6.19	6.18	6.19	6.22	6.22
ORP (millivolts)		-104.4	-93.6	-84.9	-80.9	-77.4	-73.7	-76.1	-77.2
Turbidity (NTU)		000		20.3	13.9	10.1	8.94	7.31	4.22
Flow (ml/min)	280	320	→						
Depth To Water (ft)	13.84	13.89	→						
Cumulative Purge Vol. (gal or L)									

Time	1555	1600
Temp. (°C)	12.59	12.61
Conduct. (µmhos/cm)	37711	37812
DO (mg/L)	2.10	2.13
pH (Std. Units)	6.22	6.22
Eh/ORP (millivolts)	-78.7	-79.2
Turbidity (NTU)	3.97	3.74
Flow (ml/min)	320	→
Depth To Water (ft)	13.89	→
Cumulative Purge Vol. (gal or L)		

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Product @ 13.80' DTW: 13.84'
Tubing able to pierce through product and into water table
Clear, Sl. odor, Sl. Sheen

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HCl	3	40 ml Amber	1600		MW-406
EPH	↓	↓	2	1 L Amber	↓		↓

DUP-2

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra	140143	1/5/17	

TRC Personnel: Kollenkiea

Well ID: MW-407

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment:

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: ☐ 2 inch ☐ 4 inch ☐ 6 inch — Other: _____

WELL MATERIAL: ☒ PVC ☐ SS — Other: _____

Well Depth _____ ft. ☒ top of riser ☐ top of casing ☐ measured ☐ historical

Water Depth 14.57 ft. — Well Volume _____

LNAPL/DNAPL Depth = 14.54

NAPL Thickness = 0.03

Depth of pump intake: ~ 18ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 300

Adjusted purge Rates/time/WL(record changes)

Flow rate at time of sampling: 350 ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1515	1520	1525	1535	1540	1545	1550	1555	1600
Temp. (°C)	P	13.12	13.14	13.13	13.24	13.24	13.28	13.31	13.32
Conduct. (µmhos/cm)		18080	18065	17947	18014	18001	18013	18020	18035
DO (mg/L)	V	1.74	2.05	2.09	1.87	1.89	1.87	1.89	1.91
pH (su)	K	6.54	6.54	6.53	6.55	6.55	6.55	6.55	6.55
ORP (millivolts)	S	-116.6	-116.7	-114.8	-120.0	-126.0	-127.0	-128.1	-127.9
Turbidity (NTU)	E	11.11	10.16	5.52	3.77	3.09	2.65	2.37	3.15
Flow (ml/min)		350	350	350	350	350	350	350	350
Depth To Water (ft)	14.57	14.57	14.57	14.57	14.57	14.57	14.57	14.57	14.57
Cumulative Purge Vol. (gal or L)									

Time	1605	1610	1610			
Temp. (°C)	13.32	13.33	S			
Conduct. (µmhos/cm)	18016	18000	A			
DO (mg/L)	1.92	1.89	M			
pH (Std. Units)	6.55	6.55	P			
Eh/ORP (millivolts)	-129.2	-128.4	L			
Turbidity (NTU)	3.12	3.05	E			
Flow (ml/min)	350	350				
Depth To Water (ft)	14.57	14.57				
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	☒	☒
Submersible Pump	☐	☐
Bladder Pump	☐	☐
Bailer	☐	☐
Other: _____	☐	☐

Comments: faint sheen in water, dump in drum

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L A	1610		
VPH	N	HCl	3	40mL A	1610		

- Consult the applicable regulatory guidance for the specific criteria.

Signed: _____

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra Weymouth C/S 4003 | Project No.: 140483.0000 | Date/Time: 1/5/17 0845 | Sheet 1 of 1

TRC Personnel: BA | Well ID: MW-408

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: Peristaltic Pump

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground) 2 ft.

Riser Stick-up (from ground) 2 ft.

WELL DIAMETER: ✓ 2 inch; 4 inch; 6 inch

Other:

WELL MATERIAL: [x] PVC [ ] SS

Other:

Well Depth ____ ft. ✓ top of riser; top of casing; ✓ measured; historical

Water Depth 13.36 ft.

Well Volume

LNAPL/DNAPL Depth = ____

NAPL Thickness = ____

Depth of pump intake: 19'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 230

Adjusted purge Rates/time/WL(record changes): 280, 300

Flow rate at time of sampling: 300

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0845	0850	0855	0900	0905	0910	0915	0920	0925
Temp. (°C)	Start	10.31	11.08	10.98	11.39	11.46	11.36	11.35	11.38
Conduct. (µmhos/cm)	purge	6741	7592	7240	6697	6621	6774	6731	6744
DO (mg/L)	↓	6.31	7.69	6.44	7.41	7.24	6.91	6.44	7.31
pH (su)		6.87	6.91	6.86	6.79	6.78	6.76	6.75	6.75
ORP (millivolts)		-130.3	-128.8	-134.2	-151.3	-152.8	-150.8	-154.1	-153.7
Turbidity (NTU)		73.4	68.3	57.4	41.6	35.4	27.1	24.3	18.4
Flow (ml/min)	230	230	280	300	→	→	→	→	→
Depth To Water (ft)	13.36	13.39	13.39	→	→	→	→	→	→
Cumulative Purge Vol. (gal or L)									

Time	0930	0935	0940	0945	0950
Temp. (°C)	11.41	11.63	11.33	11.46	11.60
Conduct. (µmhos/cm)	6725	6954	6568	6454	6457
DO (mg/L)	4.31	4.24	4.11	4.03	3.97
pH (Std. Units)	6.74	6.72	6.76	6.74	6.76
Eh/ORP (millivolts)	-155.5	-160.3	-163.4	-165.0	-162.1
Turbidity (NTU)	16.7	12.7	4.75	5.73	7.31
Flow (ml/min)	300	→	→	→	→
Depth To Water (ft)	13.39	→	→	→	→
Cumulative Purge Vol. (gal or L)					

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	✓	✓
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Clear, N/O, N/S

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HCl	3	3 40ML Amber	0950		MW-408
EPH	↓	↓	2	1L Amber	↓		↓

* Consult the applicable regulatory guidance for the specific criteria.

Signed:

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra Weymouth C/S — Project No.: 140113.0004.4403 — Date/Time: 1/4/17 1025 — Sheet 1 of 1

TRC Personnel: BA — Well ID: MW-409

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic pump

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground) 2 ft.

Riser Stick-up (from ground) 2 ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch — Other:

WELL MATERIAL: [X] PVC [ ] SS — Other:

Well Depth ____ ft. [X] top of riser [ ] top of casing [ ] ____ — [X] measured [ ] historical

Water Depth 13.08 ft. — Well Volume ____ — LNAPL/DNAPL Depth = ____ — NAPL Thickness = ____

Depth of pump intake: 15'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 220

Adjusted purge Rates/time/WL(record changes): 270

Flow rate at time of sampling: 270

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1035	1040	1045	1050	1055	1100	1105	1110	1115
Temp. (°C)	Start		12.23	12.29	12.37	12.50	12.85	12.66	12.14
Conduct. (µmhos/cm)	Purge		6057	7107	6688	6540	3568	6321	6440
DO (mg/L)	↓		6.97	~~6.99~~ 2.99	10.14	11.40	8.85	10.91	10.58
pH (su)	↓		6.85	6.71	6.64	6.70	6.70	6.69	6.67
ORP (millivolts)	↓		-130.0	-127.2	-134.1	-136.7	-133.3	-135.7	-139.9
Turbidity (NTU)	↓		21.6	14.1	10.2	8.16	5.01	7.91	7.31
Flow (ml/min)	~~220~~ 270	270	→	→	→	→	→	→	→
Depth To Water (ft)	~~13.05~~ 13.17	13.17	13.18	→	→	→	→	→	→
Cumulative Purge Vol. (gal or L)									

Time	1120	1125	1130	1135	1140	1145
Temp. (°C)	12.34	12.10	12.31	12.37	12.38	
Conduct. (µmhos/cm)	6315	6251	6166	6260	6269	
DO (mg/L)	9.92	9.54	7.93	7.35	7.39	
pH (Std. Units)	6.68	6.68	6.69	6.69	6.68	
Eh/ORP (millivolts)	-144.0	-145.9	-149.9	-150.3	-151.0	
Turbidity (NTU)	6.21	4.73	3.74	2.94	2.91	
Flow (ml/min)	270	→	→	→	→	
Depth To Water (ft)	13.18	→	→	→	→	
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Clear, NO, NS

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L Amber	1140		MW-409
VPH	↓	↓	3	40mL Amber	↓		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

... Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra Weymouth	140143	11/20/17	

TRC Personnel: Kolleen Mea **Well ID:** MW-410

... INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: pumpstaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up ______ ft. (from ground)

Riser Stick-up (from ground) ______ ft.

WELL DIAMETER [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: ______

WELL MATERIAL

[X] PVC [ ] SS

Other: ______

Well Depth ______ ft. [ ] top of riser [ ] top of casing [ ] ______ [ ] measured [ ] historical

Water Depth — ft.

Well Volume ______

LNAPL/DNAPL Depth = 13.02

NAPL Thickness = ______

Depth of pump intake: 18 ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min):

Adjusted purge Rates/time/WL(record changes)

Flow rate at time of sampling: 300 mL/m

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1135	1140	1145	1150	1155	1200	1205	1210	1215
Temp. (°C)	P	11.78	11.83	11.83	11.76	11.78	11.85	11.78	11.79
Conduct. (µmhos/cm)	U	31990	35260	35522	35898	36233	36653	36901	36920
DO (mg/L)	R	4.91	4.66	4.73	4.82	4.93	5.10	5.26	5.30
pH (su)	G	6.68	6.51	6.49	6.46	6.44	6.41	6.39	6.59
ORP (millivolts)	E	-74.2	-29.8	-27.8	-26.0	-24.3	-24.2	-39.6	-41.6
Turbidity (NTU)		22.2	12.7	8.07	8.04	5.59	2.84	2.98	2.96
Flow (ml/min)		300	300	300	300	300	300	300	300
Depth To Water (ft) product	13.02	—	—	—	—	—	—	—	—
Cumulative Purge Vol. (gal or L)									

Time	1220	1225	1230	1230		
Temp. (°C)	11.81	11.80	11.79	S		
Conduct. (µmhos/cm)	37011	37121	37210	A		
DO (mg/L)	5.34	5.37	5.40	M		
pH (Std. Units)	6.37	6.37	6.37	P		
Eh/ORP (millivolts)	-43.3	-45.9	-46.2	L		
Turbidity (NTU)	1.25	0.89	1.20	E		
Flow (ml/min)	300	300	300			
Depth To Water (ft)	—	—	—			
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* **(3 consecutive readings)**

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: ______		

Comments: final DTP: 13.08 ft

dump ~6 gallons of water into labeled drum

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	HCl	2	1L	1230	NA	
VPH	N	HCl	3	40mL	1230	NA	

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Kolleen Mea

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra	14043	1/4/17	

TRC Personnel: Kolleen Shea

Well ID: MW-411

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: YSI

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL: [✓] PVC [ ] SS

Other: _____

Well Depth _____ ft. [X] top of riser [ ] top of casing [ ] _____ [ ] measured [ ] historical

Water Depth 12.86 ft.

Well Volume _____

LNAPL/DNAPL Depth = —

NAPL Thickness = —

Depth of pump intake: ~18ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): ~18ft

Adjusted purge Rates/time/WL(record changes)

400@375@1040

Flow rate at time of sampling: 375ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1035	1040	1045	1050	1055	1100	1105	1110	1115
Temp. (°C)	[illegible]	13.73	13.71	13.68	13.70	13.68	13.66	13.67	13.67
Conduct. (µmhos/cm)	[illegible]	29071	28986	28983	28826	28826	28658	28126	29135
DO (mg/L)	[illegible]	1.01	.99	.56	.61	.52	.49	.49	.51
pH (su)	[illegible]	6.03	6.02	6.02	6.03	6.02	6.02	6.03	6.03
ORP (millivolts)	[illegible]	-39.3	-40.7	-46.6	-49.4	-52.9	-54.2	-57.9	-57.8
Turbidity (NTU)	[illegible]	5.50	4.60	4.12	4.05	4.39	4.05	3.82	3.92
Flow (ml/min)	400	400	375	375	375	375	375	375	375
Depth To Water (ft)	12.86	12.88	12.88	12.88	12.88	12.88	12.89	12.89	12.89
Cumulative Purge Vol. (gal or L)									

Time	1120	1125	1125			
Temp. (°C)	13.72	13.71	S			
Conduct. (µmhos/cm)	29139	29135	A			
DO (mg/L)	.51	.52	M			
pH (Std. Units)	6.02	6.02	P			
Eh/ORP (millivolts)	-58.3	-58.5	L			
Turbidity (NTU)	4.12	3.84	E			
Flow (ml/min)	375	375				
Depth To Water (ft)	12.89	12.89				
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Baifer		
Other: _____		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
FPH	N	HCl	2	1LA	1125	None	
VPH	N	HCl	3	40mL A	1125	None	

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Kolleen Shea

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet ___ of ___
Specra	143140	1/5/17	Sheet 1 of 1

TRC Personnel: Kolleen Sullivan

Well ID: MW-412 (DUP-1)

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment:

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: ☐ 2 inch ☒ 4 inch ☐ 6 inch

Other: _____

WELL MATERIAL: ☒ PVC ☐ SS

Other: _____

Well Depth 15.47 ft. ☒ top of riser ☐ top of casing ☐ _____ ☐ measured ☐ historical

Water Depth 13.37 ft.

Well Volume _____

LNAPL/DNAPL Depth = _____

NAPL Thickness = Sheen

Depth of pump intake: ~18ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 250 ml/min

Adjusted purge Rates/time/WL(record changes) 250 → 200 @1040

Flow rate at time of sampling: 200ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1035	1040	1045	1050	1055	1100	1105	1110	1115
Temp. (°C)	P	12.64	12.57	12.49	12.55	12.59	12.61	12.65	12.70
Conduct. (µmhos/cm)	U	30388	30392	30397	30385	30395	30365	30345	30355
DO (mg/L)	R	1.38	1.13	1.15	1.03	1.07	0.98	0.99	0.94
pH (su)	G	6.30	6.24	6.24	6.22	6.22	6.21	6.21	6.20
ORP (millivolts)	E	8.5	11.5	12.6	11.4	11.4	13.1	12.9	13.2
Turbidity (NTU)	T	21.0	12.5	11.0	9.21	7.28	6.65	7.10	6.44
Flow (ml/min)		250	250	200	200	200	200	200	200
Depth To Water (ft)		13.37	13.42	13.42	13.42	13.42	13.42	13.42	13.42
Cumulative Purge Vol. (gal or L)									

Time	1120	1125	1130	1130		
Temp. (°C)	12.68	12.67	12.66	S		
Conduct. (µmhos/cm)	30359	30316	30317	T		
DO (mg/L)	0.92	0.92	0.91	A		
pH (Std. Units)	6.19	6.18	6.19	B		
Eh/ORP (millivolts)	14.6	14.4	15.4	I		
Turbidity (NTU)	4.89	4.48	4.47	L		
Flow (ml/min)	200	200	200	I		
Depth To Water (ft)	13.42	13.42	13.42	Z		
Cumulative Purge Vol. (gal or L)				E		

Stabilization Criteria* (3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments: ~~fluffy brown ppt~~ fluffy brownish precipitate at bottom of purge bucket

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
TPH	N	HCl	2	1LA	1130	~~MW-12~~	DUP-1
VPH	N	HCl	3	40 MLA	1130	~~MW-12~~	DUP-1

- Consult the applicable regulatory guidance for the specific criteria.

Signed: Kolleen Sullivan

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra Weymouth C/S	Project No.: [illegible]	Date/Time: 1/3/17 1030	Sheet 1 of 1
TRC Personnel: BA		Well ID: MW-4/13	

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present	✓	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

Protective Casing Stick-up (from ground) 2 ft.

Riser Stick-up (from ground) 2 ft.

WELL DIAMETER [x] 2 inch [ ] 4 inch [ ] 6 inch

Other: ______

Well Depth ______ ft. [x] top of riser [ ] top of casing [ ] ______ — [x] measured [ ] historical

Water Depth 13.71 ft. LNAPL/DNAPL Depth = ______

Well Volume______ NAPL Thickness = ______

Depth of pump intake: 18'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 300

Adjusted purge Rates/time/WL(record changes) 330

PID SCREENING MEAS.

Background	
Well Mouth	

WELL MATERIAL [x] PVC [ ] SS Other: ______

Flow rate at time of sampling: 330

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1030	1035	1040	1045	1050	1055	1100	1105	1110
Temp. (°C)	Start	11.64	11.88	12.14	12.10	11.93	11.91	11.75	11.70
Conduct. (µmhos/cm)	Purge	26013	26174	27066	27641	27655	27806	27884	28030
DO (mg/L)	↓	5.21	4.95	4.29	4.02	3.86	3.30	3.59	1.80
pH (su)		6.37	6.33	6.26	6.24	6.20	6.18	6.17	6.17
ORP (millivolts)		-43.0	-41.4	-40.4	-38.7	-36.7	-34.5	-32.7	-30.2
Turbidity (NTU)		54.3	37.9	31.7	26.9	23.4	20.2	15.6	13.1
Flow (ml/min)	300	330	→						
Depth To Water (ft)	13.71	13.75	→						
Cumulative Purge Vol. (gal or L)									

Time	1115	1120	1125	1130	1135	1140
Temp. (°C)	11.74	11.88	11.72	12.07	11.98	12.09
Conduct. (µmhos/cm)	28134	28165	28128	28147	28150	28141
DO (mg/L)	1.74	1.57	1.50	1.13	1.21	1.21
pH (Std. Units)	6.16	6.16	6.16	6.16	6.16	6.16
Eh/ORP (millivolts)	-29.4	-27.3	-26.2	-25.7	-24.9	-24.6
Turbidity (NTU)	13.4	12.8	10.41	8.85	7.41	7.43
Flow (ml/min)	330	→				
Depth To Water (ft)	13.75	→				
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: ______		

Comments: Note: YSI DO readings high, recalibrated @ 1035, no readings then - start @ 1040
Clear, sl. sheen, sl. petro odor

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HCl	3	40ml Amber	1140		
EPH	↓	↓	2	1L Amber	↓		↓

* Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet
Spectra Weymouthers	14493.4403	1/6/17 1235	Sheet 1 of 1

TRC Personnel: BA

Well ID: MW-414

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground) 2 ft.

Riser Stick-up (from ground) 2 ft.

WELL DIAMETER: [ ] 2 inch [X] 4 inch [ ] 6 inch Other: ______

WELL MATERIAL: [X] PVC [ ] SS Other: ______

Well Depth ______ ft. [X] top of riser [ ] top of casing [X] measured [ ] historical (BA)

Water Depth 14.65 ft.

Well Volume ______

LNAPL/DNAPL Depth = ~~14.60~~ 14.60 (BA)

NAPL Thickness = 0.05 (BA)

Depth of pump intake: 18'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 300

Adjusted purge Rates/time/WL(record changes): 330

Flow rate at time of sampling:

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1235	1240	1245	1250	1255	1300	1305	1310	1315
Temp. (°C)	Start	12.05	~~3~~12.11	12.27	12.16	12.06	12.16	12.17	12.21
Conduct. (µmhos/cm)	Purge	26707	26731	26688	26367	26195	26055	25745	25640
DO (mg/L)	↓	6.31	6.36	6.41	6.50	6.54	6.58	6.64	6.69
pH (su)		6.26	6.26	6.24	6.22	6.21	6.21	6.21	6.21
ORP (millivolts)		-32.4	-33.1	-35.1	-38.4	-34.3	-40.3	-42.2	-43.2
Turbidity (NTU)		42.7	33.9	31.6	22.5	17.2	13.9	9.31	8.84
Flow (ml/min)	300	330	→						
Depth To Water (ft)	14.65	→							
Cumulative Purge Vol. (gal or L)									

Time	1320					
Temp. (°C)	12.22					
Conduct. (µmhos/cm)	25480					
DO (mg/L)	6.70					
pH (Std. Units)	6.21					
Eh/ORP (millivolts)	-43.7					
Turbidity (NTU)	7.31					
Flow (ml/min)	330					
Depth To Water (ft)	14.65					
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria*
(3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Clear, sl petro odor, sheen

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HCl	3	40mL Amber	1320		MW-414
EPH	↓	↓	2	1L Amber	↓		↓

- Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet
Spectra/Weymouth CS	0M043.000.4603	1/5/17 1310	Sheet 1 of 1

TRC Personnel: BA

Well ID: MW-415

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground) 2 ft.

Riser Stick-up (from ground) 2 ft.

WELL DIAMETER [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: ______

WELL MATERIAL

[X] PVC [ ] SS

Other: ______

Well Depth ______ ft. [X] top of riser [ ] top of casing [X] measured [ ] historical

Water Depth 15.35 ft.

Well Volume

LNAPL/DNAPL Depth = ______

NAPL Thickness = ______

Depth of pump intake: 18'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 260

Adjusted purge Rates/time/WL(record changes): 300, 330

Flow rate at time of sampling: 330

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1310	1315	1320	1325	1330	1335	1340	1345	1350
Temp. (°C)	Start	13.03	13.45	13.33	13.65	13.58	13.98	14.01	13.83
Conduct. (μmhos/cm)	Purge	25452	25446	25622	25768	25797	25953	26093	26100
DO (mg/L)	↓	1.79	1.89	1.76	1.34	1.22	0.51	0.99	1.05
pH (su)	↓	6.78	6.75	6.72	6.72	6.72	6.72	6.76	6.73
ORP (millivolts)	↓	-43.1	-56.2	-67.8	-72.7	-74.6	-81.0	-85.3	-88.4
Turbidity (NTU)	↓	7.86	4.97	3.98	2.80	2.63	1.65	1.37	1.21
Flow (ml/min)	260	300	330	→					
Depth To Water (ft)	15.35	15.39	→						
Cumulative Purge Vol. (gal or L)									

Time	1355	1400	1405	1410	1415	1420
Temp. (°C)	13.84	13.87	13.86	13.86	14.03	14.01
Conduct. (μmhos/cm)	26069	26031	26100	26059	26071	26107
DO (mg/L)	1.19	1.24	1.37	1.55	1.41	1.39
pH (Std. Units)	6.73	6.73	6.73	6.74	6.74	6.74
Eh/ORP (millivolts)	-89.4	-93.4	-97.6	-98.3	-101.2	-103.4
Turbidity (NTU)	0.44	0.91	0.84	0.75	0.59	0.61
Flow (ml/min)	330	→				
Depth To Water (ft)	15.39	→				
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (μmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other:		

Comments: Clear, Sheen, Sl. Petro odor

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
VPH	N	HCl	3	40ml Amb	1420		MW-415
EPH	↓	↓	2	1 L Amb	↓		↓

* Consult the applicable regulatory guidance for the specific criteria.

Signed: [signature]

Rev: April 2014

TRC

Groundwater Field Data Record

Project: Spectra Weymouth C/S | Project No.: 420143.0000 | Date/Time: 1/3/17 0945 | Sheet 1 of 8

TRC Personnel: BA | Well ID: BMW-41B

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: Peristaltic Pump

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	
Well Mouth	

Protective Casing Stick-up (from ground): N/A ft.

Riser Stick-up (from ground): N/A ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch — Other: ____

WELL MATERIAL: [X] PVC [ ] SS — Other: ____

Well Depth ____ ft. [X] top of riser [ ] top of casing [ ] ____ | [X] measured [ ] historical

Water Depth 11.32 ft. | Well Volume ____ | LNAPL/DNAPL Depth = ____ | NAPL Thickness = ____

Depth of pump intake: 18'

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 240 ML/MIN

Adjusted purge Rates/time/WL(record changes): 270 ML/MIN

Flow rate at time of sampling: 270 m/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0945	0950	0955	1000	1005	1010	1015	1020	1025
Temp. (°C)	Start Purge	11.93	11.91	11.81	11.98	11.86	11.90	11.94	
Conduct. (µmhos/cm)			3174.6	3044.6	3369.0	3571.6	3361.6	3476.1	3481.0
DO (mg/L)		2.21	1.99	1.87	2.11	2.31	2.39	2.41	2.68
pH (su)		6.24	6.25	6.27	6.28	6.28	6.29	6.29	6.29
ORP (millivolts)		191.3	190.1	186.1	181.7	173.4	171.6	174.3	173.7
Turbidity (NTU)		OOR	24.6	24.7	22.7	19.3	17.6	15.5	17.1
Flow (ml/min)	240	270							
Depth To Water (ft)	11.32	11.37	11.37	11.38					
Cumulative Purge Vol. (gal or L)									

Time	1030	1035	1040	1045	1050	1055
Temp. (°C)	12.15	12.10	12.04	12.00	12.14	12.22
Conduct. (µmhos/cm)	3561.3	3571.0	3592	4016.0	3950.1	3957.6
DO (mg/L)	2.71	2.81	3.02	3.16	3.30	3.17
pH (Std. Units)	6.29	6.30	6.31	6.28	6.29	6.29
Eh/ORP (millivolts)	172.9	174.0	172.8	173.1	169.1	168.3
Turbidity (NTU)	16.7	17.2	17.0	22.1	10.01	8.27
Flow (ml/min)	270					
Depth To Water (ft)	10.38					
Cumulative Purge Vol. (gal or L)					5 gal	

Stabilization Criteria* (3 consecutive readings)
- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: ____		

Comments: Clear, No, No

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
EPH	N	~~ASTM~~ HCl	2	1L Amber	1055		MW-41B (D)
VPH	↓	HNO_3	3	3 40mL	↓		↓

* Consult the applicable regulatory guidance for the specific criteria.

Signed: ____

Rev: April 2014

TRC

Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Spectra	140143	11/3/17 0955	

TRC Personnel: Kaileen Shea

Well ID: MW417

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present	X	

Sampling Equipment: YSI

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	—
Well Mouth	—

Protective Casing Stick-up _____ ft. (from ground)

Riser Stick-up (from ground) _____ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL: [✓] PVC [ ] SS

Other: _____

Well Depth — ft. [X] top of riser [ ] top of casing [ ] _____ [ ] measured [ ] historical

Water Depth 11.05 ft.

Well Volume _____

LNAPL/DNAPL Depth = —

NAPL Thickness = —

Depth of pump intake: ~17 ft

Static water level after pump put into well:

Initial purge Rate/ Water Level (100-400 ml/min): 200 ml/min

Adjusted purge Rates/time/WL(record changes) 200 @ 150 @ 1000

Flow rate at time of sampling: 150ml/min

Total volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0955	1000	1005	1010	1015	1020	1025	1030	1035
Temp. (°C)	11.62	11.93	11.93	11.94	11.94	11.95	11.99	12.03	12.11
Conduct. (µmhos/cm)	36131	35965	35964	35989	35954	36017	36052	36103	36152
DO (mg/L)	1.33	1.40	1.39	1.38	1.35	1.36	1.26	1.21	1.17
pH (su)	6.62	6.38	6.37	6.35	6.33	6.33	6.33	6.32	6.30
ORP (millivolts)	63.3	104.36	117.5	115.6	117.0	119.1	122.3	126.3	126.4
Turbidity (NTU)	19.37	15.53	15.41	14.32	12.91	10.51	9.97	9.56	10.01
Flow (ml/min)	200	150	150	150	150	150	150	150	150
Depth To Water (ft)	11.07	11.07	11.07	11.07	11.07	11.07	11.07	11.07	11.07
Cumulative Purge Vol. (gal or L)									

Time	1040	1045				
Temp. (°C)	12.12	S				
Conduct. (µmhos/cm)	36163	A				
DO (mg/L)	1.17	M				
pH (Std. Units)	6.30	P				
Eh/ORP (millivolts)	126.9	L				
Turbidity (NTU)	9.98	E				
Flow (ml/min)	150					
Depth To Water (ft)	11.07					
Cumulative Purge Vol. (gal or L)						

Stabilization Criteria*
(3 consecutive readings)

- Temperature: ± 3 %
- Conduct. (µmhos/cm): ± 3 %
- DO (mg/L): ± 10 % (for values >0.5 mg/L)
- pH (Std. Units): ± 0.1 SU
- ORP (millivolts): ± 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

	Purge	Sample
Peristaltic Pump	X	X
Submersible Pump		
Bladder Pump		
Bailer		
Other: _____		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	# Bottles	Size/Type Bottles	Time Collected	QC	Sample #
TPH	N	HCl	3	1LA	1045	None	MW-417
VPH	N	HCl	3	40mLA	1045	None	

* Consult the applicable regulatory guidance for the specific criteria.

Signed: Kaileen Shea

Rev: April 2014

APPENDIX E

PUBLIC NOTIFICATION LETTERS/NOTICES

2 Liberty Square
6th Floor
Boston, MA 02109

617.350.3444 PHONE
617.350.3443 FAX

www.trcsolutions.com

July 27, 2017

Daniel McCormack, R.S., C.H.O.
Weymouth Board of Health
75 Middle Street
Weymouth, Massachusetts 02189

Re: Atlantic Bridge Project Weymouth Compressor Station
6 & 50 Bridge Street, Weymouth, Massachusetts
RTNs 4-26243 and 4-26230

Dear Mr. McCormack:

TRC Environmental Corporation (TRC) is providing this notification letter on behalf of Algonquin Gas Transmission, LLC (Algonquin) to inform you of the availability of a Phase I Initial Site Investigation (ISI) Report and Tier Classification Submittal for the above-referenced release in Weymouth, Massachusetts. A notice of Tier Classification and statement regarding Public Involvement Activities available under 310 CMR 40.1403(9) and 310 40.1404 will be published in the Boston Globe newspaper the week of July 31, 2017. A copy of that notice is attached to this letter as are copies of the summary of findings and conclusions from the Phase I ISI Report and the Disposal Site Map. The Disposal Site has been classified as Tier II.

The Phase I Initial Site Investigation Report and Tier Classification can be reviewed on the Massachusetts Department of Environmental Protection (MassDEP0 release lookup website (http://public.dep.state.ma/SearchableSites/Search.aspx) or at the MassDEP Southeast Regional Office, location at 20 Riverside Drive, Lakeville, MA 02347. The public may request an appointment by calling (508) 946-2700.

If you have any questions concerning this notification, please contact us at (617) 385-6033.

Sincerely,
TRC ENVIRONMENTAL CORPORATION

Kelley C. Race, P.G., LSP
Program Manager

Ryan Niles, P.G.
Project Manager

cc Gary Davis, Terry Doyle- Algonquin

NOTICE OF INITIAL SITE INVESTIGATION AND
TIER II CLASSIFICATION

6 & 50 Bridge Street
Weymouth, MA 02191
RTN 4-26230 and 4-26243

A release of oil and/or hazardous materials was identified in connection with prior uses at this location, which is a disposal site as defined by M.G.L. c. 21E, § 2 and the Massachusetts Contingency Plan, 310 CMR 40.0000. To evaluate the release, a Phase I Initial Site Investigation was performed pursuant to 310 CMR 40.0480. As a result of this investigation, the site has been classified as Tier II pursuant to 310 CMR 40.0500. On July 27, 2017, TRC Environmental Corporation filed a Tier II Classification Submittal with the Department of Environmental Protection (MassDEP). To obtain more information on this disposal site, please contact Kelley Race, PG, LSP, or Ryan Niles, PG at TRC Environmental Corporation, 2 Liberty Square, Boston, MA 02109, 617-385-6033.

The Tier II Classification Submittal and the disposal site file can be reviewed at MassDEP, Southeast Regional Office, 20 Riverside Drive, Lakeville, MA 02347, 508-946-2700. Additional public involvement opportunities are available under 310 CMR 40.1403(9) and 310 CMR 40.1404.

RE: Phase I Initial Site Investigation Report and Tier Classification Submittal
Weymouth Compressor Station
6 & 50 Bridge Street
Weymouth, Massachusetts
Release Tracking Numbers 4-26230 and 4-26243

Summary of Findings and Conclusions from Phase I Initial Site Investigation Report

TRC completed a Phase I ISI and Tier Classification for the Disposal Site located at 6 & 50 Bridge Street in Weymouth, Massachusetts on behalf of Algonquin. The findings and conclusions of the Phase I ISI are summarized below.

- Release Tracking Number 4-26230 pertains to a 120-day notification reporting condition associated with petroleum detected compounds in soil above RCS-1 standards.
- Release Tracking Number 4-26243 pertains to a MCP 72-hour reporting condition that was triggered due presence of LNAPL greater than 0.5 inch thick in one monitoring well (MW-201).
- The Site is located on undeveloped Property surrounded by a locked chain-link fence. The Site was previously used for no. 2 fuel storage of an 11,256,000-gallon AST, which was removed prior to 1996. No records of past releases of oil were found.
- TRC evaluated conditions in and around the approximate footprint of the former AST by overseeing the installation of soil borings and a monitoring wells. Based on soil and groundwater samples collected to date, fuel oil has weathered and become viscous and sticky.
- Petroleum saturated soils are predominantly contained to the area directly beneath or in the immediate vicinity of the approximate location of the former AST at a depth generally between approximately 11 and 17 feet. Soil samples indicate exceedances of UCLs at seven borings within this depth range.
- Five seasonal rounds of groundwater quality sampling results at five monitoring wells (MW-201 through MW-206), and three seasonal rounds at 18 monitoring wells (MW-201 through MW-206; MW-300 through MW-317) support no exceedances of applicable GW-2 and GW-3 standards.

Preliminary Conceptual Site Model (CSM)

The preliminary CSM for the Disposal Site indicates that petroleum related compound impacts in soil and groundwater are attributable to historic releases associated with the former 11 million gallon AST. The amount of the release(s) are not known, nor is the date releases potentially occurred. Petroleum saturated soils are predominantly located and appear to be contained in the area directly beneath or in the immediate vicinity of the approximate location of the former AST at a depth generally between approximately 11 and 17 feet. The LNAPL detected is highly viscous and sticky and difficult to remove using conventional removal methods including both active recovery (e.g. pumping and passive removal including LNAPL absorbing socks. Oil/water interface probes utilized to measure the LNAPL were limited in that the probe was coated with oil while trying to insert the unit into the monitoring wells, leading to overestimates of LNAPL

thickness. Several seasonal groundwater quality sampling results indicate no exceedances of applicable GW-2 and GW-3 standards.

Currently, there are no potential receptors at the Disposal Site as the soil contamination is located at depth. Groundwater contamination above applicable standards was not detected in multiple seasonal rounds of data collection. Two surface water bodies are located just beyond the 500 foot radius including Kings Cove and Fore River. However, based on groundwater flow direction and groundwater quality petroleum impacts to the surface bodies are not anticipated.

Outcome of Phase I ISI Report

The outcome of the Phase I ISI Report is summarized below.

- The Disposal Site has been classified as a Tier II disposal site.
- Additional release characterization is needed to evaluate the mobility and risk associated with the LNAPL to achieve a Permanent Solution for the Disposal Site.
- A Phase II Comprehensive Site Assessment must be conducted at the Disposal Site, if a Permanent Solution is not achieved within three years of Tier Classification.

LEGEND

APPROXIMATE SITE LOCATION

MASS. COORD. SYSTEM
NAD 1983 - MAINLAND ZONE

ATLANTIC BRIDGE PROJECT
WEYMOUTH COMPRESSOR STATION
BRIDGE ST, WEYMOUTH, MA

ENBRIDGE

SITE LOCUS MAP
RTN's 4-26230 AND 4-26243

PHASE I ISI

TRC
2 Liberty Sq
6th Floor
Boston, MA 02113
(617)350-3444

FIGURE
1

DRAWN BY: AHC
CHECKED BY: RN

DATE:
07/07/2017

FILE: J:\Projects\140143 - Atlantic Bridge\Weymouth Compressor Station\CAD Files\Boring Plan Jan2017_aul2_a.dwg

2 Liberty Square
6th Floor
Boston, MA 02109

617.350.3444 PHONE
617.350.3443 FAX

www.trcsolutions.com

July 27, 2017

Robert L. Hedlund
Weymouth Mayor's Office
75 Middle Street
Weymouth, Massachusetts 02189

Re: Atlantic Bridge Project Weymouth Compressor Station
6 & 50 Bridge Street, Weymouth, Massachusetts
RTNs 4-26243 and 4-26230

Dear Mayor Hedlund:

TRC Environmental Corporation (TRC) is providing this notification letter on behalf of Algonquin Gas Transmission, LLC (Algonquin) to inform you of the availability of a Phase I Initial Site Investigation (ISI) Report and Tier Classification Submittal for the above-referenced release in Weymouth, Massachusetts. A notice of Tier Classification and statement regarding Public Involvement Activities available under 310 CMR 40.1403(9) and 310 40.1404 will be published in the Boston Globe newspaper the week of July 31, 2017. A copy of that notice is attached to this letter as are copies of the summary of findings and conclusions from the Phase I ISI Report and the Disposal Site Map. The Disposal Site has been classified as Tier II.

The Phase I Initial Site Investigation Report and Tier Classification can be reviewed on the Massachusetts Department of Environmental Protection (MassDEP0 release lookup website (http://public.dep.state.ma/SearchableSites/Search.aspx) or at the MassDEP Southeast Regional Office, location at 20 Riverside Drive, Lakeville, MA 02347. The public may request an appointment by calling (508) 946-2700.

If you have any questions concerning this notification, please contact us at (617) 385-6033.

Sincerely,
TRC ENVIRONMENTAL CORPORATION

Kelley C. Race, P.G., LSP
Program Manager

Ryan Niles, P.G.
Project Manager

cc Gary Davis, Terry Doyle- Algonquin

NOTICE OF INITIAL SITE INVESTIGATION AND
TIER II CLASSIFICATION

6 & 50 Bridge Street
Weymouth, MA 02191
RTN 4-26230 and 4-26243

A release of oil and/or hazardous materials was identified in connection with prior uses at this location, which is a disposal site as defined by M.G.L. c. 21E, § 2 and the Massachusetts Contingency Plan, 310 CMR 40.0000. To evaluate the release, a Phase I Initial Site Investigation was performed pursuant to 310 CMR 40.0480. As a result of this investigation, the site has been classified as Tier II pursuant to 310 CMR 40.0500. On July 27, 2017, TRC Environmental Corporation filed a Tier II Classification Submittal with the Department of Environmental Protection (MassDEP). To obtain more information on this disposal site, please contact Kelley Race, PG, LSP, or Ryan Niles, PG at TRC Environmental Corporation, 2 Liberty Square, Boston, MA 02109, 617-385-6033.

The Tier II Classification Submittal and the disposal site file can be reviewed at MassDEP, Southeast Regional Office, 20 Riverside Drive, Lakeville, MA 02347, 508-946-2700. Additional public involvement opportunities are available under 310 CMR 40.1403(9) and 310 CMR 40.1404.

RE: Phase I Initial Site Investigation Report and Tier Classification Submittal
Weymouth Compressor Station
6 & 50 Bridge Street
Weymouth, Massachusetts
Release Tracking Numbers 4-26230 and 4-26243

Summary of Findings and Conclusions from Phase I Initial Site Investigation Report

TRC completed a Phase I ISI and Tier Classification for the Disposal Site located at 6 & 50 Bridge Street in Weymouth, Massachusetts on behalf of Algonquin. The findings and conclusions of the Phase I ISI are summarized below.

- Release Tracking Number 4-26230 pertains to a 120-day notification reporting condition associated with petroleum detected compounds in soil above RCS-1 standards.
- Release Tracking Number 4-26243 pertains to a MCP 72-hour reporting condition that was triggered due presence of LNAPL greater than 0.5 inch thick in one monitoring well (MW-201).
- The Site is located on undeveloped Property surrounded by a locked chain-link fence. The Site was previously used for no. 2 fuel storage of an 11,256,000-gallon AST, which was removed prior to 1996. No records of past releases of oil were found.
- TRC evaluated conditions in and around the approximate footprint of the former AST by overseeing the installation of soil borings and a monitoring wells. Based on soil and groundwater samples collected to date, fuel oil has weathered and become viscous and sticky.
- Petroleum saturated soils are predominantly contained to the area directly beneath or in the immediate vicinity of the approximate location of the former AST at a depth generally between approximately 11 and 17 feet. Soil samples indicate exceedances of UCLs at seven borings within this depth range.
- Five seasonal rounds of groundwater quality sampling results at five monitoring wells (MW-201 through MW-206), and three seasonal rounds at 18 monitoring wells (MW-201 through MW-206; MW-300 through MW-317) support no exceedances of applicable GW-2 and GW-3 standards.

Preliminary Conceptual Site Model (CSM)

The preliminary CSM for the Disposal Site indicates that petroleum related compound impacts in soil and groundwater are attributable to historic releases associated with the former 11 million gallon AST. The amount of the release(s) are not known, nor is the date releases potentially occurred. Petroleum saturated soils are predominantly located and appear to be contained in the area directly beneath or in the immediate vicinity of the approximate location of the former AST at a depth generally between approximately 11 and 17 feet. The LNAPL detected is highly viscous and sticky and difficult to remove using conventional removal methods including both active recovery (e.g. pumping and passive removal including LNAPL absorbing socks. Oil/water interface probes utilized to measure the LNAPL were limited in that the probe was coated with oil while trying to insert the unit into the monitoring wells, leading to overestimates of LNAPL

thickness. Several seasonal groundwater quality sampling results indicate no exceedances of applicable GW-2 and GW-3 standards.

Currently, there are no potential receptors at the Disposal Site as the soil contamination is located at depth. Groundwater contamination above applicable standards was not detected in multiple seasonal rounds of data collection. Two surface water bodies are located just beyond the 500 foot radius including Kings Cove and Fore River. However, based on groundwater flow direction and groundwater quality petroleum impacts to the surface bodies are not anticipated.

Outcome of Phase I ISI Report

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