

Site Characterization Report
Addendum
Former Baron Blakeslee Site
Bay Shore, New York

Prepared for
General Electric, Albany, New York
April 2013

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Prepared for
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319 Great Oaks Blvd.
Albany, New York 12203

April 2013

Project Number: 141247.200.500



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Section 1

Introduction

1.1 Background

Brown and Caldwell Associates, a subsidiary of Brown and Caldwell (hereinafter BC), has prepared this Site Characterization Report Addendum to present the results of the supplemental site characterization activities conducted in 2012 at the Former Baron Blakeslee Site, located at 86 Cleveland Avenue in the Town of Islip, Suffolk County, New York (Figure 1-1). The initial Site Characterization investigation was conducted in 2011 pursuant to an approved work plan prepared by Environmental Resources Management (2011). The results of the initial investigation were reported to the New York State Department of Environmental Conservation (DEC) in a Site Characterization Report (Brown and Caldwell Associates, 2012). The DEC provided comments on the Site Characterization Report on April 9, 2012 (DEC, April 2012). BC responded to DEC's comments on July 18, 2012 and proposed additional SC activities (BC, July 2012). On August 3, 2012 the DEC approved the proposed additional SC activities (DEC, August 2012). A Site Characterization Work Plan Addendum (BC, July 2012) was prepared to specify in detail the additional SC activities. The Site Characterization Work Plan Addendum (SCWPA) was approved by the DEC by email on October 16, 2012.

1.2 Objectives

The objectives of the supplemental SC investigation were as follows:

- Further evaluate metals concentrations previously detected in groundwater. The initial Site Characterization detected elevated metals concentrations in groundwater samples collected at several onsite locations. Because these samples were collected with direct push groundwater profiling tools, the turbidity of the samples was unusually high and it was suspected that the analytical results were not representative of actual dissolved concentrations in groundwater. It was determined that conventional monitoring wells and low-flow sampling methods would be needed to accurately assess dissolved metals concentrations.
- Further evaluate sub-slab soil vapor and potential VOC sources in vadose zone soils beneath the former Baron Blakeslee building. Although the initial indoor air sample results indicated little or no infiltration of sub-slab soil vapor was occurring to the indoor air, available guidance documents recommend consideration of possible mitigation measures such as sub-slab depressurization. Additional delineation of VOC concentrations in sub-slab soil and soil vapor was undertaken to facilitate this evaluation. In addition, to further assess the potential for soil vapor intrusion, it was necessary to obtain indoor air samples during the heating season, when the potential for vapor intrusion is greatest.
- Evaluate the potential for soil vapors to migrate from potential source areas beneath the former Baron Blakeslee building to off-site locations beyond Cleveland Avenue. During the initial Site Characterization, elevated concentrations of tetrachloroethene (PCE) vapors were detected in sub-slab soil vapor samples from under the onsite structure and in exterior soil vapor samples east of the structure. The data confirmed that vapor concentrations attenuate rapidly with distance from the source area, as reflected by the one- to three orders of magnitude reduction in vapor concentrations measured between samples located approximately 100 feet apart. It was

determined that additional soil gas sampling was needed to evaluate whether there is a continuum of chlorinated solvent vapors extending from beneath the former Baron Blakeslee building to the opposite side of Cleveland Avenue.

1.3 Organization of the Site Characterization Report Addendum

The organization of this report is similar to the original SC Report, but generally does not include background historical data or information that was previously provided and which has not changed. This report focuses on the supplemental SC activities.

- **Section 2** – Supplemental SC Activities, provides a summary of the investigation activities and all departures (if any) from the methods and materials specified in the SC Work Plan and SC Work Plan Addendum.
- **Section 3** – Supplemental SC Results, describes the investigation findings.
- **Section 4** – Summary- summarizes supplemental SC results.
- **Section 5** – Conclusions and Recommendations, presents conclusions supported by the SC results and recommendations for further investigation and/or remedial measures.

The following appendices are included in this report:

- **Appendix A** - Boring and Monitoring Well Logs
- **Appendix B** - Field Sample Data Sheets
- **Appendix C** - Full Laboratory Deliverables
- **Appendix D** - Data Usability Summary Reports (DUSRs)

Section 2

Supplemental Site Characterization Activities

The following subsections describe investigation activities and any departures from the methods and materials specified in the SC Work Plan and SC Work Plan Addendum.

2.1 Sampling Layout/Survey

Sampling points proposed in the SC Work Plan Addendum (monitoring well locations, soil vapor points and soil borings) were located in the field by MJ Engineering and marked with flags and surveyor's paint. Coordinates were referenced to the State Plane coordinate system for New York using the North American Datum of 1983 (NAD 1983) in units of feet. Elevations were referenced to the National Geodetic Vertical Datum (NGVD) of 1929 in units of feet. None of the sampling point locations needed to be altered based on Site conditions (e.g., subsurface refusal, underground utilities, etc.). Investigation locations are shown on Figure 2-1 and as-built data for the monitoring wells are provided on the boring logs in Appendix A.

2.2 Underground Utility Markouts

In selecting final drilling locations, BC considered the locations of underground utilities as they were marked by the utility locating subcontractor and UFPO. In addition, BC contacted the Suffolk County DPW for markouts of sewer and water lines. Existing sewer plans and the locations of catch basins and manholes were considered in identifying the alignments of sewers.

2.3 Site Access

Access to on-site indoor and outdoor drilling locations was provided by GE. Figure 2-1 shows the six off-site drilling locations within the public right-of-way maintained on Cleveland Avenue by the Town of Islip. As requested by the Town, the DEC case manager, Robert Corcoran, submitted a letter to the Town Department of Planning and Development confirming the upcoming soil vapor investigation. Additionally, BC submitted a completed Right of Way Work Permit Form to the Town. Approval to work in the right-of-way was received via email from the Town on November 19, 2012.

2.4 Monitoring Well Installation

Three conventional 2" PVC monitoring wells (MW-GWP-01, MW-GWP-03, and MW-GWP-06) were installed between October 22, 2012 and October 26, 2012 utilizing hollow stem auger methods. During drilling, clean potable water was added to the auger stem to maintain a positive hydraulic head inside the auger and reduce the potential for heaving sands. In each boring, a sample of soil was collected for classification from 60 to 62 feet bgs (within the targeted screen interval of 60 to 65 feet bgs) using a 2 ft. split barrel sampler. The soil samples were screened in the field for noticeable signs of contamination (e.g., staining) and observed for physical properties such as color, grain size, sorting, etc.

by an experienced hydrogeologist. Soil characteristics were logged in accordance with a system after Burmister (1959). The final boring logs include the Burmister description and the corresponding Unified Soil Classification System (USCS) classification (Appendix A).

Upon reaching the target depth of 65 feet bgs, a five (5) foot PVC pre-packed well screen (0.010 inch slot size) and two-inch diameter PVC riser casing were installed. Additional sand pack material was placed in the annulus surrounding the pre-packed screen as the casing was withdrawn to further reduce the potential for turbidity in the well. The well screens were installed in the interval from 60 to 65 feet bgs.

The remainder of overburden monitoring well construction included the following:

- Measurements of material depths were made by frequently sounding the annulus with a weighted tape measure during installation.
- A layer of bentonite pellets, at least two feet thick was placed above the sand pack to form an annular seal.
- Cement/bentonite grout was placed from the top of the bentonite seal to a point approximately two feet below existing ground surface. The grout consisted of one bag (94 pounds) of Portland cement and five pounds of bentonite mixed with six gallons of potable water.
- Wells were completed with flush mount protective well vaults. The vault was equipped with a cast iron cover secured by bolts to discourage unauthorized access to the monitoring well. A locked compression cap was placed in the PVC riser to prevent storm water from entering the well.
- The well vaults were set in place with concrete.

The monitoring wells were developed using the surge and evacuate method (after at least 12 hours following well construction) to remove silt and clay particles from the primary and secondary sand packs and the adjacent formation. Well development is normally considered complete when there is no visible decrease in the turbidity of the evacuated water. Wells were developed to below 50 Nephelometric Turbidity Units (NTUs) where possible. Turbidity readings were recorded at the completion of development using a portable turbidity meter.

It became apparent during the attempted development of MW-GWP-06 that grout had entered the PVC riser and hardened, creating an obstruction that rendered the well unusable for groundwater sampling. Replacement well MW-GWP-06R was installed by ADT on December 14, 2012. Development was completed on December 17, 2012. Due to the potential for injected grout to alter the pH of groundwater in the vicinity of an abandoned well, abandonment of well MW-GWP-6 will be deferred until its nearby replacement is no longer needed for monitoring groundwater quality.

2.5 Low-Flow Groundwater Sampling

The objective of the low flow sampling procedure is to collect samples from monitoring wells while exerting minimum stress on the water-bearing formation and minimizing the disturbance of sediment in the well. On November 15, 2012 one round of groundwater sampling was conducted on the two viable monitoring wells (MW-GWP-1, MW-GWP-3). On November 29, 2012, BC was informed by TestAmerica that the hexavalent chromium samples were analyzed outside of holding times due to laboratory instrument failure. A second, complete round of groundwater sampling was conducted on January 14, 2013. The second round included all three functional wells (MW-GWP-01, MW-GWP-03, and MW-GWP-06R).

The depth to groundwater (static water level) was measured to within the nearest 0.01 foot in each well (Table 4). Low-flow purging and sampling was conducted in accordance with procedures and methods described in the SC Work Plan Addendum. Flow rates during purging and sampling were limited to a range from 125 to 200 mL/min. During both sampling events (November 15, 2012 and January 14, 2013) the turbidity readings at the time of sample collection were well below 50 NTUs, ranging from 2.59 to 12.52 NTUs.

During purging of the monitoring wells, the following field indicator parameters were monitored: turbidity, temperature, specific conductance, pH, oxidation-reduction potential (ORP) and dissolved oxygen (DO). Purging was conducted at each well until the field parameters stabilized. In accordance with the SC Work Plan Addendum, a well was considered stabilized and ready for sample collection when three consecutive readings were within a range of minimum to maximum values as follows: ± 0.1 for pH, $\pm 3\%$ for specific conductance, $\pm 10\%$ for D.O., ± 10 mV for ORP, and $\pm 10\%$ for turbidity. Measurement of the indicator parameters continued every three minutes until these measurements indicated stability in the water quality and the sample was collected. The field parameter measurements are provided on the Field Data Sheets included in Appendix B. In accordance with the work plan, filtered and unfiltered samples were collected from all wells to facilitate the evaluation of the effect of turbidity on metal concentrations. Unfiltered samples are designated in the sample ID with the letters "U" (unfiltered) or "T" (total). Filtered samples are designated in the sample ID with the letters "F" (filtered) or "D" (dissolved). Groundwater samples were transferred into appropriate laboratory supplied containers. Samples were packed on ice in coolers and picked up on onsite by Test America and couriered to TestAmerica Edison for analysis of Target Analyte List (TAL) metals using USEPA SW-846 Method 6010, total mercury by USEPA SW-846 Method 7471, and hexavalent chromium by USEPA SW-846 Method 7199 with associated calculations for trivalent chromium. The hexavalent chromium analyses of the January 2013 samples were completed by Accutest Laboratories of Dayton, Ohio due to continued instrument problems at TestAmerica Edison. Accutest of Dayton is a NYSDOH ELAP certified laboratory.

2.6 Shallow Soil Sampling

Given that buried utilities were suspected in the sampling area in the south west corner of the main building, a private utility locating firm was utilized to clear the investigation area prior to drilling.

Soil borings were advanced at eight (8) locations in the building as shown on Figure 2-1. The concrete floor slab at each boring location was penetrated using a core drill. The borings were advanced with GeoProbe® direct push equipment to the apparent depth of the water table, as indicated by saturated conditions observed in the soil samples (depths ranging from 7.7 to 10.7 ft bgs). Continuous soil samples were collected from each boring using a 4 ft macro core sampler with a dedicated, clean acetate liner. The barrel was advanced the full 4 feet for each push.

Soil in each liner was screened in the field using a photo-ionization detector (PID) and soil samples were collected from the six-inch interval with the greatest PID reading. Soils were visually characterized as described in Section 3.4. Boring logs are provided in Appendix A.

One soil sample was collected from each boring and analyzed for full target compound list (TCL) VOCs plus 10 tentatively identified compounds (TICs) via USEPA SW-846 Method 8260.

After sampling, the boreholes were backfilled with soil cuttings and clean sand. Floor penetrations in the concrete slab at each location were repaired with concrete patching material.

2.7 Soil Vapor and Indoor Air Investigation

2.7.1 Exterior Soil Vapor

Soil vapor was sampled at locations on the west and east sides of Cleveland Avenue to assess whether there might be a continuum of vapors extending from the former Baron-Blakeslee building to areas beyond Cleveland Avenue (Figure 2-1).

Soil vapor sampling was conducted in accordance with the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, NYSDOH, October 2006 and the SCWPA. Six (6) temporary soil vapor sampling points were installed by Zebra using direct-push methods. Three of the proposed sampling points were installed in the municipally-owned grass area adjacent to the west side of Cleveland Avenue and three additional borings were installed in the municipally-owned grass area adjacent to the east side of Cleveland Avenue. Sampling points were installed with a direct-push rig to four (4) feet below grade in accordance with procedures specified in the original SC Work Plan. A 1.875" polyethylene vapor implant was attached to the end of the 0.25" tubing at 4' below grade. This implant acted as a filter of 40-60 microns. All vapor sample collection was completed simultaneously using SUMMA canisters on the day of the installation of the temporary sampling points. Prior to sampling the points were purged. All samples were submitted to TestAmerica of Burlington and analyzed for VOCs using USEPA Method TO-15.

2.7.2 Sub-Slab Soil Vapor and Indoor Air

A building chemical/product inventory was performed in accordance with New York State Department of Health (NYSDOH) guidance. Indoor items were examined to determine if they contain PCE, trichloroethene (TCE), or other VOCs. The inventory was performed the day before the sub-slab and indoor air sampling. The sampling was conducted during the week of November 26, 2012, after the beginning of the heating season.

Soil vapor sampling was conducted in accordance with Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH, 2006) and the SC Work Plan Addendum. Four (4) temporary sub-slab points were installed at the interior building locations shown in Figure 2-1. Due to the suspected presence of buried utilities in the southern portion of the main warehouse building, a private utility locator was used to clear locations prior to drilling. The temporary sub-slab sampling points were installed using the methods and materials specified in the original work plan. Prior to sampling the points were purged. All vapor sample collection (sub-slab soil vapor and indoor/outdoor air) was completed immediately following installation of the temporary sampling points.

The sub-slab soil vapor samples were collected over an 8 hour sampling period as specified in Section 2.1.6 (page 7) of the work plan. All samples were submitted to TestAmerica of Burlington and analyzed for VOCs using USEPA Method TO-15. Additionally, two indoor air samples and one ambient (outdoor) air sample were collected using Summa canisters. The indoor air samples were collected over an 8 hour sampling period as specified in Section 2.1.6 (page 7) of the work plan. All air samples were submitted to TestAmerica of Burlington and analyzed for VOCs using USEPA Method TO-15.

After sample collection, the boreholes were backfilled and finished with a concrete patch at the surface.

2.8 Investigation-Derived Waste Management

Investigation-derived waste (IDW) generated from field activities was containerized in labeled 55 gallon DOT-approved steel drums and staged in a single location on the property pending characterization and disposal. Information contained on the label included the drum contents, name, address and telephone number of generator, date(s) the material was placed in the drum, and a BC contact name/telephone number. Wastes were separated based on type and inventoried. A total of 38 drums of IDW were generated.

Available analytical data from environmental media were correlated with the particular contents of each drum and forwarded to the disposal subcontractor for preparation of waste profiles.



Section 3

Investigation Results

3.1 Site-Specific Hydrogeology

The properties of the soil samples obtained during the supplemental SC investigation were consistent with the hydrogeologic conditions previously described in the SC Report. Eight (8) shallow soil borings were advanced to a depth of approximately 7-10 feet below the concrete slab and continuously sampled. Reworked soils (fill) consisting predominantly of sand with varying amounts of gravel and silt were encountered from below the concrete slab to approximately 5 feet below ground surface. Below the fill, the borings encountered typical Upper Glacial Aquifer deposits consisting of coarse to fine sands with varying amounts of silt and gravel. These materials were also found in the samples from 60-62 feet bgs obtained from each of the three monitoring well borings.

Water elevations measured during the January 2013 groundwater sampling event are provided in Table 4 and plotted on Figure 3-4. Although based on limited data points, the potentiometric surface reflected by the wells is consistent with historic mapping, which indicates groundwater flow is generally to the south-southeast (Brown and Caldwell Associates, January 2012, Figure 2-2).

3.2 Analytical Results

3.2.1 Data Usability

Each of the soil, soil vapor, air, and groundwater samples was analyzed by TestAmerica, with the exception of the January 2013 hexavalent chromium samples analyzed by Accutest. Complete data packages are provided on CD-ROM in Attachment C. Data Usability Summary Reports (DUSRs) were prepared for each data package (Attachment D). Based on the data usability review, no data were rejected. Minor data quality issues were identified; only some required qualification of the data.

The primary QC issue regarding the groundwater data resulted from the missed holding times for the hexavalent chromium samples from the November 2012 sampling event. Accordingly, the hexavalent chromium results (all non-detect) were qualified as “UJ” (estimated). Minor data quality issues regarding field duplicate imprecision for the November 2012 event resulted in the qualification of select data. No data were qualified from the January 2013 groundwater sampling event. For the shallow soil data set, the primary QC issue was low laboratory spike recovery for sample SB-12 and the associated results were qualified as estimated. The primary QC issue for the air data was field duplicate imprecision and method blank contamination of n-heptane and 2,2,4-trimethylpentane. As a result, select data were qualified as necessary.

3.2.2 Groundwater Quality

Groundwater samples were submitted for analysis of TAL metals (including mercury) and hexavalent chromium with associated calculations for trivalent chromium. Table 1 summarizes analytical results for each metal that was detected in one or more of the samples. Both the November 2012 sampling round (MW-GWP-1, MW-GWP-3) and the January 2013 sampling round (MW-GWP-1, MW-GWP-3, and MW-GWP-6R) are included on the table. The results are compared to the New York State Class GA

Groundwater Quality Standards [6 NYCRR Part 703]. Exceedances are briefly described below. For discussion purposes, “total” refers to a result from an unfiltered groundwater sample and “dissolved” refers to a result from a field-filtered sample. Detected metals are depicted on Figure 3-1.

No chromium, cadmium or lead was detected in any of the samples. Thallium was detected in one unfiltered sample at an estimated concentration of 5.2 J µg/L (the MDL was 5.2 µg/L). This result is not considered significant because it is at the limit of detection and because thallium was not detected in the corresponding filtered sample.

Two metals, iron and sodium, were found in unfiltered samples at concentrations exceeding the Part 703 groundwater standards. Iron was not detected above standards in any of the filtered samples, indicating it is likely present predominantly in solid form, as an insoluble oxide or component of the naturally occurring minerals comprising the Upper Glacial Aquifer deposits. Sodium was detected in filtered and unfiltered groundwater samples at concentrations exceeding the Part 703 standard in wells MW-GWP-1 and MW-GWP-6R. The concentrations of sodium in filtered and unfiltered samples were generally similar, indicating it is present primarily in the dissolved phase. Neither iron nor sodium is considered a contaminant of concern (COC) at the site.

3.2.3 Shallow Soil Samples

Table 2 provides a summary of the analytical results for the samples collected from the eight sub-slab soil borings. Analytical results are compared to the New York State Soil Cleanup Objectives (SCOs) for Protection of Public Health (Industrial Use) and Protection of Groundwater [6 NYCRR Subpart 375-6]. Figure 3-2 depicts VOCs that exceed these soil standards and/or correspond to VOCs detected soil gas or air at concentrations above applicable guidelines (see Section 3.2.4 below).

The predominate VOC detected in soil was tetrachloroethene (PCE), found in shallow soils in an area extending north to south and encompassing borings SB-6, SB-8, SB-9 and SB-11. Lower concentrations of 1,1,1-tetrachloroethane (1,1,1-TCA), trichloroethene (TCE) and cis-1,2-dichloroethene (cis-DCE) are associated with these sample locations. TCE and cis-DCE are formed as daughter products during biodegradation of PCE.

All VOC concentrations detected in the shallow soil samples were below the SCOs for Protection of Public Health (Industrial Use). Four VOCs (PCE; cis-DCE; 1,1,1-TCA; and acetone) were detected at concentrations slightly above the SCOs for Protection of Groundwater; however, none of these impacts presently threaten groundwater quality due to their shallow depth and the cover afforded by the building. This has been confirmed by the recent (2011) groundwater profile sampling involving the analysis of 60 samples from 10 locations. VOCs were detected (at trace levels) in groundwater samples from only four locations.

3.2.4 Sub-Slab Soil Vapor

Table 3 and Figure 3-3 depict the analytical results for sub-slab soil vapor samples collected beneath the main building (SS-05 and SS-06) and GE Repair shop (SS-07 and SS-08). New York State currently does not have any standards, criteria or guidance values for concentrations of compounds in soil vapor¹.

The sub-slab vapor concentrations of PCE range from 2,300 µg/m³ at SS-06 to 240,000 µg/m³ at SS-08. Sub-slab TCE concentrations range from 74 µg/m³ in sample SS-06 to 120,000 µg/m³ in SS-08. PCE and TCE were also detected in nearby shallow soil samples. New York State Department of Health

¹ Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York; NYSDOH; October 2006 (Section 3.3.1).

(NYSDOH) guidance² provides decision matrices for TCE and PCE concentrations in sub-slab soil vapor. Based on the sub-slab concentrations detected beneath the former Baron Blakeslee building, the matrices recommend mitigation to minimize potential exposures associated with soil vapor intrusion.

3.2.5 Indoor and Outdoor Air Sampling

Table 3 provides a summary of the analytical results for the two indoor and one outdoor (ambient) air samples. Analytical results are compared to the NYSDOH Air Guideline Values (NYSDOH, 2006, Table 3.1). There were no exceedances of the guideline values in indoor air. PCE concentrations ranged from 3.5 µg/m³ in sample IA-06 to an estimated 4.3 µg/m³ in sample IA-05 while TCE concentrations ranged from an estimated 0.28 µg/m³ in sample IA-05 to 3.3 µg/m³ in sample IA-06. It should be noted that carbon tetrachloride, benzene and 1,3-butadiene were detected in the outdoor air sample (on the up-wind portion of the site) at concentrations at or above indoor air concentrations. These detections are not likely related to conditions on the property.

3.2.6 Exterior Soil Vapor

Table 3 provides a summary of the analytical results for six exterior soil vapor samples collected east of the building, in the public right-of-way (ROW) along Cleveland Avenue. As noted previously, New York State does not have any standards, criteria or guidance values for concentrations of compounds detected in soil vapor other than in the context of sub-slab detection. The aforementioned decision matrices for PCE and TCE address sub-slab vapor concentrations and their potential to impact indoor air quality in overlying structures, and thus have limited relevance to these exterior soil vapor data.

PCE concentrations ranged from 45 µg/m³ to 4,200 µg/m³ at locations in the ROW along the western side of Cleveland Avenue and from 63 µg/m³ to 370 µg/m³ at locations in the ROW along the eastern side of Cleveland Avenue. TCE concentrations ranged from 1.4 µg/m³ to 94 µg/m³ along the western side of Cleveland Avenue and from 0.87 µg/m³ to 1.9J µg/m³ along the eastern side of Cleveland Avenue. Concentrations of 1,3-butadiene, bromodichloromethane, chloroform and dibromochloromethane in soil vapor samples from the east side of Cleveland Avenue were generally higher than concentrations in the samples collected along the west side of Cleveland Avenue. As shown in Figure 3-3, soil vapor concentrations on the west side of Cleveland Avenue are generally 1 to 2 orders of magnitude lower than those under the former Baron Blakeslee building. Concentrations generally diminish an additional order magnitude at the sample locations along the east side of Cleveland Avenue.

² Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York; NYSDOH; October 2006; Soil Vapor/Indoor Air Matrix 1 and Matrix 2.

Section 4

Summary

Additional Site Characterization activities were performed on behalf of General Electric Company by Brown and Caldwell Associates. The findings are briefly summarized as follows.

Groundwater Monitoring for Dissolved Metals

- Three conventional 2" PVC monitoring wells (MW-GWP-01, MW-GWP-03, and MW-GWP-06) were installed to further evaluate dissolved metals in groundwater.
- No chromium, cadmium or lead was detected in any of the samples. Thallium was detected in one unfiltered sample at an estimated concentration of 5.2 J µg/L (the MDL was 5.2 µg/L). This result is not considered significant because it is at the limit of detection and because thallium was not detected in the corresponding filtered sample.
- Dissolved sodium concentrations exceeded the Part 703 standards in up gradient wells MW-GWP-1 and MW-GWP-3, and in well MW-GWP-6R.
- The highest concentration of sodium was found in up-gradient well MW-GWP-1, just downgradient from South 3rd Street.

Shallow Soil Samples

- VOC concentrations detected in all eight shallow soil borings were below the SCOs for Protection of Public Health (Industrial Use). Four VOCs (PCE; cis-DCE; 1,1,1-TCA and acetone) were detected at concentrations slightly above the SCOs for Protection of Groundwater at six locations; however, extensive groundwater profile sampling conducted in 2011 demonstrates that the VOCs are not adversely affecting groundwater quality.

Sub-Slab Soil Vapor Samples

- Four sub-slab vapor samples were collected beneath the building.
- PCE and TCE were detected in sub-slab soil vapor at concentrations at which New York State guidance recommends mitigation to minimize potential exposures associated with soil vapor intrusion.
- PCE, TCE and 1,1,1-TCA were also detected in nearby shallow soil samples.

Indoor Air

- Two indoor air samples were collected contemporaneously with the four sub-slab soil vapor samples.
- There were no exceedances of the NYSDOH Air Guideline Values in indoor air.

Outdoor Air

- One outdoor air sample was collected at an upwind location on the site, contemporaneously with the indoor air samples.
- PCE, TCE, carbon tetrachloride, benzene and several other VOCs were detected in the outdoor air sample.

Exterior Soil Vapor Samples

- Six soil vapor samples were collected outside the building, at locations within the public ROW on both sides of Cleveland Avenue.
- Concentrations of 1,3-butadiene, bromodichloromethane, chloroform, and dibromochloromethane were generally higher on the east side of Cleveland Avenue than on the west side.
- PCE and TCE concentrations in soil vapor samples from the ROW on the east side of Cleveland Avenue were 1-2 orders of magnitude lower than concentrations in samples from the ROW on the west side of Cleveland Avenue.



Section 5

Conclusions and Recommendations

5.1 Groundwater

The metals concentrations identified during the initial SC investigation in direct-push groundwater profile samples were not found in the samples recently obtained from conventional monitoring wells using standard low-flow sampling protocols, indicating that the results in the direct-push samples were artifacts of the high sample turbidity. No chromium was detected. The supplemental SC investigation did identify sodium at dissolved concentrations exceeding the Part 703 standards. Concentrations of sodium appear to vary across the site; however, the highest concentrations are found in up gradient well MW-GWP-1 located near the northern site boundary, approximately 15 feet downgradient from South 3rd Street.

Recommendation: No additional investigation of on-site of groundwater is warranted for the reasons stated above.

5.2 Soil

All VOC concentrations observed in the shallow soil samples were below the SCOs for Protection of Public Health (Industrial Use). Four VOCs (PCE; cis-DCE; 1,1,1-TCA; acetone) were detected at concentrations slightly above the SCOs for Protection of Groundwater; however, none of these impacts presently threaten groundwater quality due to their shallow depth and the cover afforded by the building, as confirmed by recent (2011) groundwater profile sampling.

Recommendation: See recommendation for indoor air.

5.3 Soil Vapor

PCE and TCE were detected in sub-slab soil vapor at concentrations at which NYSDOH guidance recommends mitigation to minimize potential exposures associated with soil vapor intrusion. PCE and TCE were also detected in nearby shallow soil samples.

Exterior soil vapor sampling data indicate that PCE and, to a lesser extent, TCE may be migrating eastward in soil vapor from the building toward Cleveland Avenue. As shown in Figure 3-3, soil vapor concentrations on the west side of Cleveland Avenue are generally 1 to 2 orders of magnitude lower than those under the former Baron Blakeslee building. Concentrations generally diminish an additional order of magnitude at the sample locations in the public ROW along the east side of Cleveland Avenue. PCE concentrations ranged from 45 $\mu\text{g}/\text{m}^3$ to 4,200 $\mu\text{g}/\text{m}^3$ at locations along the western side of Cleveland Avenue and from 63 $\mu\text{g}/\text{m}^3$ to 370 $\mu\text{g}/\text{m}^3$ at locations along the eastern side of Cleveland Avenue. TCE concentrations ranged from 1.4 $\mu\text{g}/\text{m}^3$ to 94 $\mu\text{g}/\text{m}^3$ along the western side of Cleveland Ave and from 0.87 $\mu\text{g}/\text{m}^3$ to 1.9 $\mu\text{g}/\text{m}^3$ along the eastern side of Cleveland Avenue, again displaying an order of magnitude decrease from west to east.

Recommendation: See recommendation for indoor air.

5.4 Indoor Air

There were no exceedances of the NYSDOH Air Guideline values in indoor air. It should be noted that the indoor air concentrations are several orders of magnitude lower than sub-slab concentrations, indicating that the floor slab is significantly limiting or preventing intrusion of VOCs. Furthermore, carbon tetrachloride, benzene and 1,3-butadiene were also detected in the outdoor air sample (on the up-wind portion of the site) at concentrations at or above indoor air concentrations. These detections are likely not related to conditions on the property.

Recommendation: The Site Characterization data indicate that vapor intrusion of residual VOCs in on-site shallow soil is the only potential exposure pathway to historic site related conditions. General Electric is evaluating the implementation of an SVE system to address both residual low levels of VOCs in shallow soils and mitigate soil vapor. It is anticipated that SVE points can be installed through the building floor slab in the vicinity of identified soil impacts, which appear to be concentrated in the elongated north-south area noted previously. Depending on subsurface conditions, additional vacuum points could be installed elsewhere in the building to depressurize the entire sub-slab space, thereby eliminating any potential for vapor intrusion into the indoor environment. The implementation of such a system would be subject to discussions with the DEC.

General Electric Company should consider entry into the Brownfield Cleanup Program as a Volunteer and arrange for a pre-application meeting with the DEC project manager.



Section 6

References

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Tables



TABLE 1
Groundwater Analytical Results
Supplemental Site Characterization Investigation
Former Baron Blakeslee Site
Bay Shore, New York

GW Quality

Analyte Group: Metals	Class GA Groundwater Criteria NYS Part 703(1) Standard	Units	Location:	MW-GWP-1	MW-GWP-1	MW-GWP-1	MW-GWP-1	MW-GWP-1	MW-GWP-1
			Sample Name:	MW-GWP-1F	MW-GWP-1U	DUP111512 F	DUP111512 U	MW-GWP-01-D	MW-GWP-01-T
			Sample Date:	11/15/2012	11/15/2012	11/15/2012	11/15/2012	1/14/2013	1/14/2013
Analyte Name									
Aluminum	NE	UG/L		72.9 J	188 J	72.1 U	86.4 J	72.1 U	185 J
Antimony	3	UG/L		7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U
Arsenic	25	UG/L		3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
Barium	1000	UG/L		333	338	330	332	286	281
Beryllium	NE	UG/L		0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U
Cadmium	5	UG/L		0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U
Calcium	NE	UG/L		24300	24300	23600	23400	21600	21200
Chromium	50	UG/L		4.5 U	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U
Chromium III	NE	UG/L		NA	0.11 U	NA	0.11 U	4.5 U	4.5 U
Chromium, hexavalent	NE	UG/L		0.56 UJ	0.56 UJ	0.56 UJ	0.56 UJ	5.5 U	5.5 U
Cobalt	5	UG/L		4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U
Copper	200	UG/L		7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U
Iron	300	UG/L		73.6 U	217 J	73.6 U	81.1 J	84.9 J	277
Lead	25	UG/L		4 U	4 U	4 U	4 U	4 U	4 U
Magnesium	NE	UG/L		3920 J	3880 J	3800 J	3790 J	3940 J	3840 J
Manganese	300	UG/L		104 J	102 J	56.5 J	64.4 J	58.6	84.2
Mercury	0.7	UG/L		0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Nickel	100	UG/L		5 U	5 U	5 U	5 U	5 U	5 U
Potassium	NE	UG/L		18600	18700	18200	18400	17100	17000
Selenium	10	UG/L		5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Silver	50	UG/L		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Sodium	20000	UG/L		*97700	*98100	*98200	*98200	*94900	*93500
Thallium	NE	UG/L		5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U
Vanadium	14	UG/L		4 U	4 U	4 U	4 U	4 U	4 U
Zinc	NE	UG/L		6.4 J	6.6 J	5.8 U	5.8 U	5.8 U	5.8 U

TABLE 1
Groundwater Analytical Results
Supplemental Site Characterization Investigation
Former Baron Blakeslee Site
Bay Shore, New York

GW Quality

Analyte Group: Metals	Class GA Groundwater Criteria NYS Part 703(1) Standard	Units	Location:	MW-GWP-3	MW-GWP-3	MW-GWP-3	MW-GWP-3	MW-GWP-6R	MW-GWP-6R	MW-GWP-6R
			Sample Name:	MW-GWP-3F	MW-GWP-3U	MW-GWP-03-D	MW-GWP-03-T	MW-GWP-06R-D	MW-GWP-06R-T	DUP 011413-D
			Sample Date:	11/15/2012	11/15/2012	1/14/2013	1/14/2013	1/14/2013	1/14/2013	1/14/2013
Analyte Name										
Aluminum	NE	UG/L		72.1 U	280	72.1 U	675	72.1 U	231	72.1 U
Antimony	3	UG/L		7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U
Arsenic	25	UG/L		3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
Barium	1000	UG/L		63.6 J	64.8 J	41.9 J	46 J	60 J	62.1 J	60.3 J
Beryllium	NE	UG/L		0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U
Cadmium	5	UG/L		0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U
Calcium	NE	UG/L		25600	26500	8170	8720	15400	16000	15600
Chromium	50	UG/L		4.5 U	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U
Chromium III	NE	UG/L		NA	0.11 U	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U
Chromium, hexavalent	NE	UG/L		0.56 UJ	0.56 UJ	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U
Cobalt	5	UG/L		4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U
Copper	200	UG/L		7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U
Iron	300	UG/L		73.6 U	*332	73.6 U	*959	73.6 U	*617	73.6 U
Lead	25	UG/L		4 U	4 U	4 U	4 U	4 U	4 U	4 U
Magnesium	NE	UG/L		1230 J	1310 J	1250 J	1340 J	2010 J	2180 J	2040 J
Manganese	300	UG/L		70.6	99	22.1	97.4	37	47.1	38
Mercury	0.7	UG/L		0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Nickel	100	UG/L		5 U	5 U	5 U	5 U	5 U	5 U	5 U
Potassium	NE	UG/L		8340	8320	6280	6190	3480 J	3490 J	3480 J
Selenium	10	UG/L		5.8 U	5.8 U	5.8 U	5.8 U	7 J	5.8 U	9.1 J
Silver	50	UG/L		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Sodium	20000	UG/L		6270	5930	4890 J	4890 J	*53500	*53900	*54200
Thallium	NE	UG/L		5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 J	5.2 U
Vanadium	14	UG/L		4 U	4 U	4 U	4 U	4 U	4 U	4 U
Zinc	NE	UG/L		5.8 U	6.4 J	5.8 U	7.4 J	5.8 U	10.2 J	5.8 U

Notes:
U – The analyte was analyzed for, but was not detected. Value shown is the method detection limit (MDL) for the analyzed constituent.
J – Estimated concentration. The result is below the quantitation limit but above the method detection limit.
NE – Standard and/or guidance value not established.
NA – Not analyzed.
ND – Not detected.
* (Red) concentrations are above New York State Class GA Groundwater Standards or Guidance values

TABLE 2

Soil Analytical Results

Supplemental Site Characterization Investigation

Former Baron Blakeslee Site

Bay Shore, New York

Soil Results:

Analyte Group:		Soil Cleanup Objectives [6 NYCRR Subpart 375-6]												
VOCs		Protection of Public Health - Industrial Use	Protection of Groundwater	Location:		SB-5	SB-6	SB-7	SB-8	SB-9	SB-9	SB-10	SB-11	SB-12
Analyte Name				Units	SampleName:	SB-5-6-6.5	SB-6-5-5.5	SB-7-5-5.5	SB-8-1.5-2	SB-9-1-1.5	DUP-112912	SB-10-3-3.5	SB-11-1-1.5	SB-12-1-1.5
1,1,1-Trichloroethane		1000	0.68	MG/KG		0.00022 J	*2.4	0.007 U	0.0066 U	0.1 J	0.077 J	0.00086 J	0.019 J	0.024 J
1,1-Dichloroethane		480	0.27	MG/KG		0.00029 J	0.035 J	0.015 U	0.014 U	0.014 U	0.016 U	0.00011 U	0.015 U	0.00011 U
1,2-Dimethylbenzene (o-xylene)		NE	NE	MG/KG		0.012	0.019 J	0.057 J	0.014 U	0.014 U	0.016 U	0.00018 U	0.015 U	0.00019 UJ
2-Butanone (MEK)		1000	0.12	MG/KG		0.011	0.28 U	0.26 U	0.24 U	0.25 U	0.29 U	0.0046 J	0.27 U	0.00064 U
2-Hexanone		NE	NE	MG/KG		0.00014 U	0.061 U	0.056 U	0.053 U	0.055 U	0.063 U	0.00083 J	0.058 U	0.00013 U
4-Methyl-2-pentanone (MIBK)		NE	NE	MG/KG		0.00022 U	0.12 U	0.11 U	0.1 U	0.11 U	0.12 U	0.00084 J	0.11 U	0.0002 U
Acetone		1000	0.05	MG/KG		*0.071	0.33 U	0.3 U	0.28 U	0.29 U	0.34 U	0.02	0.31 U	0.006 UJ
Carbon disulfide		NE	NE	MG/KG		0.00018 J	0.015 U	0.014 U	0.013 U	0.014 U	0.016 U	0.00031 J	0.014 U	0.00015 U
Chloroform		700	0.37	MG/KG		0.00026 U	0.0095 U	0.0088 U	0.0083 U	0.0086 U	0.0099 U	0.00023 U	0.0091 U	0.00072 J
cis-1,2-Dichloroethene		1000	0.25	MG/KG		0.00012 U	*2.3	0.02 U	0.019 U	0.019 U	0.022 U	0.00011 U	0.02 U	0.00011 U
Ethylbenzene		780	1	MG/KG		0.0031	0.014 J	0.11	0.01 U	0.01 U	0.012 U	0.00017 U	0.011 U	0.00017 UJ
Isopropylbenzene (Cumene)		NE	NE	MG/KG		0.00027 J	0.0093 U	0.09 J	0.0081 U	0.0084 U	0.0097 U	0.00011 U	0.0089 U	0.00011 UJ
m,p-Xylene (sum of isomers)		1000	1.6	MG/KG		0.0064	0.05 J	0.055 J	0.026 U	0.027 U	0.031 U	0.00057 U	0.028 U	0.0006 UJ
Methylcyclohexane		NE	NE	MG/KG		0.0072	0.021 J	4.5	0.014 U	0.015 U	0.017 U	0.000097 U	0.016 U	0.0001 UJ
Tetrachloroethene (PCE)		300	1.3	MG/KG		0.015	*8.3	0.062 J	*6.3 J	*11	*10	0.054	*11	0.35
Toluene		1000	0.7	MG/KG		0.0053	0.021 J	0.018 J	0.016 U	0.016 U	0.019 U	0.0002 J	0.017 U	0.00017 J
Trichloroethene (TCE)		400	0.47	MG/KG		0.0036	0.22	0.01 U	0.0097 U	0.17	0.14	0.00099	0.073 J	0.063 J

Notes:

U – The analyte was analyzed for, but was not detected. Value shown is the practical quantitation limit (PQL) for the analyzed constituent.

J – Estimated concentration. The result is below the quantitation limit but above the method detection limit.

UJ – The analyte was not detected above the reported method detection limit. However, based on data validation, the reported method detection limit is approximate and may or may not represent the actual limit of the detection necessary to accurately and precisely measure the analyte in the sample.

NE – Standard and/or guidance value not established.

* (Red) concentrations are above Soil Cleanup Objectives (NYCRR Subpart 375-6) Protection of Public Health (Industrial Use) and/or protection of groundwater

TABLE 3a
Indoor/Ambient Air Analytical Results
Supplemental Site Characterization Investigation
Former Baron Blakeslee Site
Bay Shore, New York

Air Results:

Analyte Group:							
VOCs	NYSDOH Air Guidelines	Units	Location:	IA-05	IA-05	IA-06	AA-07
Analyte Name			SampleName:	IA-05	DUP-112712-2	IA-06	AA-07
1,1,1-Trichloroethane	NE	UG/M3		0.31	0.22 U	0.43	0.22 U
1,1,2,2-Tetrachloroethane	NE	UG/M3		0.28	0.27 U	0.27 U	0.27 U
1,2-Dimethylbenzene (o-xylene)	NE	UG/M3		0.57	0.4	1.9	0.48
1,3,5-Trimethylbenzene (mesitylene)	NE	UG/M3		0.39 U	0.39 U	0.39 U	0.39 U
1,3-Butadiene	NE	UG/M3		0.3	0.18 U	0.34	0.41
2,2,4-Trimethylpentane	NE	UG/M3		1.2 J	0.58 J	0.61	0.66
4-Ethyltoluene	NE	UG/M3		0.3	0.2 U	0.22	0.2 U
Benzene	NE	UG/M3		0.99 J	0.52 J	0.9	0.95
Bromodichloromethane	NE	UG/M3		0.27 U	0.27 U	0.27 U	0.27 U
Carbon tetrachloride	NE	UG/M3		0.5 J	0.3 J	0.43	0.55
Chloroform	NE	UG/M3		0.2	0.2 U	0.2 U	0.2 U
Cyclohexane	NE	UG/M3		1 J	0.53 J	6.2	0.43
Dibromochloromethane	NE	UG/M3		0.34 U	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane (Freon 12)	NE	UG/M3		6 J	3.9 J	7.8	3.8
Ethylbenzene	NE	UG/M3		0.54	0.35	1.8	0.37
m,p-Xylene (sum of isomers)	NE	UG/M3		1.8	1.1	7	1.2
Methylene chloride	60	UG/M3		1.8 J	9 J	4.2	1.5
n-Heptane (C7)	NE	UG/M3		0.97 J	0.44 J	4.4	0.81
n-Hexane (C6)	NE	UG/M3		1.3 J	0.73 J	2.6	0.88
tert-Butyl methyl ether (MTBE)	NE	UG/M3		0.14 U	0.14 U	0.14 U	0.14 U
Tetrachloroethene (PCE)	100	UG/M3		4.3 J	2.3 J	3.5	1.2
Toluene	NE	UG/M3		6.9 J	4.2 J	12	7.1
Trichloroethene (TCE)	5	UG/M3		0.59 J	0.28 J	3.3	0.33
Trichlorofluoromethane (Freon 11)	NE	UG/M3		2.4 J	1.6 J	3	2
Xylenes, total	NE	UG/M3		2.4	1.5	9	1.7

TABLE 3b
Soil Vapor Analytical Results
Supplemental Site Characterization Investigation
Former Baron Blakeslee Site
Bay Shore, New York

Soil Vapor Results:

Analyte Group:													
VOCs													
Analyte Name	Units	Location:	SS-05	SS-05	SS-06	SS-07	SS-08	SV-06	SV-07	SV-08	SV-09	SV-10	SV-11
		SampleName:	SS-05	DUP-112712-1	SS-06	SS-07	SS-08	SV-06	SV-07	SV-08	SV-09	SV-10	SV-11
1,1,1-Trichloroethane	UG/M3		570	650	870	6300	120000	9.4	11 J	4.1	0.27 U	1.9 J	1.9
1,1,2,2-Tetrachloroethane	UG/M3		1.9 U	2.1 U	0.76 U	110 U	110 U	0.12 U	1.7 U	0.076 U	0.19 U	0.14 U	0.076 U
1,2-Dimethylbenzene (o-xylene)	UG/M3		1.7 U	1.9 U	4.4 J	97 U	97 U	12	4.9 J	8.5	15	14	14
1,3,5-Trimethylbenzene (mesitylene)	UG/M3		2.3 U	2.6 U	13	130 U	130 U	6	2.1 U	6.1	6.3	8.5	8.7
1,3-Butadiene	UG/M3		1.4 U	1.5 U	2.7 J	77 U	77 U	0.088 U	1.2 U	1.2	1.5	1.4	0.91
2,2,2,4-Trimethylpentane	UG/M3		1.7 U	1.9 U	0.7 U	98 U	98 U	1.1 J	1.6 U	0.5 J	2.1 J	0.55 J	1.7
4-Ethyltoluene	UG/M3		1.8 U	2 U	8.7 J	100 U	100 U	5.1	1.6 U	5.3	5.9	8.5	7.1
Benzene	UG/M3		1.4 U	1.6 U	7.3	81 U	81 U	1.6	1.3 U	1.9	2.9	2	2.1
Bromodichloromethane	UG/M3		2 U	2.2 U	0.8 U	110 U	110 U	0.13 U	1.8 U	0.08 U	0.2 U	0.14 U	13
Carbon tetrachloride	UG/M3		2 U	2.2 U	0.82 U	110 U	110 U	0.13 U	1.8 U	0.082 U	0.2 U	0.15 U	0.35 J
Chloroform	UG/M3		2.9 U	3.2 U	1.2 U	160 U	2100	0.58 J	2.6 U	0.25 J	0.29 U	0.9 J	110
Cyclohexane	UG/M3		1.6 U	1.8 U	0.65 U	92 U	92 U	1.7	1.5 U	0.48 J	2.4	0.44 J	2.3
Dibromochloromethane	UG/M3		2.3 U	2.6 U	0.94 U	130 U	130 U	0.15 U	2.1 U	0.094 U	0.23 U	0.17 U	1.9
Dichlorodifluoromethane (Freon 12)	UG/M3		41 J	45 J	20 J	140 U	140 U	2.7 J	2.2 U	2.7	2.4 J	2.7 J	3.3
Ethylbenzene	UG/M3		1.6 U	1.8 U	2.2 J	91 U	91 U	9.1	3.8 J	5.9	11	8.9	9.5
m,p-Xylene (sum of isomers)	UG/M3		2.4 U	2.6 U	6.3 J	130 U	130 U	37	16 J	25	41	41	40
Methylene chloride	UG/M3		2 U	2.2 U	0.8 U	110 U	110 U	1.2 J	1.8 U	0.61 J	0.81 J	0.73 J	1.6 J
n-Heptane (C7)	UG/M3		1.7 U	1.9 U	3.8 UJ	98 U	98 U	4.1	1.6 U	3.3	8	4	6.7
n-Hexane (C6)	UG/M3		1.7 U	1.9 U	0.7 U	99 U	99 U	2.2	1.6 U	2	4.2	1.9	6
tert-Butyl methyl ether (MTBE)	UG/M3		1.3 U	1.5 U	0.54 U	76 U	76 U	0.087 U	1.2 U	0.054 U	0.14 U	0.097 U	0.08 J
Tetrachloroethene (PCE)	UG/M3		6400	6400	2300	220000	240000	400	4200	45	63	370	92
Toluene	UG/M3		1.8 J	1.4 U	8.2	74 U	74 U	22	8.9 J	14	26	17	19
Trichloroethene (TCE)	UG/M3		76	83	74	1600	120000	20	94	1.4	0.87 J	1.9 J	0.89 J
Trichlorofluoromethane (Freon 11)	UG/M3		2.9 U	3.2 U	1.2 U	170 U	170 U	2	2.6 U	1.9	2.4 J	5.5	2.7
Xylenes, total	UG/M3		1.7 U	1.9 U	11	97 U	97 U	48	21	34	56	55	54

Notes:
U – The analyte was analyzed for, but was not detected. Value shown is the method detection limit (MDL) for the analyzed constituent.
J – Estimated concentration. The result is below the quantitation limit but above the method detection limit.
NE – Standard and/or guidance value not established.
AA – Indicates Ambient Air Sample
IA – Indicates Indoor Air Sample
SS – Indicates Sub-Slab Vapor Sample
SV – Indicates an exterior Soil Vapor Sample

TABLE 4
GROUNDWATER ELEVATION DATA
FORMER BARON BLAKESLEE SITE
BAY SHORE, NEW YORK

Location ID	Top of Casing Elevation (ft., NGVD)	Ground Elevation (ft., NGVD)	Screened Interval		Screened Interval		<u>1/14/2013</u>	
			Top (ft., BGS)	Bottom (ft., BGS)	Top (ft., NGVD)	Bottom (ft., NGVD)	Depth to Water (ft. BTOC)	Water Elevation (ft. NGVD)
MW-GWP-01	57.53	57.64	58.4	63.4	-0.71	-5.71	6.82	50.71
MW-GWP-03	58.68	58.86	59.4	64.4	-0.50	-5.50	7.95	50.73
MW-GWP-06R	57.83	58.06	60.0	65.0	-1.94	-6.94	7.64	50.19

Notes:

NGVD - National Geodetic Vertical Datum

BGS - Below Ground Surface

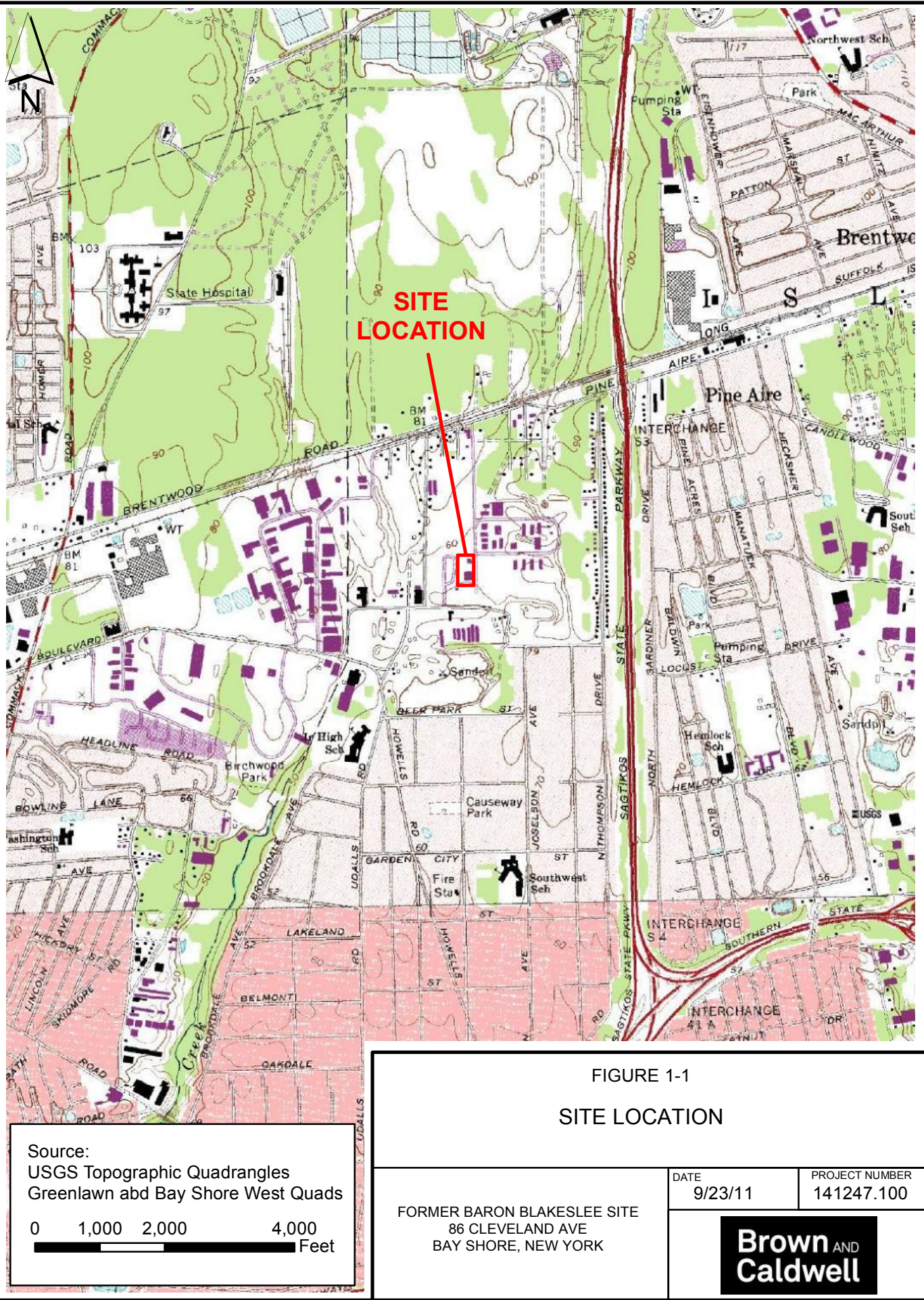
BTOC - Below Top of Casing

NI - Not Installed

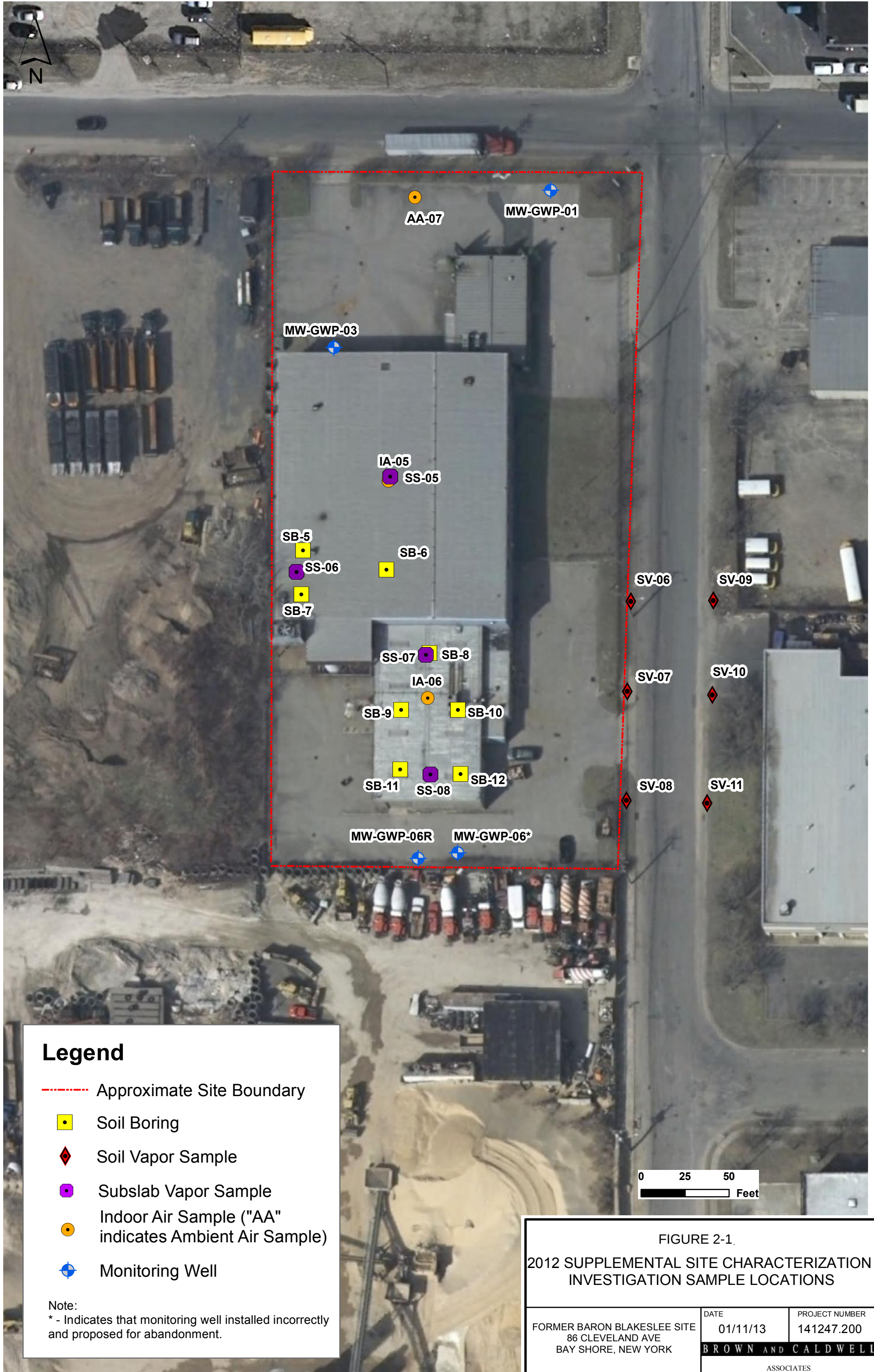
NM- Not measured

Figures



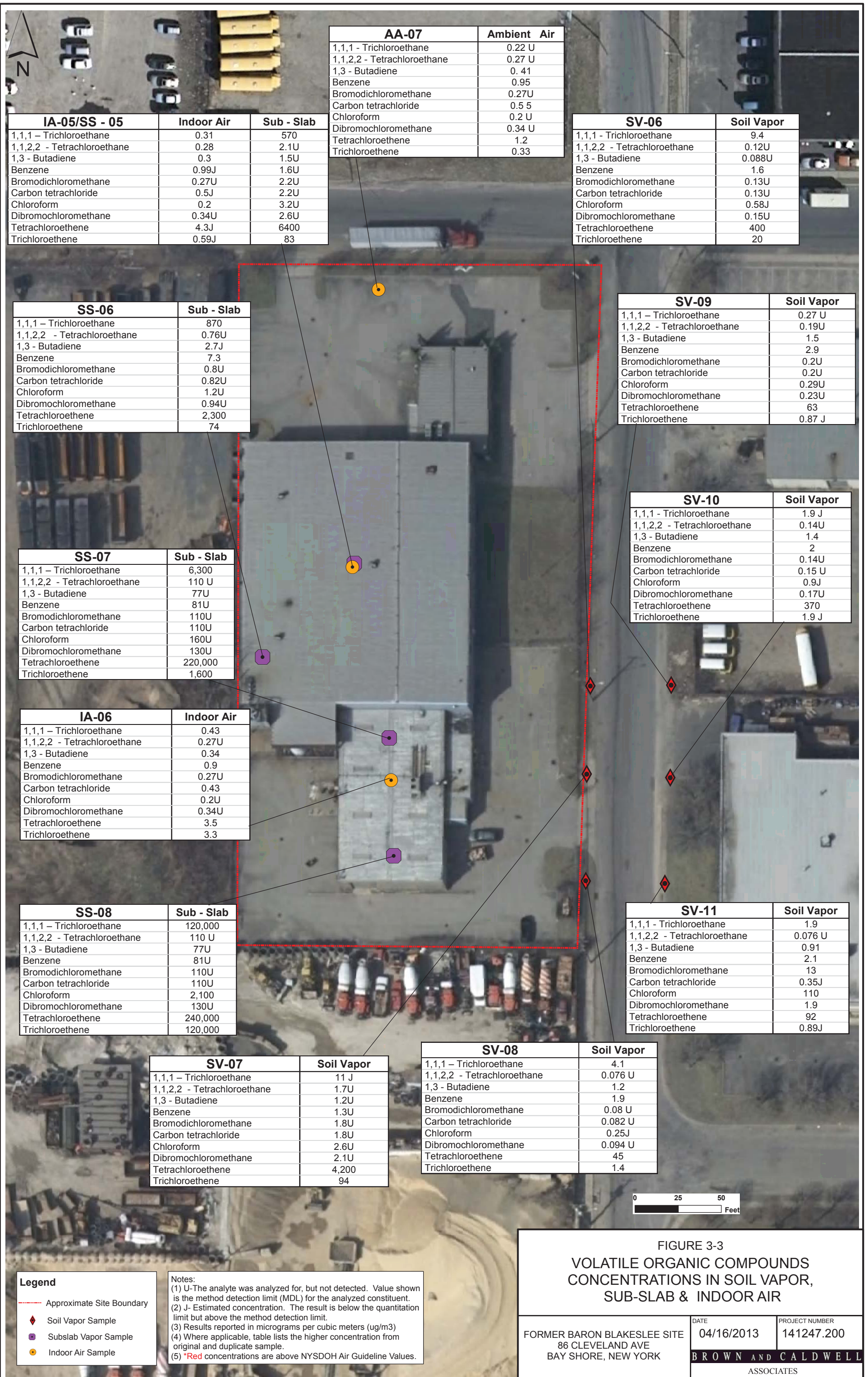


P:\GIS\GE\Bayshore\Final_SSC_2012_Sample_Locations.mxd



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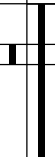


Appendix A: Boring and Monitoring Well Logs



BORING LOG

	Project Name: Fromer Baron Blakeslee Site Project Number: 141247.100 Project Location: Bay Shore, NY				Permit Number: NA	Boring No. SB-1 Page 1 of 1
	Geologist/Office B. Taylor/Albany, NY	Checked By: CAS/FJW	Borehole Diameter: 2"	Screen Diameter and Type: NA	Slot Size: NA"	Total Boring Depth (ft) 3.8 ft.
Start/Finish Date 7/19/11 - 7/19/11	Drilling Contractor: Zebra	Sampling: Continuous Core Hammer Type:	Development Method: NA			
Driller: Evan M.	Drilling Method: Direct Push	Drilling Equipment: Geoprobe	Horiz Datum/Proj: NAD83 Vert Datum: NGVD29 Ground Surface Elev: 58.7 ft.			Easting: 1181265.7 ft. Northing: 218423.7 ft. TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log			ppm Readings (ppm)	Remarks
						Sample Int	Recovery	Lithology		
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60	55	SW SW	Concrete FILL/REWORKED SOIL Brown f SAND, some Silt and fc Gravel [Misc: Ashpalt). Dry Light Brown fc SAND and fc GRAVEL. Dry.		1				136	Hole backfiled with soil cuttings and grouted. Sample Name: SB-1-1-1.5. PID Readings (ppm): 6-10"=0, 10-14"=136, 14-18"=40.9, 18-22"=45.5, 22-26"=6.4, 26-30"=18.6, 30-34"=10.9, 34-38"19.9, 38-42"=22.3, 42-46"=6.6

BORING LOG

	Project Name: Fromer Baron Blakeslee Site Project Number: 141247.100 Project Location: Bay Shore, NY				Permit Number: NA	Boring No. SB-2
					NA	Page 1 of 1

Geologist/Office B. Taylor/Albany, NY	Checked By: CAS/FJW	Borehole Diameter: 2"	Screen Diameter and Type: NA	Slot Size: NA"	Total Boring Depth (ft) 4.4 ft.
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Start/Finish Date 7/19/11 - 7/19/11	Drilling Contractor: Zebra	Sampling: Continuous Core Hammer Type:	Development Method: NA
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Driller: Evan M.	Drilling Method: Direct Push	Drilling Equipment: Geoprobe	Horiz Datum/Proj: NAD83 Vert Datum: NGVD29 Ground Surface Elev: 60.5 ft.	Easting: 1181216.6 ft. Northing: 218541.3 ft. TOC Elev: --
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Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log				ppm Readings (ppm)	Remarks
						Sample Int	Recovery	Lithology	Backfill		
	60		Concrete								
		SW	FILL/REWORKED SOIL								
		SW	Light Brown fc SAND, some fc Gravel, little(-) Silt. Dry.		1					34.7	Hole backfilled with soil cuttings and grouted. Sample Number: SB-2-2.5-3.5 PID Readings (ppm). @6"=5.6, @10"=6.5, @14"=11.1, @18"=15.4, @22"=22.6, @26"=21.9, @30"=2.8, @34"=34.7, @38"=29.8, @42"=0, @48"=2.2
		SW	Brown fc SAND and fc GRAVEL, little (-) Silt. Dry.								
			Brown fc SAND and fc GRAVEL, little (-) Silt. Dry.								

BORING LOG

	Project Name: Fromer Baron Blakeslee Site Project Number: 141247.100 Project Location: Bay Shore, NY				Permit Number: NA	Boring No. SB-3
					Page 1 of 1	
Geologist/Office B. Taylor/Albany, NY	Checked By: CAS/FJW	Borehole Diameter: 2"	Screen Diameter and Type: NA	Slot Size: NA"	Total Boring Depth (ft) 4.1 ft.	
Start/Finish Date 7/19/11 - 7/19/11		Drilling Contractor: Zebra	Sampling: Continuous Core Hammer Type:	Development Method: NA		
Driller: Evan M.	Drilling Method: Direct Push	Drilling Equipment: Geoprobe	Horiz Datum/Proj: NAD83 Vert Datum: NGVD29 Ground Surface Elev: 60.5 ft.		Easting: 1181216.1 ft. Northing: 218494.2 ft. TOC Elev: --	

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log				ppm Readings (ppm)	Remarks
						Sample Int	Recovery	Lithology	Backfill		
	60		Concrete								
		SW	FILL/REWORKED SOIL Brown mfc SAND, little (-) Gravel and Silt. Dry.								
		SW	Dark Brown mfc SAND, some fc Gravel, little (+) Silt. Dry.								
		SW	Dark Brown mfc SAND, some mf Gravel, little (-) Silt. [Misc. Ashpalt]. Dry.		1					85.8	Hole backfilled with soil cuttings and grouted. Sample Number: SB-3-3-4. PID Readings (ppm): @6"=4.2, @10"=1.2, @14"=2.1, @18"=0.3, @22"=6.3, @26"=0.0, @30"=0.3, @34"=0.9, @38"=0.5, @42"=85.8, @48"=0.0

BORING LOG

	Project Name: Fromer Baron Blakeslee Site Project Number: 141247.100 Project Location: Bay Shore, NY				Permit Number: NA	Boring No. SB-4
					NA	Page 1 of 1

Geologist/Office B. Taylor/Albany, NY	Checked By: CAS/FJW	Borehole Diameter: 2"	Screen Diameter and Type: NA	Slot Size: NA"	Total Boring Depth (ft) 4.1 ft.
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Start/Finish Date 7/19/11 - 7/19/11	Drilling Contractor: Zebra	Sampling: Continuous Core Hammer Type:	Development Method: NA
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Driller: Evan M.	Drilling Method: Direct Push	Drilling Equipment: Geoprobe	Horiz Datum/Proj: NAD83 Vert Datum: NGVD29 Ground Surface Elev: 60.5 ft.	Easting: 1181266.8 ft. Northing: 218494.5 ft. TOC Elev: --
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Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log				ppm Readings (ppm)	Remarks
						Sample Int	Recovery	Lithology	Backfill		
	60		Concrete								
		SW	FILL/REWORKED SOIL Brown mf SAND, little f Gravel, little (-) Silt. Dry.		1					16.7	Hole backfilled with soil cuttings and grouted. Sample Number: SB-4-2-3 PID Readings (ppm): @6"=2.9, @10"=0.0, @14"=8.5, @18"=8.9, @22"=10.2, @26"=16.1, @30"=16.7, @34"=13.9, @38"=0.9, @42"=1.5, @46"=1.1 @48"=0.2
		SW	Light Brown mfc SAND, some Gravel, little (-) Silt. Dry.								
		SW	Dark Brown mfc SAND, some (+) mf Gravel, little (+) Silt. Dry.								

BORING LOG

	Project Name: Fromer Baron Blakeslee Site Project Number: 141247.100 Project Location: Bay Shore, NY				Permit Number: NA	Boring No. SB-5
					Page 1 of 1	
Geologist/Office B. Taylor/Albany, NY	Checked By: FJW	Borehole Diameter: 2"	Screen Diameter and Type: NA	Slot Size: NA"	Total Boring Depth (ft) 12.0 ft.	
Start/Finish Date 11/29/12 - 11/29/12		Drilling Contractor: Zebra	Sampling: Continuous Core Hammer Type:	Development Method: NA		
Driller: Quincy B.	Drilling Method: Direct Push	Drilling Equipment: Geoprobe	Horiz Datum/Proj: NAD83 Vert Datum: NGVD29 Ground Surface Elev: 60.5 ft.		Easting: 1181190.7 ft. Northing: 218528.5 ft. TOC Elev: --	

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log				ppm Readings (ppm)	Remarks
						Sample Int	Recovery	Lithology	Backfill		
	60		Concrete Slab							0.0	Boring backfilled with soil cuttings and grouted. PID readings (ppm); 0-4'=0.0
		SW GP	FILL/REWORKED SOIL Brown cmf SAND and mf GRAVEL. Dry.								
		SW GP	Same as above.							90.9	PID readings (ppm); 4.0'=0.9, 4.5'=10.2, 5.0'=17.1, 5.5'=46.9, 6.0'=90.9, 6.5'=87.6, 7.0'=51.2
5	55	SW GP	Black stained cmf SAND and f GRAVEL. Dry.								
		SP GP	Light brown/whilte mf SAND and mf GRAVEL. Dry.								
		SP GP	Light brown/whilte mf SAND and mf GRAVEL. Moist to Very Moist.							1.4	Sample SB-5-6.0-6.5 collected. PID Readings (ppm); 8.0'=1.4, 8.5-10.0'=0.0
10	50	SW GP	Light grey cmf SAND and mf GRAVEL. Saturated.								

BORING LOG

	Project Name: Fromer Baron Blakeslee Site Project Number: 141247.100 Project Location: Bay Shore, NY				Permit Number: NA	Boring No. SB-6
					Page 1 of 1	
Geologist/Office B. Taylor/Albany, NY	Checked By: FJW	Borehole Diameter: 2"	Screen Diameter and Type: NA	Slot Size: NA"	Total Boring Depth (ft) 12.0 ft.	
Start/Finish Date 11/29/12 - 11/29/12		Drilling Contractor: Zebra	Sampling: Continuous Core Hammer Type:	Development Method: NA		
Driller: Quincy B.	Drilling Method: Direct Push	Drilling Equipment: Geoprobe	Horiz Datum/Proj: NAD83 Vert Datum: NGVD29 Ground Surface Elev: 60.6 ft.		Easting: 1181238.1 ft. Northing: 218517.6 ft. TOC Elev: --	

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log				ppm Readings (ppm)	Remarks
						Sample Int	Recovery	Lithology	Backfill		
	60		Concrete slab								
		SW GW	FILL/REWORKED SOIL Brown cmf SAND and cmf GRAVEL. Dry.							5.0	Boring backfilled with soil cuttings and grouted PID readings (ppm); 0.5'=0.3, 1.0'=6.3, 1.5'=3.2, 2.0'=1.9, 2.5'=1.5, 3.0'=1.2, 3.5'=3.7, 4.0'=5.0
5		SW GW	Same as above.							67.8	PID readings (ppm); 4.5'=19.4, 5.0'=52.4, 5.5'=67.8, 6.0'=33.4, 6.5'=27.4, 7.0'=19.1, 7.5'=3.4, 8.0'=0.2
	55	SP	Dark brown mf SAND, some (-) mf Gravel. Dry.								
		SW GP	Light brown/white cmf SAND and mf GRAVEL. Dry.								
		SW GP	Light brown/white cmf SAND and mf GRAVEL. Moist to Very Moist.							0.0	Sample SB-6-5.0-5.5 collected PID readings (pmm); 8-10.5'=0.0
10	50	SW GP	White/light brown cmf SAND and mf GRAVEL. Saturated.								

BORING LOG

	Project Name: Fromer Baron Blakeslee Site Project Number: 141247.100 Project Location: Bay Shore, NY			Permit Number: NA	Boring No. SB-7
				Page 1 of 1	
Geologist/Office B. Taylor/Albany, NY	Checked By: FJW	Borehole Diameter: 2"	Screen Diameter and Type: NA	Slot Size: NA"	Total Boring Depth (ft) 12.0 ft.
Start/Finish Date 11/29/12 - 11/29/12		Drilling Contractor: Zebra	Sampling: Continuous Core Hammer Type:	Development Method: NA	
Driller: Quincy B.	Drilling Method: Direct Push	Drilling Equipment: Geoprobe	Horiz Datum/Proj: NAD83 Vert Datum: NGVD29 Ground Surface Elev: 60.5 ft.		Easting: 1181189.6 ft. Northing: 218503.5 ft. TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log				ppm Readings (ppm)	Remarks
						Sample Int	Recovery	Lithology	Backfill		
	60		Concrete Slab							0.3	Boring backfilled with soil cuttings and grouted. PID readings (ppm); 0-4'=0.3
		SP GP	FILL/REWORKED SOIL Brown mf SAND and mf GRAVEL. Dry.								
		SP GP	Same as above.							34.6	PID readings (ppm); 4.5'=1.5, 5.0'=34.6, 5.5'=24.5, 6.0'=17.2, 6.5'=8.1, 7.0'=8.2, 7.5'=6.7, 8.0'=6.4
5	55	SP GP	Black stained mf SAND, little (-) mf Gravel. Dry.								
		SP GP	Brown mf SAND and mf GRAVEL. Dry.								
		SP GP	White/light brown mf SAND, little (+) mf Gravel. Moist.								
		SP GP	White/light brown mf SAND, little (+) mf Gravel. Very Moist.							3.2	Sample SB-7-5.0-5.5 collected. PID readings (ppm); 8.5'=3.2, 9.0'=0.4, 9.5'=0.1, 10.0'=0.0
10	50	SW	Light brown/white cmf SAND, little (-) mf Gravel. Saturated.								

BORING LOG

	Project Name: Fromer Baron Blakeslee Site Project Number: 141247.100 Project Location: Bay Shore, NY				Permit Number: NA	Boring No. SB-8
					NA	Page 1 of 1

Geologist/Office B. Taylor/Albany, NY	Checked By: FJW	Borehole Diameter: 2"	Screen Diameter and Type: NA	Slot Size: NA"	Total Boring Depth (ft) 8.0 ft.
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Start/Finish Date 11/29/12 - 11/29/12	Drilling Contractor: Zebra	Sampling: Continuous Core Hammer Type:	Development Method: NA
---	--------------------------------------	---	----------------------------------

Driller: Quincy B.	Drilling Method: Direct Push	Drilling Equipment: Geoprobe	Horiz Datum/Proj: NAD83 Vert Datum: NGVD29 Ground Surface Elev: 58.7 ft.	Easting: 1181262.6 ft. Northing: 218470.2 ft. TOC Elev: --
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Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log				ppm Readings (ppm)	Remarks
						Sample Int	Recovery	Lithology	Backfill		
			Concrete Slab								
		SW	FILL/REWORKED SOIL							10.4	Boring backfilled with soil cuttings and grouted. PID readings (ppm); 0.5'=7.2, 1.0'=3.6, 1.5'=10.4, 2.0'=8.9, 2.5'=2.0, 3.0'=9.8, 3.5'=3.0, 4.0'=0.4 Sample SB-8-1.5-2.0 collected PID readings (ppm); 4-7.7'=0.0
			Brown cmf SAND, some mf Gravel (black stained in spots) Dry.								
	55	GW	Brown cmf GRAVEL, some (-) mf Sand. Dry.								
		SW	Light brown/white cmf SAND, little mf Gravel. Dry.							0.0	
		SW	Gravel. Dry.								
5		SP	Same as above.								
			Light brown/orange bown mf SAND, little (-) mf Gravel. Moist to Very Moist.								
		SW	Brown/orange brown cmf SAND, little (+) mf Gravel. Saturated.								

BORING LOG

	Project Name: Fromer Baron Blakeslee Site Project Number: 141247.100 Project Location: Bay Shore, NY				Permit Number: NA	Boring No. SB-9 Page 1 of 1
Geologist/Office B. Taylor/Albany, NY	Checked By: FJW	Borehole Diameter: 2"	Screen Diameter and Type: NA	Slot Size: NA"	Total Boring Depth (ft) 12.0 ft.	
Start/Finish Date 11/29/12 - 11/29/12	Drilling Contractor: Zebra	Sampling: Continuous Core Hammer Type:	Development Method: NA			
Driller: Quincy B.	Drilling Method: Direct Push	Drilling Equipment: Geoprobe	Horiz Datum/Proj: NAD83 Vert Datum: NGVD29 Ground Surface Elev: 58.8 ft.			Easting: 1181246.4 ft. Northing: 218437.9 ft. TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log			ppm Readings (ppm)	Remarks
						Sample Int	Recovery	Lithology		
5	55	SP	Concrete Slab							
		GP	FILL/REWORKED SOIL Brown/dark brown mf SAND, some mf Gravel. Dry.						21.2	Boring backfilled with soil and grouted. Sample SB-9-1.0-1.5 collected.
	SW	White cmf GRAVEL, little mf Sand. Dry.								
	SW	Light brown cmf SAND, little mf Gravel. Dry.						1.7	PID readings (ppm); 0.5'=5.9, 1.0'= 21.2, 1.5'=9.5, 2.0'=1.4, 2.5-4.0'= 0.0	
	SP	Dark Brown mf SAND, little mf Gravel. Dry-Moist.								
10	50	SW	Light Brown mf SAND, little mf Gravel. Moist.							
		SW	Orange/brown cmf SAND, little (-) mf Gravel. Very Moist.						2.0	PID readings (ppm); 4.5'=1.7, 5.0-8.0'=0.0
		SW	Light brown cmf SAND, little (+) mf Gravel. saturated.							

BORING LOG

	Project Name: Fromer Baron Blakeslee Site Project Number: 141247.100 Project Location: Bay Shore, NY				Permit Number: NA	Boring No. SB-10
					Page 1 of 1	
Geologist/Office B. Taylor/Albany, NY	Checked By: FJW	Borehole Diameter: 2"	Screen Diameter and Type: NA	Slot Size: NA"	Total Boring Depth (ft) 8.0 ft.	
Start/Finish Date 11/29/12 - 11/29/12		Drilling Contractor: Zebra	Sampling: Continuous Core Hammer Type:	Development Method: NA		
Driller: Quincy B.	Drilling Method: Direct Push	Drilling Equipment: Geoprobe	Horiz Datum/Proj: NAD83 Vert Datum: NGVD29 Ground Surface Elev: 58.7 ft.		Easting: 1181278.7 ft. Northing: 218437.9 ft. TOC Elev: --	

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log				ppm Readings (ppm)	Remarks
						Sample Int	Recovery	Lithology	Backfill		
			Concrete Slab.								
		SP	FILL/REWORKED SOIL							15.2	Boring backfilled with soil cuttings and grouted. PID readings (ppm); 0.5'=6.8, 1.0'=9.7, 1.5'=4.6, 2.0'=4.6, 2.5'=4.7, 3.0'=9.4, 3.5'=15.2, 4.0'=1.8 Sample SB-10-3.0-3.5 collected. PID readings (ppm) 4.5-7.8'= 0.0
		SP	Brown mf SAND, little mf Gravel. Dry.								
		SW	Brown mf SAND, and mf GRAVEL. Dry.								
	55		Grey/brown cmf SAND and cmf GRAVEL. Dry.								
		SP	White/grey mf SAND, trace (-) f Gravel. Moist.							0.0	
		SW	Brown/orange cmf brown SAND, little mf Gravel. Moist to Very Moist.								
		SW	Brown/orange brown cmf SAND, little (+) mf Gravel. Saturated.								

BORING LOG

	Project Name: Fromer Baron Blakeslee Site Project Number: 141247.100 Project Location: Bay Shore, NY				Permit Number: NA	Boring No. SB-11 Page 1 of 1
Geologist/Office B. Taylor/Albany, NY	Checked By: FJW	Borehole Diameter: 2"	Screen Diameter and Type: NA	Slot Size: NA"	Total Boring Depth (ft) 12.0 ft.	
Start/Finish Date 11/29/12 - 11/29/12	Drilling Contractor: Zebra	Sampling: Continuous Core Hammer Type:	Development Method: NA			
Driller: Quincy B.	Drilling Method: Direct Push	Drilling Equipment: Geoprobe	Horiz Datum/Proj: NAD83 Vert Datum: NGVD29 Ground Surface Elev: 58.8 ft.			Easting: 1181245.9 ft. Northing: 218404.0 ft. TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log			ppm Readings (ppm)	Remarks
						Sample Int	Recovery	Lithology		
		SW	Concrete Slab.							
		GW	FILL/REWORKED SOIL							
		GW	Brown cmf SAND and cmf GRAVEL. Dry.							
	55	SP	White/brown cmf GRAVEL, some cmf SAND. Dry.							37.6
5		SP	Brown/orange brown mf SAND, some (+) mf Gravel. Dry.							1.2
		SP	White/brown mf SAND, little mf Gravel. Dry.							
		SP	Brown/orange brown mf SAND, little (+) mf Gravel. Moist to Very Moist.							
	50	SW	Light brown cmf SAND, some (+) mf Gravel. saturated.							0.0
10		SP								
								</		

MONITORING WELL LOG

	Project Name: Former Baron-Blakeslee Site Project Number: 142147 Project Location: Bay Shore, NY			Permit Number:	Well No. MW-GWP-1 Page 1 of 2
Geologist/Office BFT/Albany, NY	Checked By: FJW	Borehole Diameter: 6.25"	Screen Diameter and Type: 2" Pre-Packed PVC	Slot Size: 0.010"	Total Boring Depth (ft) 63.4 ft.
Start/Finish Date 10/22/12 - 10/24/12	Drilling Contractor: ADT	Sampling: Split Spoon Hammer Type: 140 lb Auto	Development Method: Surge and Purge w/ Whale Pump: 90 Gallons removed		
Driller: C. Migclore	Drilling Method: Hollow Stem Auger	Drilling Equipment: CME-75	Horiz Datum/Proj: Vert Datum: Ground Surface Elev: 57.6 ft.		Easting: 1181331.4 ft. Northing: 218732.9 ft. TOC Elev: 57.5 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log				ppm Readings (ppm)	Remarks	
						Sample Int	Recovery	Lithology	Well Traffic Rated Vault Box			
55												1-53' BGS: Cement/Bentonite Grout

MONITORING WELL LOG

Brown AND Caldwell		Project Name: Former Baron-Blakeslee Site Project Number: 142147 Project Location: Bay Shore, NY						Permit Number:		Well No. MW-GWP-1 Page 2 of 2	
Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log			ppm Readings (ppm)	Remarks	
						Sample Int	Recovery	Lithology			
25											
35											
20											
40											
15											
45											
10											
50											
5											
55											
0											
60											
-5											
		SW	Brown/Tan cmf SAND, trace mf Gravel, trace (-) Silt. Saturated.	13-15-16-12	1	X	I	[Pattern]		53-55' BGS: Bentonite Seal 55-63.35' BGS: Sand Filter Pack 58.35-63.35' BGS: Pre-Packed 0.010" Slot PVC Screen	

MONITORING WELL LOG

	Project Name: Former Baron-Blakeslee Site Project Number: 142147 Project Location: Bay Shore, NY				Permit Number:	Well No. MW-GWP-3 Page 1 of 2
	Geologist/Office BFT/Albany, NY	Checked By: FJW	Borehole Diameter: 6.25"	Screen Diameter and Type: 2" Pre-Packed PVC	Slot Size: 0.010"	Total Boring Depth (ft) 64.4 ft.
Start/Finish Date 10/24/12 - 10/24/12	Drilling Contractor: ADT	Sampling: Split Spoon Hammer Type: 140 lb Auto		Development Method: Surge and Purge w/ Whale Pump: 85 Gallons removed		
Driller: C. Migclore	Drilling Method: Hollow Stem Auger	Drilling Equipment: CME-75	Horiz Datum/Proj: Vert Datum: Ground Surface Elev: 58.9 ft.		Easting: 1181208.2 ft. Northing: 218643.6 ft. TOC Elev: 58.7 ft.	

[illegible]

MONITORING WELL LOG

		Project Name: Former Baron-Blakeslee Site Project Number: 142147 Project Location: Bay Shore, NY				Permit Number:		Well No. MW-GWP-3 Page 2 of 2		
Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log			ppm Readings (ppm)	Remarks
						Sample Int	Recovery	Lithology		
25 35 20 40 15 45 10 50 5 55 0 60 -5		SW	Brown/Tan cmf SAND, little (+) cmf Gravel, trace (-) Silt. Saturated.	7-15-30-31	1				0.0	54-56' BGS: Bentonite Seal 56-64.36' BGS: Sand Filter Pack 59.36-64.36' BGS: Pre-Packed 0.010" Slot PVC Screen

MONITORING WELL LOG

	Project Name: Former Baron-Blakeslee Site Project Number: 142147 Project Location: Bay Shore, NY			Permit Number:	Well No. MW-GWP-6 Page 1 of 2
	Geologist/Office BFT/Albany, NY	Checked By: FJW	Borehole Diameter: 6.25"	Screen Diameter and Type: 2" Pre-Packed PVC	Slot Size: 0.010"
Start/Finish Date 10/25/12 - 10/25/12	Drilling Contractor: ADT	Sampling: Split Spoon Hammer Type: 140 lb Auto	Development Method: Surge and Purge w/ Whale Pump: 20 gallons removed		
Driller: C. Migclore	Drilling Method: Hollow Stem Auger	Drilling Equipment: CME-75	Horiz Datum/Proj: Vert Datum: Ground Surface Elev: 57.8 ft.		Easting: 1181278.6 ft. Northing: 218356.5 ft. TOC Elev: 57.6 ft.

[illegible]

MONITORING WELL LOG

		Project Name: Former Baron-Blakeslee Site Project Number: 142147 Project Location: Bay Shore, NY				Permit Number:		Well No. MW-GWP-6	
								Page 2 of 2	

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log				ppm Readings (ppm)	Remarks	
						Sample Int	Recovery	Lithology	Well			
25 35 20 40 15 45 10 50 5 55 0 60 -5 65												
		SW	Tan/Brown cmf SAND, some mf Gravel, trace (-) Silt. Saturated.	22-23-21-20	1	X	█	▤	▤		On 10/16/2012 development attempted. TD of well measured to be 50.25' BGS. On 11/9/2012 development attempted a second time. TD of well measured to be 50.25' BGS. Determined that well had been grouted in during installation, and will be abandoned. <i>54-57' BGS: Bentonite Seal</i> <i>57-65' BGS: Sand Filter Pack</i> <i>60-65' BGS: Pre-Packed 0.010" Slot PVC Screen</i>	

MONITORING WELL LOG

	Project Name: Former Baron-Blakeslee Site Project Number: 142147 Project Location: Bay Shore, NY				Permit Number:	Well No. MW-GWP-6R Page 1 of 2
Geologist/Office CRM/Albany, NY	Checked By: FJW	Borehole Diameter: 6.25"	Screen Diameter and Type: 2" Pre-Packed PVC	Slot Size: 0.010"	Total Boring Depth (ft) 65.0 ft.	
Start/Finish Date 12/14/12 - 12/14/12	Drilling Contractor: ADT	Sampling: Split Spoon Hammer Type: 140 lb Auto	Development Method: Surge and Purge w/ Whale Pump: 50 gallons removed			
Driller: Shaun	Drilling Method: Hollow Stem Auger	Drilling Equipment: CME-75	Horiz Datum/Proj: Vert Datum: Ground Surface Elev: 58.1 ft.	Easting: 1181256.0 ft. Northing: 218353.2 ft. TOC Elev: 57.8 ft.		

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log				ppm Readings (ppm)	Remarks	
						Sample Int	Recovery	Lithology	Well			
									Traffic Rated Vault Box			
55												1-56.5' BGS: Cement / bentonite grout.
5												
50												
10												
45												
15												
40												
20												
35												
25												
30												
30												

1-56.5' BGS:
Cement/bentonite grout.

MONITORING WELL LOG

		Project Name: Former Baron-Blakeslee Site Project Number: 142147 Project Location: Bay Shore, NY				Permit Number:		Well No. MW-GWP-6R	
								Page 2 of 2	

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log				ppm Readings (ppm)	Remarks
						Sample Int	Recovery	Lithology	Well		
25 35 20 40 15 45 10 50 5 55 0 60 -5 65			Tan/white cmf SAND, some (-) mf Gravel (rubrounded). Saturated.	4-4-8-9					0.0	56.5-59' BGS: Bentonite seal. 59-65' BGS: Sand filter pack. 60-65' BGS: Pre-Packed 0.010" Slot PVC Screen	

Appendix B: Field Sample Data Sheets



BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:

Personnel:

Purge/Sample Depth:

Project Number:

Well ID:

Sample ID: _____

[illegible]

729 NTV

BROWN AND
CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER
SAMPLING FIELD DATA

Well Number: MW-BWP-3
Sample I.D.: (if different from well no.)

Project: Joe Bayview
Personnel: Jim 82

Date: 11/15/12 Time: 1433
Weather: cloudy Air Temp.: 45

WELL DATA:

Casing Diameter: 2' ☐ Stainless Steel ☒ Steel ☒ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: _____ ☐ Stainless Steel ☐ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: _____ ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other: _____
CONDITION: Is Well clearly labeled? ☒ Yes ☐ No Is well clean to bottom? ☒ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: _____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☒ Teflon® ☐ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 200 Elapsed Time: 30m Volume Pumped: 2gal
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: _____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☒ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

Metals samples field filtered? ☒ Yes ☐ No Method: 45 µm filter

APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid

FIELD DETERMINATIONS: pH: 6.49 Meter Model: Hanna 452 Meter S/N: _____

Temperature: 14.09 Spec. Cond.: 0.239 Meter Model: _____ Meter S/N: _____

ORP: 186 DO: 4.55 Turbidity: 3.2

DUP: ☒ No ☐ Yes Name: _____

MS/MSD: ☐ No ☒ Yes Name: _____

Field Lab Results: ☒ N/A pH: _____ DO: _____ Temperature: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [Signature] Date: 11/15/12

P:\Office\Lab\LabData\Sheet\WQI_Info_Sheet.doc

7.29 NTU (Hach)

[illegible]

BROWN AND CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MN-GWP-1
Sample I.D.: _____ (if different from well no.)

Project: SE Bantore
Personnel: WPH BB

Date: 11/15/12 Time: 1357
Weather: cloudy Air Temp.: 45

WELL DATA:

Casing Diameter: 2" ☐ Stainless Steel ☐ Steel ☒ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: _____ ☐ Stainless Steel ☐ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: _____ ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other: _____
CONDITION: Is Well clearly labeled? ☒ Yes ☐ No Is well clean to bottom? ☒ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: _____ ☒ Bladder Pump ☒ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____
MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____
Pumping Rate: 200 Elapsed Time: 30min Volume Pumped: 2 gal
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: _____ ☒ Bladder Pump ☒ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____
MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☒ Yes ☐ No Method: 45 um filter
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: pH: 5.06 Meter Model: Hanna U-57 Meter S/N: _____
Temperature: 14.08 Spec. Cond.: 0.873 Meter Model: _____ Meter S/N: _____
ORP: 388 DO: 6.25 Turbidity: 1.9
DUP: ☐ No ☒ Yes Name: DUP11/15/12 U / DUP11/15/12 F
MS/MSD: ☐ No ☒ Yes Name: _____
Field Lab Results: ☐ N/A pH: _____ DO: _____ Temperature: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 11/15/12

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3.77 NTU (Hach)

BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: GE BAYSHORE

Project Number: _____

Personnel: JML, NPB

Well ID: _____

Purge/Sample Depth: _____

Sample ID: MW-GWP-06R

[illegible]

BROWN AND
CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER
SAMPLING FIELD DATA

Well Number:

Sample I.D.: MW-GWP-06R (if different from well no.)

Project: GE BAYSHORE

Personnel: JML, NPB

Date: 1.14.13

Time: 1230

Weather: Overcast

Air Temp.: 34°F

WELL DATA:

Casing Diameter: 2"

☐ Stainless Steel ☐ Steel ☒ PVC ☐ Teflon® ☐ Other: _____

Intake Diameter: 6"

☐ Stainless Steel ☐ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock

DEPTH TO: Static Water Level: 7.64 ft Bottom of Well: _____ ft

DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other: _____

CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☒ Yes ☐ No

Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No

Does Weep Hole adequately drain well head? ☒ Yes ☐ No

Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No

Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☒ Yes ☐ No

Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD:

☐ Bailer, Size: _____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer:

☒ Teflon®
☒ Stainless Steel
☐ PVC
☐ Other: _____

Tubing/Rope:

☒ Teflon®
☒ Polyethylene
☐ Polypropylene
☐ Other: _____

Pumping Rate: 125

Elapsed Time: 30min

Volume Pumped: 1.25 gal

Was well Evacuated? ☐ Yes ☒ No

Number of Well Volumes Removed: _____

PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA:

METHOD:

☐ Bailer, Size: _____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer:

☒ Teflon®
☒ Stainless Steel

Tubing/Rope:

☐ Teflon®
☒ Polyethylene

SAMPLING EQUIPMENT:

☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

Metals samples field filtered? ☐ Yes ☐ No Method: _____

APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid

FIELD DETERMINATIONS:

pH: 5.65

Meter Model: HANNA U-22

Meter S/N: _____

Temperature: 13.60

Spec. Cond.: 308

Meter Model: _____

Meter S/N: _____

ORP: 221

DO: 10.37

Turbidity: 18

DUP: ☐ No ☒ Yes

Name: DUP011413-D

MS/MSD: ☐ No ☐ Yes

Name: _____

Field Lab Results: ☒ N/A

pH: _____

DO: _____

Temperature: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____

Date: 1.14.12

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Lamott 2020 : Turbidity: 12.2 NTU

BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Ho Bayshore
 Personnel: NAB JML
 Purge/Sample Depth: _____

Project Number: _____
Well ID: MW-GWP-01
Sample ID: _____

Actual Time	pH	Temp (°C)	ORP (mV)	Cond ()	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
1345	5.73	13.41	254	0.358	11.50	6.6	6.82		
1348	5.53	13.36	262	0.486	10.83	12.5			
1351	5.41	13.29	266	0.526	10.53	18.5			
1354	5.36	13.27	268	0.538	10.42	20.5	6.82		
1357	5.34	13.25	272	0.544	10.27	22.2		150	
1400	5.31	13.24	273	0.549	10.18	20.7			
1403	5.29	13.24	273	0.552	10.21	19.8	6.84		
1405	5.28	13.23	274	0.556	10.24	10.4			
1409	5.27	13.21	277	0.557	10.23	9.2		150	
1412	5.26	13.21	278	0.557	10.18	4.7	6.84		
1415	5.26	13.21	274	0.556	10.15	3.9			
1418	SAMPLE		COLLE (TE D						01-T
1421	SAMPLE		COLLE (TE S)						01-D 01-D

BROWN AND
CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER
SAMPLING FIELD DATA

Well Number: MW-GWP-01
Sample I.D.: MW-GWP-01 (if different from well no.)

Project: DE Bayshore
Personnel:

Date: 1/14/13 Time: 1345
Weather: overcast Air Temp.: 52.60

WELL DATA:

Casing Diameter: 2 1/2 ☐ Stainless Steel ☐ Steel ☒ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: _____ ☐ Stainless Steel ☐ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 6.32 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☐ Top of Well Casing ☐ Other: _____
CONDITION: Is Well clearly labeled? ☒ Yes ☐ No Is well clean to bottom? ☒ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: _____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____
MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____
Pumping Rate: 150 Elapsed Time: 7 min Volume Pumped: 1.3 gal
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: _____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____
MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☒ Yes ☐ No Method: 45 mm filter
APPEARANCE: ☐ Clear ☒ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: pH: 5.26 Meter Model: Hanna 4.22 Meter S/N: _____
Temperature: 13.21 Spec. Cond.: 556 Meter Model: _____ Meter S/N: _____
ORP: 274 DO: 10.15 Turbidity: 3.4
DUP: ☐ No ☒ Yes Name: _____
MS/MSD: ☐ No ☒ Yes Name: MW-GWP-01-0
Field Lab Results: ☒ N/A pH: _____ DO: _____ Temperature: _____
I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.
Signature: [Signature] Date: 1/14/13

P:\Office\Field_Lab_Data_Sheets\Well_Info_Sheet.doc

Turb: 2.59 NTU Lamotte 20-20

BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: GE BAYSHORE

Personnel: JAL, NPB

Purge/Sample Depth: _____

Project Number: _____

Well ID: MW-GWP-03

Sample ID: _____

[illegible]

BROWN AND
CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER
SAMPLING FIELD DATA

Well Number: MW-GUP-03
Sample I.D.: (if different from well no.)

Project: GE BAYSHORE
Personnel: Jane, NP3

Date: 1.14.13 Time: 1243
Weather: overcast Air Temp.: 54°F

WELL DATA:

Casing Diameter: 2" ☐ Stainless Steel ☒ Steel ☒ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 6" ☐ Stainless Steel ☒ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: _____ ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other: _____
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☒ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☒ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: _____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____
MATERIALS: Pump/Bailer: ☒ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☒ Teflon® ☐ Polyethylene ☐ Polypropylene ☐ Other: _____
Pumping Rate: 150 Elapsed Time: 30 min Volume Pumped: 15 gal
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: _____ ☐ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____
MATERIALS: Pump/Bailer: ☒ Teflon® ☒ Stainless Steel ☐ Polyethylene ☐ Polypropylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: _____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: pH: 5.53 Meter Model: Haniba 122 Meter S/N: _____
Temperature: 13.40 Spec. Cond.: 0.084 Meter Model: _____ Meter S/N: _____
ORP: 253 DO: 10.41 Turbidity: 21.7
DUP: ☒ No ☐ Yes Name: _____
MS/MSD: ☐ No ☐ Yes Name: _____
Field Lab Results: ☒ N/A pH: _____ DO: _____ Temperature: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [Signature] Date: 1/14/13

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Lamott 2020: Turbidity: 6.29 NTU

Appendix C: Laboratory Deliverables

Provided Electronically



Appendix D: Data Usability Summary Reports





**QUALITATIVE
DATA USABILITY REPORT
GE Bayshore Site
November 2012 Air Samples**

SDG No.: 200-13963
Laboratory: TestAmerica Buffalo, Amherst, New York
Site: GE Bayshore Site, Bay Shore, New York
Date: January 4, 2013

Samples

Data from the following samples were reviewed:

Laboratory ID	Client ID	Matrix
200-13963-1	SS-05	Air
200-13963-2	DUP-112712-1 (SS-05)	Air
200-13963-3	SS-06	Air
200-13963-4	SS-07	Air
200-13963-5	SS-08	Air
200-13963-6	IA-06	Air
200-13963-7	IA-05	Air
200-13963-8	DUP-112712-2 (IA-05)	Air
200-13963-9	AA-07	Air
200-13963-10	SV-6	Air
200-13963-11	SV-7	Air
200-13963-12	SV-8	Air

200-13963-13	SV-9	Air
200-13963-14	SV-10	Air
200-13963-15	SV-11	Air

A Qualitative Data Usability Review was performed on all analytical data from SDG 200-13693. The samples were collected at the GE Bayshore Site, in Bayshore, New York. The following table outlines the analytical methods used to analyze the samples;

Analysis	Method
Volatile Organic Compounds (VOC)	EPA Method TO-15
Low Level Volatile Organic Compounds (LLVOC)	EPA Method TO-15

This review was performed in accordance with NYSDEC Guidance for the Development of Data Usability Summary Reports (revised September 1997).

Data Package Completeness

- The data packages were received complete as defined under the requirements for the NYSDEC ASP Category B and USEPA CLP deliverables.

Chains of Custody

The Chains-of Custody (COCs) were reviewed for completeness and accuracy. There were no discrepancies noted and all requested analyses were performed.

Organics

The following were reviewed for the organic analyses in this report:

- Case narrative
- Analysis data sheets (Form 1's)
- Holding time
- Surrogate recoveries

- Lab Control Sample/Lab Control Sample duplicate (LCS/LCSD) recoveries and RPDs
- Blank contamination
- Gas Chromatography/Mass Spectroscopy (GC/MS) tuning
- Initial and continuing calibration summaries
- Internal Standard area and retention time summary forms
- Field duplicate precision

The items listed above were technically and contractually in compliance with the method and Work Plan requirements, with the exceptions discussed in the following text.

Volatiles by Method TO-15

The compounds n-Heptane and 2,2,4-Trimethylpentane were detected in the method blank associated with samples SS-05, DUP-112712-1, and SS-06. The compound n-Heptane was detected in the method blank associated with samples SV-6, SV-7, SV-8, SV-9, SV-10 and SV-11. Associated sample results for these compounds less than 5 times the blank concentration have been qualified as not detected (U) at the reported sample concentration.

Location	Compound	Result (ug/M ³)	Qualifier
SS-06	n-Heptane	<3.8	U

Field duplicate imprecision between samples IA-05 and DUP-112712-2 accounted for the following results being qualified as estimated (J flagged).

Analyte	Normal Sample Result (ug/M ³)	Field Duplicate Result (ug/M ³)	RPD	Qualifier
Benzene	0.99	0.52	62	J
Toluene	6.9	4.2	49	J
n-Hexane (C6)	1.3	0.73	56	J
n-Heptane (C-7)	0.97	0.44	75	J

Carbon Tetrachloride	0.5	0.3	50	J
Cyclohexane	1.0	0.53	61	J
Trichlorofluoromethane	2.4	1.6	40	J
Dichlorodifluoromethane	6.0	3.9	42	J
Methylene chloride	1.8	9.0	133	J
Tetrachloroethene	4.3	2.3	61	J
Trichloroethene	0.59	0.28	72	J
2,2,4-Trimethylpentane	1.2	0.58	70	J

Validation Qualifiers

The following validation qualifiers may have been applied to the data, as appropriate.

- J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.
- U = The analyte was tested, but was not detected above the sample reporting limit.
- R = The sample result is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Summary Evaluation of Data and Potential Usability Issues

Overall, the data is acceptable for the intended purposes. No Data were rejected as a result of this review; most data meet the criteria for the parameters reviewed. Minor data quality issues were identified, only some required qualification of the data. The primary QC issue was field duplicate imprecision.

Signed: _____

Dated: _____

Gregory Cole
Senior Chemist



**QUALITATIVE
DATA USABILITY REPORT
GE Bayshore Site
November 2012 Groundwater Samples**

SDG No.: 460-47127
Laboratory: TestAmerica Edison, Edison, New Jersey
Site: GE Bayshore Site, Bay Shore, New York
Date: January 4, 2013

Samples

Data from the following samples were reviewed:

Laboratory ID	Client ID	Matrix
460-47127-1	FB111512	Water
460-47127-2	MW-GWP-3U	Water
460-47127-3	MW-GWP-3F	Water
460-47127-4	MW-GWP-1U	Water
460-47127-5	MW-GWP-1F	Water
460-47127-6	DUP111512U	Water
460-47127-7	DUP111512F	Water

A Qualitative Data Usability Review was performed on all analytical data from SDG 460-47127. The samples were collected at the GE Bayshore Site, in Bayshore, New York. The following table outlines the analytical methods used to analyze the samples;

Analysis	Method
ICP Metals (total)	SW846 6010B
ICP Metals (dissolved)	SW846 6010B
Mercury (total)	SW846 7470A
Mercury (dissolved)	SW846 7470A
Hexavalent and Trivalent Chromium	SW846 7199

This review was performed in accordance with NYSDEC Guidance for the Development of Data Usability Summary Reports (revised September 1997).

Data Package Completeness

- The data packages were received complete as defined under the requirements for the NYSDEC ASP Category B and USEPA CLP deliverables.

Chains of Custody

The Chains-of Custody (COCs) were reviewed for completeness and accuracy. There were no discrepancies noted and all requested analyses were performed.

Inorganics

The following were reviewed for the inorganic analyses in this report:

- Case narrative
- Analysis data sheets (Form 1's)
- Holding time
- Lab Control Sample/Lab Control Sample duplicate (LCS/LCSD) recoveries and RPDs
- Blank contamination
- Initial and continuing calibration summaries
- Matrix spike/Matrix spike duplicate (MS/MSD) recoveries and RPDs
- ICSA/ICSAB summaries

- Lab replicate precision
- Field duplicate precision
- Serial dilutions

The items listed above were technically and contractually in compliance with the method and Work Plan requirements, with the exceptions discussed in the following text.

Total metals by Method SW6010B

Field duplicate imprecision between samples MW-GWP-1U and DUP-111512 U accounted for the following results being qualified as estimated (J flagged).

Analyte	Normal Sample Result (ug/L)	Field Duplicate Result (ug/L)	RPD	Qualifier
Iron	217	81.1J	91	J
Manganese	102	64.4	45	J

Field duplicate imprecision between samples MW-GWP-1F and DUP-111512 F accounted for the following results being qualified as estimated (J flagged).

Analyte	Normal Sample Result (ug/L)	Field Duplicate Result (ug/L)	RPD	Qualifier
Manganese	104	56.5	60	J

Missed holding times accounted for the following results being qualified as estimated (J/UJ flagged).

Location	Compound	Result (ug/Kg)	Qualifier
MW-GWP-3U	Hexavalent Chromium	<0.56	UJ
MW-GWP-3F	Hexavalent Chromium	<0.56	UJ
MW-GWP-1U	Hexavalent Chromium	<0.56	UJ

MW-GWP-1F	Hexavalent Chromium	<0.56	UJ
DUP111512 U	Hexavalent Chromium	<0.56	UJ
DUP111512 F	Hexavalent Chromium	<0.56	UJ
FB111512	Hexavalent Chromium	<0.56	UJ

Validation Qualifiers

The following validation qualifiers may have been applied to the data, as appropriate.

- J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.
- U = The analyte was tested, but was not detected above the sample reporting limit.
- R = The sample result is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Summary Evaluation of Data and Potential Usability Issues

Overall, the data is acceptable for the intended purposes. No Data were rejected as a result of this review; most data meet the criteria for the parameters reviewed. Minor data quality issues were identified, only some required qualification of the data. The primary QC issue was missed holding times for hexavalent chromium.

Signed: _____

Dated: _____

Gregory Cole

Senior Chemist



**QUALITATIVE
DATA USABILITY REPORT
GE Bayshore Site
November 2012 Soil Samples**

SDG No.: 460-47673
Laboratory: TestAmerica Edison, Edison, New Jersey
Site: GE Bayshore Site, Bay Shore, New York
Date: January 4, 2013

Samples

Data from the following samples were reviewed:

Laboratory ID	Client ID	Matrix
460-47673-1	SB-9-1.0-1.5	Soil
460-47673-2	SB-11-1.0-1.5	Soil
460-47673-3	SB-12-1.0-1.5	Soil
460-47673-4	SB-10-3.0-3.5	Soil
460-47673-5	SB-8-1.5-2.0	Soil
460-47673-6	SB-6-5-5.5	Soil
460-47673-7	SB-7-5-5.5	Soil
460-47673-8	SB-5-6-6.5	Soil
460-47673-9	FB-112912	Water
460-47673-10	DUP-112912 (SB-9-1.0-1.5)	Soil

A Qualitative Data Usability Review was performed on all analytical data from SDG 460-47673. The samples were collected at the GE Bayshore Site, in Bayshore, New York. The following table outlines the analytical methods used to analyze the samples;

Analysis	Method
Volatile Organic Compounds (VOC)	SW846 8260B
Percent Moisture	EPA Moisture

This review was performed in accordance with NYSDEC Guidance for the Development of Data Usability Summary Reports (revised September 1997).

Data Package Completeness

- The data packages were received complete as defined under the requirements for the NYSDEC ASP Category B and USEPA CLP deliverables.

Chains of Custody

The Chains-of Custody (COCs) were reviewed for completeness and accuracy. There were no discrepancies noted and all requested analyses were performed.

Organics

The following were reviewed for the organic analyses in this report:

- Case narrative
- Analysis data sheets (Form 1's)
- Holding time
- Surrogate recoveries
- Lab Control Sample/Lab Control Sample duplicate (LCS/LCSD) recoveries and RPDs
- Blank contamination
- Gas Chromatography/Mass Spectroscopy (GC/MS) tuning

- Initial and continuing calibration summaries
- Internal Standard area and retention time summary forms
- Field duplicate precision

The items listed above were technically and contractually in compliance with the method and Work Plan requirements, with the exceptions discussed in the following text.

Volatiles by Method SW8260B

The compounds acetone and methylene chloride were detected in the method blank associated with samples SB-12-1.0-1.5, SB-10-3.0-3.5, and SB-5-6-6.5. The compound n-Heptane was detected in the method blank associated with samples SV-6, SV-7, SV-8, SV-9, SV-10 and SV-11. Associated sample results for these compounds less than 5 times the blank concentration have been qualified as not detected (U) at the reported sample concentration.

Location	Compound	Result (ug/Kg)	Qualifier
SB-12-1.0-1.5	Acetone	<6	U
SB-12-1.0-1.5	Methylene chloride	<0.45	U
SB-10-3.0-3.5	Methylene chloride	<0.5	U
SB-5-6-6.5	Methylene chloride	<0.28	U

Low matrix spike recoveries accounted for the following results being qualified as estimated (J/UJ flagged).

Location	Compound	Result (ug/Kg)	Qualifier
SB-12-1.0-1.5	Toluene	0.17	J
SB-12-1.0-1.5	Methylcyclohexane	<0.1	UJ
SB-12-1.0-1.5	Chlorobenzene	<0.18	UJ
SB-12-1.0-1.5	Cyclohexane	<0.13	UJ
SB-12-1.0-1.5	1,2-Dibromo-3-chloropropane	<0.44	UJ
SB-12-1.0-1.5	1,2-Dichlorobenzene	<0.1	UJ

SB-12-1.0-1.5	1,3-Dichlorobenzene	<0.16	UJ
SB-12-1.0-1.5	1,4-Dichlorobenzene	<0.11	UJ
SB-12-1.0-1.5	Ethylbenzene	<0.17	UJ
SB-12-1.0-1.5	Isopropylbenzene	<0.11	UJ
SB-12-1.0-1.5	1,1,2,2-Tetrachloroethane	<0.091	UJ
SB-12-1.0-1.5	Styrene	<0.28	UJ
SB-12-1.0-1.5	1,1,1-Trichloroethane	24	J
SB-12-1.0-1.5	1,2,3-Trichlorobenzene	<0.16	UJ
SB-12-1.0-1.5	1,2,4-Trichlorobenzene	<0.19	UJ
SB-12-1.0-1.5	Trichloroethene	63	J
SB-12-1.0-1.5	m,p-Xylene	<0.6	UJ
SB-12-1.0-1.5	o-Xylene	<0.19	UJ
SB-8-1.5-2.0	Tetrachloroethene	6300	J

Validation Qualifiers

The following validation qualifiers may have been applied to the data, as appropriate.

- J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.
- U = The analyte was tested, but was not detected above the sample reporting limit.
- R = The sample result is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Summary Evaluation of Data and Potential Usability Issues

Overall, the data is acceptable for the intended purposes. No Data were rejected as a result of this review; most data meet the criteria for the parameters reviewed. Minor data quality

issues were identified, only some required qualification of the data. The primary QC issue was low matrix spike recoveries.

Signed: _____

Dated: _____

Gregory Cole

Senior Chemist



**QUALITATIVE
DATA USABILITY REPORT
GE Bayshore Site
January 2013 Groundwater Samples**

SDG No.: 460-49437-1

Laboratories: TestAmerica Edison, Edison, New Jersey
Accutest Laboratories, Dayton, New Jersey

Site: GE Bayshore Site, Bay Shore, New York

Date: February 6, 2013

Samples

Data from the following samples were reviewed:

Laboratory ID	Client ID	Matrix
460-49437-1	MW-GWP-06R-T	Water
460-49437-2	MW-GWP-06R-D	Water
460-49437-3	DUP 011413-D	Water
460-49437-4	FB011413	Water
460-49437-5	MW-GWP-03-T	Water
460-49437-6	MW-GWP-03-D	Water
460-49437-7	MW-GWP-01-T	Water
460-49437-8	MW-GWP-01-D	Water

A Qualitative Data Usability Review was performed on all analytical data from SDG 460-47127. The samples were collected at the GE Bayshore Site, in Bayshore, New York. The following table outlines the analytical methods used to analyze the samples;

Analysis	Method
ICP Metals (total)	SW846 6010B
ICP Metals (dissolved)	SW846 6010B
Mercury (total)	SW846 7470A
Mercury (dissolved)	SW846 7470A
Hexavalent and Trivalent Chromium	SW846 7199

All analyses with the exception of hexavalent chromium were performed by TestAmerica Edison. The hexavalent chromium analysis was performed by Accutest Laboratories. This review was performed in accordance with NYSDEC Guidance for the Development of Data Usability Summary Reports (revised September 1997).

Data Package Completeness

- The data packages were received complete as defined under the requirements for the NYSDEC ASP Category B and USEPA CLP deliverables.

Chains of Custody

The Chains-of Custody (COCs) were reviewed for completeness and accuracy. There were no discrepancies noted and all requested analyses were performed.

Inorganics

The following were reviewed for the inorganic analyses in this report:

- Case narrative
- Analysis data sheets (Form 1's)
- Holding time
- Lab Control Sample/Lab Control Sample duplicate (LCS/LCSD) recoveries and RPDs
- Blank contamination
- Initial and continuing calibration summaries

- Matrix spike/Matrix spike duplicate (MS/MSD) recoveries and RPDs
- ICSA/ICSAB summaries
- Lab replicate precision
- Field duplicate precision
- Serial dilutions

The items listed above were technically and contractually in compliance with the method and Work Plan requirements and no data qualification was warranted.

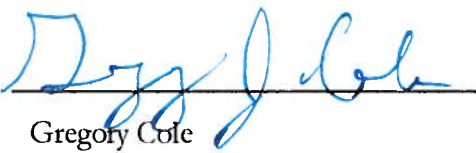
Validation Qualifiers

The following validation qualifiers may have been applied to the data, as appropriate.

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- U = The analyte was tested, but was not detected above the sample reporting limit.
- R = The sample result is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Summary Evaluation of Data and Potential Usability Issues

Overall, the data is acceptable for the intended purposes. No Data were qualified as a result of this review.

Signed: 
 Gregory Cole
 Senior Chemist

Dated: 2/7/2013