

GGP STATEN ISLAND MALL, LLC

REMEDIAL DESIGN REPORT

CAROL CLEANERS - THE CROSSINGS

JUNE 26, 2018



NYSDEC IHWDS SITE #2-43-020





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PROJECT NO.: 770800.ORSIRI.00
DATE: JUNE 2018

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STATEN ISLAND, NEW YORK
NYSDEC IHWDS SITE #2-43-020**

CERTIFICATION

I, William Beckman, certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375 and that this Revised Full-Scale In-Situ Remedial Design Workplan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the Division of Environmental Remediation (DER) – 10 (Technical Guidance for Site Investigation and Remediation) (DER-10). I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as a Class “A” misdemeanor, pursuant to Section 210.45 of the Penal Law.

063219



6/25/18

William Beckman

NYS Professional Engineer #

Date

Signature

Note: Include PE Stamp

It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

1 INTRODUCTION

On behalf of General Growth Properties, Inc. (GGP; formerly The Rouse Company [Rouse]), WSP USA (WSP), formerly Leggette, Brashears and Graham, Inc. (LBG and LBGES) has prepared this Remedial Design Report (RDR) to summarize additional remedial investigation activities completed in connection with the on-site catch basin system and the proposed full-scale, in-situ bioremediation activities related to the presence of chlorinated volatile organic compounds (CVOCs) in the groundwater underlying the Carol Cleaners/Rouse Staten Island Mall [the Site], located at 280 Marsh Avenue in Staten Island, New York (Figures 1 and 2). The RDR activities were completed in accordance with the Supplemental Remedial Investigation Workplan (RIW) dated March 2016 and updated in May 2016, and as approved by the New York State Department of Environmental Conservation (NYSDEC) on June 29, 2016.

The work identified in the Supplemental RIW focused on the stormwater system to determine whether it potentially impacted the local soil and groundwater at and proximal to the Site. With this potential condition in mind, the proposed work comprising the Supplemental RIW included: the completion and sampling of up to twenty soil borings (with the subsequent conversion of three of the boreholes to temporary wellpoints); the installation of three permanent monitor wells along the potentially impacted portion of the stormwater system route; and installation of two permanent monitor wells to delineate impacts identified at Monitor Well MW-20 on the main mall property. These activities were performed under an existing Order On Consent between the NYSDEC and GGP (formerly Rouse), effective October 14, 2002 and recently updated by the Order On Consent effective October 5, 2011.

2 BACKGROUND

General site conditions including a description of soils, geology, hydrogeology, and topography have been previously summarized in detail in the original NYSDEC-approved Full-Scale In-Situ Remedial Design Workplan (RDWP). The previously-approved Quality Assurance Project Plan (QAPP), Health and Safety Plan (HASP), and Community Air Monitoring Program (CAMP) documents, prepared in connection with activities previously completed at the Site, were followed as part of the RDR work activities.

The subject stormwater system consists of fifteen (15) catch basins (CB-1, CB-2, CB-2A, CB-3 through CB-12, CB-14, and V-1), two (2) grated manholes (MH-1 and MH-2), and piping. The corresponding layout is presented on Figure 2. It should be noted that Catch Basin CB-15 is located along Staten Island Mall Drive/Ring Road which borders the western property boundary and so is not located on-site. Catch Basin CB-10 consists of an extended grated manhole integrated into a bordering retaining wall. The stormwater system route is from Catch Basin CB-14, on the northern side of The Crossings, to Catch Basin CB-9, on the southwestern side of The Crossings. From Catch Basin CB-9, the system discharges to the municipal system routed under Platinum Avenue (Figure 2).

The original Full-Scale In-Situ RDWP for implementation of in-situ bioremediation efforts at the Site was approved by the NYSDEC on June 29, 2016. A baseline round of groundwater sampling was performed at the Site in October 2016 in accordance with the approved RDWP. During the baseline groundwater sampling efforts, grab samples of standing water were collected from several of the catch basins at the Site. The analytical results for the catch basin grab samples indicated the detection of elevated chlorinated volatile organic compounds (CVOCs) concentrations, specifically tetrachloroethylene (PCE). Initial and subsequent follow-up discussions with former dry-cleaning operation tenants at the Site lead to the conclusion that past operation, disposal, and storage activities conducted by these tenants resulted in the introduction of PCE into the catch basin system.

In response to the detection of PCE in the standing water samples collected from the stormwater system, and in connection with the Interim Site Management Plan (Interim SMP) activities identified for the Site, stormwater system cleaning activities were initiated in November 2016 by Active Remediation (Active) of Mount Holly, New Jersey under the oversight of WSP. The cleaning activities involved the removal of sediment from all of the accessible catch basins associated with the on-site stormwater system. Approximately two to three feet of sediment was encountered at each of the accessed catch basins.

Field screening of sediment for volatile organic compounds (VOCs) was performed during the stormwater system cleaning activities using a photoionization detector (PID). Sediment samples were collected for subsequent laboratory analysis from each accessed on-site catch basin, with the exception of Catch Basin CB-10. Sediment samples could not be collected from this catch basin due to personnel-size access limitations. The collected sediment samples submitted for analyses were biased toward those exhibiting elevated PID readings, and were generally collected from within one foot of the bottom of the respective catch basin. The observed PID readings ranged from not detected (ND), or just over 0 parts per million (ppm), to 6,560 ppm. The collected sediment samples intended for analyses were placed in laboratory-supplied glassware and submitted under chain-of-custody to SGS Accutest Laboratories (SGS, NY Certification No. 10983) and analyzed for VOCs plus tentatively identified compounds (TICs) using USEPA Method 8260.

Although the analyzed samples consisted of accumulated sediment, the corresponding analytical results were compared to the respective NYSDEC Soil Cleanup Objectives (SCOs). The detected PCE concentrations ranged from ND to 124,000 milligrams per kilogram (mg/kg). In comparison, the respective most stringent Protection of Groundwater SCO for PCE is 1.3 mg/kg. Five of the sixteen sediment samples exhibited PCE concentrations which exceeded the respective Protection of Groundwater SCO. In addition, three of these samples also exhibited concentrations of PCE “breakdown” constituents, including trichloroethylene (TCE) and cis-1,2-

dichloroethylene (cis-1,2-DCE), which exceeded respective Protection of Groundwater SCOs. One of the samples also exhibited a concentration for the PCE breakdown constituent, vinyl chloride, which exceeded its respective Protection of Groundwater SCO.

The sediment samples collected from Catch Basins CB-3, CB-4, and CB-8/8A also exceeded the respective Commercial SCO for PCE, and the sample collected from Catch Basin CB-4 also exceeded the respective Commercial SCOs for TCE and cis-1,2-DCE. The highest observed PID readings corresponded to those catch basins where the sediment exhibited PCE and related CVOCs above the respective SCOs and included Catch Basin CB-3 (6,560 ppm), Catch Basin CB-4 (5,750 ppm), and Catch Basin CB-8/8A (1,309 ppm). Acetone was detected in sediment samples collected from Catch Basins CB-2A and CB-8/8A at concentrations which exceeded the respective Protection of Groundwater SCO. However, acetone was not detected in the associated blanks. It is anticipated these detections were due to the significant dilutions required to analyze the sediment samples, and the laboratory reported these concentrations as “biased high”. Therefore, the acetone exceedances are expected to be related to laboratory contamination and not related to Site conditions.

Sediment removed from the respective catch basins was placed in on-site lined rolloffs for subsequent transportation and off-site disposal. An attempt was made by Active and WSP to segregate PCE/CVOC-impacted from non-impacted sediment during removal activities. As such, two separate 20-yard rolloffs were used for this purpose. Composite samples were collected from each rolloff, placed in laboratory-supplied glassware, and submitted under chain-of-custody to SGS and analyzed for VOCs plus TICs using USEPA Method 8260 and full Toxic Characteristic Leachate Procedure (TCLP) analysis for VOCs, semi-volatile organic compounds (SVOCs), metals, pesticides and poly-chlorinated biphenyls (PCBs) for disposal consideration. With the exception of TCLP VOCs, there were no concentrations which met the toxicity characteristic for a “listed” waste. The results of the TCLP VOC analysis indicated that the sediment placed in the first rolloff met the classification for “non-hazardous” for PCE, and the intentionally segregated sediment placed in the second rolloff met the classification for characteristically “hazardous” for PCE.

A composite sample, collected from the hazardous rolloff, was also sent to the U.S. Ecology Michigan Treatment Plant (U.S. Ecology) in Belleville, Michigan for treatability testing. Their results indicated that the PCE-hazardous soil was treatable. As a result, the hazardous sediment was shipped under manifest to U.S. Ecology in Belleville, Michigan. The non-hazardous sediment was shipped under manifest to Cycle Chem of Elizabeth, New Jersey.

Following removal of sediment from the respective catch basins, the entire stormwater system was jetted with clean water. The removed standing and residual jetting water was containerized on-site in seven “poly” tanks for subsequent transportation and off-site disposal. Each of the seven poly tanks were sampled using a dedicated Teflon bailer and laboratory-supplied glassware. The collected water samples were submitted under chain-of-custody to SGS Accutest Laboratories and analyzed for VOCs plus TICs using USEPA Method 8260. The respective analytical results indicated that all of the recovered water met the classification as hazardous for PCE. The detected PCE concentrations ranged from 1,710 micrograms per liter (ug/L) to 129,000 ug/L. The containerized recovered water was shipped under manifest to Clean Earth of North Jersey in Kearny, New Jersey.

Following the jetting activities, a video inspection of the accessible areas of the stormwater system was performed. The video inspection identified the occurrence and approximate locations of pipe-joint gaps, holes, and damaged piping within the stormwater system.

3 SCOPE OF RDR WORK

Based on the prior baseline sampling, and stormwater system cleaning and related inspection activities, it was concluded that the past use of the system potentially impacted the local soil and groundwater proximal to said system. Based on the PCE concentrations detected in catch basin sediment, as well as those in recovered standing and jetting water, compared to the concentration equivalent to 1-percent of the pure-phase solubility of PCE (200,000 ug/L or 2,000 ug/L), it was anticipated that dissolved non-aqueous phase liquid (DNAPL) may be present in the area of the respective impacted catch basins. The RDR-related activities included the following:

- completion and sampling of eighteen soil borings;
- collection of thirty-six soil samples for VOC analysis;
- conversion of three of the soil boring boreholes to temporary wellpoints;
- collection of three groundwater grab samples;
- installation of five permanent monitor wells;
- abandonment of Monitor Well MW-9, and repair of Monitor Wells MW-12 and MW-13;
- collection of a round of groundwater samples from the monitor well network; and
- sampling of sub-slab vapor contingent on soil sampling results.

Dust monitoring downwind of site work was performed in accordance with the CAMP. Based on the monitoring data, no dust levels above background were detected.

3.1 SOIL BORING PROGRAM

Eighteen (18) soil borings (SWB-1 through SWB-18) were advanced in June 2017 by Cascade Environmental of Mineola, New York using a Geoprobe® rig. The borings were advanced at locations intended to assess the potential for CVOC-impacts from on-site subsurface utility routes, specifically storm water lines, and as such were advanced in the parking areas on the eastern and southern sides of The Crossings Mall building proximal to storm drain catch basins (Figure 3).

The borings were mostly advanced to the top of bedrock with completion depths ranging from approximately 3 to 19 feet below grade (ft bg). Soil samples were continuously collected from the respective boreholes using a macro-core device with dedicated, disposable, clear-acetate sleeves. All drilling and sample collection equipment was decontaminated before and between set-ups at each boring location. All of the resulting boreholes were backfilled with soil cuttings and bentonite, and cold patch/concrete was used to finish to the respective grade surfaces.

The subsurface materials and conditions encountered at each boring location (e.g., depth to groundwater and bedrock) were characterized by the on-site WSP hydrogeologist. The grain-size makeup of the encountered overburden materials was described using the Unified Soil Classification System and the Modified Burmister Method. The respective soil boring logs are provided in Appendix I. The WSP hydrogeologist also recorded any evidence of odor, staining, and VOC presence (determined using a PID). Samples exhibiting elevated VOC concentrations (as per the PID) were screened for DNAPL using hydrophobic dye (i.e., Sudan IV). Cuttings generated during the completion of the respective borings were placed in 55-gallon sealable steel drums, labeled and staged in a previously determined location for appropriate disposal at a later time.

The overburden materials encountered at each of the boring locations were consistent with those encountered during previous on-site subsurface explorations elsewhere at the Site. The naturally-occurring materials generally consisted mainly of fine grain-size deposits of clay, silt, and fine sand with varying amounts of gravel. A total of thirty-six (36) soil samples were collected for subsequent laboratory analyses at depths corresponding to immediately above the encountered groundwater surface (typically about 5 ft bg) and/or above refusal at each boring location. The respective soil samples along with quality assurance/quality control (QA/QC) were submitted for laboratory analyses in laboratory provided containers.

A written chain-of-custody record was maintained by the on-site WSP hydrogeologist to trace the collection, possession, and handling of each sample from the time of its collection to its final fate, including all transfers, storage, analysis, and ultimate disposition by the laboratory. The collected samples and QA/QC blanks were submitted to SGS, and analyzed for VOCs using USEPA Method 8260. The method detection limits were lower than the respective regulatory action levels for the corresponding VOCs. The laboratory data package is provided in Appendix II. A summary of the analytical results is provided in Table 1.

The analytical results for the respective soil samples did not indicate the occurrence of any of the CVOCs of interest at concentrations in exceedance of the respective NYSDEC Restricted Use Commercial SCOs. No evidence of DNAPL was encountered at any of the boring locations. Based on the results of the soil sampling efforts, the implementation of sub-slab vapor sampling at the nearby tenant spaces was not warranted.

3.2 SUPPLEMENTAL GROUNDWATER SAMPLING

3.2.1 INSTALLATION OF TEMPORARY WELLPOINTS

Temporary wellpoints were installed within the boreholes of Borings SWB-1, SWB-7, and SWB-15 between June 1 and 2, 2017. The temporary wellpoints were used to collect groundwater grab samples to better position the proposed permanent monitor wells. The temporary wellpoints were constructed with 2-inch diameter, PVC riser and screen. The screen interval was completed using 5 feet of slotted PVC set at the top of bedrock. Each temporary wellpoint was purged of standing water and subsequently sampled using a peristaltic pump. The groundwater samples were collected from each of the temporary wellpoints using a dedicated Teflon bailer and laboratory-supplied glassware. The collected groundwater grab samples were submitted under chain-of-custody to SGS for analysis of VOCs plus TICs using USEPA Method 8260. The method detection limits were lower than the respective regulatory action levels for the corresponding VOCs. The laboratory analytical reports are provided in Appendix II. A summary table of the grab groundwater sampling results is provided as Table 2.

The groundwater grab sample collected from Boring SWB-15 exhibited a concentration of PCE at 34.3 ug/L and a few other low level VOCs below NYSDEC groundwater standards. This boring was not converted into a permanent monitor well as there are enough existing monitor wells in the vicinity of this location to adequately characterize the PCE impacted groundwater in this area. The groundwater grab samples collected from Borings SWB-1 and SWB-7 did not indicate the presence of CVOCs above the method detection limits with the exception of an estimated chloroform concentration below NYSDEC groundwater standards.

3.2.2 INSTALLATION OF PERMANENT MONITOR WELLS

As per the Supplemental RIW, five (5) monitor wells (Monitor Wells MW-25, MW-26, MW-27, MW-28, and MW-29) were installed at the Site between June 28 and 29, 2017. Monitor wells MW-25 through MW-27 were

installed along the stormwater system route at anticipated “upstream”, “side-stream” and “downstream” locations (Figure 2). Monitor Wells MW-28 and MW-29 were installed in the main mall parking lot to delineate impacts previously identified at Monitor Well MW-20.

The monitor well boreholes were advanced to the respective bedrock surface by AmeriDrill Co. of Levittown, Pennsylvania using the hollow stem auger (HSA) drilling technique. The respective monitor wells were constructed with 4-inch diameter PVC riser and screen. Each monitor well was constructed with five feet of screen with the bottom set immediately at the encountered bedrock surface, and surrounded by a gravel pack overlain by a bentonite seal. Soil samples retrieved during the drilling of the respective monitor-well boreholes were screened for VOCs using a PID. None of the samples exhibited elevated VOC concentrations. No evidence of DNAPL was encountered during advancement of any of the monitor well boreholes. Each completed monitor well was developed to remove suspended sediment, and the purge water contained on-site for future appropriate disposal. Manifests for the disposal of the investigation derived purge waste are included in Appendix III.

Monitor Wells MW-25, MW-26, MW-27, MW-28, and MW-29 were completed at depths of 13 ft bg, 14 ft bg, 10 ft bg, 22.5 ft bg, and 24 ft bg, respectively. The construction information for all of the on and off-site monitor wells completed to date is summarized in Table 3. Geologic logs for each of the newly installed monitor wells (MW-25, MW-26, MW-27, MW-28, and MW-29) are provided in Appendix IV. The newly installed monitor wells were surveyed in August 2017 by Volosin Associates, LLC.

3.2.3 GROUNDWATER SAMPLING

A round of groundwater sampling was conducted in July 2017. Monitor Wells MW-1 through MW-8, MW-10, and MW-14 through MW-29 were sampled between July 17 and 20, 2017. Monitor Wells MW-11 through MW-13 are located within Platinum Avenue and were sampled on July 28, 2017. The monitor wells were sampled using the USEPA “low-flow” purging and sampling method.

Prior to purging, the depth to water was measured at each of the monitor wells utilizing a combination electric water-level/DNAPL interface probe, accurate to the nearest 0.01 foot. The measured groundwater levels were subsequently converted to groundwater elevations using survey information for the respective monitor wells (Table 3). Monitor Well MW-9 was abandoned due to extensive damage from paving activities and, therefore, was not sampled. Based on the distribution of the respective groundwater elevations, the general direction of groundwater flow is toward the southwest as shown on Figure 4. This direction is relatively consistent with the historic direction determined for the Site. The groundwater elevation data also indicate that the local vertical flow gradient is downward from the overburden into the bedrock (i.e., Monitor Wells MW-3 and MW-3D).

During purging, the temperature, pH, conductivity, turbidity, dissolved oxygen concentration, and redox potential of the discharged water were monitored using a Horiba U-22 flow-through cell water-quality meter. The respective readings were recorded on the low-flow groundwater sampling log sheets as provided in Appendix V. The purge water was contained in drums on-site for future disposal.

Groundwater samples were collected from the peristaltic pump discharge downstream of the Horiba flow-through cell, and placed directly into laboratory supplied bottles. The collected samples were then submitted to SGS for the analysis of VOCs via USEPA Method 8260. As per the NYSDEC request, groundwater samples were also submitted to SGS for the analysis of 1,4-dioxane via USEPA Method 8270 using select ion monitoring (SIM) and per- and polyfluoroalkylated substances (PFAS) via USEPA Method 537 Modified (the modification allows for the analysis of groundwater rather than drinking water samples). Field duplicates and field blanks were also collected, submitted and analyzed for VOCs, 1-4-dioxane, and PFAS along with laboratory trip blanks for analysis of VOCs. The method detection limits were lower than the respective regulatory action levels for the corresponding VOCs. The analytical data were reviewed by Laboratory Data Consultants, Inc. (LDC) for

preparation of a NYSDEC Data Usability Summary Report (DUSR). The laboratory data package is provided in Appendix VI along with the summaries prepared by LDC. The analytical results for VOCs and PFAS are summarized on Tables 4 and 5, respectively.

Based on the analytical results for the twenty-nine groundwater samples collected during the July 2017 sampling round, one or more CVOCs were detected at all the sampled monitor well locations with the exception of Monitor Wells MW-1, MW-6R, MW-14, MW-15, MW-21, MW-25, MW-26, MW-27, and MW-29. Exceedances of the respective NYSDEC Groundwater Standards were identified for one or more CVOCs at Monitor Wells MW-3, MW-4, MW-5, MW-7, MW-8, MW-11, MW-12, MW-13, MW-16, MW-17, MW-18, MW-19, and MW-20. Concentrations detected below the standards were found at Monitor Wells MW-2, MW-3D, MW-10, MW-22, MW-23, MW-24, and MW-28. PCE concentrations ranged from not detected at Monitor Wells MW-1, MW-6R, MW-14, MW-15, MW-21, MW-25, MW-26, MW-27, and MW-29, to 983 ug/L at Monitor Well MW-17. The occurrence of the related “breakdown” CVOCs (TCE, cis-1,2-DCE, and VC) at concentrations above the respective groundwater standards generally occurred in those monitor wells located downgradient (southwest) of Carol Cleaners. There were no exceedances for CVOCs in the groundwater sample collected from bedrock Monitor Well MW-3D.

The distribution of PCE concentrations and its breakdown CVOCs in groundwater occurring during the July 2017 sampling round are presented on Figures 5 through 9, respectively. A summary of historical VOC sampling results is provided as Table 6. Based on the historic and most recent analytical data, the CVOC impacts generally follow the local direction of groundwater flow towards Platinum Avenue.

The results for Monitor Wells MW-28 and MW-29 provide delineation of the PCE impacts previously identified at Monitor Well MW-20. Monitor Well MW-20 exhibited a PCE concentration of 25.1 ug/L during the July 2017 groundwater sampling. Monitor Well MW-28 exhibited an estimated PCE concentration of 0.96 ug/L, below the NYSDEC groundwater standard of 5 ug/L, and PCE was not detected at Monitor Well MW-29.

As requested by the NYSDEC, the groundwater samples were also analyzed for 1,4-dioxane and PFAS. The constituent 1,4-dioxane, also a VOC, was analyzed via USEPA Method 8270 SIM, which achieves a lower detection limit. This compound was not detected above the reporting limit of 0.10-0.11 ug/L in the collected groundwater samples. SGS analyzed the groundwater samples for twenty (20) PFAS compounds via USEPA Method 537 Modified. In 2016, the USEPA released a lifetime health advisory (LHA) for PFAS in drinking water of 0.07 ug/L; however, in June 2017 the USEPA released a regional screening level (RSL) for PFAS in groundwater of 0.4 ug/L. The sample from Monitor Well MW-2 exhibited individual and a combined PFOA and PFOS concentration (0.36 ug/L) above the LHA of 0.07 ug/L, but below the RSL of 0.4 ug/L. The sample from Monitor Well MW-25 exhibited PFOA and a combined PFOA and PFOS concentration of 0.08 ug/L, just over the LHA of 0.07 ug/L, but below the RSL of 0.4 ug/L. The samples from the remaining monitor wells did not exhibit these constituents over 0.07 ug/L. As these concentrations were either at or within an order of magnitude of the LHA and below the RSL, it does not appear that there is a PFAS-related concern at the Site. In addition, drinking water is not used in the Site area.

As described above, the DUSR is included with laboratory analytical reports for groundwater provided in Appendix VI. According to the DUSR, the results were usable as reported or usable with minor qualifications due to sample matrix or a laboratory quality control outlier.

3.2.4 ADDITIONAL ACTIVITIES

During the baseline sampling round, Monitor Well MW-9, located within Platinum Avenue, was found to be significantly damaged due to past road paving activities completed just prior to the sampling round (Figure 2). As per the conference call between the NYSDEC, GGP, and WSP on February 22, 2017, Monitor Well MW-9 was not considered necessary as part of the long-term groundwater monitoring program for the Site due to the

existence of nearby monitor wells located in its general location, on the opposite side of Platinum Avenue. As such, Monitor Well MW-9 was abandoned in accordance with applicable NYSDEC guidelines as part of the RDR-related activities on June 7, 2017. The abandonment was performed by Cascade Environmental using bentonite/cement and a surface seal of asphalt patch. In addition, Cascade Environmental installed new collars and well pads at Monitor Wells MW-12 and MW-13 also located within Platinum Avenue.

3.3 HYDROGEOLOGIC CHARACTERIZATION

In order to further characterize the on-site and off-site subsurface environment, and its related influence on groundwater flow and CVOC migration, in-situ hydraulic testing and mapping of local geologic formations were completed using the information gleaned from the recently completed borings and expanded monitor-well network. To this end, “slug tests” were performed on a select number of monitor wells located about the CVOC plume area. Additionally, a hydrogeologic cross-section was prepared utilizing several existing and newly installed monitor wells to illustrate the sub-surface conditions at the Site with respect to the CVOC plume. These tasks and the results are further described below.

3.3.1 HYDRAULIC CONDUCTIVITY

Slug testing was previously conducted at the Site in November 2002. Based on the slug testing performed in 2002, it was determined that the hydraulic conductivity of the overburden materials underlying the Site generally ranged from 0.06 feet per day (ft/d) to 0.7 ft/d and are typical for fine sand and mixtures of fine sand and silt that primarily comprise the overburden. Additional slug testing was performed in October 2011 utilizing on-site Monitor Wells MW-4, MW-5, MW-6R, MW-15 and off-site Monitor Wells MW-11 and MW-16. The results for hydraulic conductivity varied from 0.442 ft/d to 27.37 ft/d. In February of 2013 slug tests were performed on Monitor Wells MW-3, MW-2D, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, and MW-19. Hydraulic conductivity results from this round of slug testing resulted in a range from 0.07 ft/d to 11.94 ft/d.

Additional slug tests were conducted in May and July 2017. The tests were conducted by rapidly introducing a solid, 2 ½” diameter inert PVC slug beneath the standing groundwater within the respective monitor well. A complimentary test was subsequently completed as the slug was removed from the monitor well. The corresponding rise and fall of the standing column water level was monitored by rapid intervals using a pressure transducer and data logger. The collected data were analyzed using the Bouwer-Rice method. The respective slug-test data and analysis results are summarized in Appendix VI.

The May 2017 slug tests were conducted at Monitor Wells MW-20, MW-21, MW-22, MW-23, and MW-24. The formation near Monitor Well MW-20 exhibited in the highest hydraulic conductivity value out of the 5 wells, at 5.99 ft/d. The slug tests conducted on Monitor Wells MW-21, MW-22, MW-23, MW-24 exhibited hydraulic conductivities of 0.46 ft/d, 0.56 ft/d, 0.42 ft/d, and 0.73 ft/d, respectively. The July 2017 slug testing round was conducted at Monitor Wells MW-1, MW-7, MW-25, MW-26, MW-27, MW-28 and MW-29, and resulted in hydraulic conductivity values of 2.38 ft/d, 1.27 ft/d, 1.19 ft/d, 0.91 ft/d, 0.86 ft/d, 3.08 ft/d and 0.85 ft/d, respectively. Based on these results, hydraulic conductivity tends to increase closer to Platinum Avenue, or in the southwest direction. These data reflect the increase in the amount of course sand and gravel in the deeper portion of the overburden that occurs to the west-southwest of the Site.

3.3.2 BEDROCK SURFACE/GEOLOGIC CROSS-SECTION

As part of soil boring completion and monitor-well installation activities implemented since the 1990s, the respective encountered materials and depth to bedrock were further characterized using the latest boring and monitor well log data. Based on the data, the depth to bedrock encountered across the Site ranges from approximately 12 ft bg at Monitor Well MW-1 to 24 ft bg at Monitor Well MW-29. The encountered depths to bedrock were converted to approximate elevations to map the surface elevation of the bedrock (Figure 10). Based on the respective map, the corresponding bedrock surface generally slopes downwards in elevation from the vicinity of Monitor Well MW-1 where the bedrock elevation is approximately 33 feet above mean sea level (famsl) towards the southwest in the vicinity of Monitor Well MW-16 where the bedrock elevation is approximately 3 famsl.

In addition to determining the local bedrock surface, the boring and monitor well logs data were used to prepare a hydrogeologic cross-section (A-A') that illustrates the vertical distribution of encountered surface conditions across the Site (Figure 11). The respective cross-section illustrates the general slope of the bedrock surface from northeast to southwest, and a similar slope in groundwater surface. The cross-section also illustrates the increase in thickness of the naturally occurring overburden materials (primarily fine sand and silt) from northeast to southwest.

3.4 CVOC PLUME DELINEATION

As of the 2008 groundwater sampling event, it was concluded that the local on-site storm water system could be locally influencing CVOC migration at the Site. Standing water samples collected from the storm drain system catch basins on the eastern and southern side of The Crossings building exhibited PCE concentrations ranging from “not detected” at Catch Basin CB-4 (upgradient of the CVOC-impacted groundwater plume) to 59.9 ug/L and 39.6 ug/L identified at Catch Basins CB-2 and CB-1, respectively. It should be noted that though the storm water sampled at Catch Basin CB-1 exhibited a PCE concentration of 39.6 ug/L, the adjacent monitor well (MW-6R) did not exhibit the presence of PCE or any of the related VOCs. Given that most of the soil samples collected above the groundwater surface and adjacent to the on-site storm water catch basins and sanitary sewer lines along Platinum Avenue exhibited slightly detectable CVOC concentrations (e.g., Catch Basin CB-4 and Boring SB-6), it appeared that a link existed between the respective utility lines and the respective CVOC plume.

A baseline round of groundwater sampling was performed at the Site in October 2016 in accordance with the approved original Full-Scale In-Situ RDWP. During the baseline groundwater sampling efforts, standing water samples were again collected from several of the catch basins at the Site. The samples exhibited PCE ranging from “not detected” (ND) at Catch Basin CB-4 to 272 ug/L at the immediately downstream Catch Basin CB-3. These concentrations were the highest historical results for the catch basin system.

Following the baseline groundwater sampling event, the catch basin system was cleaned in November 2016. The encountered sediment exhibited PCE concentrations ranging from 124,000 ug/kg at CB-4 proximal to the former Tumble Dry Cleaners, to non-detected at the upgradient-most catch basins CB-14. Elevated PCE concentration were also detected in the sediment removed from CB-8A proximal to the former Carol Cleaners tenant space. As described above, the sediment and standing water removed from the system were significantly impacted by PCE. Supplemental investigation activities were performed between May and July 2017 to address these impacts. However, these activities did not indicate the presence of significant PCE impacts to soil or groundwater proximal to the stormwater catch basin system, most likely due to property of backfill and soil directly underlying the system.

The May and July 2017 investigation included a full round of groundwater sampling at the existing and newly installed monitor wells. Based on the respective distribution of PCE and related CVOCs detected in groundwater as a result of the 2017 investigation, the corresponding plume is generally following the local direction of groundwater flow from the Site towards Platinum Avenue. Given the extremely elevated PCE concentrations detected in the respective catch basins, the system is still considered to be the major source of this CVOC in the on-site groundwater. The mechanism for the movement of this PCE into the nearby soil and groundwater is most likely dependent on the sporadic influx of stormwater runoff during precipitation events, and characteristics of the backfill and soil surrounding the system.

The wide-spread occurrence of PCE breakdown constituents (TCE, cis-1,2-DCE and VC) occurring in groundwater along Platinum Avenue substantiates the plume migration route and persistence of reductive dechlorination along its extent. Based on historical and recent sampling results, it can be concluded that: the on-site CVOC-impacted groundwater has been delineated in the overburden; and the shallow bedrock groundwater underlying the Site near the Carol Cleaners (MW-3D) exhibits minimal CVOC impact (current detections below the respective NYSDEC Groundwater Standards). The off-site portion of the plume exhibits elevated CVOC concentrations to the west of the intersection of Platinum Avenue and Staten Island Mall Drive proximal to Monitor Well MW-20, which was delineated by Monitor Well MW-28 and MW-29. The CVOC concentrations at Monitor Wells MW-16 and MW-20 are similar and likely due to the increased sand thickness in this vicinity. The bulk of the plume is currently situated adjacent to and along Platinum Avenue with the highest concentration of PCE observed in July 2017 at Monitor Well MW-17. Previous reports indicated that the plume shifted toward Monitor Wells MW-4 and MW-13 possibly due to an additional source area. However, recent groundwater sampling does not suggest an additional source and it appears the plume is shifting downgradient away from Monitor Wells MW-4 and MW-13 and concentrating along Platinum Avenue. This migration is due to the downward bedrock-surface slope and groundwater gradient which allows for plume persistence and migration along Platinum Avenue.

3.5 SUB-SLAB VAPOR MITIGATION

The results of the April 2006 and February 2008 indoor air and sub-slab air sampling, summarized in the RI report submitted in 2008, indicated that PCE and related CVOCs had impacted the indoor air in the Babies R Us space, and the adjacent strip mall spaces occupied by SI Shoe Repair, Carol Cleaners, Mon Amie Nails and Carvel (the focus area). The areas where indoor air impacts appear to be greatest generally coincided with areas corresponding to the nearby groundwater plume. Based on the detected concentrations and respective NYSDOH guidelines, a sub-slab depressurization system (SSDS) was installed to mitigate these impacts.

The initial round of post-mitigation heating season indoor air sampling results indicated that concentrations of PCE and related CVOCs still exceeded their respective New York State Department of Health (NYSDOH) guidelines within multiple tenant spaces. Additional investigation into the cause of the persistent elevated PCE and related CVOC concentrations determined that the dry cleaning tenant (French Cleaning by Carol) occupying the Carol Cleaners tenant space was using equipment which was emitting PCE into the indoor air at concentrations in exceedance of the respective NYSDOH guideline. The tenant was subsequently vacated from the property by GGP. Follow-up indoor air sampling indicated that PCE vapor remained an indoor air issue at the Carvel tenant space. As a result, an additional SSDS suction point was installed within the Carvel tenant space in February 2015. Subsequent heating season indoor air sampling at the Carvel tenant space indicated compliance with the respective NYSDOH guidelines.

The SSDS is currently operating and maintaining depressurization of the targeted tenant spaces. The SSDS is inspected annually and prior to or during intrusive activities. The SSDS was inspected during the Supplemental RIW activities and was operating at normal vacuums, and all the test points achieved the required minimum

vacuum confirming effective depressurization. The as-built drawing for the SSDS is provided in Appendix VIII. The O&M Plan for the SSDS will be incorporated in the final SMP.

4 REVISED IN-SITU REMEDIAL DESIGN WORKPLAN

4.1 INTRODUCTION

The original Full-Scale In-situ RDWP was submitted to the NYSDEC in March 2016 with an update in May 2016 and was approved by the NYSDEC on June 29, 2016. Prior to initiating full-scale injections and as part of the interim SMP, stormwater system cleaning activities were initiated in November 2016. These activities identified CVOC-impacted sediment and accumulated standing water. The system was jetted and the sediment, accumulated standing water, and jetting water were disposed of off-site as reported in the Supplemental RIW. A subsequent video inspection of the accessible areas of the stormwater system identified pipe-joint gaps, holes, and damaged piping within the stormwater system. Based on the results of the stormwater cleaning and video inspection, a Supplemental RIW was submitted to the NYSDEC which detailed proposed investigation of the soil and groundwater proximal to the stormwater system. As described above, the supplemental investigation activities did not indicate the presence of significant impacts proximal to the stormwater catch basin system. The following sections describe the current understanding of the impacts to media at the Site.

4.2 NATURE AND EXTENT OF CONTAMINATION

4.2.1 SOIL

Based on the analytical results for eighty-nine soil samples collected on and off-site during multiple remedial investigations completed between 2002 and 2011, only one exceedance of the respective Recommended Soil Cleanup Objectives (RSCO) for PCE was encountered at the Site. No soil impacts were identified during the more recent soil sampling investigations conducted in 2015 and that conducted in connection with the stormwater system investigation in 2017. Therefore, impacts to soil are considered to be minimal, localized, and do not appear to be acting as a continuing source for impact to groundwater. The soils are effectively capped, as the entire property is covered by asphalt, concrete, and the footprint of The Crossings building. As per the Feasibility Study (FS), the only RAO applicable for soil at the Site are those focused on protection of public health and that require incorporation of institutional controls. As per the ROD, the institutional control applicable to the Site consists of the existing covering of soil with impervious surface, which, in turn, requires establishment of an Environmental Easement (EE) and maintenance as part of the final Site Management Plan (SMP).

On behalf of GGP, the identification of a proposed EE area was submitted by WSP to the NYSDEC in early July 2015. The proposed area was subsequently approved by the NYSDEC in late July 2015. As a condition to its concurrence with the approved EE area, the NYSDEC requested the completion of surface (within two feet) soil sampling within the limits of the “unpaved area” portion associated with the proposed EE. The requested soil sampling was completed in August 2015, and the corresponding analytical results indicated that the detected concentrations of all of the targeted compounds were below the respective “Restricted Residential” and “Commercial” Soil Cleanup Objectives (SCOs). The EE document and required site survey were submitted by

GGP to the NYSDEC in November 2015. The institutional control associated with the proposed EE will be incorporated into the final SMP.

4.2.2 GROUNDWATER

The baseline groundwater sampling round completed in connection with the in-situ bioremediation pilot test was conducted between January and February 2013. The analytical results for this round indicated water-quality conditions and CVOC concentrations similar to those associated with the October 2011 sampling round, which had been used to develop the Pilot Study Workplan. Based on the analytical results for the baseline sampling conducted in January and February 2013, it was confirmed that the plume consisting of PCE and related CVOCs continued to migrate from the Site towards and along Platinum Avenue. However, even though migrating, it was determined that naturally-occurring reductive dechlorination was reducing PCE concentrations in the groundwater associated with the plume. The pilot test was conducted between November 2014 (injections) and October 2015. Following an initial increase in PCE concentrations, there was a significant decrease in PCE concentrations and increase in breakdown constituents due to the enhanced reductive dechlorination process. However, as anticipated, those effects leveled off by the last quarterly round of monitoring. The pilot test summary report was submitted to the NYSDEC in December 2015 and approved on April 13, 2016. The summary report proposed full-scale in-situ bioremediation and the original Full-Scale In-Situ RDWP was submitted in March 2016 with an update in May 2016. As per the original Full-Scale In-Situ RDWP, a baseline round of groundwater sampling was performed in October 2016. As described above, the October 2016 sampling included the collected of standing water samples from select catch basins. The results of the catch basin sampling indicated that a portion of the storm drain system, located proximal to the Carol Cleaners and the rear of the Crossings [previously impacted in connection with the initial release(s)], was possibly contributing to the plume by allowing residually impacted storm water runoff to seep into the immediately underlying unsaturated zone).

Cleaning of the stormwater catch basin system was initiated in November 2016. Significantly impacted sediment and standing water was identified and removed from the system. Subsequent stormwater system investigation activities included the installation of three monitor wells along the eastern side of The Crossings building proximal to the most impacted catch basins. These monitor wells did not exhibit CVOC-impacts in groundwater in this area of the Site. The maintenance of the storm drain system will be incorporated into the final SMP. The July 2017 groundwater sampling results confirmed the plume direction and movement away from the original “source area” toward Platinum Avenue and that the “hot spot” is currently situated where monitored bedrock is amongst the lowest in elevation as observed at Monitor Well MW-17.

The generic protection of health RAO associated with groundwater are intended to: 1) prevent its ingestion when respective contaminant levels exceed the corresponding drinking water standards; 2) prevent contact/inhalation of volatiles from volatilized contaminants in impacted groundwater; and 3) restore the aquifer to pre-release conditions to the extent practicable. The groundwater at the Site is not used as a drinking water supply or for any recreational purposes. Therefore, there is no potential for ingestion of groundwater at the Site. However, the RAO goals of prevention of contact with/inhalation of CVOCs from impacted groundwater (see Soil Vapor section below), and the restoration of the groundwater-bearing overburden to pre-release conditions to the extent practicable are applicable to the Site. In addition, the RAO applicable to the generic protection of the environment require prevention of the discharge of CVOCs in groundwater to local surface water, and removal of the respective source. There are no on-site or nearby off-site surface water bodies; and the on-site storm water system discharges to a municipal combined sewer system at an off-site location. As described above, cleanup has been performed on the on-site storm sewer system, and maintenance of the said storm water system will be incorporated into the final SMP.

4.2.3 SOIL VAPOR

The generic RAO for soil vapor are focused on mitigating impacts to public health resulting from the potential or existing soil-vapor intrusion into buildings. As described previously, an SSDS was installed at Carol Cleaners and Babies R Us spaces in April 2014. The initial round of post-mitigation heating season indoor air sampling results indicated that concentrations of PCE and related CVOCs still exceeded their respective NYSDOH guidelines within multiple tenant spaces. Additional investigation into the cause of the persistent elevated PCE and related CVOC concentrations determined that the dry cleaning tenant (French Cleaning by Carol) occupying the former Carol Cleaners tenant space was using equipment which was emitting PCE into the indoor air at concentrations in exceedance of the respective NYSDOH guideline. The tenant was subsequently vacated from the property by GGP. Follow-up indoor air sampling indicated that PCE vapor remained an indoor air issue at the Carvel tenant space. As a result, an additional SSDS suction point was installed within the Carvel tenant space in February 2015. Subsequent heating season indoor air sampling at the Carvel tenant space indicated compliance with the respective NYSDOH guidelines. The SSDS is currently operating and maintaining depressurization of the targeted tenant spaces. The as-built drawing for the SSDS is provided in Appendix VII. The O&M Plan for the SSDS will be incorporated in the final SMP.

4.3 REMEDIAL ACTION GOALS AND REMEDIAL ACTION OBJECTIVES (RAOS)

As presented in the FS and the Pilot Study Workplan, the stated goal of this remedial program, as implemented under 6 NYCRR Part 375-2.8(a), is to restore the Site to “pre-disposal” conditions to the extent feasible. In addition, the selected remedy is intended to eliminate or mitigate all significant threats to the public health and to the environment presented by the contaminants released at the Site as set forth in the Comprehensive Environmental Resource Conservation and Liability Act (CERCLA) and amended by Superfund Amendments and Reauthorization Action (SARA).

The applicable RAO for the Site are classified in DER-10 as “medium or operable unit-specific objectives” for the protection of public health and the environment and are developed based on “Standards, Criteria and Guidance” (SCGs) for the specific contaminant(s).

4.4 STANDARDS, CRITERIA AND GUIDANCE (SCGS)

As per the FS, the applicable SCGs for the Site are based on guidelines specified by the NYSDEC Division of Environmental Remediation (DER) and Division of Water (DOW), and the NYSDOH:

The DER SCGs are as follows:

- DER-10 – Technical Guidance for Site Investigation and Remediation
- DER-15 – Presumptive/Proven Remedial Technologies
- 6 NYCRR Part 375 – Environmental Remediation Programs
- 6 NYCRR Part 375-6 – Remedial Program Soil Cleanup Objectives

The DOW SCGs are as follows:

- 6 NYCRR Part 703 - Surface Water and Groundwater Quality Standards and Groundwater Effluent Standards

The NYSDOH SCGs are as follows:

- Guidance for Evaluating Soil Vapor Intrusion in New York
- NYSDOH Drinking Water Standards

As per the applicable SCGs, the generic, medium specific RAOs are summarized below.

4.4.1 PROTECTION OF PUBLIC HEALTH

Soil

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from soil.

Groundwater

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

Soil Vapor

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.
-

4.4.2 PROTECTION OF THE ENVIRONMENT

Soil

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

Groundwater

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

Based on the above SCGs and corresponding focus, in-situ biological treatment was selected as the appropriate remedial measure through the FS process as it meets the “threshold and primary balancing technology evaluation” criteria for the Site and is believed most likely to enhance the already naturally occurring processes at the Site.

4.5 DESIGN SCOPE

4.5.1 REMEDIAL DESIGN

Two conceptual designs were originally considered for the full-scale remedial activity selection. The first conceptual design required installation of about 50 injection points, at on- and off-site locations, and spaced on 20-foot centers to aggressively treat the entire plume. The first conceptual design was anticipated to only require one injection round, but would need to use pressure to deliver the injectant (treatment solution) into the subsurface environment. The second conceptual design included use of existing monitor wells along with the addition of newly constructed monitor wells to implement treatment solution injections in a more concentrated area. The second conceptual design would require multiple injection rounds over a longer duration (possibly one year or more), but could be completed via either pressure or gravity feed.

The source area at the Site is limited in size, and bordered by the building section serviced by the SSDS and the north side of Platinum Avenue. These constraints make installation of an aerially extensive injection well/point network at the Site prohibitive. During the pilot test, the pressure fed injectant was significantly diluted to allow adequate ease of delivery, but this also increased the total volume of liquid being injected. In addition, daylighting of the injectant occurred on the front side of the Carol Cleaners portion of the building (which is upgradient of the treatment area). This occurrence is attributed to a combination of the pressure-fed injections in low to moderate permeability overburden and the presence of a foundation-related void space beneath the building. Considering these factors, WSP proposed the second conceptual design approach, which relies on multiple injection points and rounds of injectant delivery via gravity feed. This design is anticipated to require additional time to complete, but will allow for: 1) better injectant distribution across the remedial action treatment area; 2) a long-term maintained level of carbon source; and 3) avoidance of adverse effects on the operation of the existing SSDS.

4.5.2 INJECTANT

The injectant (treatment solution) proposed for use in connection with the full-scale remedial activities is the same product used during the pilot test. The injectant (WILCLEAR PLUS®) is a sodium lactate mixture (consisting of a blend of fatty acids and fermentables (e.g., sodium lactate) manufactured by JRW Bioremediation, LLC (JRW). WILCLEAR PLUS® is designed specifically for bioremediation use, and is a light to dark brown, low viscosity, miscible liquid with a pH between 6 and 8. This product is manufactured from food-grade ingredients, primarily fatty acids and fermentables, which eventually get consumed by natural microbes in the subsurface and groundwater (see “fact sheet” and “SDS” provided as Appendices IX and X, respectively). Once the reductive dechlorination (anaerobic driven) process is completed, only the innocuous end products consisting of carbon dioxide, ethene, ethane, water, and chloride ions remain in the groundwater.

4.5.3 REMEDIAL ACTION TREATMENT AREA AND INJECTION WELL NETWORK

Implementation of the second conceptual design will focus on a remedial action treatment area where the PCE concentration in groundwater is over 5 ug/L, which has a size of approximately 1.25-acre. A total of twelve (12) injection points are proposed for injectant delivery within the remedial action treatment area. The locations of the injection points (utilization of existing monitor wells) will be distributed amongst three (3) zones. “Zone 1” will include Monitor Wells MW-3 and MW-5 and correspond to the source area. Monitor Wells MW-3D and MW-4 will be used for source area monitoring purposes. The source area perimeter will correspond to “Zone 2” and

will include Monitor Wells MW-7, and MW-20 through MW-24. The downgradient fringe will correspond to “Zone 3” and include Monitor Wells MW-16 through 19. A monitor/injection well construction summary is provided on the next page. The injection wells proposed for the lactate injection program are shown on Figure 12.

Monitor/Injection Well Construction Summary

WELL ID ¹	DATE COMPLETED	INJECTION ZONE	TOTAL DEPTH (FT BG) ²	DEPTH TO BEDROCK (FT BG)	FLUSH-MOUNT RIM ELEVATION (FT AMSL) ³	TOP OF PVC ELEVATION (FT AMSL)	SCREEN SETTING INTERVAL (FT BG)
MW-1	7/26/1995	---	13.5	13.5	44.58	44.28	8.5-13.5
MW-2	7/26/1995	---	12.0	12.0	37.97	37.74	7.0-12.0
MW-3	7/28/1995	Zone 1	14.8	13.0	32.59	32.12	9.8-14.8
MW-3D	5/26/2006	---	43.5	25.0	32.85	32.46	35.5-43.5
MW-4	7/27/1995	---	14.6	17.0	33.02	32.68	9.6-14.6
MW-5	7/27/1995	Zone 1	14.0	14.0	31.98	31.60	9.0-14.0
MW-6R	9/23/2002	---	15.0	13.0	35.16	34.85	10.0-15.0
MW-7	9/24/2002	Zone 2	15.0	13.0	32.35	32.05	10.0-15.0
MW-8	9/24/2002	---	15.0	13.0	31.86	31.31	10.0-15.0
MW-9	Abandoned	---	16.0	15.0	31.30	31.06	11.0-16.0
MW-10	5/26/2006	---	20.0	19.0	34.53	34.21	15.0-20.0
MW-11	3/12/2008	---	17.0	16.0	31.19	30.71	12.0-17.0
MW-12	3/11/2008	---	18.0	17.0	32.13	31.77	13.0-18.0
MW-13	3/11/2008	---	18.0	17.0	33.81	33.38	13.0-18.0
MW-14	3/11/2008	---	17.0	16.0	32.23	31.67	12.0-17.0
MW-15	3/12/2008	---	17.0	16.2	36.97	36.51	12.0-17.0
MW-16	7/22/2011	Zone 3	28.0	28.0	29.72	29.46	23.0-28.0
MW-17	7/22/2011	Zone 3	26.0	26.0	30.47	30.05	21.0-26.0
MW-18	7/22/2011	Zone 3	20.5	20.5	31.05	30.67	15.5-20.5
MW-19	7/22/2011	Zone 3	20.5	20.5	32.37	31.82	15.5-20.5
MW-20	8/26/2016	Zone 2	25.5	25.5	29.79	29.53	20.5-25.5
MW-21	8/24/2016	Zone 2	17.0	17.0	30.48	30.19	12.0-17.0
MW-22	8/24/2016	Zone 2	14.5	14.5	31.65	31.31	9.4-14.5
MW-23	8/25/2016	Zone 2	10.0	10.0	33.43	33.05	5.0-10.0
MW-24	8/25/2017	Zone 2	11.0	11.0	33.90	33.28	6.0-11.0
MW-25	6/29/2017	---	13.0	13.0	41.87	41.41	8.0-13.0
MW-26	6/28/2017	---	14.0	14.0	39.18	38.77	9.0-14.0
MW-27	6/28/2017	---	10.0	10.0	34.47	34.10	5.0-10.0
MW-28	6/29/2017	---	22.5	22.5	29.06	28.69	17.5-22.5
MW-29	6/29/2017	---	24.0	24.0	31.57	31.28	19.0-24.0

Notes:

- 1 Bolded rows indicated monitor wells which are proposed for injections. See [Figure 12](#) for locations.
- 2 Feet below ground surface.
- 3 Feet above mean sea level.

4.5.4 INJECTANT DELIVERY METHOD

As described above, during pilot testing the injectant was typically pressure fed into the injection points. In order to facilitate the relatively low to moderate permeability of the receiving overburden, the injectant had to be significantly diluted which increased the total volume of liquid being injected. Daylighting occurred at previously completed injection locations, and also on the opposite side of the building from the injection area and is most likely due to the influence of a void space associated with the building foundation. Considering these factors, WSP is proposing to gravity feed the injectant rather than injecting under pressure. This delivery method will require additional time to complete, but as described previously, should allow for: 1) better distribution across the remedial action treatment area; 2) a maintained level of carbon source; and 3) should not adversely affect operation of the existing SSDS. This method will also allow for use of an optimal mixture ratio which is anticipated to be 9:1 water to sodium lactate, which is similar to that used during the pilot test.

During each delivery event, each injection well will be filled with the 9:1 treatment solution to a depth of no less than 5 ft bg. Depending on the rate at which the formation accepts the mixture at the respective location, the injections are currently anticipated to be delivered more than once a week contingent upon the local formation assimilation capacity. Eight (8) 55-gallon drums of lactate are currently on-site for use with the first few injection rounds. Eight drums were also used during the pilot test injections. Once fine tuning of the delivery volumes and mixtures appropriate for the local formation is established, more appropriate volumes of lactate will be ordered and stored for future use as determined from ongoing monitoring of the enhanced in-situ reductive dichlorination effectiveness.

4.5.5 POTENTIAL RECEPTORS

The routing of the piping and catch basins for the on-site storm water system traverse much of the remedial action treatment area. In addition, the route of the public sanitary sewer system serving the Site is located within Platinum Avenue, proximal to the remedial action treatment area.

As with the pilot test, it is not anticipated that the injection of WILCLEAR PLUS™ solution during the full-scale remedial efforts will seep into the on-site storm-water and off-site sanitary sewer systems because the corresponding system components are located at higher elevations than that of the on-site groundwater and injectant-resulting mounding zone. Substantiation of this condition is supported by WSP personnel noting during the pilot test that no odors or brown-colored water typically associated with the utilized lactate mixture were observed in the catch basins during or following the pilot test injections. In addition, water levels measured at nearby monitor wells and catch basins in connection with the pilot test injections did not exhibit any evidence of groundwater mounding. Though it is anticipated that similar conditions will prevail during the full-scale remedial efforts, water levels will be monitored throughout the zone of influence and over the duration of the remedial action. The use of gravity fed injections rather than pressure fed injections has been selected to further reduce the potential for groundwater mounding into the respective utility systems.

There are no on-site or off-site wetlands, streams, or other environmentally sensitive habitats anticipated to potentially be disturbed by the proposed remedial action. As such, none of these are considered potential receptors.

4.5.6 DESIGN PLANS AND SPECIFICATIONS

As the only additional infrastructure planned for installation as part of the proposed full-scale remedial effort is the potential addition of several monitor (injection) wells, the inclusion of design plans and specifications are

not warranted as part of this submittal. Construction information for the wells proposed for the full-scale injection are provided in Table 3.

4.6 EFFECTIVENESS MONITORING

Similar to the pilot test, the effectiveness monitoring program for the full-scale design will include the collection of water samples from selected monitor wells and subsequent analyses for the targeted contaminants (PCE and related CVOCs) and field parameters, including dissolved oxygen, oxidation reduction potential (ORP), temperature, and pH. In addition, the collected samples will be analyzed for nitrate/nitrite, total and dissolved metals (iron, manganese, etc.), sulfate, alkalinity, biological oxygen demand (BOD), chemical oxygen demand (COD), permanent gases (ethene, ethane, methane and carbon dioxide), and total organic carbon (TOC). Many of these parameters and compounds will be analyzed in order to assess the establishment and persistence of anaerobic processes.

Two years of quarterly monitoring are proposed in connection with assessing the effectiveness of the full scale remedial activities. The effectiveness monitoring program will include eight quarterly rounds associated with corresponding injections, and completion of a full post-injection program. Summaries of the targeted parameters for the corresponding sampling rounds and associated schedule are provided as follows:

Summary of Analyses for Proposed Effectiveness Monitoring Program

PARAMETER	MONITORING ROUND			
	Pre-Injection Baseline (one time - all monitor wells) ¹	Injection Monitoring (proposed quarterly for 2 years)		Final Post-Injection Post-Treatment (one time - all monitor wells)
		Monitor Wells Within Treatment Area	Monitor Wells Outside Treatment Area	
Volatile Organic Compounds	X	X	X	X
Total Metals	X	X	X	X
Dissolved Metals	X	X	---	X
Nitrate/Nitrite	X	X	---	X
Sulfate	X	X	---	X
Permanent Gases	X	X	---	X
Chemical Organic Demand	X	X	---	X
Biological Organic Demand	X	X	---	X
Total Organic Carbon	X	X	---	X
Alkalinity	X	X	---	X
DO, ORP, pH, Temperature (field)	X	X	X	X
Specific Conductance (field)	X	X	---	X

¹ Note: that only those monitor wells sampled during the original baseline in October 2016 will have been analyzed for the full list of baseline parameters. Monitor Wells MW-20 through MW-29 will only have been analyzed for VOCs as part of the July 2017 sampling round.

Sampling Schedule for Proposed Effectiveness Monitoring Program

MONITOR WELL	MONITORING ROUND			
	Pre-Injection Baseline (one time)	Injection Monitoring (proposed quarterly for 2 years)		Final Post-Injection Post-Treatment (one time)
		Monitor Wells Within Treatment Area	Monitor Wells Outside Treatment Area	
MW-1	X	---	---	X
MW-2	X	---	X	X
MW-3 (Zone 1 injection)	X	X (injection)	---	X
MW-3D	X	X	---	X
MW-4	X	X	---	X
MW-5 (Zone 1 injection)	X	X (injection)	---	X
MW-6R	X	---	X	X
MW-7 (Zone 2 injection)	X	X (injection)	---	X
MW-8	X	X	---	X
MW-9 (Abandoned)	---	---	---	---
MW-10	X	---	X	X
MW-11	X	---	---	X
MW-12	X	---	---	X
MW-13	X	---	---	X
MW-14	X	---	---	X
MW-15	X	---	---	X
MW-16 (Zone 3 injection)	X	X (injection)	X	X
MW-17 (Zone 3 injection)	X	X (injection)	X	X
MW-18 (Zone 3 injection)	X	X (injection)	X	X
MW-19 (Zone 3 injection)	X	X (injection)	X	X
MW-20 (Zone 2 injection)	X	X (injection)	---	X
MW-21 (Zone 2 injection)	X	X (injection)	---	X
MW-22 (Zone 2 injection)	X	X (injection)	---	X
MW-23 (Zone 2 injection)	X	X (injection)	---	X
MW-24 (Zone 2 injection)	X	X (injection)	---	X
MW-25	X	---	---	X
MW-26	X	---	---	X
MW-27	X	---	---	X
MW-28	X	---	---	X
MW-29	X	---	---	X

As the proposed monitoring is limited in areal extent and duration, and no impacts to the surrounding community or to environmental resources are anticipated, a Remedial Action Monitoring Plan (RAMP) and Community and Environmental Response Plan (CERP) are not warranted for inclusion in this Revised Full-Scale In-Situ RDWP.

4.7 PERMITS

A USEPA Class V injection well inventory was submitted to the USEPA in conjunction with submittal of the original Full-Scale In-situ RDWP to the NYSDEC. The Authorization By Rule was received from the USEPA in August 2016. The authorization permits the use of twelve (12) injection wells. The same authorization will be used to conduct the proposed injection activities. A copy of the approved authorization is provided in Appendix XI.

4.8 SCHEDULE

The results of the October 2016 baseline sampling round and the July 2017 sampling round will be used as the “baseline” for initiation of full-scale injection activities. Assuming approval of this Revised Full-Scale In-Situ RDWP early 2018, WSP will initiate full-scale injection activities starting in the Summer of 2018 as per the schedule presented in Table 7. The utilized injection schedule will be based on the site-specific assimilation conditions. The effectiveness monitoring will continue through the Summer of 2020. Depending on the results, additional injections and monitoring may be required and will be coordinated with the NYSDEC.

4.9 POST-CONSTRUCTION PLANS

4.9.1 ENVIRONMENTAL EASEMENT (EE)

As described previously, the final EE document was forwarded by GGP to the NYSDEC in November 2015.

4.9.2 SITE MANAGEMENT PLAN (SMP)

An interim SMP was submitted to the NYSDEC on October 12, 2016. The interim SMP includes: 1) a cover system for soil (overburden); 2) an O&M plan for the existing SSDS which addresses vapor intrusion mitigation; and 3) proposed measures to address any remaining groundwater contamination as warranted. In addition, the final SMP will include a plan to maintain the storm drain system at the Site due to its potential to influence residual PCE concentrations in the local groundwater.

Typically, post-construction sampling is required for SSDS installations; however, the SSDS confirmatory sampling has already been completed, and the results confirm that the SSDS is operating properly. The SSDS is inspected annually and before or during any intrusive activities. The SMP will be finalized following implementation of the full-scale remedial activities.

4.9.3 FINAL ENGINEERING REPORT (FER)

Following NYSDEC approval of the SMP, the FER will be submitted to the NYSDEC. As there is no additional infrastructure construction planned with the possible exception of additional monitor well installations, as-built drawings and post-construction sampling will not be required as part of the FER. However, an updated monitor well construction summary will be provided if additional monitor wells need to be installed based on the monitored effectiveness results.

TABLES



TABLE 1

CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC.
STATEN ISLAND, NEW YORK

Summary of Soil boring Sampling Results - May and June 2017

Sample ID	SWB-1(5')	SWB-1(12')	SWB-2(7')	SWB-2(11.5')	SWB-3(3')	SWB-3(9')	SWB-4(5')	SWB-4(7')	SWB-5(4')	SWB-6(3')	SWB-7(5')	SWB-7(7')	NYSDEC Residential SCO ⁽¹⁾	NYSDEC Commercial SCO ⁽¹⁾	NYSDEC Protection of Groundwater SCO ⁽¹⁾
Laboratory ID	JC44543-6	JC44543-7	JC44543-3	JC44543-13	JC44543-8	JC44543-4	JC44543-1	JC44543-5	JC44543-2	JC44408-11	JC44543-9	JC44543-10			
Date Sampled	06/01/17	06/01/17	06/01/17	06/01/17	06/01/17	06/01/17	06/01/17	06/01/17	06/01/17	05/31/17	06/01/17	06/01/17			
Constituent/Compound	Constituent Concentration (mg/kg) ⁽¹⁾														
Acetone	ND ⁽²⁾	0.0066 J ⁽³⁾	0.0068 J	ND	ND	0.0071 J	0.0084 J	0.0113	0.0379	ND	ND	ND	100	500	0.05
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.9	44	0.06
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	0.12
Carbon disulfide	ND	ND	ND	ND	ND	ND	ND	ND	0.0021 J	ND	ND	ND	100	-	2.7
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	22	0.76
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	1.1
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	1.9
Chloroform	ND	0.0016 J	ND	0.0012 J	0.0013 J	ND	ND	ND	ND	0.00078 J	0.0011 J	0.00096 J	10	350	0.37
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Cyclohexane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	1.1
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17	280	2.4
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.8	130	1.8
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	240	0.27
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.3	30	0.02
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	0.33
cis-1,2-Dichloroethene	ND	ND	0.00050 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	59	500	0.25
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	0.19
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Ethylbenzene	ND	ND	ND	ND	ND	ND	0.00025 J	ND	ND	ND	ND	ND	30	390	1
Freon 113	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	-	6
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Isopropylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	3.9
Methyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Methylcyclohexane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Methyl Tert Butyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	62	500	0.93
4-Methyl-2-pentanone (MIBK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	1
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0032 J	ND	ND	51	500	0.05
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	35	-	0.6
Tetrachloroethene	ND	ND	0.0222	0.0024	0.0013 J	ND	0.0029	0.0041	ND	0.0014 J	ND	ND	5.5	150	1.3
Toluene	0.00018 J	ND	ND	0.00024 J	ND	0.00027 J	ND	0.00021 J	ND	ND	ND	0.00035 J	100	500	0.7
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	3.4
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	0.68
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Trichloroethene	ND	ND	0.00045 J	ND	0.00081 J	ND	ND	ND	ND	ND	ND	ND	10	200	0.47
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.21	13	0.02
Xylene (total)	ND	ND	ND	ND	ND	ND	ND	0.00079 J	ND	0.00029 J	ND	ND	total = 100	total = 500	total = 1.6

NOTES:
 (1) All concentrations presented in milligrams per kilogram; bold numbers represent an exceedance of the NYSDEC Soil Cleanup Objectives (SCO).
 (2) ND - Compound not detected at laboratory detection limits.
 (3) J - Estimated value.

TABLE 1

CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC.
STATEN ISLAND, NEW YORK

Summary of Soil boring Sampling Results - May and June 2017

Sample ID	SWB-8(4')	SWB-8(9')	SWB-9(6')	SWB-10(4')	SWB-10(11')	SWB-11(7')	SWB-11(11')	SWB-12(4')	SWB-12(13')	SWB-13(7')	SWB-13(15')	SWB-14(5')	NYSDEC Residential SCO ⁽¹⁾	NYSDEC Commercial SCO ⁽¹⁾	NYSDEC Protection of Groundwater SCO ⁽¹⁾
Laboratory ID	JC44543-12	JC44543-11	JC44408-10	JC44543-15	JC44543-17	JC44408-9	JC44408-8	JC44543-20	JC44543-21	JC44408-6	JC44408-7	JC44408-1			
Date Sampled	06/01/17	06/01/17	05/31/17	06/02/17	06/02/17	05/31/17	05/31/17	06/02/17	06/02/17	05/31/17	05/31/17	05/31/17			
Constituent/Compound	Constituent Concentration (mg/kg) ⁽¹⁾														
Acetone	ND	ND	0.0054 J	ND	ND	0.02	ND	ND	ND	0.0064 J	ND	ND	100	500	0.05
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.9	44	0.06
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	0.12
Carbon disulfide	ND	ND	ND	ND	ND	0.0016 J	ND	ND	ND	ND	ND	ND	100	-	2.7
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	22	0.76
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	1.1
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	1.9
Chloroform	0.0014 J	0.0020 J	0.00031 J	0.00087 J	0.00071 J	ND	0.00089 J	0.0011 J	0.00094 J	0.00081 J	0.0014 J	0.0014 J	10	350	0.37
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Cyclohexane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	1.1
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17	280	2.4
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.8	130	1.8
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	240	0.27
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.3	30	0.02
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	0.33
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0323	ND	0.0013	59	500	0.25
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00040 J	ND	ND	100	500	0.19
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	30	390	1
Freon 113	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	-	6
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Isopropylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	3.9
Methyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Methylcyclohexane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Methyl Tert Butyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	62	500	0.93
4-Methyl-2-pentanone (MIBK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	1
Methylene chloride	ND	ND	0.0020 J	ND	ND	0.0018 J	0.0014 J	ND	ND	0.0018 J	0.0016 J	0.0016 J	51	500	0.05
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	35	-	0.6
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0048	0.00040 J	0.0058	5.5	150	1.3
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	0.7
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	3.4
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	0.68
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0051	ND	0.00039 J	10	200	0.47
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00089 J	ND	ND	0.21	13	0.02
Xylene (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00029 J	ND	ND	total = 100	total = 500	total = 1.6

NOTES:
 (1) All concentrations presented in milligrams per kilogram; bold numbers represent an exceedance of the NYSDEC Soil Cleanup Objectives (SCO).
 (2) ND - Compound not detected at laboratory detection limits.
 (3) J - Estimated value.

TABLE 1

CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC.
STATEN ISLAND, NEW YORK

Summary of Soil boring Sampling Results - May and June 2017

Sample ID	SWB-14(10')	SWB-14(16')	SWB-15(8')	SWB-15(13.5')	SWB-16(8')	SWB-16(12')	SWB-17(5')	SWB-17(13')	SWB-17(17')	SWB-18(5')	SWB-18(11')	SWB-18(18')	NYSDEC Residential SCO ⁽¹⁾	NYSDEC Commercial SCO ⁽¹⁾	NYSDEC Protection of Groundwater SCO ⁽¹⁾
Laboratory ID	JC44408-2	JC44408-3	JC44543-18	JC44543-22	JC44543-24	JC44543-27	JC44543-19	JC44543-14	JC44543-26	JC44543-16	JC44543-23	JC44543-25			
Date Sampled	05/31/17	05/31/17	06/02/17	06/02/17	06/02/17	06/02/17	06/02/17	06/02/17	06/02/17	06/02/17	06/02/17	06/02/17			
Constituent/Compound	Constituent Concentration (mg/kg) ⁽¹⁾														
Acetone	0.0128	0.0097	ND	0.0059 J	0.0152	0.0092 J	0.0121 J	ND	0.0088 J	0.0159	ND	ND	100	500	0.05
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.9	44	0.06
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	0.12
Carbon disulfide	0.0046	0.0024	ND	0.00027 J	0.00088 J	ND	0.00051 J	ND	ND	0.00052 J	ND	ND	100	-	2.7
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	22	0.76
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	1.1
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	1.9
Chloroform	0.00035 J	ND	0.00087 J	0.00076 J	0.00098 J	ND	0.0018 J	0.0015 J	0.00095 J	0.00079 J	0.00071 J	0.0011 J	10	350	0.37
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Cyclohexane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	1.1
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17	280	2.4
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.8	130	1.8
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	240	0.27
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.3	30	0.02
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	0.33
cis-1,2-Dichloroethene	0.0014	0.137	0.0024	ND	0.0054	ND	ND	0.0011	ND	ND	ND	ND	59	500	0.25
trans-1,2-Dichloroethene	ND	0.00036 J	ND	ND	0.00017 J	ND	ND	ND	ND	ND	ND	ND	100	500	0.19
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	30	390	1
Freon 113	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	-	6
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Isopropylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	3.9
Methyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Methylcyclohexane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Methyl Tert Butyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	62	500	0.93
4-Methyl-2-pentanone (MIBK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	1
Methylene chloride	0.0017 J	0.0016 J	ND	ND	ND	0.0015 J	ND	ND	ND	ND	ND	ND	51	500	0.05
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	35	-	0.6
Tetrachloroethene	0.0029	0.0214	0.0093	0.003	0.0087	0.00050 J	0.0017 J	0.0068	0.0014 J	ND	0.00031 J	0.00088 J	5.5	150	1.3
Toluene	ND	ND	0.00019 J	0.00025 J	0.00017 J	ND	ND	ND	ND	0.00025 J	ND	ND	100	500	0.7
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	3.4
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	500	0.68
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Trichloroethene	0.001	0.0224	0.0021	ND	0.0034	ND	ND	0.0011	ND	ND	0.00020 J	ND	10	200	0.47
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-
Vinyl chloride	ND	0.00038 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.21	13	0.02
Xylene (total)	0.00034 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	total = 100	total = 500	total = 1.6

NOTES:
 (1) All concentrations presented in milligrams per kilogram; bold numbers represent an exceedance of the NYSDEC Soil Cleanup Objectives (SCO).
 (2) ND - Compound not detected at laboratory detection limits.
 (3) J - Estimated value.

TABLE 2

**CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC.
STATEN ISLAND, NEW YORK**

Groundwater Grab Sampling Results - June 2017

Sample ID	SWB-1	SWB-7	SWB-15	NYSDEC Groundwater Standard
Laboratory ID	JC44543-30	JC44543-28	JC44543-29	
Date Sampled	06/01/17	06/02/17	06/02/17	
Constituent/Compound	Constituent Concentration (ug/L) ⁽¹⁾			
Acetone	ND ⁽²⁾	ND	ND	--
Benzene	ND	ND	ND	1
Bromochloromethane	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	--
Bromoform	ND	ND	ND	--
Bromomethane	ND	ND	ND	5
2-Butanone (MEK)	ND	ND	ND	--
Carbon disulfide	ND	ND	ND	--
Carbon tetrachloride	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	5
Chloroethane	ND	ND	ND	5
Chloroform	0.73 J ⁽³⁾	ND	0.85 J	7
Chloromethane	ND	ND	ND	--
Cyclohexane	ND	ND	ND	--
1,2-Dibromo-3-chloropropane	ND	ND	ND	0.04
Dibromochloromethane	ND	ND	ND	--
1,2-Dibromoethane	ND	ND	ND	--
1,2-Dichlorobenzene	ND	ND	ND	3
1,3-Dichlorobenzene	ND	ND	ND	3
1,4-Dichlorobenzene	ND	ND	ND	3
Dichlorodifluoromethane	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	0.6
1,1-Dichloroethene	ND	ND	ND	5
cis-1,2-Dichloroethene	ND	ND	0.51 J	5
trans-1,2-Dichloroethene	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	1
cis-1,3-Dichloropropene	ND	ND	ND	total = 0.4
trans-1,3-Dichloropropene	ND	ND	ND	
Ethylbenzene	ND	ND	ND	5
Freon 113	ND	ND	ND	--
2-Hexanone	ND	ND	ND	--
Isopropylbenzene	ND	ND	ND	5
Methyl Acetate	ND	ND	ND	--
Methylcyclohexane	ND	ND	ND	--
Methyl Tert Butyl Ether	ND	ND	ND	--
4-Methyl-2-pentanone (MIBK)	ND	ND	ND	--
Methylene chloride	ND	ND	ND	5
Styrene	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	5
Tetrachloroethene	ND	ND	34.3	5
Toluene	ND	ND	ND	5
1,2,3-Trichlorobenzene	ND	ND	ND	5
1,2,4-Trichlorobenzene	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	1
Trichloroethene	ND	ND	1.2	5
Trichlorofluoromethane	ND	ND	ND	5
Vinyl chloride	ND	ND	ND	2
Xylene (each isomer)	ND	ND	ND	5

NOTES:

(1) All concentrations presented in ug/L; bold numbers represent an exceedance of the NYSDEC Groundwater Standards.

(2) ND - Compound not detected at laboratory detection limits.

(3) J - Estimated value.

TABLE 3

CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC.
STATEN ISLAND, NEW YORK

Summary of Monitor Well Construction and Groundwater Elevation Data - July 2017

Well ID ⁽¹⁾	Date Completed	Injection Zone ⁽¹⁾	Total Depth (ft bg) ⁽²⁾	Depth to Bedrock (ft bg)	Flush-Mount Rim Elevation (ft amsl) ⁽³⁾	Top of PVC Elevation (ft amsl)	Screen Setting Interval (ft bg)	Depth to Water (ft bg)	Groundwater Elevation (ft amsl)
MW-1	7/26/1995	---	13.5	13.5	44.58	44.28	8.5-13.5	11.41	32.87
MW-2	7/26/1995	---	12.0	12.0	37.97	37.74	7.0-12.0	7.61	30.13
MW-3	7/28/1995	Zone 1	14.8	13.0	32.59	32.12	9.8-14.8	6.61	25.51
MW-3D ⁽⁴⁾	5/26/2006	---	43.5	25.0	32.85	32.46	35.5-43.5	6.72	25.74
MW-4	7/27/1995	---	14.6	17.0	33.02	32.68	9.6-14.6	8.91	23.77
MW-5	7/27/1995	Zone 1	14.0	14.0	31.98	31.60	9.0-14.0	8.80	22.80
MW-6R ⁽⁵⁾	9/23/2002	---	15.0	13.0	35.16	34.85	10.0-15.0	6.93	27.92
MW-7	9/24/2002	Zone 2	15.0	13.0	32.35	32.05	10.0-15.0	7.47	24.58
MW-8	9/24/2002	---	15.0	13.0	31.86	31.31	10.0-15.0	8.01	23.30
MW-9 ⁽⁶⁾	10/31/2002	---	16.0	15.0	31.30	31.06	11.0-16.0	---	---
MW-10	5/26/2006	---	20.0	19.0	34.53	34.21	15.0-20.0	7.90	26.31
MW-11	3/12/2008	---	17.0	16.0	31.19	30.71	12.0-17.0	9.04	21.67
MW-12	3/11/2008	---	18.0	17.0	32.13	31.77	13.0-18.0	9.75	22.02
MW-13	3/11/2008	---	18.0	17.0	33.81	33.38	13.0-18.0	11.01	22.37
MW-14	3/11/2008	---	17.0	16.0	32.23	31.67	12.0-17.0	8.69	22.98
MW-15	3/12/2008	---	17.0	16.2	36.97	36.51	12.0-17.0	7.75	28.76
MW-16 ⁽⁴⁾	7/22/2011	Zone 3	28.0	28.0	29.72	29.46	23.0-28.0	8.45	21.01
MW-17 ⁽⁴⁾	7/22/2011	Zone 3	26.0	26.0	30.47	30.05	21.0-26.0	8.76	21.29
MW-18 ⁽⁴⁾	7/22/2011	Zone 3	20.5	20.5	31.05	30.67	15.5-20.5	9.30	21.37
MW-19 ⁽⁴⁾	7/22/2011	Zone 3	20.5	20.5	32.37	31.82	15.5-20.5	10.05	21.77
MW-20	8/26/2016	Zone 2	25.5	25.5	29.79	29.53	20.5-25.5	8.21	21.32
MW-21	8/24/2016	Zone 2	17.0	17.0	30.48	30.19	12.0-17.0	8.21	21.98
MW-22	8/24/2016	Zone 2	14.5	14.5	31.65	31.31	9.5-14.5	8.10	23.21
MW-23	8/25/2016	Zone 2	10.0	10.0	33.43	33.05	5.0-10.0	5.72	27.33
MW-24	8/25/2017	Zone 2	11.0	11.0	33.90	33.28	6.0-11.0	8.48	24.80
MW-25	6/29/2017	---	13.0	13.0	41.87	41.41	8.0-13.0	7.94	33.47
MW-26	6/28/2017	---	14.0	14.0	39.18	38.77	9.0-14.0	6.60	32.17
MW-27	6/28/2017	---	10.0	10.0	34.47	34.10	5.0-10.0	3.49	30.61
MW-28	6/29/2017	---	22.5	22.5	29.06	28.69	17.5-22.5	7.62	21.07
MW-29	6/29/2017	---	24.0	24.0	31.57	31.28	19.0-24.0	9.32	21.96

NOTES:

Bolded monitor wells are proposed for injections.

(1) See Figure 2 for locations. Monitor wells and proposed injection/monitor wells completed with 4-inch diameter, Schedule 40 PVC riser and screen, and flush-mount surface casings except where noted.

(2) Feet below ground surface.

(3) Feet above mean sea level.

(4) Constructed with 2-inch diameter, Schedule 40 PVC riser and screen.

(5) Replacement for Monitor Well MW-6 (installed 7/28/1995).

(6) Monitor Well MW-9 was abandoned with approval from the NYSDEC on June 7, 2017.

TABLE 4

CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC.
STATEN ISLAND, NEW YORK

Groundwater Sampling Results for VOCs - July 2017

Well ID	MW-1	MW-2	MW-3	MW-3D	MW-4	MW-5	MW-6R	MW-7	MW-8	MW-10	MW-11	MW-12	MW-13	MW-14	NYSDEC Groundwater Standards ⁽²⁾
Date Sampled	7/17/2017	7/18/2017	7/19/2017	7/19/2017	7/18/2017	7/19/2017	7/17/2017	7/19/2017	7/20/2017	7/18/2017	7/28/2017	7/28/2017	7/28/2017	7/18/2017	
Well Screen (ft bg)	8.5-13.5	7.0-12.0	9.8-14.8	38.5-43.5	9.6-14.6	9.0-14.0	10.0-15.0	10.0-15.0	10.0-15.0	15.0-20.0	12.0-17.0	13.0-18.0	13.0-18.0	12.0-17.0	
Constituent	Constituent Concentration (ug/L) ⁽¹⁾														
Acetone	ND	ND	ND	ND	ND	ND	ND	13.8	ND	ND	ND	7.0 J	ND	ND	-
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Carbon disulfide	ND	0.34 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	60
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Chloroform	2.8	ND	0.33 J	ND	ND	ND	ND	0.72 J	0.42 J	0.74 J	ND	ND	ND	ND	7
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Cyclohexane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0006
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
cis-1,2-Dichloroethene	ND	0.65 J	132	0.77 J	23.7	4.8	ND	ND	1.6	ND	18.6	85.7	37.1	ND	5
trans-1,2-Dichloroethene	ND	ND	1.7	ND	4.7	ND	ND	ND	ND	ND	0.59 J	0.79 J	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
1,4-Dioxane (via SIM)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Freon 113	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Isopropylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Methyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Methylcyclohexane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Methyl Tert Butyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10
4-Methyl-2-pentanone(MIBK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	ND	89	1.5	1.4	4.2	ND	29.7	24	ND	9.6	0.99 J	3.7	ND	5
Toluene	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.62 J	ND	ND	5
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1
Trichloroethene	ND	ND	91.4	ND	2.8	5.2	ND	0.68 J	3.2	ND	4.8	10.1	22.9	ND	5
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Vinyl chloride	ND	ND	24.9	ND	16.7	ND	ND	ND	ND	ND	4.5	7.8	4.2	ND	2
m,p-Xylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.45 J	ND	ND	-
o-Xylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.25 J	ND	ND	5
Xylene (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.70 J	ND	ND	5

NOTES:

- All concentrations are presented in micrograms per liter (ug/L); bold numbers represent an exceedance of the NYSDEC Groundwater Standards.
- ND - Compound not detected at laboratory detection limits.
- J - Estimated value.

TABLE 4

CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC.
STATEN ISLAND, NEW YORK

Groundwater Sampling Results for VOCs - July 2017

Well ID	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25	MW-26	MW-27	MW-28	MW-29	NYSDEC Groundwater Standards ⁽²⁾
Date Sampled	7/18/2017	7/20/2017	7/21/2017	7/21/2017	7/20/2017	7/20/2017	7/19/2017	7/19/2017	7/18/2017	7/17/2017	7/17/2017	7/17/2017	7/17/2017	7/20/2017	7/20/2017	
Well Screen (ft bg)	12.0-17.0	23.0-28.0	21.0-26.0	15.5-20.5	15.5-20.5	20.5-25.5	12.0-17.0	9.5-14.5	5.0-10.0	6.0-11.0	8.0-13.0	9.0-14.0	5.0-10.0	17.5-22.5	19.0-24.0	
Constituent	Constituent Concentration (ug/L) ⁽¹⁾															
Acetone	ND	ND	ND	ND	ND	ND	14.9	ND	ND	ND	ND	ND	ND	ND	ND	-
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	5.8 J	ND	ND	ND	ND	ND	ND	ND	ND	-
Carbon disulfide	ND	ND	ND	ND	ND	ND	0.25 J	ND	ND	ND	ND	ND	ND	ND	ND	60
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Chloroform	0.38 J	0.75 J	ND	ND	0.32 J	0.58 J	ND	0.58 J	ND	ND	1.2	2.7	ND	0.75 J	1.1	7
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Cyclohexane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0006
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
cis-1,2-Dichloroethene	ND	28.6	44.7	129	14.8	4.5	ND	0.63 J	ND	0.65 J	ND	ND	ND	6.7	ND	5
trans-1,2-Dichloroethene	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
1,4-Dioxane (via SIM)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Freon 113	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Isopropylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Methyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Methylcyclohexane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Methyl Tert Butyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10
4-Methyl-2-pentanone(MIBK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	72.2	983	55.6	52.2	25.1	ND	2.4	0.50 J	ND	ND	ND	ND	0.96 J	ND	5
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1
Trichloroethene	ND	12.5	31.1	30.3	10.7	3.3	ND	ND	ND	ND	ND	ND	ND	1.3	ND	5
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Vinyl chloride	ND	ND	7.2	9.3	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2
m,p-Xylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
o-Xylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Xylene (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5

NOTES:

- All concentrations are presented in micrograms per liter (ug/L); bold numbers represent an exceedance of the NYSDEC Groundwater Standards.
- ND - Compound not detected at laboratory detection limits.
- J - Estimated value.

TABLE 5

**CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC.
STATEN ISLAND, NEW YORK**

Groundwater Sampling Results for PFAS - July 2017

Well ID	Date Sampled	Constituent Concentration (ug/L) ⁽¹⁾																				
		6:2 FTS	8:2 FTS	NMeFOSAA	NetFOSAA	PFBA	PFBS	PFDA	PFDS	PFDaA	PFHpA	PFHpS	PFHxA	PFHxS	PFNA	PFPeA	PFTreA	PFTriA	PFuNA	PFOA	PFOS	Combined PFOA and PFOS
MW-1	7/17/2017	ND ⁽³⁾	ND	ND	ND	0.0852	0.0127	ND	ND	0.00204	0.0279	ND	0.0315	0.0096	0.00558	0.123	ND	0.00466	0.00402	0.0394	0.0025	0.0419
MW-2	7/18/2017	0.106	0.0106	0.345	0.176	ND	ND	0.107	0.00907	0.0469	0.0489	0.00306	0.0783	ND	0.053	0.0876	0.0394	0.0193	0.0113	0.156	0.204	0.36
MW-3	7/19/2017	ND	0.000259 J ⁽⁴⁾	ND	ND	0.0159	0.00141 J	0.0141	ND	0.00273	0.00722	ND	0.00797	0.000760 J	0.0039	0.028	ND	0.00343	0.00336	0.0104	0.00728	0.01768
MW-3D	7/19/2017	0.000532 J	ND	ND	ND	0.0348	0.00127 J	ND	ND	0.00127 J	0.00996	ND	0.0164	0.00131 J	ND	0.0516	ND	0.00215	0.00302	0.00584	ND	0.00584
MW-4	7/18/2017	0.000631 J	ND	0.0013 J	0.00114 J	0.0487	0.00499	ND	0.000632 J	0.000293 J	0.0193	ND	0.0241	0.00331	0.00408	0.0764	ND	0.000206 J	0.00121 J	0.035	0.00342	0.03842
MW-5	7/19/2017	0.0167	ND	ND	ND	0.0377	0.00489	0.00318	0.0015 J	0.000444 J	0.0137	0.000246 J	0.0131	0.00171 J	ND	0.0659	ND	0.000196 J	0.00165	0.0233	0.0267	0.05
MW-6R	7/17/2017	ND	ND	ND	ND	0.0393	0.00336 J	ND	ND	0.0019 J	0.0108	ND	0.0111	0.000844 J	ND	0.0517	ND	0.00284 J	0.00261 J	0.0225	0.00434	0.02684
MW-7	7/19/2017	0.00322	0.00131 J	ND	ND	ND	ND	ND	ND	0.000539 J	0.0165	ND	0.0177	0.00402	0.003	0.0573	ND	0.000222 J	0.000934 J	0.0144	0.00138 J	0.01578
MW-8	7/20/2017	0.00319	ND	ND	ND	0.0867	0.00716	ND	ND	0.000257 J	0.0279	0.000312 J	0.0286	0.00606	ND	0.132	ND	ND	0.00153 J	0.0306	0.00476	0.03536
MW-10	7/18/2017	0.0106	0.000331 J	ND	ND	0.016	0.0111	ND	ND	0.00126 J	0.0205	ND	0.0305	0.00775	ND	0.0424	ND	0.0016 J	0.00169 J	0.034	0.0028	0.0368
MW-11	7/28/2017	ND	ND	ND	ND	0.0153	0.00392	0.00135 J	ND	0.000374 J	0.00962	0.000260 J	0.0136	0.00321	0.0026	0.0283	ND	0.000957 J	0.00112 J	0.0224	0.00555	0.02795
MW-12	7/28/2017	0.00160 J	ND	ND	ND	0.0447	0.00414	0.00111 J	ND	ND	0.0162	0.000261 J	0.0172	0.00266	0.00335	0.0789	ND	ND	0.000539 J	0.0282	0.00446	0.03266
MW-13	7/28/2017	ND	ND	ND	ND	0.0136	0.00377	0.000396 J	ND	ND	0.00886	0.000290 J	0.0146	0.00174 J	0.00125 J	0.0238	ND	ND	0.000360 J	0.0283	0.00177	0.03007
MW-14	7/18/2017	0.00155 J	ND	ND	ND	0.066	0.00414	ND	ND	0.000554 J	0.0249	ND	0.0217	ND	ND	0.117	ND	0.000286 J	0.00244	0.0178	0.00379	0.02159
MW-15	7/18/2017	0.00278	0.000444 J	ND	ND	ND	ND	ND	ND	0.00149 J	0.00541	ND	0.00839	ND	0.00171 J	0.0251	ND	0.0018 J	0.0017 J	0.00451	0.000948 J	0.005458
MW-16	7/20/2017	ND	ND	ND	ND	0.449	0.00769	ND	ND	0.000311 J	0.0225	ND	0.0333	0.00673	0.00293	0.0861	0.000346 J	0.000423 J	0.00164 J	0.0296	0.0024	0.032
MW-17	7/21/2017	ND	ND	ND	ND	0.0607	0.00493	ND	ND	0.000717 J	0.0152	ND	0.0213	0.00362	0.00351	0.0895	ND	0.000934 J	0.00115 J	0.0286	0.00278	0.03138
MW-18	7/21/2017	ND	ND	ND	ND	0.0182	0.0063	ND	ND	ND	0.0133	ND	0.021	0.00574	0.00143 J	0.0325	0.000187 J	0.00019 J	0.000285 J	0.0295	0.00505	0.03455
MW-19	7/20/2017	0.000478 J	ND	ND	ND	0.0381	0.00646	ND	ND	0.000187 J	0.0143	ND	0.024	0.00434	0.00187	0.0629	0.000212 J	0.000236 J	0.00596 J	0.0196	0.00324	0.02284
MW-20	7/20/2017	ND	ND	ND	ND	0.0191	0.00746	ND	ND	0.000709 J	0.0177	ND	0.03	0.00591	0.00126 J	0.0378	ND	0.00112 J	0.00164 J	0.0142	0.00023 J	0.01443
MW-21	7/19/2017	0.00315	0.00162 J	ND	ND	ND	ND	0.00167 J	ND	0.000500 J	0.00949	ND	ND	ND	0.00308	ND	ND	0.000257 J	0.000766 J	0.00685	0.00466	0.01151
MW-22	7/19/2017	0.000649 J	ND	ND	ND	0.017	0.00766	0.000408 J	ND	ND	0.018	ND	0.025	0.00771	0.00107 J	0.0354	ND	ND	0.000389 J	0.0308	0.00199	0.03279
MW-23	7/18/2017	ND	ND	ND	ND	0.0318	0.00552	0.000659 J	ND	0.000376 J	0.0125	ND	0.0219	0.00343	0.00192	0.0524	ND	0.000569 J	0.00109 J	0.0256	0.00237	0.02797
MW-24	7/17/2017	ND	ND	ND	ND	0.0508	0.00525	ND	ND	0.000449 J	0.021	ND	0.0327	0.00265	0.00517	0.0885	ND	0.000561 J	0.00146 J	0.0284	0.00177	0.03017
MW-25	7/17/2017	0.000609 J	ND	ND	ND	0.0293	0.0123	ND	ND	0.00086 J	0.0199	0.000186 J	0.022	0.00861	0.00268	0.0454	ND	0.00148 J	0.00156 J	0.0776	0.00393	0.08153
MW-26	7/17/2017	ND	ND	ND	ND	0.0477	0.0172	ND	ND	0.000594 J	0.0295	ND	0.036	0.015	0.0023	0.0856	ND	0.000838 J	0.0015 J	0.0203	ND	0.0203
MW-27	7/17/2017	ND	ND	ND	ND	0.0346	0.0077	ND	ND	0.000327 J	0.0151	ND	0.0244	0.00336	ND	0.0523	ND	0.000346 J	0.000807 J	0.0253	0.000271 J	0.025571
MW-28	7/20/2017	ND	ND	ND	ND	0.0187	0.00418	ND	ND	0.000616 J	0.0128	ND	0.0207	0.00366	0.00131 J	0.0316	ND	0.00112 J	0.00153 J	0.0185	0.000986 J	0.019486
MW-29	7/20/2017	0.00196	ND	ND	ND	0.04	0.00377	ND	ND	0.000494 J	0.0172	ND	0.0229	0.00331	ND	0.0664	0.000525 J	0.000746 J	0.00152 J	0.0163	0.000188 J	0.016488

NOTES:

1. All concentrations are presented in micrograms per liter (ug/L).
2. Bold numbers represent an exceedance of the USEPA Regional Screening Level (RSL) for PFOA and PFOS individually or in combination of 0.4 ug/L.
3. ND - Compound not detected at laboratory detection limits.
4. J - Estimated value.

TABLE 6
CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC.
STATEN ISLAND, NEW YORK

Historical Groundwater Sampling Results for Select CVOCs

Well ID	Sample Date	Depth to Water ⁽¹⁾	TOC Elevation	Groundwater Elevation ⁽²⁾	Concentration (ug/L) ⁽³⁾					
					Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	
MW-1										
	7/31/1995	11.20	41.93	30.73	ND ⁽⁴⁾	ND	ND	ND	ND	ND
	9/14/1995	11.85		30.08	ND	ND	ND	ND	ND	ND
	11/20/2002	11.36		30.57	ND	ND	ND	ND	ND	ND
	7/31/2003	10.96		30.97	ND	ND	ND	ND	ND	ND
	10/16/2003	11.65		30.28	ND	ND	ND	ND	ND	ND
	1/20/2004	11.38		30.55	ND	ND	ND	ND	ND	ND
	4/26/2004	10.65		31.28	ND	ND	ND	ND	ND	ND
	7/21/2004	10.63		31.30	ND	ND	ND	ND	ND	ND
	4/7/2008	11.10		30.83	4.8	ND	ND	ND	ND	ND
	9/29/2009	11.71		30.22	ND	ND	ND	ND	ND	ND
	8/2/2011	11.64	44.28	32.64	ND	ND	ND	ND	ND	ND
	2/1/2013	11.90		32.38	ND	ND	ND	ND	ND	ND
	10/8/2015	12.19		32.09	ND	ND	ND	ND	ND	ND
	10/4/2016	12.69		31.59	ND	ND	ND	ND	ND	ND
	7/17/2017	11.41		32.87	ND	ND	ND	ND	ND	ND
MW-2										
	7/31/1995	7.70	35.62	27.92	21	ND	1.7	ND	ND	ND
	9/14/1995	8.26		27.36	11	1	2	ND	ND	ND
	11/20/2002	7.98		27.64	49.2	1.9	0.38	ND	ND	ND
	7/31/2003	7.44		28.18	53.2	1.8	ND	ND	ND	ND
	10/16/2003	8.05		27.57	50.2	1.5	ND	ND	ND	ND
	1/20/2004	7.90		27.72	42.3	1.4	ND	ND	ND	ND
	4/26/2004	7.34		28.28	43.9	1.4	ND	ND	ND	ND
	7/21/2004	7.35		28.27	48.8	1.5	ND	ND	ND	ND
	4/7/2008	7.41		28.21	41.4	1.1	ND	ND	ND	ND
	9/30/2009	7.91		27.71	36	0.89 J ⁽⁵⁾	ND	ND	ND	ND
	8/2/2011	7.73	37.74	30.01	31.9	3.9	0.3 J	ND	0.58 J	ND
	1/28/2013	7.27		30.47	ND	ND	ND	ND	ND	ND
	5/19/2014	7.38		30.36	ND	ND	ND	ND	ND	4.4
	1/19/2015	7.78		29.96	ND	ND	ND	ND	ND	0.44 J
	4/7/2015	7.51		30.23	ND	ND	ND	ND	ND	ND
	7/1/2015	7.65		30.09	ND	ND	ND	ND	ND	0.68 J
	10/8/2015	8.31		29.43	ND	ND	1	ND	ND	1.6
	10/4/2016	8.54		29.20	ND	ND	0.44 J	ND	ND	0.48 J
	7/18/2017	7.61		30.13	ND	ND	0.65 J	ND	ND	ND
MW-3										
	7/31/1995	7.10	30.04	22.94	25	3.7	6.9	ND	ND	ND
	11/20/2002	7.24		22.80	2,030	323	205	ND	ND	4.8
	7/31/2003	6.71		23.33	7,290	1,370	645	ND	ND	ND
	10/16/2003	7.19		22.85	5,090	934	707	ND	ND	10.8
	1/20/2004	6.89		23.15	2,770	433	352	ND	ND	ND
	4/26/2004	6.47		23.57	5,170	540	368	ND	ND	ND
	7/21/2004	6.80		23.24	8,340	1,550	1,040	ND	ND	22.1
	4/7/2008	6.66		23.38	442	112	110	0.8 J	ND	3.9
	9/29/2009	7.31		22.73	993	191	210	1.8	ND	3.2
	8/3/2011	6.99	32.12	25.13	694	146	115	1	ND	3.2
	1/30/2013	7.17		24.95	478	110	85	0.69 J	ND	0.96 J
	5/20/2014	6.83		25.29	459	96.1	66.2	0.73 J	ND	ND
	11/18/2014	7.50		24.62	396	80.9	44.6	ND	ND	ND
	1/20/2015	6.99		25.13	1,000	714	1,030	ND	ND	22.8
	4/7/2015	6.41		25.71	9.8 J	2.7 J	2,840	7.7 J	ND	307
	6/30/2015	6.42		25.70	15.3	2.9	161	2.8	ND	189
	10/7/2015	7.08		25.04	16.2	5.1	9.6	ND	ND	7
	10/5/2016	7.66		24.46	26.2	3.4	16.8	0.69 J	ND	6.8
	7/19/2017	6.61		25.51	89	91.4	132	1.7	ND	24.9
MW-3D										
	4/7/2008	6.52	30.31	23.79	2.7	ND	0.95 J	ND	ND	ND
	9/29/2009	8.08		22.23	1	0.4 J	4.1	ND	ND	ND
	8/3/2011	7.42	32.46	25.04	1.7	0.51 J	3.6	ND	ND	ND
	2/1/2013	6.02		26.44	3.4	0.49 J	2.8	ND	ND	ND
	5/20/2014	8.27		24.19	6.2	0.8 J	2.4	ND	ND	ND
	1/20/2015	6.77		25.69	5	0.68 J	1.7	ND	ND	ND
	4/7/2015	6.78		25.68	4.8	1	2	ND	ND	ND
	6/30/2015	6.85		25.61	5.7	0.95 J	2.4	ND	ND	ND
	10/7/2015	8.04		24.42	3.9	1.1	2.2	ND	ND	ND
	10/5/2016	7.33		25.13	7.2	0.57 J	2	ND	ND	ND
	7/19/2017	6.72		25.74	1.5	0.77 J	ND	ND	ND	ND
MW-4										
	7/31/1995	8.46	30.58	22.12	ND	ND	2.9	ND	ND	ND
	9/14/1995	9.13		21.45	0.56	ND	2.4	ND	ND	ND
	11/20/2002	8.37		22.21	137	105	747	10	ND	73.6
	7/31/2003	7.95		22.63	41.2	43.7	394	5.5	ND	49.5
	10/16/2003	8.43		22.15	83.1	69	299	4.7	ND	30.1
	1/20/2004	8.38		22.20	74.6	77.3	182	3.9	ND	23.8
	4/26/2004	7.70		22.88	52.8	60.3	121	2.5	ND	21.3
	7/21/2004	7.81		22.77	33.1	36.8	78.9	2.3	ND	10.7
	4/7/2008	7.63		22.95	8,810	2,490	2,200	18.2 J	ND	67.7
	9/29/2009	8.36		22.22	3,850	828	543	14.9	ND	7.4 J
	8/3/2011	8.24	32.68	24.44	2,490	694	696	7.9	ND	10.2
	1/30/2013	8.04		24.64	886	415	928	9.2	ND	2.7
	5/20/2014	8.16		24.52	898	378	3,180	20.3	ND	160
	11/18/2014	8.74		23.94	444	141	634	12.1	ND	ND
	1/20/2015	8.22		24.46	70.3	12	2,320	12.1	ND	132
	4/7/2015	7.64		25.04	28.5	6.4 J	2,580	14.3	ND	209
	6/30/2015	7.69		24.99	20.8	8.4	1,090	13.7	ND	293
	10/7/2015	8.94		23.74	39.7	40.5	153	6.7	ND	136
	10/5/2016	8.89		23.79	22.9	24	55.1	2.5	ND	26.6
	7/18/2017	8.91		23.77	1.4	2.8	23.7	4.7	ND	16.7
MW-5										
	7/31/1995	9.33	29.50	20.17	71	24	82	ND	ND	ND
	9/14/1995	10.00		19.50	660	500	2,300	21	ND	ND
	11/20/2002	8.91		20.59	32.9	11.7	3	ND	ND	ND
	7/31/2003	8.49		21.01	38.6	9.3	2	ND	ND	ND
	10/16/2003	8.98		20.52	32.7	8.1	4.6	ND	ND	ND
	1/20/2004	8.58		20.92	35.5	10.1	5.4	ND	ND	ND
	4/26/2004	8.50		21.00	41.4	13.5	13.5	ND	ND	ND
	7/21/2004	8.75		20.75	50.2	20.3	20	ND	ND	ND
	4/7/2008	8.21		21.29	57.1	9.9	4.1	ND	ND	ND
	9/29/2009	8.60		20.90	72.4	7.2	3.9	ND	ND	ND
	8/3/2011	8.10	31.60	23.50	43.3	2.4	0.42 J	ND	ND	ND
	1/30/2013	7.26		24.34	41.1	2.2	1.6	ND	ND	ND
	5/20/2014	7.10		24.50	6.7	2.3	0.96 J	ND	ND	ND
	11/18/2014	7.17		24.43	12.3	2.8	1.5	ND	ND	ND
	1/20/2015	8.56		23.04	0.65 J	0.52 J	13.2	ND	ND	0.22 J
	4/9/2015	7.91		23.69	5.2	3	3.7	ND	ND	ND
	6/30/2015	7.42		24.18	0.55 J	7.4	9.3	ND	ND	0.29 J
	10/7/2015	8.36		23.24	0.68 J	4.5	13.5	ND	ND	1.5
	10/6/2016	9.63		21.97	1.1	1.7	3.8	ND	ND	2.3
	7/19/2017	8.80		22.80	4.2	5.2	4.8	ND	ND	ND
MW-6R										
	7/31/1995	6.04	32.72	26.68	1.1	ND	ND	ND	ND	ND
	9/14/1995	7.12		25.60	ND	ND	ND	ND	ND	ND
	11/20/2002	6.11		26.61	ND	ND	ND	ND	ND	ND
	7/31/2003	6.49		26.23	ND	ND	ND	ND	ND	ND
	10/16/2003	6.98		25.74	ND	ND	ND	ND	ND	ND
	1/20/2004	6.30		26.42	ND	ND	ND	ND	ND	ND
	4/26/2004	5.97		26.75	ND	ND	ND	ND	ND	ND
	7/21/2004	5.80		26.92	ND	ND	ND	ND	ND	ND
	4/7/2008	5.99		26.73	1	ND	ND	ND	ND	ND
	9/29/2009	7.30		25.42	ND	ND	ND	ND	ND	ND
	8/2/2011	7.28	34.85	27.57	ND	ND	ND	ND	ND	ND
	2/1/2013	6.80		28.05	ND	ND	ND	ND	ND	ND
	5/19/2014	6.29		28.56	ND	ND	ND	ND	ND	ND
	10/7/2015	7.17		27.68	ND	ND	ND	ND	ND	ND
	10/5/2016	8.00		26.85	ND	ND	ND	ND	ND	ND
	7/17/2017	6.93		27.92	ND	ND	ND	ND	ND	ND
NYSDEC Groundwater Standards					5	5	5	5	5	2

TABLE 6

CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC.
STATEN ISLAND, NEW YORK

Historical Groundwater Sampling Results for Select CVOCs

Well ID	Sample Date	Depth to Water ⁽¹⁾	Ground-Water Elevation ⁽²⁾	Concentration (ug/L) ⁽³⁾						
				Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride		
MW-7	11/20/2002	7.75	29.92	22.17	5.4	0.61	ND	ND	ND	
	7/31/2003	7.40		22.52	2.7	ND	ND	ND	ND	
	10/16/2003	7.73		22.19	4.9	ND	ND	ND	ND	
	1/20/2004	7.76		22.16	6.8	0.67	ND	ND	ND	
	4/26/2004	7.54		22.38	5.9	0.53	ND	ND	ND	
	7/21/2004	7.55		22.37	7.3	0.81	ND	ND	ND	
	4/7/2008	7.40		22.52	10.3	0.96 J	0.59 J	ND	ND	
	9/29/2009	7.91		22.01	6.5	0.57 J	ND	ND	ND	
	8/3/2011	7.34	32.05	24.71	6.9	0.52 J	ND	ND	ND	
	1/30/2013	7.36		24.69	9.5	0.72 J	0.22 J	ND	ND	
	5/19/2014	7.12		24.93	14.2	0.56 J	ND	ND	ND	
	10/7/2015	8.01		24.04	18.5	0.46 J	0.38 J	ND	ND	
	10/6/2016	8.37		23.68	30.1	0.47 J	ND	ND	ND	
	7/19/2017	7.47		24.58	29.7	0.68 J	ND	ND	ND	
MW-8	11/20/2002	8.35	29.21	20.86	39.8	6.6	3.1	ND	ND	
	7/31/2003	8.02		21.19	35.1	5	2.2	ND	ND	
	10/16/2003	8.40		20.81	52.6	8.4	3.8	ND	ND	
	1/20/2004	8.45		20.76	49.9	8	3.7	ND	ND	
	4/26/2004	7.91		21.30	37	6	2.5	ND	ND	
	7/21/2004	8.05		21.16	51.8	9.4	4.3	ND	ND	
	4/7/2008	8.02		21.19	35.5	5.7	2.6	ND	ND	
	9/29/2009	8.55		20.66	24.7	4.9	2.9	ND	ND	
	8/3/2011	8.23	31.31	23.08	37.1	6.4	3.2	ND	ND	
	1/30/2013	8.45		22.86	29.1	5.3	2.3	ND	ND	
	10/7/2015	8.58		22.73	25.5	5.3	2.6	ND	ND	
	10/6/2016	8.93		22.38	41.6	6.4	2.4	ND	ND	
	7/20/2017	8.01		23.30	24	3.2	1.6	ND	ND	
	MW-9	11/20/2002	9.55	28.87	19.32	110	46.3	174	1.3	ND
7/31/2003		9.17		19.70	103	42.4	111	0.95	1	
10/16/2003		9.17		19.70	159	51.4	174	1.3	1.9	
1/20/2004		9.85		19.02	151	49.2	135	0.95	1.7	
4/26/2004		9.23		19.64	181	58.1	130	ND	ND	
7/21/2004		9.45		19.42	163	54	132	1.1	1.8	
4/7/2008		9.11		19.76	344	70.7	141	1.1	3.6	
9/30/2009		9.80		19.07	261	38.5	84.3	1	1.3	
8/4/2011		10.43	31.06	20.63	131	21.7	40.1	ND	0.82 J	
1/29/2013		9.70		21.36	219	26.1	47.8	0.29 J	ND	
1/21/2015		9.71		21.35	148	17.2	27.5	ND	ND	
4/6/2015		9.32		21.74	53.5	16.3	36.3	ND	1.1	
6/29/2015		9.40		21.66	14.6	3.6	6.6	ND	1.5	
10/6/2015		9.85		21.21	4.5	1.8	5.4	ND	0.47 J	
MW-10	4/7/2008	7.66	32.07	24.41	0.56 J	ND	0.79 J	ND	ND	
	9/30/2009	8.20		23.87	ND	ND	0.76 J	ND	ND	
	8/3/2011	8.17	34.21	26.04	ND	ND	1.1	ND	ND	
	1/31/2013	7.60		26.61	ND	ND	0.36 J	ND	ND	
	10/8/2015	8.23		25.98	ND	ND	0.60 J	ND	ND	
	10/5/2016	8.73		25.48	ND	ND	0.53 J	ND	ND	
	7/18/2017	7.90		26.31	ND	ND	0.53 J	ND	ND	
MW-11	4/7/2008	9.11	28.54	19.43	1,380	109	191	2.3 J	3.4 J	
	9/29/2009	9.41		19.13	931	91	129	0.95 J	1.3 J	
	8/4/2011	9.14	30.71	21.57	560	84	117	0.92 J	ND	
	1/29/2013	9.43		21.28	318	50.3	87.7	0.61 J	ND	
	1/21/2015	9.45		21.26	291	41.5	95.1	ND	0.53 J	
	4/6/2015	9.15		21.56	144	19.8	160	0.67 J	2.3	
	6/29/2015	9.10		21.61	90.2	12.8	48.7	0.77 J	0.57 J	
	10/6/2015	9.58		21.13	55.4	13.9	16.8	0.90 J	0.91 J	
	10/10/2016	8.95		21.76	10.2	8.7	8.5	1.1	2	
	7/28/2017	9.04		21.67	9.6	4.8	18.6	0.59 J	4.5	
	MW-12	4/7/2008	9.81	29.61	19.80	534	136	205	1.3 J	2.9
9/30/2009		10.21		19.40	283	159	235	1.3	3.6	
8/4/2011		9.89	31.77	21.88	145	124	156	0.89 J	3	
1/29/2013		10.20		21.57	125	109	148	0.54 J	1.3	
5/20/2014		9.64		22.13	89	103	166	0.61 J	2.8	
11/18/2014		10.54		21.23	113	119	137	0.8 J	2	
1/19/2015		10.17		21.60	59.4	74.5	145	ND	1.2	
4/6/2015		9.80		21.97	38.7	47.7	156	ND	1.8	
6/29/2015		9.89		21.88	41.7	97.6	195	0.88 J	6	
10/6/2015		10.32		21.45	11.7	38.1	208	0.97 J	7.7	
10/10/2016		10.75		21.02	7.4	21.6	114	1.1	9	
7/28/2017		9.75		22.02	0.99 J	10.1	85.7	0.79 J	7.8	
MW-13		4/7/2008	10.87	31.19	20.32	7.9	3.4	9.1	ND	ND
		9/30/2009	11.41		19.78	193	48.1	73.4	0.34 J	1.4
	8/4/2011	11.12	33.38	22.26	487	90.8	126	0.71 J	3.7	
	1/29/2013	11.32		22.06	857	130	171	0.77 J	1.5	
	5/19/2014	10.58		22.80	66	12.9	21	ND	ND	
	11/18/2014	11.65		21.73	1,470	182	435	ND	ND	
	1/19/2015	11.28		22.10	954	111	250	ND	ND	
	4/6/2015	10.67		22.71	90.5	10.6	25.2	ND	0.30 J	
	6/29/2015	10.94		22.44	77.7	63.6	99.3	ND	11.3	
	10/6/2015	11.53		21.85	24.4	60.4	492	4.6	493	
	10/3/2016	NS		NS	NS	NS	NS	NS	NS	
	7/28/2017	11.01		22.37	3.7	22.9	37.1	ND	4.2	
MW-14	4/7/2008	8.69	29.54	20.85	ND	ND	ND	ND	ND	
	9/30/2009	8.99		20.55	ND	ND	ND	ND	ND	
	8/2/2011	---	31.67	---	NS	NS	NS	NS	NS	
	1/31/2013	9.02		22.65	0.29 J	ND	ND	ND	ND	
	5/19/2014	8.94		22.73	ND	ND	ND	ND	ND	
	10/8/2015	9.14		22.53	ND	ND	ND	ND	ND	
	10/4/2016	9.45		22.22	ND	ND	ND	ND	ND	
	7/18/2017	8.69		22.98	ND	ND	ND	ND	ND	
MW-15	4/7/2008	7.58	34.39	26.81	ND	ND	ND	ND	ND	
	9/30/2009	8.21		26.18	ND	ND	ND	ND	ND	
	8/2/2011	7.67	36.51	28.84	ND	ND	ND	ND	ND	
	1/28/2013	7.26		29.25	ND	ND	ND	ND	ND	
	10/8/2015	8.43		28.08	ND	ND	ND	ND	ND	
	10/4/2016	8.81		27.70	ND	ND	ND	ND	ND	
	7/18/2017	7.75		28.76	ND	ND	ND	ND	ND	
	MW-16	8/4/2011	9.32	29.46	20.14	171	25.6	58.7	0.53 J	1.8
1/31/2013		8.70		20.76	72.6	9.6	12.3	ND	ND	
1/19/2015		8.76		20.70	110	14.2	12.8	ND	ND	
4/6/2015		8.50		20.96	166	21.7	30.6	ND	0.72 J	
7/1/2015		8.45		21.01	194	27.7	57.9	ND	2.4	
10/8/2015		8.82		20.64	124	16.3	23.2	ND	0.43 J	
10/7/2016		9.21		20.25	47.6	6.2	8.6	ND	ND	
7/20/2017		8.45		21.01	72.2	12.5	28.6	ND	ND	
MW-17	8/4/2011	8.75	22.22	13.47	1,650	88.7	275	1.8 J	3.7	
	1/31/2013	9.08		13.14	1,050	50.7	139	ND	1.8 J	
	1/19/2015	8.11		14.11	1,330	49.2	69.8	ND	ND	
	4/7/2015	8.79		13.43	1,190	37	254	ND	15.5	
	7/1/2015	8.76		13.46	1,280	34.5	153	ND	5.3	
	10/8/2015	9.13		13.09	868	66	158	ND	8.1	
	10/7/2016	9.52		12.70	852	36.2	54.1	0.84 J	2.1	
	7/21/2017	8.76		13.46	983	31.1	44.7	ND	7.2	
MW-18	8/3/2011	9.34	30.67	21.33	418	69.9	97.5	0.83 J	1.4	
	1/31/2013	9.67		21.00	315	54.5	97.5	0.5 J	1.3	
	1/19/2015	9.54		21.13	217	44.5	68.3	ND	1.3	
	4/7/2015	9.21		21.46	139	22.2	38.5	ND	ND	
	7/1/2015	9.28		21.39	203	46.5	100	0.82 J	1.9	
	10/8/2015	9.71		20.96	75.6	24	43.7	ND	0.89 J	
	10/7/2016	10.14		20.53	111	36.1	43.2	0.54 J	2.6	
	7/21/2017	9.30		21.37	55.6	30.3	129	1.2	9.3	
MW-19	8/3/2011	10.04	31.82	21.78	287	25.4	30.3	ND	ND	
	1/31/2013	10.32		21.50	313	20.7	22.9	ND	ND	
	1/19/2015	10.26		21.56	179	32.1	56.4	ND	2.1	
	4/7/2015	9.92		21.90	280	46.5	87	ND	1.7	
	7/1/2015	10.04		21.78	189	22.9	30.3	ND	0.63 J	
	10/8/2015	10.53		21.29	124	23.9	82.6	ND	13	
	10/7/2016	10.93		20.89	99.8	84.7	389	2.2	31.1	
	7/20/2017	10.05		21.77	52.2	10.7	1			

TABLE 6

CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC.
STATEN ISLAND, NEW YORK

Historical Groundwater Sampling Results for Select CVOCs

Well ID	Sample Date	Depth to Water ⁽¹⁾	Ground-Water Elevation ⁽²⁾	Concentration (ug/L) ⁽³⁾					
				Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	
MW-20	10/4/2016	8.93	29.53	20.60	32.8	2.5	1.3	ND	ND
	7/20/2017	8.21	21.32	21.32	25.1	3.3	4.5	ND	ND
MW-21	10/6/2016	9.01	30.19	21.18	0.68 J	ND	0.59 J	ND	ND
	7/19/2017	8.21	21.98	21.98	ND	ND	ND	ND	ND
MW-22	10/6/2016	8.96	31.31	22.35	4.8	ND	0.46 J	ND	ND
	7/19/2017	8.10	23.21	23.21	2.4	ND	0.63 J	ND	ND
MW-23	10/5/2016	6.67	33.05	26.38	0.41 J	ND	ND	ND	ND
	7/18/2017	5.72	27.33	27.33	0.50 J	ND	ND	ND	ND
MW-24	10/5/2016	9.56	33.28	23.72	ND	ND	ND	ND	ND
	7/17/2017	8.48	24.80	24.80	ND	ND	0.65 J	ND	ND
MW-25	7/17/2017	7.94	41.41	33.47	ND	ND	ND	ND	ND
MW-26	7/17/2017	6.60	38.77	32.17	ND	ND	ND	ND	ND
MW-27	7/17/2017	3.49	34.10	30.61	ND	ND	ND	ND	ND
MW-28	7/20/2017	7.62	28.69	21.07	0.96 J	1.3	6.7	ND	ND
MW-29	7/20/2017	9.32	31.28	21.96	ND	ND	ND	ND	ND
NYSDEC Groundwater Standards					5	5	5	5	2

NOTES:

⁽¹⁾ Feet below top of casing.

⁽²⁾ Feet above mean sea level.

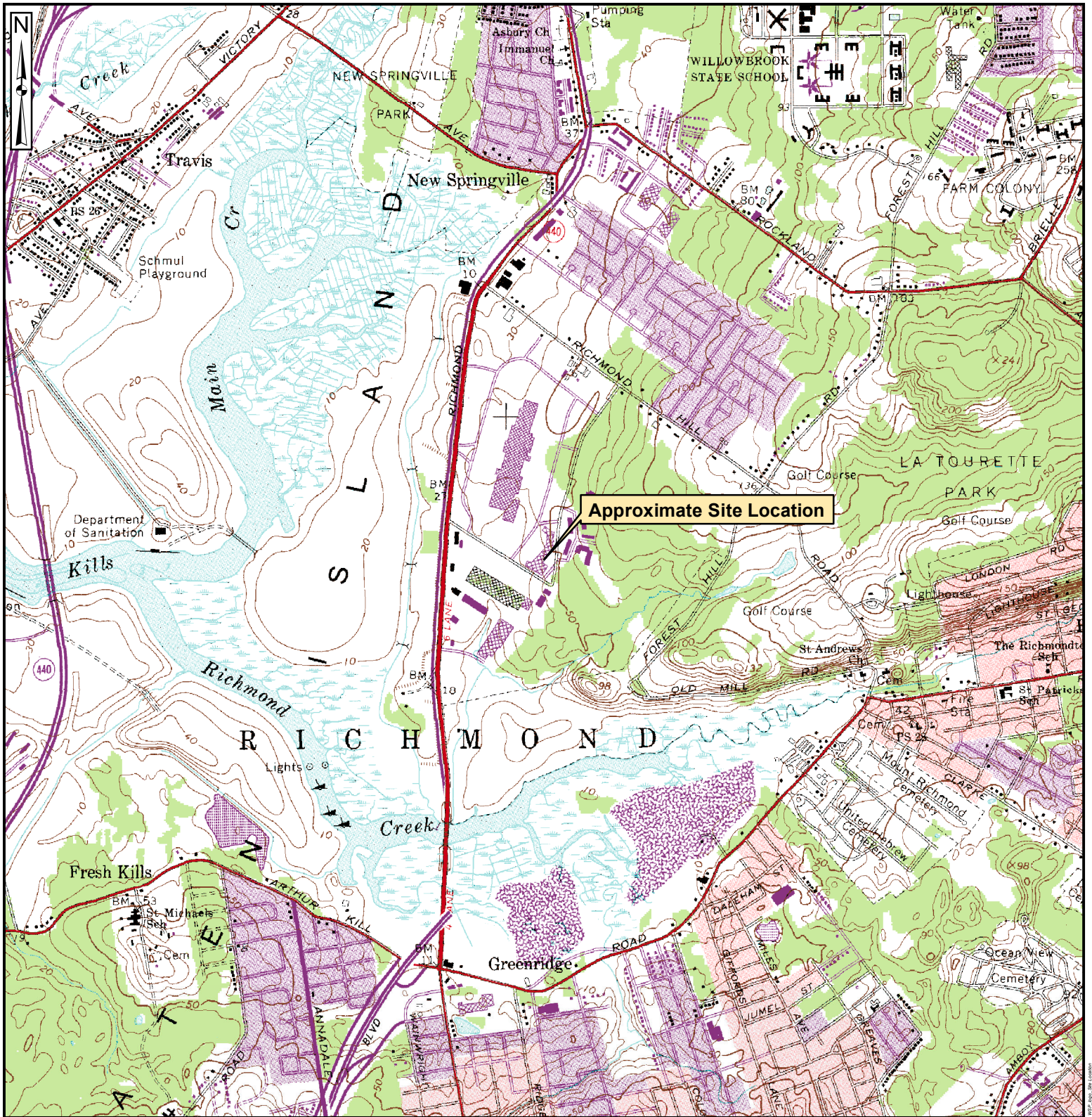
⁽³⁾ All concentrations are presented in ug/L; bold numbers represent an exceedance of the NYSDEC Groundwater Standards.

⁽⁴⁾ ND - Compound not detected at laboratory detection limits.

⁽⁵⁾ J - Estimated value.

FIGURES





2,000 1,000 0 2,000 Feet



USGS 7.5 Minute Topographic Quadrangle
(10 foot Contour Interval)
- Arthur Kill, NY, NJ; 1966, P.R. 1981.
P.R. - Photo Revised

BASE SOURCE: USGS COLOR TOPOGRAPHIC 24K

**CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC
STATEN ISLAND, NEW YORK**

SITE LOCATION



WSP USA

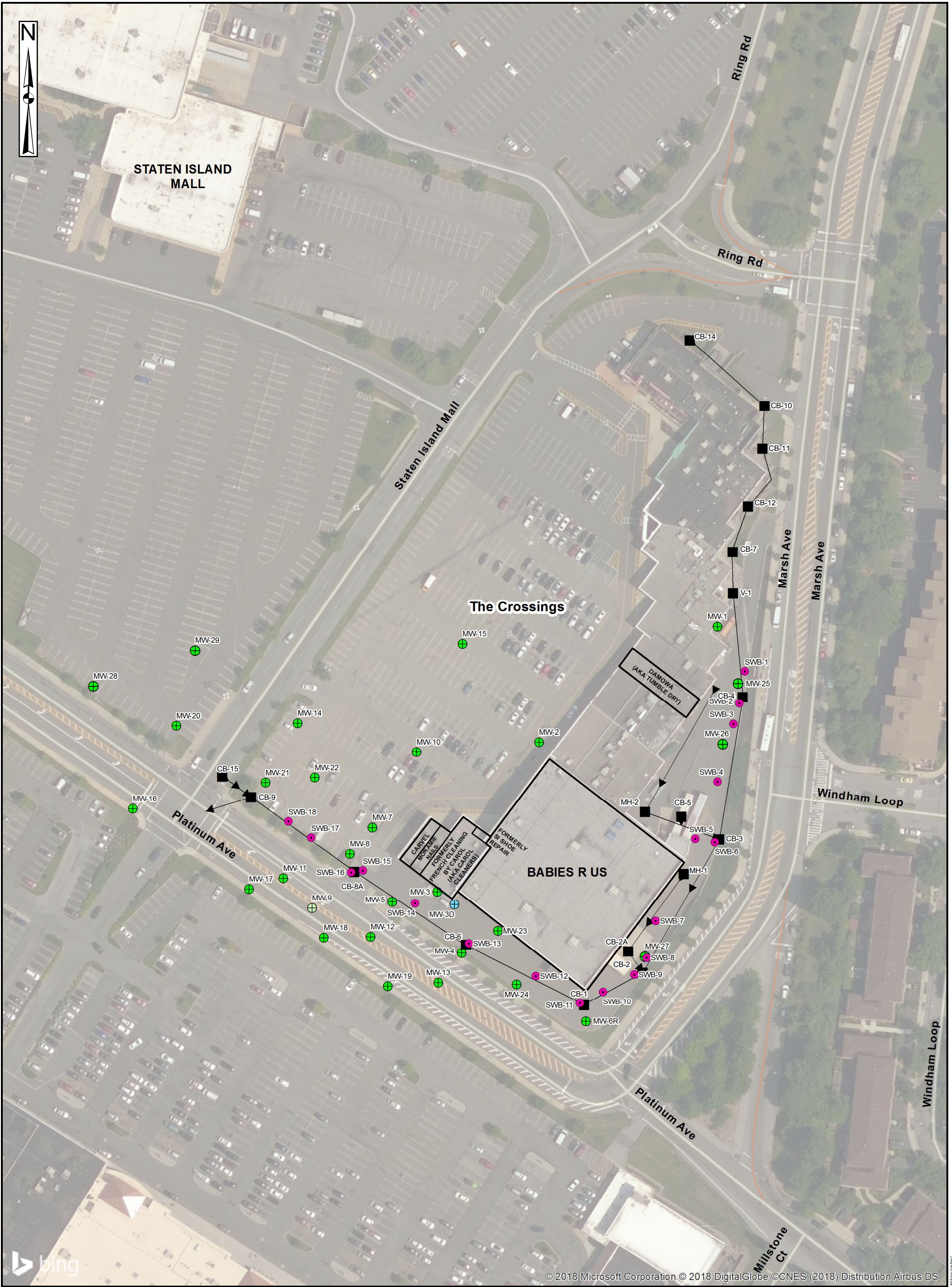
600 East Crescent Avenue, Suite 200
Upper Saddle River, New Jersey 07458
(201) 818-0700 www.wsp.com

DATE: 06/25/18

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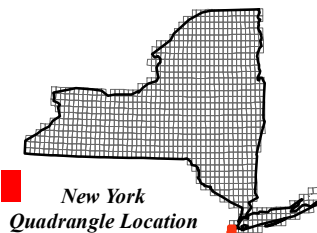
FIGURE: 1



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Legend

- = Monitor Well with ID
- = Bedrock Monitor Well with ID
- = Abandoned Monitor Well with ID
- = Soil Boring with ID
- = Stormwater System Component with Arrow Indicating Direction of Flow



BASE SOURCE: BING ORTHOIMAGERY

CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC
STATEN ISLAND, NEW YORK

SITE LOCATION



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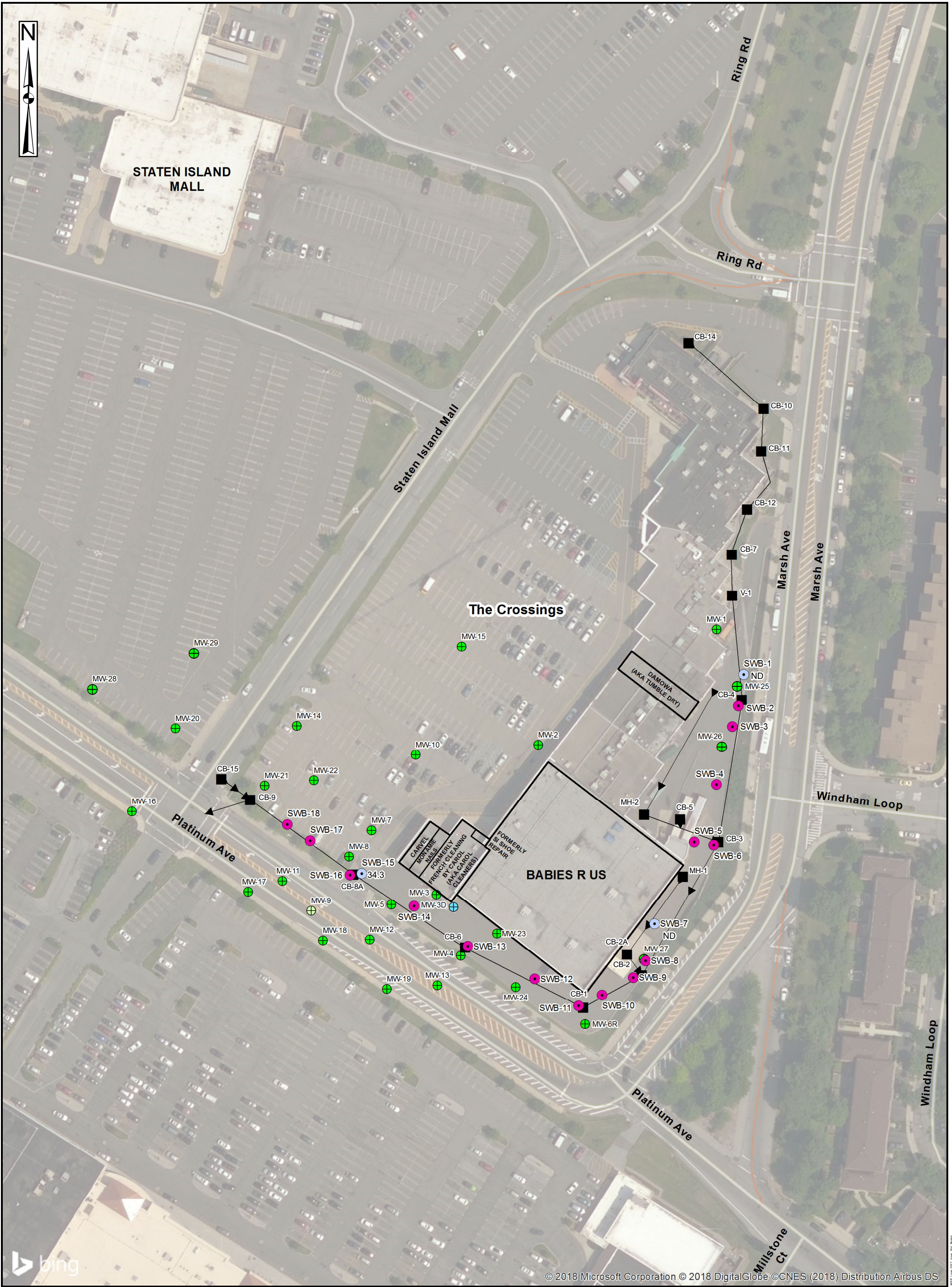
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FIGURE: 2



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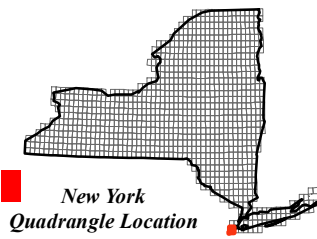
BASE SOURCE: BING ORTHOIMAGERY

Legend



- = Monitor Well with ID
- ⊕ = Bedrock Monitor Well with ID
- ⊕ = Abandoned Monitor Well with ID
- = Soil Boring with ID
- = Soil Boring/Temporary Well Point with ID and PCE Concentration in ug/L
- ▶ = Stormwater System Component with Arrow Indicating Direction of Flow

Notes: ND = Non-detect



**CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC
STATEN ISLAND, NEW YORK
SOIL BORINGS AND TEMPORARY
WELLPOINT LOCATIONS**



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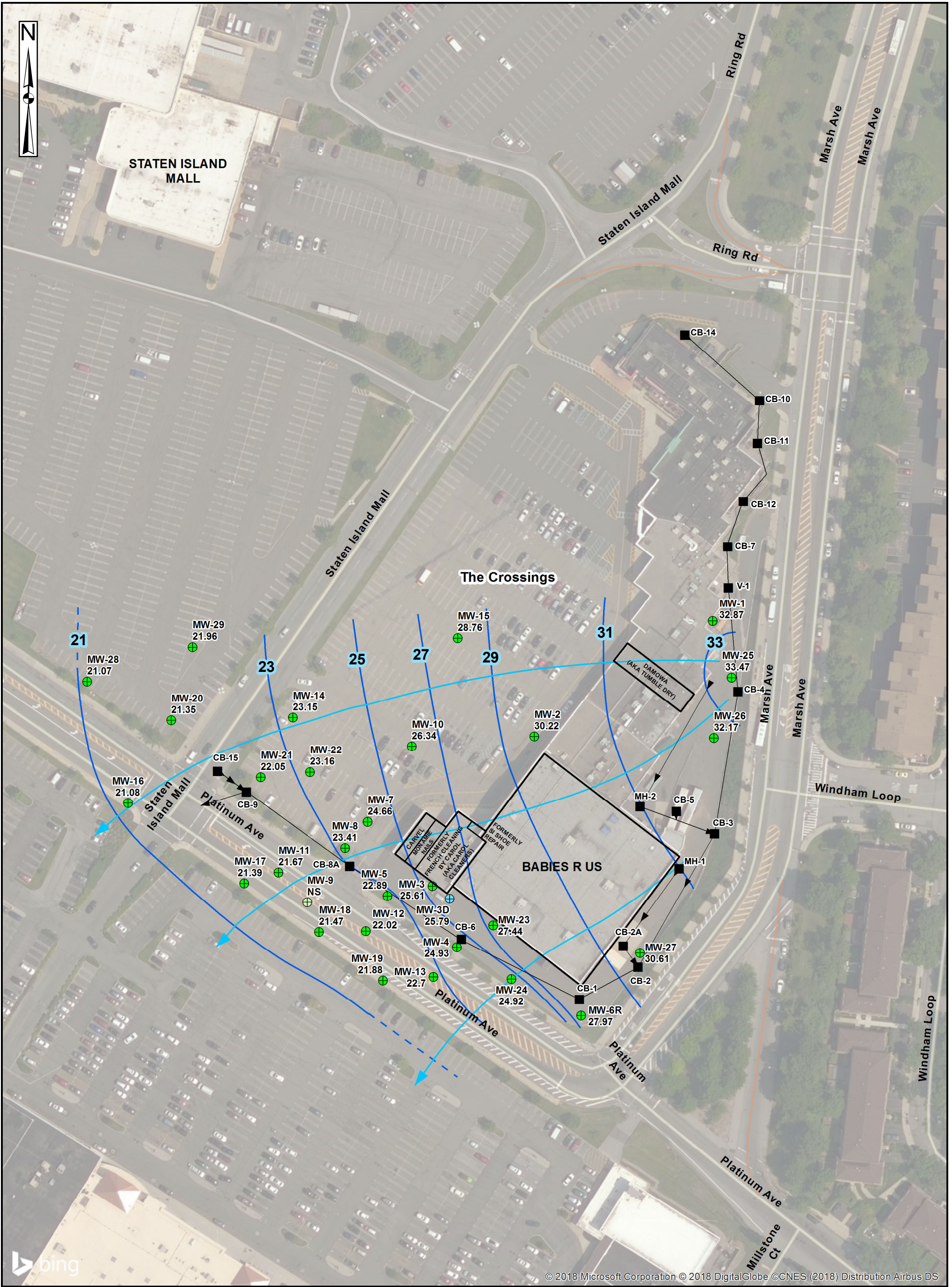
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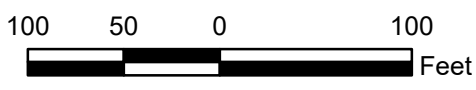
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FIGURE: 3



- Legend**
- MW-1 = Monitor Well with ID and groundwater elevation (ftamsl)
32.87
 - ⊕ MW-3D = Bedrock Monitor Well with ID and groundwater elevation (ftamsl), not used to establish groundwater elevation contours
25.79
 - ⊕ MW-9 = Abandoned Monitor Well with ID
 - = Groundwater elevation contour (ftamsl) with Approximate Groundwater Flow Direction
 - ➡ = Stormwater System Component with Arrow Indicating Direction of Flow
- Notes: MW-3D is completed to bedrock and was not used for contours.



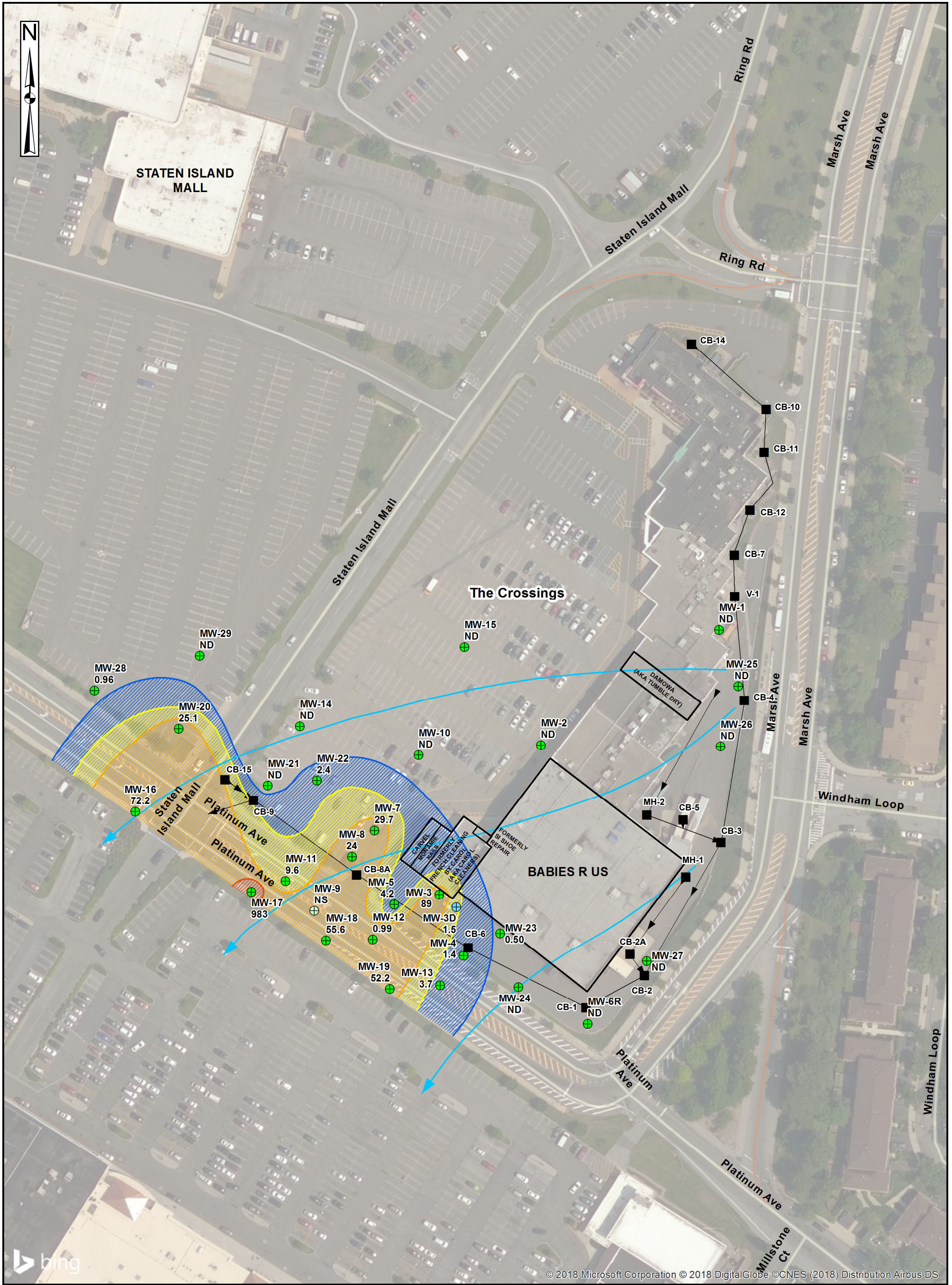
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CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC
STATEN ISLAND, NEW YORK

SOIL BORINGS AND TEMPORARY WELLPOINT LOCATIONS

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CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC
STATEN ISLAND, NEW YORK

PCE IN GROUNDWATER FOR JULY 2017



WSP USA

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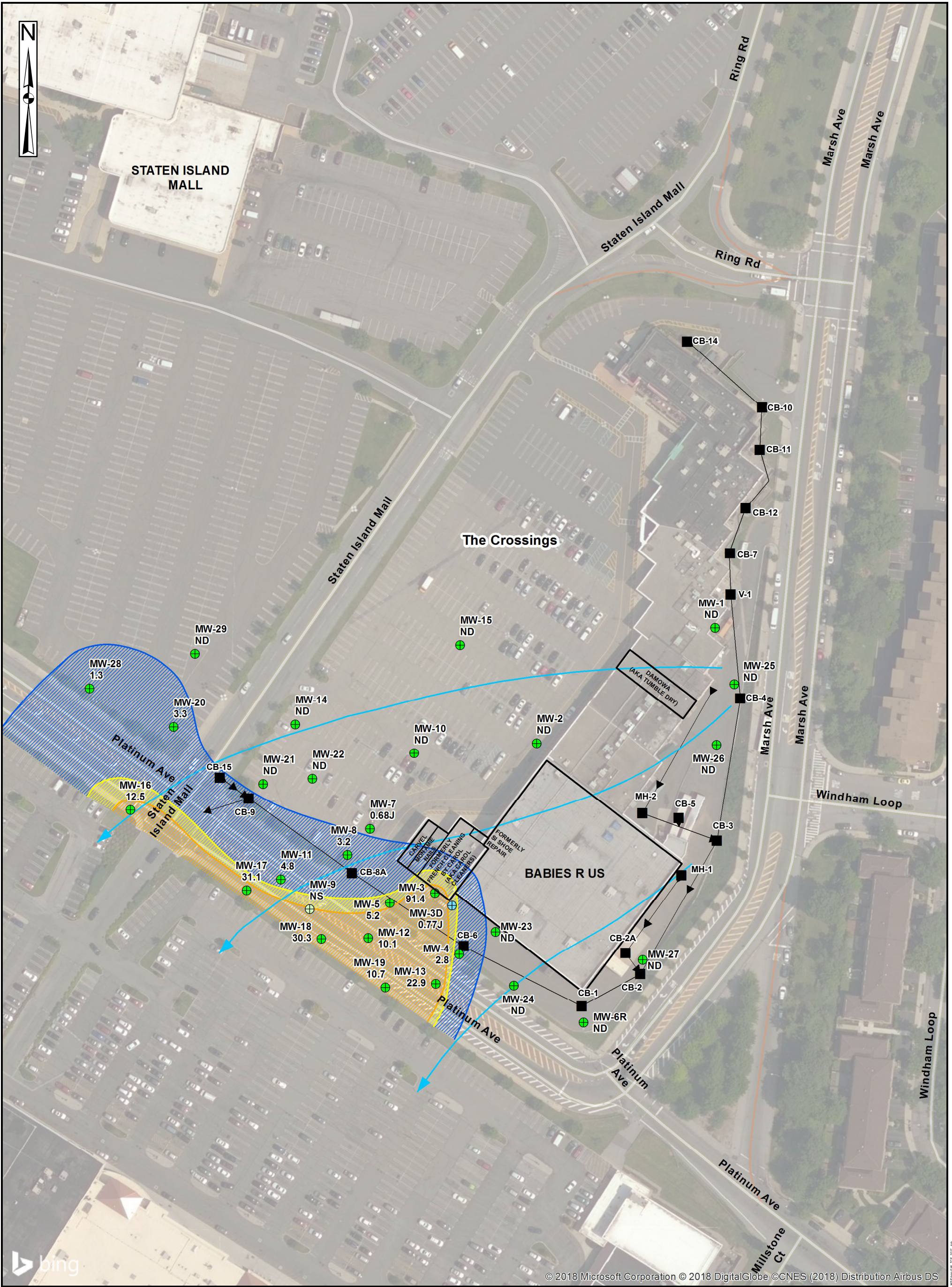
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FIGURE: 5



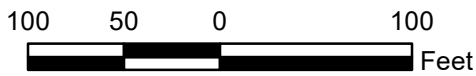
Legend

- MW-1 = Monitor Well with ID and Concentration in ug/L
- ND
- ⊕ MW-3D = Bedrock Monitor Well with ID and Concentration in ug/L
- ⊕ 1.5
- ⊕ MW-9 = Abandoned Monitor Well
- ⊕ CB-4
- ➔ = Stormwater System Component with Arrow Indicating Direction of Flow

TCE Concentration Contour (ug/L).

- Blue hatched: ≥ 1
- Yellow hatched: ≥ 5
- Orange hatched: ≥ 10
- Red hatched: ≥ 100

➔ = Approximate Groundwater Flow Direction (See Figure 4).



BASE SOURCE: BING ORTHOIMAGERY

CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC
STATEN ISLAND, NEW YORK

TCE IN GROUNDWATER FOR JULY 2017



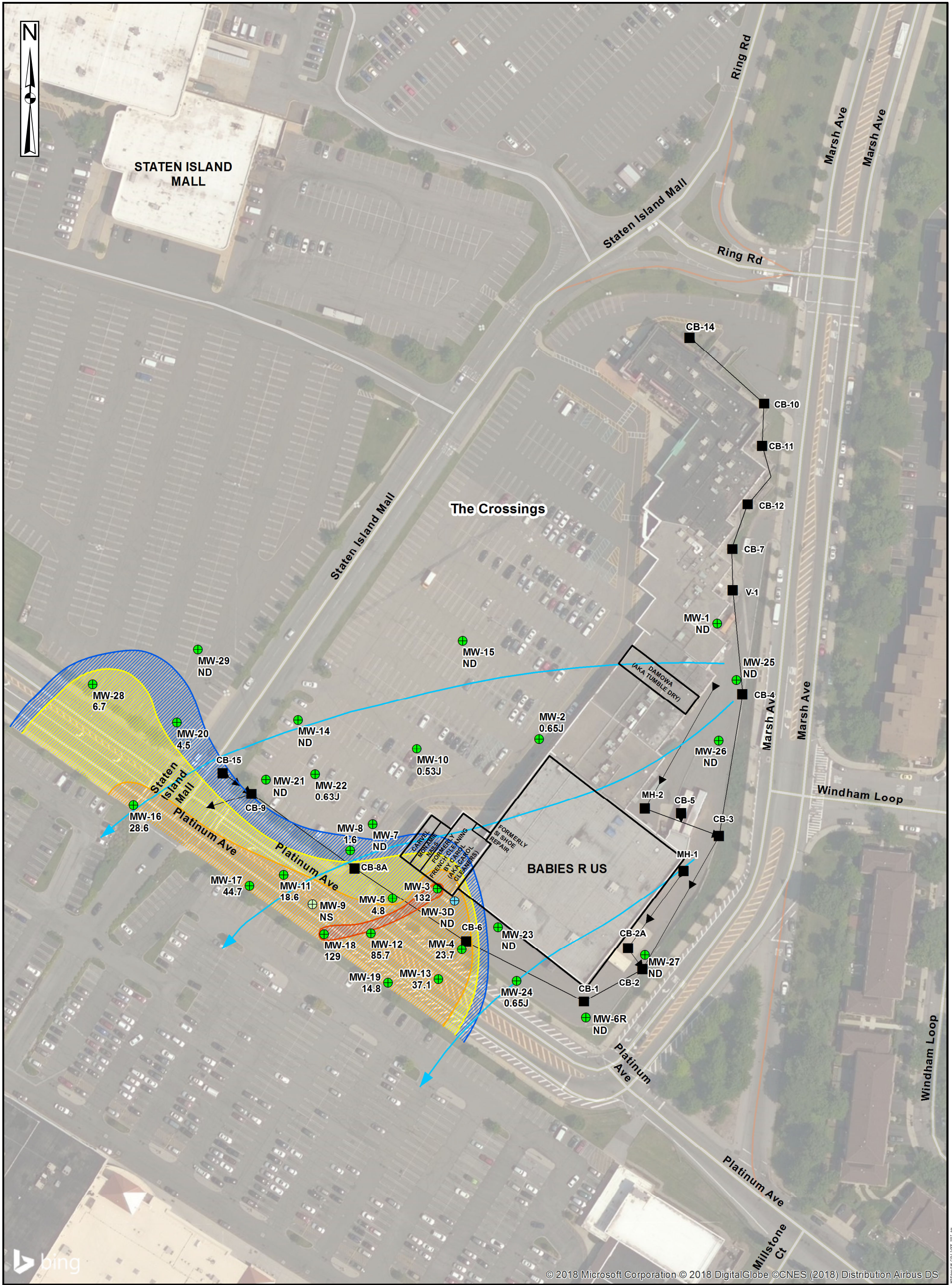
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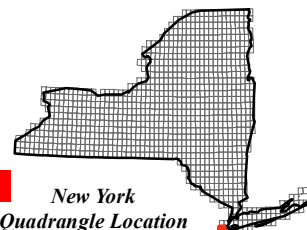
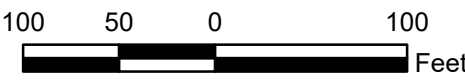
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DRAWN BY: MK CHECKED BY: MA FIGURE: 6



- Legend**
- MW-1= Monitor Well with ID and Concentration in ug/L
 - ND
 - ⊕ MW-3D= Bedrock Monitor Well with ID and Concentration in ug/L
 - ⊕ 1.5
 - ⊕ MW-9= Abandoned Monitor Well
 - ▣ CB-4
 - ▣ = Stormwater System Component with Arrow Indicating Direction of Flow
- CIS-1,2-DCE Concentration Contour (ug/L).**
 ND = Non-detect; NS = Not Sampled; J = Estimated Value; MW-3D is completed in bedrock and was not used for contours.
- ▨ ≥1
 - ▨ ≥5
 - ▨ ≥10
 - ▨ ≥100
- ➔ = Approximate Groundwater Flow Direction (See Figure 4).



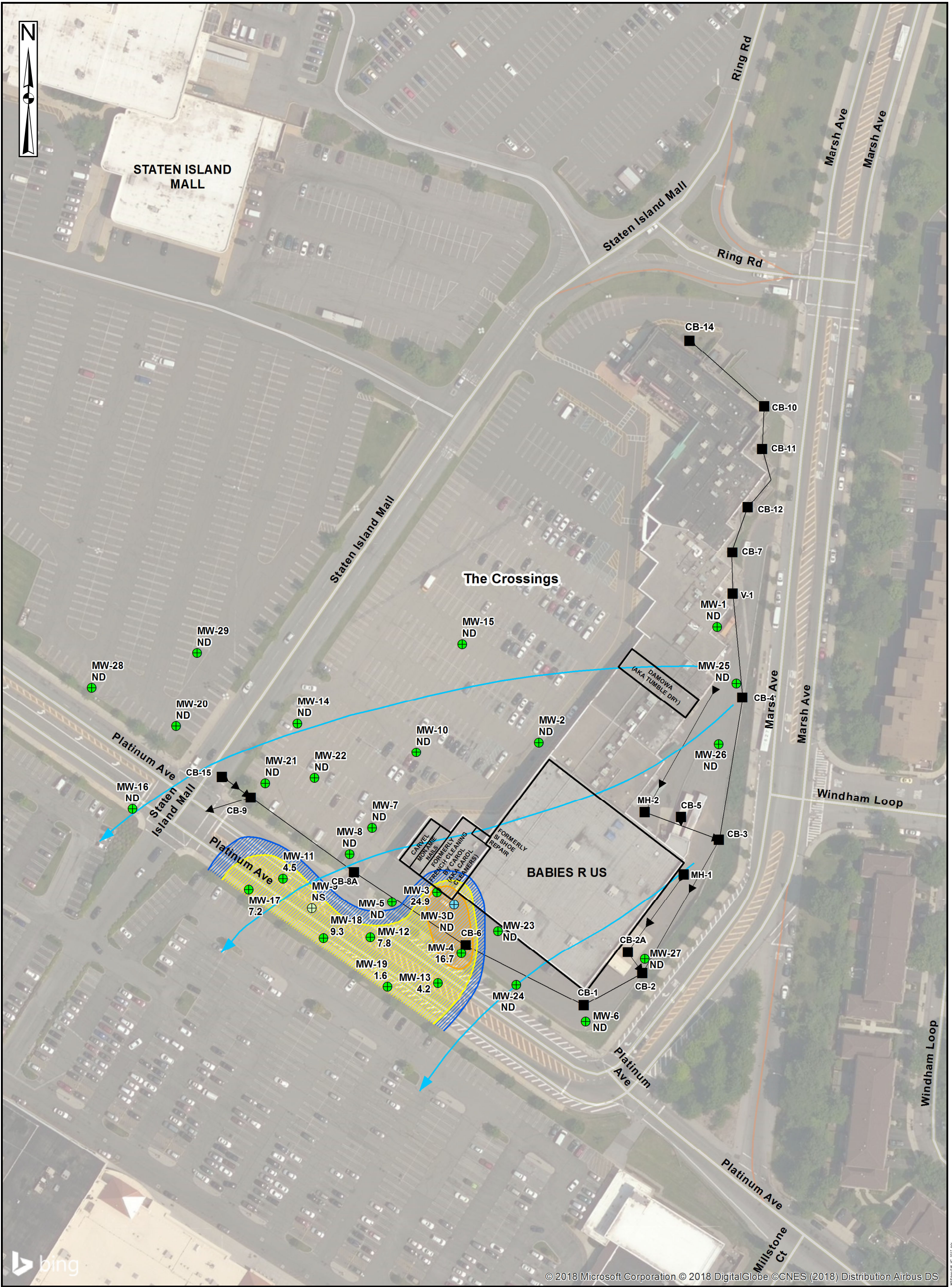
BASE SOURCE: BING ORTHOIMAGERY

CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC
STATEN ISLAND, NEW YORK

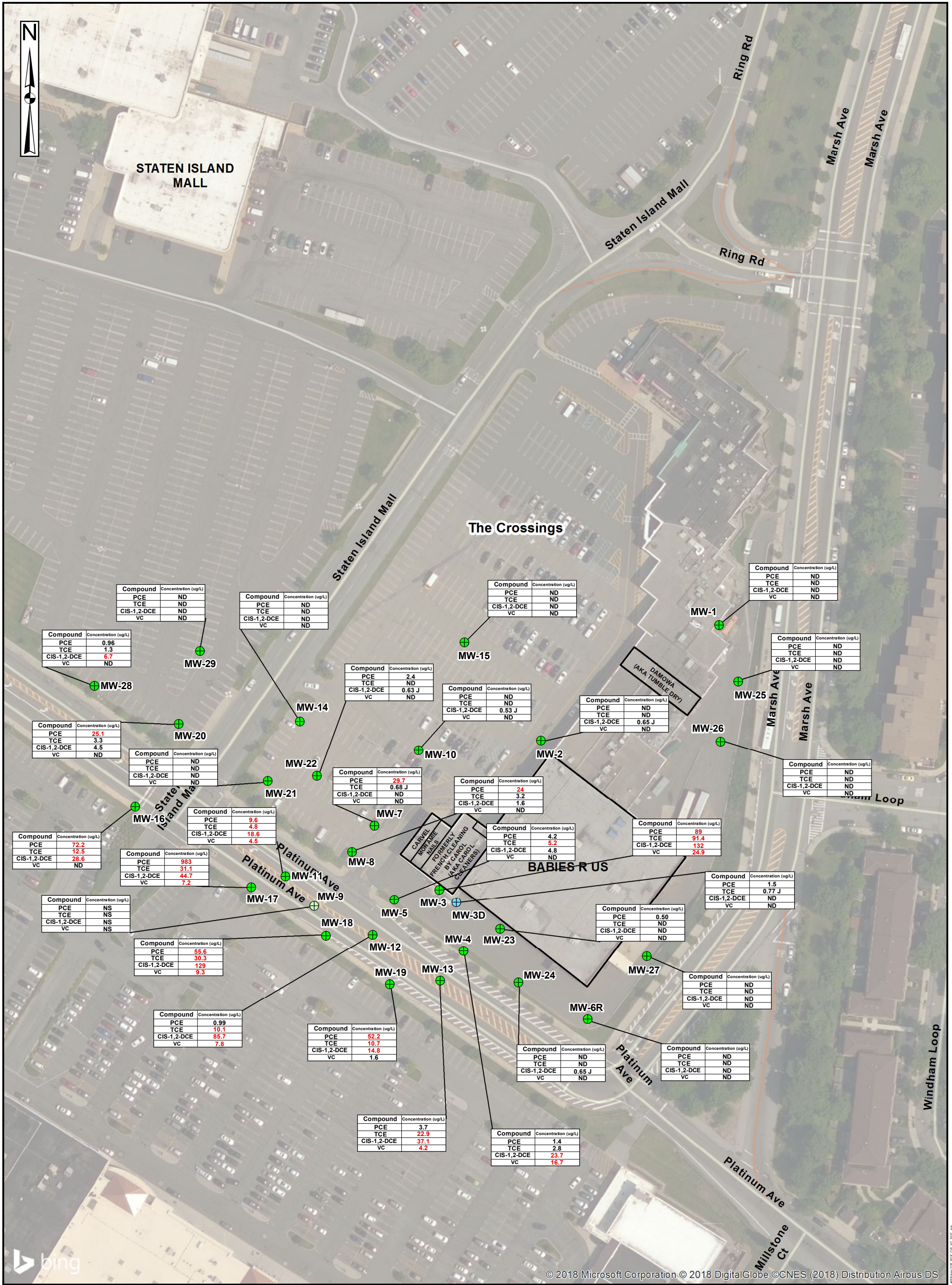
CIS-1,2-DCE IN GROUNDWATER FOR JULY 2017

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FILE: B:\Carol Cleaners\GIS\maps | DRAWN BY: MK | CHECKED BY: MA | FIGURE: 7 | DATE: 06/25/18



<p>Legend</p> <ul style="list-style-type: none"> MW-1 = Monitor Well with ID and Concentration in ug/L ND = Non-detect MW-3D = Bedrock Monitor Well with ID and Concentration in ug/L 1.5 = MW-9 = Abandoned Monitor Well CB-4 = Stormwater System Component with Arrow Indicating Direction of Flow <p>VC Concentration Contour (ug/L).</p> <ul style="list-style-type: none"> ND = Non-detect; NS = Not Sampled; J = Estimated Value; MW-3D is completed in bedrock and was not used for contours. Blue hatched: ≥ 1 Yellow hatched: ≥ 2 Orange hatched: ≥ 10 Red hatched: ≥ 100 <p>Blue arrow = Approximate Groundwater Flow Direction (See Figure 4).</p>	<p>100 50 0 100 Feet</p> <p>New York Quadrangle Location</p>	<p>BASE SOURCE: BING ORTHOIMAGERY</p> <p>CAROL CLEANERS - THE CROSSINGS GGP STATEN ISLAND MALL, LLC STATEN ISLAND, NEW YORK</p> <p>VC IN GROUNDWATER FOR JULY 2017</p> <p>WSP USA</p> <p>600 East Crescent Avenue, Suite 200 Upper Saddle River, New Jersey 07458 (201) 818-0700 www.wsp.com</p> <p>FILE: B:\Carol Cleaners\GIS\maps DRAWN BY: MK CHECKED BY: MA DATE: 06/25/18 FIGURE: 8</p>
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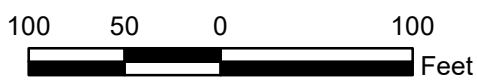


Legend

- MW-1 = Monitor Well with ID and CVOC Concentration Table. Concentrations indicated in red exceed the respective NYSDEC Groundwater standards. ND = Non-detect, NS = Not Sampled, J = Estimated Concentration Value, MW-3D is completed in bedrock.
- MW-3D = Bedrock Monitor Well
- MW-9 = Abandoned Monitor Well

Compound Abbreviation

PCE: Tetrachloroethylene
TCE: Trichloroethylene
CIS-1,2-DCE: cis-1,2-Dichloroethene
VC: Vinyl Chloride



BASE SOURCE: BING ORTHOIMAGERY

**CAROL CLEANERS - THE CROSSINGS
GGP STATEN ISLAND MALL, LLC
STATEN ISLAND, NEW YORK**

TARGETED CVOCs IN GROUNDWATER FOR JULY 2017



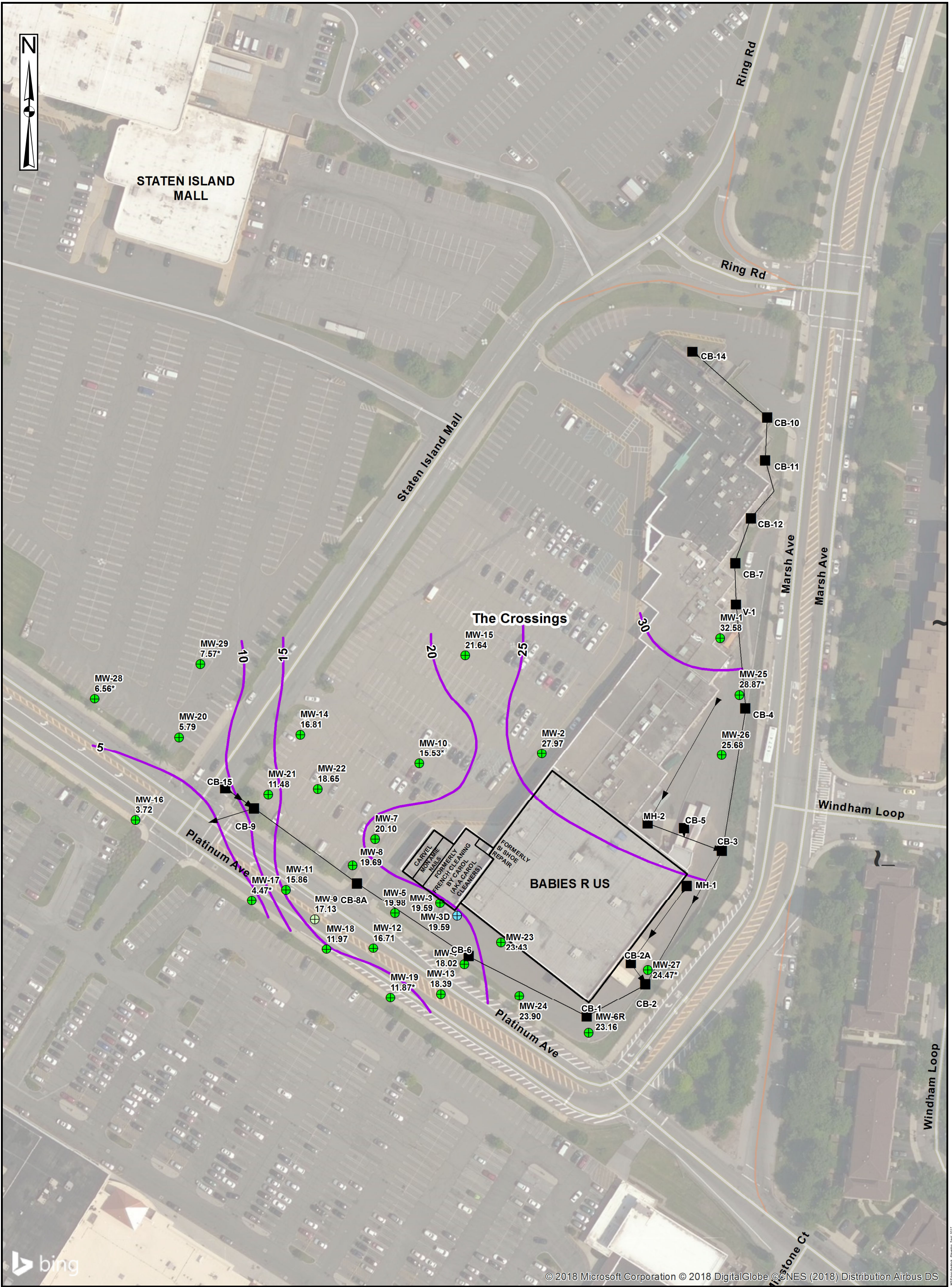
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DATE: 06/26/18

FILE: B:\Carol Cleaners\GIS\maps

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Legend

- = Monitor Well with ID approximate elevation of encountered bedrock surface (ftamsl).
- = Bedrock Monitor Well with ID
- ⊕ = Abandoned Monitor Well with ID
- = Bedrock Elevation Contour (ftamsl)
- = Stormwater System Component with Arrow Indicating Direction of Flow
- A' - A" = Cross-section location shown on Figure 11.

BASE SOURCE: BING ORTHOIMAGERY

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BEDROCK SURFACE ELEVATION CONTOUR MAP

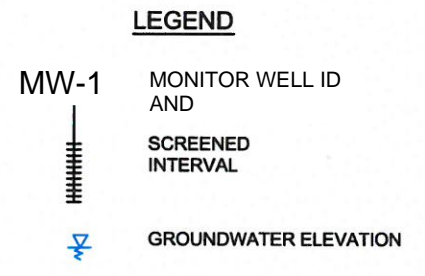
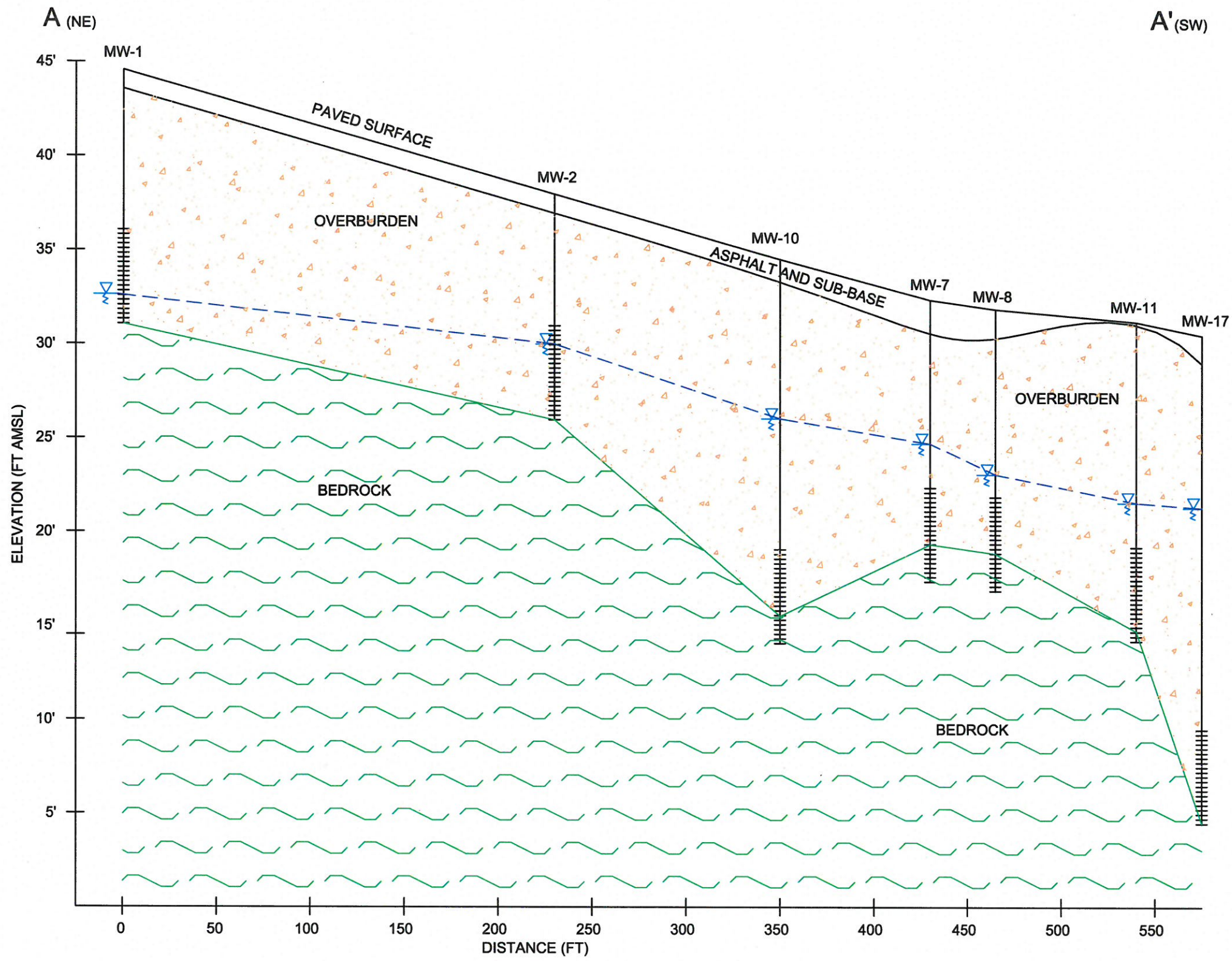


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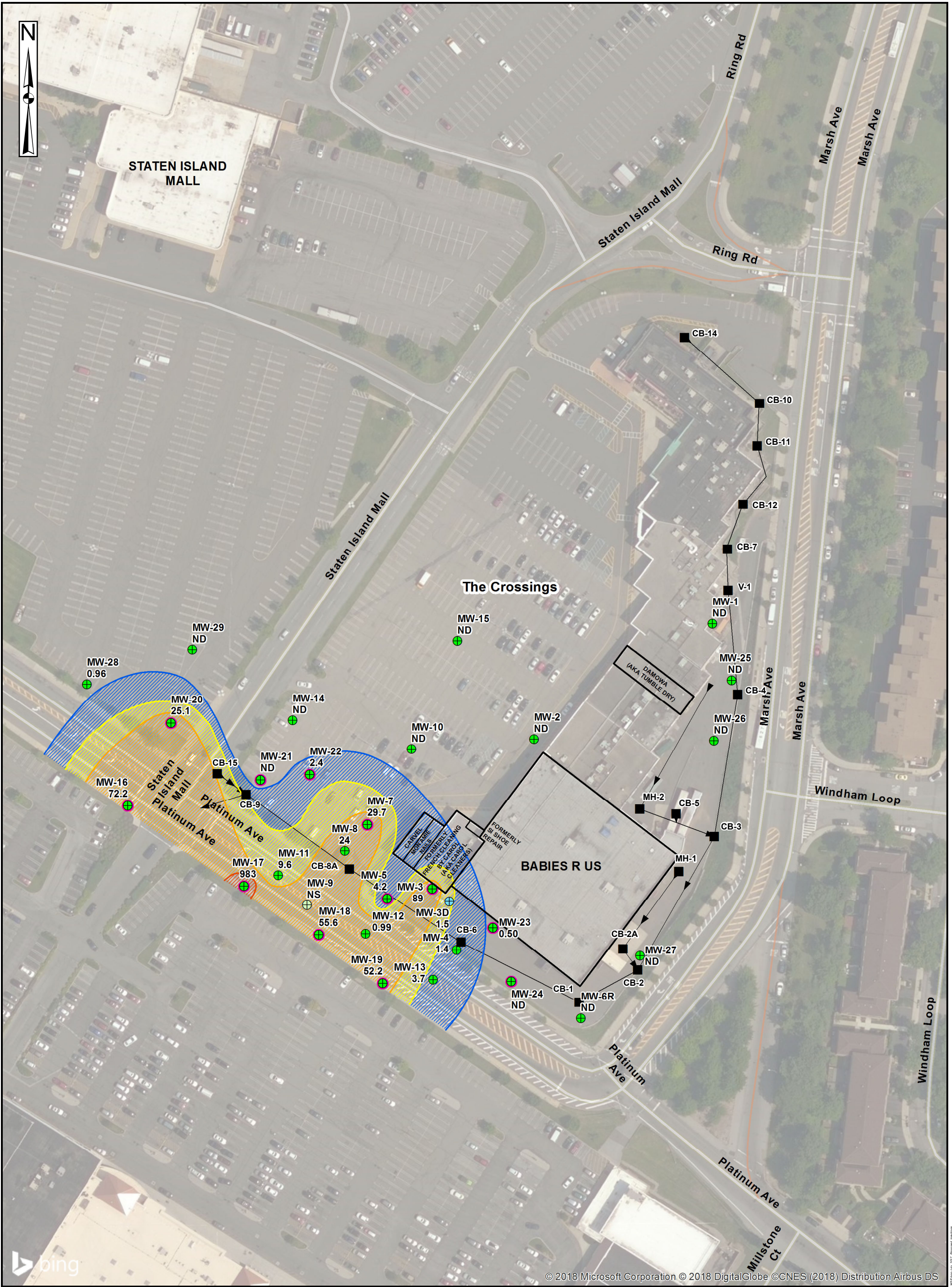
FILE: B:\Carol Cleaners\GIS\maps

DRAWN BY: SS CHECKED BY: MA FIGURE: 10



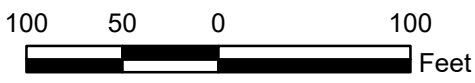
SEE FIGURE 10 FOR CROSS-SECTION LOCATION

CAROL CLEANERS – THE CROSSINGS GGP STATEN ISLAND MALL, LLC STATEN ISLAND, NEW YORK	
GEOLOGIC CROSS SECTION A-A"	
	PREPARED BY: LEGGETTE, BRASHEARS & GRAHAM, INC. <small>LEGGETTE, BRASHEARS & GRAHAM, INC. IS NOW WSP US</small> 600 E Crescent Ave Upper Saddle River, NJ 07458 (201) 818-0700
FILE: CAD/ROUSE/2018	APPROVED BY: MA DATE: 10/27/17 REVISED BY: JM CHECKED BY: MA FIGURE: 11



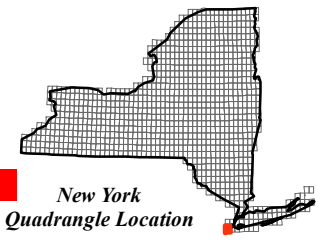
Legend

- = Monitor Well with ID and Concentration in ug/L
- ⊕ = Bedrock Monitor Well with ID and Concentration in ug/L
- ⊕ = Abandoned Monitor Well
- ⊕ = Location of Existing Monitor Well Proposed for Injection
- ➡ = Stormwater System Component with Arrow Indicating Direction of Flow



PCE Concentration Contour (ug/L).
 ND = Non-detect; NS = Not Sampled; J = Estimated Value; MW-3D is completed in bedrock and was not used for contours.

- ▨ ≥1
- ▨ ≥5
- ▨ ≥10
- ▨ ≥100



BASE SOURCE: BING ORTHOIMAGERY

**CAROL CLEANERS - THE CROSSINGS
 GGP STATEN ISLAND MALL, LLC
 STATEN ISLAND, NEW YORK
 JULY 2017 PCE IN GROUNDWATER AND
 PROPOSED INJECTION LOCATIONS**



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APPENDIX



SOIL BORING LOGS





GEOLOGIC LOG

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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-1

PAGE: 1 of 1 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall,
 New York

BORING LOCATION:

Back of building, parallel to Marsh Ave.

DATE COMPLETED: 6/1/2017

DRILLING COMPANY: Cascade

DRILLING METHOD: Geoprobe

SAMPLING METHOD: 5' Macro Cores

OBSERVER: M.Karban, S. Zois

TOTAL DEPTH OF BORING: 14'

REFERENCE POINT (RP): Grade

BACKFILL TYPE:

ELEVATION OF RP:

STATIC WATER LEVEL: 9.46 ftbtopvc **DATE:** 6/1/2017

SURFACE COMPLETION: Temporary Well

COMMENTS: Stick up: 1' ag

ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million
 ftbtopvc = Feet below top of PVC, ag= Above Grade

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	1.1	0-5' Asphalt and Subbase, no recovery after.
5	10	MC	N/A	1.4	5-10' Red Brown Silt and f Sand; f m c subround gravel; some cobbles; very moist.
10	15	MC	N/A	3.15	10-12' Highly weathered rock; red brown Silt and f Sand; with f m rounded gravel; some f m gravel and cobbles (weathered bedrock); moist.
					12-14' Weathered Bedrock; Red Brown SILT with f m gravel and cobble (weathered bedrock); moist; tight.
					-EOB Refusal at 14'-



GEOLOGIC LOG

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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-2

PAGE: 1 of 2 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall, New York	BORING LOCATION: Back of building, parallel to Marsh Ave.
DATE COMPLETED: 6/1/2017	
DRILLING COMPANY: Cascade	
DRILLING METHOD: Geoprobe	
SAMPLING METHOD: 5' Macro Cores	
OBSERVER: M.Karban, S. Zois	TOTAL DEPTH OF BORING: 13'
REFERENCE POINT (RP): Grade	BACKFILL TYPE: Cuttings
ELEVATION OF RP:	STATIC WATER LEVEL: N/A DATE:
SURFACE COMPLETION: Asphalt Patch	
COMMENTS:	
ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million	

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	2.0	0-1' Asphalt and Subbase.
					1-5' Red Brown Silt and f Sand; with f m c subangular gravel; barley moist.
5	10	MC	N/A	2.3	5-6' Red Brown Silt and f Sand; with f m c subangular gravel; little cobble; barley moist; tight.
					6-6.5' Weathered Bedrock Cobble.
					6.5-10' Red Brown Silt and f Sand; with f m c subangular gravel and weathered bedrock; some cobbles; dry; at 10' weathered bedrock cobble.



GEOLOGIC LOG

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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-3

PAGE: 1 of 2 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall,
 New York

BORING LOCATION:

Back of building, parallel to Marsh Ave.

DATE COMPLETED: 6/1/2017

DRILLING COMPANY: Cascade

DRILLING METHOD: Geoprobe

SAMPLING METHOD: 5' Macro Cores

OBSERVER: M.Karban, S. Zois

TOTAL DEPTH OF BORING: 13'

REFERENCE POINT (RP): Grade

BACKFILL TYPE: Cuttings

ELEVATION OF RP:

STATIC WATER LEVEL: N/A

DATE:

SURFACE COMPLETION: Asphalt Patch

COMMENTS:

ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	3.4	0-1' Asphalt and Subbase.
					1-3' Red Brown f m c Sand and Silt; with subangular f m c gravel; very tight; slightly moist.
					3-5' Weathered Bedrock; cobble at 5'.
5	10	MC	N/A	4.0	5-10' Red Brown f Sand and Silt; f m c subangular gravel and weathered bedrock; tight; moist; bedrock cobble at 7.5'.
10	15	MC	N/A	1.8	10-12.5' Red Brown f Sand and Silt; f m c subangular f m c gravel; very tight; slightly moist.



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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-4

PAGE: 1 of 1 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall,
 New York

BORING LOCATION:

Back of building, parallel to Marsh Ave.

DATE COMPLETED: 6/1/2017

DRILLING COMPANY: Cascade

DRILLING METHOD: Geoprobe

SAMPLING METHOD: 5' Macro Cores

OBSERVER: M.Karban, S. Zois

TOTAL DEPTH OF BORING: 8'

REFERENCE POINT (RP): Grade

BACKFILL TYPE: Cuttings

ELEVATION OF RP:

STATIC WATER LEVEL: N/A **DATE:**

SURFACE COMPLETION: Asphalt Patch

COMMENTS:

ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	2.3	0-1' Asphalt and Subbase.
					1-5' Red Brown Silt and f Sand; with f m c gravel and cobbles; subround weathered bedrock; tight; moist; cobble at 2'.
5	10	MC	N/A	2.4	5-7' Red Brown Silt and f Sand; with f m c gravel and cobbles; subround weathered bedrock; tight; moist.
					7-8' Weathered Bedrock; c gravel and cobbles.
					-EOB Refusal at 8'-



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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-5

PAGE: 1 of 1 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall, New York	BORING LOCATION: Back of building, parallel to Marsh Ave.
DATE COMPLETED: 6/1/2017	
DRILLING COMPANY: Cascade	
DRILLING METHOD: Geoprobe	
SAMPLING METHOD: 5' Macro Cores	
OBSERVER: M.Karban, S. Zois	TOTAL DEPTH OF BORING: 5'
REFERENCE POINT (RP): Grade	BACKFILL TYPE: Cuttings
ELEVATION OF RP:	STATIC WATER LEVEL: N/A DATE:
SURFACE COMPLETION: Asphalt Patch	
COMMENTS:	
ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million	

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	4.1	0-0.8' Asphalt and Subbase.
					0.8-4.2' Red Brown f m Sand and Silt; with f m c subrounded gravel; little f m c cobbles; tight; barley moist.
					4.2-5' Weathered Bedrock; green f Sand and Silt; with f m c gravel and cobbles; barely moist.
					-EOB Refusal at 5'-



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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-6

PAGE: 1 of 1 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall,
 New York

BORING LOCATION:

Back of building, parallel to Marsh Ave.

DATE COMPLETED: 5/31/2017

DRILLING COMPANY: Cascade

DRILLING METHOD: Geoprobe

SAMPLING METHOD: 5' Macro Cores

OBSERVER: M.Karban, S. Zois

TOTAL DEPTH OF BORING: 3'

REFERENCE POINT (RP): Grade

BACKFILL TYPE: Cuttings

ELEVATION OF RP:

STATIC WATER LEVEL: N/A **DATE:**

SURFACE COMPLETION: Asphalt Patch

COMMENTS:

ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	2.5	0-0.8' Asphalt and Subbase.
					0.8-1.5' Red Brown Silt and f Sand; some f subround gravel; little clay; moist.
					1.5'-3.0' Light Brown Silt and f Sand; with f m c subangular gravel; weathered bedrock cobbles; tight; dry.
					-EOB Refusal at 3'-



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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-7

PAGE: 1 of 1 **PAGES**

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall,
 New York

BORING LOCATION:

Back of building, parallel to Marsh Ave.

DATE COMPLETED: 6/1/2017

DRILLING COMPANY: Cascade

DRILLING METHOD: Geoprobe

SAMPLING METHOD: 5' Macro Cores

OBSERVER: M.Karban, S. Zois

TOTAL DEPTH OF BORING: 10'

REFERENCE POINT (RP): Grade

BACKFILL TYPE:

ELEVATION OF RP:

STATIC WATER LEVEL: 7.39 ftbtovpc **DATE:** 6/1/2017

SURFACE COMPLETION: Temporary Well

COMMENTS: Stickup height: 3.25' ag

ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million
 ftbtovpc = Feet below top of PVC, ag= Above Grade

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	3.5	0-1' Asphalt and Subbase.
					1-1.5' Red Brown f m c Sand and Silt; with f m c subangular gravel; dry.
					1.5-5' Red Brown f m c Sand and Silt; with f m c subangular gravel; cobble at 1.5'; little weathered bedrock; tight; moist.
5	10	MC	N/A	4.1	5-6.5' f m c GRAVEL; with f m c sand and silt; saturated; cobble at 6.5'.
					6.5-10' Red Brown Silt and Clay; with f m c sand; little subround f m c gravel; little weathered bedrock.
					-EOB Refusal at 10'-



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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-8

PAGE: 1 of 1 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall, New York	BORING LOCATION: Back of building, parallel to Marsh Ave.
DATE COMPLETED: 6/1/2017	
DRILLING COMPANY: Cascade	
DRILLING METHOD: Geoprobe	
SAMPLING METHOD: 5' Macro Cores	
OBSERVER: M.Karban, S. Zois	TOTAL DEPTH OF BORING: 10'
REFERENCE POINT (RP): Grade	BACKFILL TYPE: Cuttings
ELEVATION OF RP:	STATIC WATER LEVEL: N/A DATE:
SURFACE COMPLETION: Asphalt Patch	
COMMENTS:	
ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million	

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	3.7	0-1' Asphalt and Subbase.
					1-5' Red Brown Silt and f Sand; some f m c subangular gravel; some weathered bedrock; weathered bedrock cobble at 2.5' and 5'.
					At 1.2' PID=1.2
5	10	MC	N/A	3.2	Red Brown Silt and f Sand; some f m c subangular gravel; some weathered bedrock; tight; from 5-8' moist; from 8-10' dry. At 5' bedrock cobble.
					-EOB Refusal at 10'-



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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-9

PAGE: 1 of 1 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall,
 New York

BORING LOCATION:

Back of building, parallel to Marsh Ave.

DATE COMPLETED: 5/31/2017

DRILLING COMPANY: Cascade

DRILLING METHOD: Geoprobe

SAMPLING METHOD: 5' Macro Cores

OBSERVER: M.Karban, S. Zois

TOTAL DEPTH OF BORING: 6'

REFERENCE POINT (RP): Grade

BACKFILL TYPE: Cuttings

ELEVATION OF RP:

STATIC WATER LEVEL: N/A **DATE:**

SURFACE COMPLETION: Asphalt Patch

COMMENTS:

ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	4.5	0-1' Asphalt and Subbase. At 0' PID=0.8
					1-5' Red Brown Silt and f Sand; with f m c subround-subangular gravel; little cobbles; some weathered bedrock; tight; moist.
5	10	MC	N/A	1	5-6' Red Brown Silt and f Sand; with f m c subround-subangular gravel; little cobbles; weathered bedrock; tight; dry.
					-EOB Refusal at 6'-



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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-10

PAGE: 1 of 2 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall,
 New York

BORING LOCATION:

Back of building, parallel to Marsh Ave.

DATE COMPLETED: 6/2/2017

DRILLING COMPANY: Cascade

DRILLING METHOD: Geoprobe

SAMPLING METHOD: 5' Macro Cores

OBSERVER: M.Karban, S. Zois

TOTAL DEPTH OF BORING: 12'

REFERENCE POINT (RP): Grade

BACKFILL TYPE: Cuttings

ELEVATION OF RP:

STATIC WATER LEVEL: N/A **DATE:**

SURFACE COMPLETION: Asphalt Patch

COMMENTS:

ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	4.1	0-2' Asphalt and Subbase. At 0' PID=4.1; At 1' PID=0.3; At 3' PID=1.5
					2-3' Red Brown f m c Sand and Silt; with f m c angular gravel; tight; slightly moist.
					3-5' Red Brown f m c Sand and Silt; with f m c angular gravel; tight; slightly moist.
5	10	MC	N/A	4.8	5-7' Red Brown f m c Sand and Silt; with f m c angular gravel; little weathered bedrock; tight; slightly moist.
					7-10' Red Brown f m c Sand and Silt; with f m c angular gravel; with weathered bedrock;



GEOLOGIC LOG

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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-11

PAGE: 1 of 2 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall, New York	BORING LOCATION: Parallel to Platinum Ave
DATE COMPLETED: 5/31/2017	
DRILLING COMPANY: Cascade	
DRILLING METHOD: Geoprobe	
SAMPLING METHOD: 5' Macro Cores	
OBSERVER: M.Karban, S. Zois	TOTAL DEPTH OF BORING: 12'
REFERENCE POINT (RP): Grade	BACKFILL TYPE: Cuttings
ELEVATION OF RP:	STATIC WATER LEVEL: N/A DATE:
SURFACE COMPLETION: Asphalt Patch	
COMMENTS:	
ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million	

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	2.7	0-1.0' Asphalt and Subbase.
					1.0-2.5' Red Brown f SAND; some silt; little f rounded gravel; dry.
					2.5-5.0' Red Brown f Sand and Silt; with f m c subround gravel; some cobbles; tight; moist.
5	10	MC	N/A	4.4	5-6' Red Brown f Sand and Silt; with f m c subround gravel; some cobbles; tight; very moist.
					6-7' Red Brown f Sand and Silt; with f m c subangular gravel and cobble; very tight; moist.



GEOLOGIC LOG

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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-12

PAGE: 1 of 2 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall,
 New York

BORING LOCATION:

Parallel to Platinum Ave

DATE COMPLETED: 6/2/2017

DRILLING COMPANY: Cascade

DRILLING METHOD: Geoprobe

SAMPLING METHOD: 5' Macro Cores

OBSERVER: M.Karban, S. Zois

TOTAL DEPTH OF BORING: 14'

REFERENCE POINT (RP): Grade

BACKFILL TYPE: Cuttings

ELEVATION OF RP:

STATIC WATER LEVEL: N/A **DATE:**

SURFACE COMPLETION: Asphalt Patch

COMMENTS:

ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	4.2	0-1' Asphalt and Subbase; At 0' PID= 0.3
					1-2' Red Brown f m c Sand and Silt; with m c subangular gravel.
					2-4' Red Brown f m c SAND; with little silt; tight.
					4-5' Red Brown f m c Sand and Silt; tight; slightly moist.
5	10	MC	N/A	1.0	5-10' Red Brown f m c Sand and Silt; tight; slightly moist; cobble at 7.5'.
10	15	MC	N/A	2.0	10-12' Reddish Brown SILT; with some f m c sand and subrounded-subangular f m c gravel;



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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-13

PAGE: 1 of 2 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall,
 New York

BORING LOCATION:

Parallel to Platinum Ave

DATE COMPLETED: 5/31/2017

DRILLING COMPANY: Cascade

DRILLING METHOD: Geoprobe

SAMPLING METHOD: 5' Macro Cores

OBSERVER: M.Karban, S. Zois

TOTAL DEPTH OF BORING: 18'

REFERENCE POINT (RP): Grade

BACKFILL TYPE: Cuttings

ELEVATION OF RP:

STATIC WATER LEVEL: N/A **DATE:**

SURFACE COMPLETION: Asphalt Patch

COMMENTS:

ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	3.3	0-0.5' Asphalt and Subbase. At 0' PID=0.5
					0.5-3.5' Light Brown SILT; some f sand; little f rounded gravel; tight; moist.
					3.5-5.0' Red Brown SILT; with f sand; some f m rounded gravel; tight; moist.
5	10	MC	N/A	3.1	5-10' Red Brown SILT; with f sand; with; f m round-subround gravel; moist; tight; cobble at 9'. At 8' PID= 0.4
10	15	MC	N/A	4.9	10-15' Red Brown SILT; with f sand; with; f m c round-subround gravel; tight; moist; cobble at 13'; weathered bedrock at 14'.



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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-14

PAGE: 1 of 2 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall,
 New York

BORING LOCATION:

Parallel to Platinum Ave

DATE COMPLETED: 5/31/2017

DRILLING COMPANY: Cascade

DRILLING METHOD: Geoprobe

SAMPLING METHOD: 5' Macro Cores

OBSERVER: M.Karban, S. Zois

TOTAL DEPTH OF BORING: 19'

REFERENCE POINT (RP): Grade

BACKFILL TYPE: Cuttings

ELEVATION OF RP:

STATIC WATER LEVEL: N/A **DATE:**

SURFACE COMPLETION: Asphalt Patch

COMMENTS:

ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	5.0	0-0.5' Asphalt and Subbase.
					0.5-4.0' Fill material. Red Brown SILT; with f m sand; some f m rounded gravel; tight; moist.
					4-5' Red Brown f m Sand and Silt; very wet.
5	10	MC	N/A	4.4	5-6' Fill material; Red Brown Silt and f m Sand; with f m subround gravel; little clay; very moist.
					6-9' Red Brown Silt and f Sand; f m round gravel; tight; saturated to 7.5'; moist from 7.5-9'. At 5' PID=1.2; At 6' PID=0.1;



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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-15

PAGE: 1 of 2 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall,
 New York

BORING LOCATION:

Parallel to Platinum Ave

DATE COMPLETED: 6/2/2017

DRILLING COMPANY: Cascade

DRILLING METHOD: Geoprobe

SAMPLING METHOD: 5' Macro Cores

OBSERVER: M.Karban, S. Zois

TOTAL DEPTH OF BORING: 14.5'

REFERENCE POINT (RP): Grade

BACKFILL TYPE:

ELEVATION OF RP:

STATIC WATER LEVEL: 8.35ftbtopvc **DATE:** 6/2/2017

SURFACE COMPLETION: Temporary Well

COMMENTS: Stickup height: 1' ag

ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million
 ftbtopvc= Feet Below Top of PVC, ag= Above Grade

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	3.0	0-2' Asphalt and Subbase.
					2-5' Fill material; Brown Silt and f m c Sand; with some f m subrounded gravel.
5	10	MC	N/A	2.9	5-10' Red Brown f m c Sand and Silt; some f m c subrounded gravel; tight; moist.
10	15	MC	N/A	3.5	10.0-12.5' Red Brown Clay and Silt; with f m rounded gravel; tight; moist.
					12.5-14.5' Red Brown Silt and f m Sand; with f m c gravel and cobbles (weathered bedrock);
					At 14.3-14.5' f m c sand and gravel seem;
					saturated at 14' (could be water from top)



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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-16

PAGE: 1 of 1 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall, New York	BORING LOCATION: Parallel to Platinum Ave
DATE COMPLETED: 6/2/2017	
DRILLING COMPANY: Cascade	
DRILLING METHOD: Geoprobe	
SAMPLING METHOD: 5' Macro Cores	
OBSERVER: M.Karban, S. Zois	TOTAL DEPTH OF BORING: 13'
REFERENCE POINT (RP): Grade	BACKFILL TYPE: Cuttings
ELEVATION OF RP:	STATIC WATER LEVEL: N/A DATE:
SURFACE COMPLETION: Asphalt Patch	
COMMENTS:	
ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million	

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	2.3	0-2.5' Asphalt and Subbase.
					2.5-5.0' Brown SILT; some f m c subangular cobbles and gravel; some clay; tight; moist.
5	10	MC	N/A	1.0	5-10' Red Brown Silt and f Sand; with f m c subrounded gravel; moist.
10	15	MC	N/A	0.9	10-10.5' f m c SAND; with silt; with f m rounded gravel; (could be sluff from higher material).
					10.5-13' Silt and Clay; with subangular to subround f m c gravel and cobbles; saturated (might be water from top).
					-EOB Refusal at 13'-



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OWNER: GGP Staten Island Mall

SOIL BORING NO.: SWB-17

PAGE: 1 of 2 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall, New York	BORING LOCATION: Parallel to Platinum Ave
DATE COMPLETED: 6/2/2017	
DRILLING COMPANY: Cascade	
DRILLING METHOD: Geoprobe	
SAMPLING METHOD: 5' Macro Cores	
OBSERVER: M.Karban, S. Zois	TOTAL DEPTH OF BORING: 18'
REFERENCE POINT (RP): Grade	BACKFILL TYPE: Cuttings
ELEVATION OF RP:	STATIC WATER LEVEL: N/A DATE:
SURFACE COMPLETION: Asphalt Patch	
COMMENTS:	
ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million	

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	2.3	0-1' Asphalt and Subbase.
					1-5' Fill material; Brown Silt and f Sand; some brick; concrete; wood.
5	10	MC	N/A	2.5	5-10' Red Brown f m c Sand and Silt; with subround-subangular f m c gravel; with little pockets of grey clay; tight; moist.
10	15	MC	N/A	4.0	10-14' Red Brown f m c Sand and Silt with pockets of grey clay; little subrounded f m gravel.
					14-15' Red Brown Silt and f m c Sand with pockets of grey clay; little subrounded f m c



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OWNER: GGP Staten Island Mall

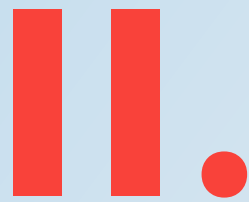
SOIL BORING NO.: SWB-18

PAGE: 1 of 2 PAGES

SITE LOCATION: 280 Marsh Avenue, Staten Island Mall, New York	BORING LOCATION: Parallel to Platinum Ave
DATE COMPLETED: 6/2/2017	
DRILLING COMPANY: Cascade	
DRILLING METHOD: Geoprobe	
SAMPLING METHOD: 5' Macro Cores	
OBSERVER: M.Karban, S. Zois	TOTAL DEPTH OF BORING: 14'
REFERENCE POINT (RP): Grade	BACKFILL TYPE: Cuttings
ELEVATION OF RP:	STATIC WATER LEVEL: N/A DATE:
SURFACE COMPLETION: Asphalt Patch	
COMMENTS:	
ABBREVIATIONS: MC = Macro Core, c = Coarse, m = Medium, f = fine, EOB = End of Boring, ppm = parts per million	

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	MC	N/A	2.6	0-1' Asphalt and Subbase.
					1-4.8' Fill material; Grey f Sand and Silt; small organics.
					4.8-5.0' Brown f SAND fill.
5	10	MC	N/A	3.4	5-9' Red Brown f Sand and Silt; with f m c subangular gravel; little subangular cobble.
					9-10' Red Brown Clay and Silt; with f m c subangular gravel; tight; slightly moist.
10	15	MC	N/A	3.4	10-12' Red Brown Clay and Silt; with f m c subangular gravel; tight; slightly moist.
					12-15' f m c SAND; little f subround gravel;

APPENDIX



LABORATORY
ANALYTICAL REPORTS
– SOIL AND GRAB
GROUNDWATER
SAMPLES

Report of Analysis

Client Sample ID:	SWB-14(5')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-1	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	89.3
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V35708.D	1	06/09/17 14:26	TDN	06/02/17 08:00	n/a	V3V1430
Run #2							

Run #	Initial Weight
Run #1	5.8 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	9.7	4.8	ug/kg	
71-43-2	Benzene	ND	0.48	0.12	ug/kg	
74-97-5	Bromochloromethane	ND	4.8	0.31	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	0.15	ug/kg	
75-25-2	Bromoform	ND	4.8	0.26	ug/kg	
74-83-9	Bromomethane	ND	4.8	0.47	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.7	1.7	ug/kg	
75-15-0	Carbon disulfide	ND	1.9	0.16	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	0.16	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	0.16	ug/kg	
75-00-3	Chloroethane	ND	4.8	0.41	ug/kg	
67-66-3	Chloroform	1.4	1.9	0.23	ug/kg	J
74-87-3	Chloromethane	ND	4.8	0.20	ug/kg	
110-82-7	Cyclohexane	ND	1.9	0.53	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.47	ug/kg	
124-48-1	Dibromochloromethane	ND	1.9	0.14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.97	0.23	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.97	0.17	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.97	0.13	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.97	0.15	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.8	0.53	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.97	0.18	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.97	0.17	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.97	0.15	ug/kg	
156-59-2	cis-1,2-Dichloroethene	1.3	0.97	0.42	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.97	0.15	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	0.30	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.19	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.21	ug/kg	
100-41-4	Ethylbenzene	ND	0.97	0.14	ug/kg	
76-13-1	Freon 113	ND	4.8	0.47	ug/kg	
591-78-6	2-Hexanone	ND	4.8	1.3	ug/kg	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-14(5')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-1	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	89.3
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.9	0.15	ug/kg	
79-20-9	Methyl Acetate	ND	4.8	2.0	ug/kg	
108-87-2	Methylcyclohexane	ND	1.9	0.49	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.97	0.26	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.8	0.82	ug/kg	
75-09-2	Methylene chloride	1.6	4.8	0.97	ug/kg	J
100-42-5	Styrene	ND	1.9	0.14	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.23	ug/kg	
127-18-4	Tetrachloroethene	5.8	1.9	0.27	ug/kg	
108-88-3	Toluene	ND	0.97	0.12	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.8	0.48	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.8	0.48	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.31	ug/kg	
79-01-6	Trichloroethene	0.39	0.97	0.18	ug/kg	J
75-69-4	Trichlorofluoromethane	ND	4.8	0.61	ug/kg	
75-01-4	Vinyl chloride	ND	1.9	0.20	ug/kg	
	m,p-Xylene	ND	0.97	0.21	ug/kg	
95-47-6	o-Xylene	ND	0.97	0.20	ug/kg	
1330-20-7	Xylene (total)	ND	0.97	0.20	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		72-129%
17060-07-0	1,2-Dichloroethane-D4	92%		73-132%
2037-26-5	Toluene-D8	90%		80-120%
460-00-4	4-Bromofluorobenzene	90%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	3.18	230	ug/kg	J
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-14(10')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-2	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	89.0
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218706.D	1	06/13/17 15:45	SY	06/02/17 08:00	n/a	VC8074
Run #2							

Run #	Initial Weight
Run #1	6.0 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	12.8	9.4	4.7	ug/kg	
71-43-2	Benzene	ND	0.47	0.11	ug/kg	
74-97-5	Bromochloromethane	ND	4.7	0.30	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	0.14	ug/kg	
75-25-2	Bromoform	ND	4.7	0.25	ug/kg	
74-83-9	Bromomethane	ND	4.7	0.45	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.4	1.6	ug/kg	
75-15-0	Carbon disulfide	4.6	1.9	0.16	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	0.16	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	0.15	ug/kg	
75-00-3	Chloroethane	ND	4.7	0.40	ug/kg	
67-66-3	Chloroform	0.35	1.9	0.22	ug/kg	J
74-87-3	Chloromethane	ND	4.7	0.20	ug/kg	
110-82-7	Cyclohexane	ND	1.9	0.51	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.45	ug/kg	
124-48-1	Dibromochloromethane	ND	1.9	0.14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.94	0.23	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.94	0.16	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.94	0.13	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.94	0.14	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.7	0.51	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.94	0.18	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.94	0.16	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.94	0.14	ug/kg	
156-59-2	cis-1,2-Dichloroethene	1.4	0.94	0.41	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.94	0.15	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	0.29	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.18	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.21	ug/kg	
100-41-4	Ethylbenzene	ND	0.94	0.14	ug/kg	
76-13-1	Freon 113	ND	4.7	0.45	ug/kg	
591-78-6	2-Hexanone	ND	4.7	1.3	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-14(10')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-2	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	89.0
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.9	0.14	ug/kg	
79-20-9	Methyl Acetate	ND	4.7	1.9	ug/kg	
108-87-2	Methylcyclohexane	ND	1.9	0.47	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.94	0.25	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.7	0.79	ug/kg	
75-09-2	Methylene chloride	1.7	4.7	0.94	ug/kg	J
100-42-5	Styrene	ND	1.9	0.14	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.22	ug/kg	
127-18-4	Tetrachloroethene	2.9	1.9	0.26	ug/kg	
108-88-3	Toluene	ND	0.94	0.12	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.7	0.47	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.7	0.47	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.30	ug/kg	
79-01-6	Trichloroethene	1.0	0.94	0.18	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.7	0.59	ug/kg	
75-01-4	Vinyl chloride	ND	1.9	0.19	ug/kg	
	m,p-Xylene	0.34	0.94	0.21	ug/kg	J
95-47-6	o-Xylene	ND	0.94	0.19	ug/kg	
1330-20-7	Xylene (total)	0.34	0.94	0.19	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	87%		72-129%
17060-07-0	1,2-Dichloroethane-D4	89%		73-132%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	102%		77-125%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
110-54-3	alkane-Hexane	8.90	6.7	ug/kg	JN
	Total TIC, Volatile		6.7	ug/kg	J

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-14(16')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-3	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	89.2
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218707.D	1	06/13/17 16:14	SY	06/02/17 08:00	n/a	VC8074
Run #2							

Run #	Initial Weight
Run #1	6.1 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	9.7	9.2	4.6	ug/kg	
71-43-2	Benzene	ND	0.46	0.11	ug/kg	
74-97-5	Bromochloromethane	ND	4.6	0.29	ug/kg	
75-27-4	Bromodichloromethane	ND	1.8	0.14	ug/kg	
75-25-2	Bromoform	ND	4.6	0.24	ug/kg	
74-83-9	Bromomethane	ND	4.6	0.45	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.2	1.6	ug/kg	
75-15-0	Carbon disulfide	2.4	1.8	0.16	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.8	0.15	ug/kg	
108-90-7	Chlorobenzene	ND	1.8	0.15	ug/kg	
75-00-3	Chloroethane	ND	4.6	0.39	ug/kg	
67-66-3	Chloroform	ND	1.8	0.22	ug/kg	
74-87-3	Chloromethane	ND	4.6	0.19	ug/kg	
110-82-7	Cyclohexane	ND	1.8	0.50	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.8	0.44	ug/kg	
124-48-1	Dibromochloromethane	ND	1.8	0.14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.92	0.22	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.92	0.16	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.92	0.13	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.92	0.14	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.6	0.50	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.92	0.17	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.92	0.16	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.92	0.14	ug/kg	
156-59-2	cis-1,2-Dichloroethene	137	0.92	0.40	ug/kg	
156-60-5	trans-1,2-Dichloroethene	0.36	0.92	0.15	ug/kg	J
78-87-5	1,2-Dichloropropane	ND	1.8	0.28	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.8	0.18	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.8	0.20	ug/kg	
100-41-4	Ethylbenzene	ND	0.92	0.14	ug/kg	
76-13-1	Freon 113	ND	4.6	0.44	ug/kg	
591-78-6	2-Hexanone	ND	4.6	1.3	ug/kg	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-14(16')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-3	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	89.2
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.8	0.14	ug/kg	
79-20-9	Methyl Acetate	ND	4.6	1.9	ug/kg	
108-87-2	Methylcyclohexane	ND	1.8	0.46	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.92	0.24	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.6	0.78	ug/kg	
75-09-2	Methylene chloride	1.6	4.6	0.92	ug/kg	J
100-42-5	Styrene	ND	1.8	0.13	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.8	0.22	ug/kg	
127-18-4	Tetrachloroethene	21.4	1.8	0.26	ug/kg	
108-88-3	Toluene	ND	0.92	0.11	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.6	0.46	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.6	0.46	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.8	0.15	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.8	0.30	ug/kg	
79-01-6	Trichloroethene	22.4	0.92	0.17	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.6	0.58	ug/kg	
75-01-4	Vinyl chloride	0.38	1.8	0.19	ug/kg	J
	m,p-Xylene	ND	0.92	0.20	ug/kg	
95-47-6	o-Xylene	ND	0.92	0.19	ug/kg	
1330-20-7	Xylene (total)	ND	0.92	0.19	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	85%		72-129%
17060-07-0	1,2-Dichloroethane-D4	89%		73-132%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	101%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
110-54-3	alkane-Hexane	8.91	8.5	ug/kg	JN
	Total TIC, Volatile		8.5	ug/kg	J

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB053117	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-4	Date Received:	06/01/17
Matrix:	AQ - Field Blank Soil	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B72099.D	1	06/09/17 17:55	HT	n/a	n/a	V4B2964
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.14	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.46	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.55	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
74-83-9	Bromomethane	ND	2.0	0.46	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	1.9	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.33	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.54	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.17	ug/l	
75-00-3	Chloroethane	ND	1.0	0.44	ug/l	
67-66-3	Chloroform	ND	1.0	0.23	ug/l	
74-87-3	Chloromethane	ND	1.0	0.96	ug/l	
110-82-7	Cyclohexane ^a	ND	5.0	0.73	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.23	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.22	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.23	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.21	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.70	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.33	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.19	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.26	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	1.5	ug/l	

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB053117	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-4	Date Received:	06/01/17
Matrix:	AQ - Field Blank Soil	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.16	ug/l	
79-20-9	Methyl Acetate	ND	5.0	1.5	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	0.78	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.2	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.27	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.39	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.58	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	
	m,p-Xylene	ND	1.0	0.42	ug/l	
95-47-6	o-Xylene	ND	1.0	0.21	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.21	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		76-120%
17060-07-0	1,2-Dichloroethane-D4	112%		73-122%
2037-26-5	Toluene-D8	103%		84-119%
460-00-4	4-Bromofluorobenzene	110%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) This compound in BS is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-5	Date Received:	06/01/17
Matrix:	AQ - Trip Blank Soil	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C150333.D	1	06/09/17 05:29	HT	n/a	n/a	V2C6674
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.14	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.46	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.55	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
74-83-9	Bromomethane	ND	2.0	0.46	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	1.9	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.33	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.54	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.17	ug/l	
75-00-3	Chloroethane	ND	1.0	0.44	ug/l	
67-66-3	Chloroform	ND	1.0	0.23	ug/l	
74-87-3	Chloromethane	ND	1.0	0.96	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.73	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.23	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.22	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.23	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.21	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.70	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.33	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.19	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.26	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	1.5	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-5	Date Received:	06/01/17
Matrix:	AQ - Trip Blank Soil	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.16	ug/l	
79-20-9	Methyl Acetate	ND	5.0	1.5	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	0.78	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.2	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.27	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.39	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.58	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	
	m,p-Xylene	ND	1.0	0.42	ug/l	
95-47-6	o-Xylene	ND	1.0	0.21	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.21	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		76-120%
17060-07-0	1,2-Dichloroethane-D4	120%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	100%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-13(7')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-6	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	90.5
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V35711.D	1	06/09/17 15:51	TDN	06/02/17 08:00	n/a	V3V1430
Run #2							

Run #	Initial Weight
Run #1	6.3 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	6.4	8.8	4.4	ug/kg	J
71-43-2	Benzene	ND	0.44	0.11	ug/kg	
74-97-5	Bromochloromethane	ND	4.4	0.28	ug/kg	
75-27-4	Bromodichloromethane	ND	1.8	0.13	ug/kg	
75-25-2	Bromoform	ND	4.4	0.23	ug/kg	
74-83-9	Bromomethane	ND	4.4	0.43	ug/kg	
78-93-3	2-Butanone (MEK)	ND	8.8	1.5	ug/kg	
75-15-0	Carbon disulfide	ND	1.8	0.15	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.8	0.15	ug/kg	
108-90-7	Chlorobenzene	ND	1.8	0.14	ug/kg	
75-00-3	Chloroethane	ND	4.4	0.38	ug/kg	
67-66-3	Chloroform	0.81	1.8	0.21	ug/kg	J
74-87-3	Chloromethane	ND	4.4	0.19	ug/kg	
110-82-7	Cyclohexane	ND	1.8	0.48	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.8	0.42	ug/kg	
124-48-1	Dibromochloromethane	ND	1.8	0.13	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.88	0.21	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.88	0.15	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.88	0.12	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.88	0.13	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.4	0.48	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.88	0.16	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.88	0.15	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.88	0.13	ug/kg	
156-59-2	cis-1,2-Dichloroethene	32.3	0.88	0.38	ug/kg	
156-60-5	trans-1,2-Dichloroethene	0.40	0.88	0.14	ug/kg	J
78-87-5	1,2-Dichloropropane	ND	1.8	0.27	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.8	0.17	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.8	0.19	ug/kg	
100-41-4	Ethylbenzene	ND	0.88	0.13	ug/kg	
76-13-1	Freon 113	ND	4.4	0.42	ug/kg	
591-78-6	2-Hexanone	ND	4.4	1.2	ug/kg	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-13(7')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-6	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	90.5
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.8	0.14	ug/kg	
79-20-9	Methyl Acetate	ND	4.4	1.8	ug/kg	
108-87-2	Methylcyclohexane	ND	1.8	0.44	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.88	0.23	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.4	0.74	ug/kg	
75-09-2	Methylene chloride	1.8	4.4	0.88	ug/kg	J
100-42-5	Styrene	ND	1.8	0.13	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.8	0.21	ug/kg	
127-18-4	Tetrachloroethene	4.8	1.8	0.25	ug/kg	
108-88-3	Toluene	ND	0.88	0.11	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.4	0.44	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.4	0.44	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.8	0.15	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.8	0.28	ug/kg	
79-01-6	Trichloroethene	5.1	0.88	0.17	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.4	0.55	ug/kg	
75-01-4	Vinyl chloride	0.89	1.8	0.18	ug/kg	J
	m,p-Xylene	0.29	0.88	0.19	ug/kg	J
95-47-6	o-Xylene	ND	0.88	0.18	ug/kg	
1330-20-7	Xylene (total)	0.29	0.88	0.18	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		72-129%
17060-07-0	1,2-Dichloroethane-D4	93%		73-132%
2037-26-5	Toluene-D8	91%		80-120%
460-00-4	4-Bromofluorobenzene	92%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	3.21	390	ug/kg	J
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-13(15')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-7	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	92.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V35712.D	1	06/09/17 16:19	TDN	06/02/17 08:00	n/a	V3V1430
Run #2							

Run #	Initial Weight
Run #1	5.7 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	9.5	4.7	ug/kg	
71-43-2	Benzene	ND	0.47	0.11	ug/kg	
74-97-5	Bromochloromethane	ND	4.7	0.30	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	0.14	ug/kg	
75-25-2	Bromoform	ND	4.7	0.25	ug/kg	
74-83-9	Bromomethane	ND	4.7	0.46	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.5	1.7	ug/kg	
75-15-0	Carbon disulfide	ND	1.9	0.16	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	0.16	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	0.15	ug/kg	
75-00-3	Chloroethane	ND	4.7	0.41	ug/kg	
67-66-3	Chloroform	1.4	1.9	0.22	ug/kg	J
74-87-3	Chloromethane	ND	4.7	0.20	ug/kg	
110-82-7	Cyclohexane	ND	1.9	0.52	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.46	ug/kg	
124-48-1	Dibromochloromethane	ND	1.9	0.14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.95	0.23	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.95	0.16	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.95	0.13	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.95	0.14	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.7	0.52	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.95	0.18	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.95	0.16	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.95	0.14	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.95	0.41	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.95	0.15	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	0.29	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.19	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.21	ug/kg	
100-41-4	Ethylbenzene	ND	0.95	0.14	ug/kg	
76-13-1	Freon 113	ND	4.7	0.46	ug/kg	
591-78-6	2-Hexanone	ND	4.7	1.3	ug/kg	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-13(15')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-7	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	92.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.9	0.15	ug/kg	
79-20-9	Methyl Acetate	ND	4.7	1.9	ug/kg	
108-87-2	Methylcyclohexane	ND	1.9	0.48	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.95	0.25	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.7	0.80	ug/kg	
75-09-2	Methylene chloride	1.6	4.7	0.95	ug/kg	J
100-42-5	Styrene	ND	1.9	0.14	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.23	ug/kg	
127-18-4	Tetrachloroethene	0.40	1.9	0.27	ug/kg	J
108-88-3	Toluene	ND	0.95	0.12	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.7	0.47	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.7	0.47	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.31	ug/kg	
79-01-6	Trichloroethene	ND	0.95	0.18	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.7	0.59	ug/kg	
75-01-4	Vinyl chloride	ND	1.9	0.19	ug/kg	
	m,p-Xylene	ND	0.95	0.21	ug/kg	
95-47-6	o-Xylene	ND	0.95	0.19	ug/kg	
1330-20-7	Xylene (total)	ND	0.95	0.19	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		72-129%
17060-07-0	1,2-Dichloroethane-D4	92%		73-132%
2037-26-5	Toluene-D8	92%		80-120%
460-00-4	4-Bromofluorobenzene	91%		77-125%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	system artifact	3.21	160	ug/kg	J
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	SWB-11(11')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-8	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	94.6
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V35713.D	1	06/09/17 16:47	TDN	06/02/17 08:00	n/a	V3V1430
Run #2							

Run #	Initial Weight
Run #1	5.5 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	9.6	4.8	ug/kg	
71-43-2	Benzene	ND	0.48	0.12	ug/kg	
74-97-5	Bromochloromethane	ND	4.8	0.31	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	0.15	ug/kg	
75-25-2	Bromoform	ND	4.8	0.26	ug/kg	
74-83-9	Bromomethane	ND	4.8	0.47	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.6	1.7	ug/kg	
75-15-0	Carbon disulfide	ND	1.9	0.16	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	0.16	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	0.16	ug/kg	
75-00-3	Chloroethane	ND	4.8	0.41	ug/kg	
67-66-3	Chloroform	0.89	1.9	0.23	ug/kg	J
74-87-3	Chloromethane	ND	4.8	0.20	ug/kg	
110-82-7	Cyclohexane	ND	1.9	0.52	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.47	ug/kg	
124-48-1	Dibromochloromethane	ND	1.9	0.14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.96	0.23	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.96	0.16	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.96	0.13	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.96	0.15	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.8	0.52	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.96	0.18	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.96	0.16	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.96	0.15	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.96	0.42	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.96	0.15	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	0.30	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.19	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.21	ug/kg	
100-41-4	Ethylbenzene	ND	0.96	0.14	ug/kg	
76-13-1	Freon 113	ND	4.8	0.47	ug/kg	
591-78-6	2-Hexanone	ND	4.8	1.3	ug/kg	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-11(11')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-8	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	94.6
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.9	0.15	ug/kg	
79-20-9	Methyl Acetate	ND	4.8	2.0	ug/kg	
108-87-2	Methylcyclohexane	ND	1.9	0.49	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.96	0.25	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.8	0.82	ug/kg	
75-09-2	Methylene chloride	1.4	4.8	0.96	ug/kg	J
100-42-5	Styrene	ND	1.9	0.14	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.23	ug/kg	
127-18-4	Tetrachloroethene	ND	1.9	0.27	ug/kg	
108-88-3	Toluene	ND	0.96	0.12	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.8	0.48	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.8	0.48	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.31	ug/kg	
79-01-6	Trichloroethene	ND	0.96	0.18	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.8	0.60	ug/kg	
75-01-4	Vinyl chloride	ND	1.9	0.19	ug/kg	
	m,p-Xylene	ND	0.96	0.21	ug/kg	
95-47-6	o-Xylene	ND	0.96	0.19	ug/kg	
1330-20-7	Xylene (total)	ND	0.96	0.19	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		72-129%
17060-07-0	1,2-Dichloroethane-D4	95%		73-132%
2037-26-5	Toluene-D8	92%		80-120%
460-00-4	4-Bromofluorobenzene	93%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	3.21	240	ug/kg	J
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-11(7')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-9	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	91.5
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V35765.D	1	06/12/17 17:00	TDN	06/02/17 08:00	n/a	V3V1432
Run #2							

Run #	Initial Weight
Run #1	5.5 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	20.0	9.9	5.0	ug/kg	
71-43-2	Benzene	ND	0.50	0.12	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	0.32	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.15	ug/kg	
75-25-2	Bromoform	ND	5.0	0.26	ug/kg	
74-83-9	Bromomethane	ND	5.0	0.48	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.9	1.7	ug/kg	
75-15-0	Carbon disulfide	1.6	2.0	0.17	ug/kg	J
56-23-5	Carbon tetrachloride	ND	2.0	0.16	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	0.16	ug/kg	
75-00-3	Chloroethane	ND	5.0	0.43	ug/kg	
67-66-3	Chloroform	ND	2.0	0.24	ug/kg	
74-87-3	Chloromethane	ND	5.0	0.21	ug/kg	
110-82-7	Cyclohexane	ND	2.0	0.54	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.48	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.15	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.99	0.24	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.99	0.17	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.99	0.14	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.99	0.15	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	0.54	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.99	0.19	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.99	0.17	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.99	0.15	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.99	0.44	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.99	0.16	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	0.31	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.19	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.22	ug/kg	
100-41-4	Ethylbenzene	ND	0.99	0.15	ug/kg	
76-13-1	Freon 113	ND	5.0	0.48	ug/kg	
591-78-6	2-Hexanone	ND	5.0	1.4	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	SWB-11(7')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-9	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	91.5
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.0	0.15	ug/kg	
79-20-9	Methyl Acetate	ND	5.0	2.0	ug/kg	
108-87-2	Methylcyclohexane	ND	2.0	0.50	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.99	0.26	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	0.84	ug/kg	
75-09-2	Methylene chloride	1.8	5.0	0.99	ug/kg	J
100-42-5	Styrene	ND	2.0	0.14	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.24	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	0.28	ug/kg	
108-88-3	Toluene	ND	0.99	0.12	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.17	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.32	ug/kg	
79-01-6	Trichloroethene	ND	0.99	0.19	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	0.62	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	0.20	ug/kg	
	m,p-Xylene	ND	0.99	0.22	ug/kg	
95-47-6	o-Xylene	ND	0.99	0.20	ug/kg	
1330-20-7	Xylene (total)	ND	0.99	0.20	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		72-129%
17060-07-0	1,2-Dichloroethane-D4	98%		73-132%
2037-26-5	Toluene-D8	96%		80-120%
460-00-4	4-Bromofluorobenzene	94%		77-125%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	system artifact	3.21	180	ug/kg	J
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-9(6')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-10	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	95.6
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V35766.D	1	06/12/17 17:28	TDN	06/02/17 08:00	n/a	V3V1432
Run #2							

Run #	Initial Weight
Run #1	5.3 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	5.4	9.9	4.9	ug/kg	J
71-43-2	Benzene	ND	0.49	0.12	ug/kg	
74-97-5	Bromochloromethane	ND	4.9	0.31	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.15	ug/kg	
75-25-2	Bromoform	ND	4.9	0.26	ug/kg	
74-83-9	Bromomethane	ND	4.9	0.48	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.9	1.7	ug/kg	
75-15-0	Carbon disulfide	ND	2.0	0.17	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	0.16	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	0.16	ug/kg	
75-00-3	Chloroethane	ND	4.9	0.42	ug/kg	
67-66-3	Chloroform	0.31	2.0	0.23	ug/kg	J
74-87-3	Chloromethane	ND	4.9	0.21	ug/kg	
110-82-7	Cyclohexane	ND	2.0	0.54	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.48	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.15	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.99	0.24	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.99	0.17	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.99	0.14	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.99	0.15	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.9	0.54	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.99	0.18	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.99	0.17	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.99	0.15	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.99	0.43	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.99	0.16	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	0.30	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.19	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.22	ug/kg	
100-41-4	Ethylbenzene	ND	0.99	0.15	ug/kg	
76-13-1	Freon 113	ND	4.9	0.48	ug/kg	
591-78-6	2-Hexanone	ND	4.9	1.4	ug/kg	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-9(6')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-10	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	95.6
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.0	0.15	ug/kg	
79-20-9	Methyl Acetate	ND	4.9	2.0	ug/kg	
108-87-2	Methylcyclohexane	ND	2.0	0.50	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.99	0.26	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.9	0.84	ug/kg	
75-09-2	Methylene chloride	2.0	4.9	0.99	ug/kg	J
100-42-5	Styrene	ND	2.0	0.14	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.24	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	0.28	ug/kg	
108-88-3	Toluene	ND	0.99	0.12	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.9	0.49	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.9	0.49	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.32	ug/kg	
79-01-6	Trichloroethene	ND	0.99	0.19	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.9	0.62	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	0.20	ug/kg	
	m,p-Xylene	ND	0.99	0.22	ug/kg	
95-47-6	o-Xylene	ND	0.99	0.20	ug/kg	
1330-20-7	Xylene (total)	ND	0.99	0.20	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		72-129%
17060-07-0	1,2-Dichloroethane-D4	99%		73-132%
2037-26-5	Toluene-D8	96%		80-120%
460-00-4	4-Bromofluorobenzene	93%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	3.21	190	ug/kg	J
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-6(3')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-11	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	87.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V35716.D	1	06/09/17 18:11	TDN	06/02/17 08:00	n/a	V3V1430
Run #2							

Run #	Initial Weight
Run #1	3.7 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	15	7.7	ug/kg	
71-43-2	Benzene	ND	0.77	0.18	ug/kg	
74-97-5	Bromochloromethane	ND	7.7	0.49	ug/kg	
75-27-4	Bromodichloromethane	ND	3.1	0.23	ug/kg	
75-25-2	Bromoform	ND	7.7	0.41	ug/kg	
74-83-9	Bromomethane	ND	7.7	0.75	ug/kg	
78-93-3	2-Butanone (MEK)	ND	15	2.7	ug/kg	
75-15-0	Carbon disulfide	ND	3.1	0.26	ug/kg	
56-23-5	Carbon tetrachloride	ND	3.1	0.26	ug/kg	
108-90-7	Chlorobenzene	ND	3.1	0.25	ug/kg	
75-00-3	Chloroethane	ND	7.7	0.66	ug/kg	
67-66-3	Chloroform	0.78	3.1	0.37	ug/kg	J
74-87-3	Chloromethane	ND	7.7	0.32	ug/kg	
110-82-7	Cyclohexane	ND	3.1	0.84	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	3.1	0.74	ug/kg	
124-48-1	Dibromochloromethane	ND	3.1	0.23	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.5	0.37	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.5	0.26	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.5	0.21	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.5	0.24	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	7.7	0.84	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.5	0.29	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.5	0.26	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.5	0.24	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.5	0.67	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.5	0.24	ug/kg	
78-87-5	1,2-Dichloropropane	ND	3.1	0.48	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	3.1	0.30	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	3.1	0.34	ug/kg	
100-41-4	Ethylbenzene	ND	1.5	0.23	ug/kg	
76-13-1	Freon 113	ND	7.7	0.74	ug/kg	
591-78-6	2-Hexanone	ND	7.7	2.1	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	SWB-6(3')	Date Sampled:	05/31/17
Lab Sample ID:	JC44408-11	Date Received:	06/01/17
Matrix:	SO - Soil	Percent Solids:	87.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	3.1	0.24	ug/kg	
79-20-9	Methyl Acetate	ND	7.7	3.1	ug/kg	
108-87-2	Methylcyclohexane	ND	3.1	0.78	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.5	0.41	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	7.7	1.3	ug/kg	
75-09-2	Methylene chloride	3.2	7.7	1.5	ug/kg	J
100-42-5	Styrene	ND	3.1	0.22	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3.1	0.37	ug/kg	
127-18-4	Tetrachloroethene	1.4	3.1	0.43	ug/kg	J
108-88-3	Toluene	ND	1.5	0.19	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	7.7	0.77	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	7.7	0.77	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	3.1	0.26	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	3.1	0.50	ug/kg	
79-01-6	Trichloroethene	ND	1.5	0.29	ug/kg	
75-69-4	Trichlorofluoromethane	ND	7.7	0.97	ug/kg	
75-01-4	Vinyl chloride	ND	3.1	0.31	ug/kg	
	m,p-Xylene	ND	1.5	0.34	ug/kg	
95-47-6	o-Xylene	ND	1.5	0.31	ug/kg	
1330-20-7	Xylene (total)	ND	1.5	0.31	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		72-129%
17060-07-0	1,2-Dichloroethane-D4	93%		73-132%
2037-26-5	Toluene-D8	90%		80-120%
460-00-4	4-Bromofluorobenzene	93%		77-125%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	system artifact	3.20	220	ug/kg	J
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-4(5')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-1	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	94.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C137742.D	1	06/09/17 07:18	PS	06/03/17 09:00	n/a	V3C6256
Run #2							

Run #	Initial Weight
Run #1	4.4 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	8.4	12	6.0	ug/kg	J
71-43-2	Benzene	ND	0.60	0.14	ug/kg	
74-97-5	Bromochloromethane	ND	6.0	0.38	ug/kg	
75-27-4	Bromodichloromethane	ND	2.4	0.18	ug/kg	
75-25-2	Bromoform	ND	6.0	0.32	ug/kg	
74-83-9	Bromomethane	ND	6.0	0.58	ug/kg	
78-93-3	2-Butanone (MEK)	ND	12	2.1	ug/kg	
75-15-0	Carbon disulfide	ND	2.4	0.20	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.4	0.20	ug/kg	
108-90-7	Chlorobenzene	ND	2.4	0.19	ug/kg	
75-00-3	Chloroethane	ND	6.0	0.51	ug/kg	
67-66-3	Chloroform	ND	2.4	0.29	ug/kg	
74-87-3	Chloromethane	ND	6.0	0.25	ug/kg	
110-82-7	Cyclohexane	ND	2.4	0.65	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.4	0.58	ug/kg	
124-48-1	Dibromochloromethane	ND	2.4	0.18	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.2	0.29	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.2	0.20	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.2	0.16	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.2	0.18	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.0	0.65	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.2	0.22	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.2	0.20	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.2	0.18	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.2	0.53	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.2	0.19	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.4	0.37	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.4	0.23	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.4	0.26	ug/kg	
100-41-4	Ethylbenzene	0.25	1.2	0.18	ug/kg	J
76-13-1	Freon 113	ND	6.0	0.58	ug/kg	
591-78-6	2-Hexanone	ND	6.0	1.7	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-4(5')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-1	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	94.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.4	0.18	ug/kg	
79-20-9	Methyl Acetate	ND	6.0	2.4	ug/kg	
108-87-2	Methylcyclohexane	ND	2.4	0.61	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.2	0.32	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	6.0	1.0	ug/kg	
75-09-2	Methylene chloride	ND	6.0	1.2	ug/kg	
100-42-5	Styrene	ND	2.4	0.17	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.4	0.29	ug/kg	
127-18-4	Tetrachloroethene	2.9	2.4	0.34	ug/kg	
108-88-3	Toluene	ND	1.2	0.15	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.0	0.60	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.0	0.60	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.4	0.20	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.4	0.39	ug/kg	
79-01-6	Trichloroethene	ND	1.2	0.23	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.0	0.75	ug/kg	
75-01-4	Vinyl chloride	ND	2.4	0.24	ug/kg	
	m,p-Xylene	0.50	1.2	0.26	ug/kg	J
95-47-6	o-Xylene	0.29	1.2	0.24	ug/kg	J
1330-20-7	Xylene (total)	0.79	1.2	0.24	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		72-129%
17060-07-0	1,2-Dichloroethane-D4	104%		73-132%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	108%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-5(4')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-2	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	85.9
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C137743.D	1	06/09/17 07:46	PS	06/03/17 09:00	n/a	V3C6256
Run #2							

Run #	Initial Weight
Run #1	4.9 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	37.9	12	5.9	ug/kg	
71-43-2	Benzene	ND	0.59	0.14	ug/kg	
74-97-5	Bromochloromethane	ND	5.9	0.38	ug/kg	
75-27-4	Bromodichloromethane	ND	2.4	0.18	ug/kg	
75-25-2	Bromoform	ND	5.9	0.32	ug/kg	
74-83-9	Bromomethane	ND	5.9	0.58	ug/kg	
78-93-3	2-Butanone (MEK)	ND	12	2.1	ug/kg	
75-15-0	Carbon disulfide	2.1	2.4	0.20	ug/kg	J
56-23-5	Carbon tetrachloride	ND	2.4	0.20	ug/kg	
108-90-7	Chlorobenzene	ND	2.4	0.19	ug/kg	
75-00-3	Chloroethane	ND	5.9	0.51	ug/kg	
67-66-3	Chloroform	ND	2.4	0.28	ug/kg	
74-87-3	Chloromethane	ND	5.9	0.25	ug/kg	
110-82-7	Cyclohexane	ND	2.4	0.65	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.4	0.57	ug/kg	
124-48-1	Dibromochloromethane	ND	2.4	0.18	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.2	0.29	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.2	0.20	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.2	0.16	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.2	0.18	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.9	0.65	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.2	0.22	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.2	0.20	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.2	0.18	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.2	0.52	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.2	0.19	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.4	0.37	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.4	0.23	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.4	0.26	ug/kg	
100-41-4	Ethylbenzene	ND	1.2	0.18	ug/kg	
76-13-1	Freon 113	ND	5.9	0.57	ug/kg	
591-78-6	2-Hexanone	ND	5.9	1.7	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-5(4')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-2	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	85.9
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.4	0.18	ug/kg	
79-20-9	Methyl Acetate	ND	5.9	2.4	ug/kg	
108-87-2	Methylcyclohexane	ND	2.4	0.60	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.2	0.31	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.9	1.0	ug/kg	
75-09-2	Methylene chloride	ND	5.9	1.2	ug/kg	
100-42-5	Styrene	ND	2.4	0.17	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.4	0.28	ug/kg	
127-18-4	Tetrachloroethene	ND	2.4	0.33	ug/kg	
108-88-3	Toluene	ND	1.2	0.15	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.9	0.59	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.9	0.59	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.4	0.20	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.4	0.38	ug/kg	
79-01-6	Trichloroethene	ND	1.2	0.23	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.9	0.75	ug/kg	
75-01-4	Vinyl chloride	ND	2.4	0.24	ug/kg	
	m,p-Xylene	0.29	1.2	0.26	ug/kg	J
95-47-6	o-Xylene	ND	1.2	0.24	ug/kg	
1330-20-7	Xylene (total)	0.29	1.2	0.24	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		72-129%
17060-07-0	1,2-Dichloroethane-D4	107%		73-132%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	107%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-2(7')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-3	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	91.5
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C137744.D	1	06/09/17 08:14	PS	06/03/17 09:00	n/a	V3C6256
Run #2							

Run #	Initial Weight
Run #1	5.9 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	6.8	9.3	4.6	ug/kg	J
71-43-2	Benzene	ND	0.46	0.11	ug/kg	
74-97-5	Bromochloromethane	ND	4.6	0.30	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	0.14	ug/kg	
75-25-2	Bromoform	ND	4.6	0.25	ug/kg	
74-83-9	Bromomethane	ND	4.6	0.45	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.3	1.6	ug/kg	
75-15-0	Carbon disulfide	ND	1.9	0.16	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	0.15	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	0.15	ug/kg	
75-00-3	Chloroethane	ND	4.6	0.40	ug/kg	
67-66-3	Chloroform	ND	1.9	0.22	ug/kg	
74-87-3	Chloromethane	ND	4.6	0.20	ug/kg	
110-82-7	Cyclohexane	ND	1.9	0.51	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.45	ug/kg	
124-48-1	Dibromochloromethane	ND	1.9	0.14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.93	0.22	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.93	0.16	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.93	0.13	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.93	0.14	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.6	0.50	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.93	0.17	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.93	0.16	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.93	0.14	ug/kg	
156-59-2	cis-1,2-Dichloroethene	0.50	0.93	0.41	ug/kg	J
156-60-5	trans-1,2-Dichloroethene	ND	0.93	0.15	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	0.29	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.18	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.20	ug/kg	
100-41-4	Ethylbenzene	ND	0.93	0.14	ug/kg	
76-13-1	Freon 113	ND	4.6	0.45	ug/kg	
591-78-6	2-Hexanone	ND	4.6	1.3	ug/kg	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-2(7')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-3	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	91.5
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.9	0.14	ug/kg	
79-20-9	Methyl Acetate	ND	4.6	1.9	ug/kg	
108-87-2	Methylcyclohexane	ND	1.9	0.47	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.93	0.25	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.6	0.79	ug/kg	
75-09-2	Methylene chloride	ND	4.6	0.93	ug/kg	
100-42-5	Styrene	ND	1.9	0.13	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.22	ug/kg	
127-18-4	Tetrachloroethene	22.2	1.9	0.26	ug/kg	
108-88-3	Toluene	ND	0.93	0.12	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.6	0.46	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.6	0.46	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.15	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.30	ug/kg	
79-01-6	Trichloroethene	0.45	0.93	0.18	ug/kg	J
75-69-4	Trichlorofluoromethane	ND	4.6	0.58	ug/kg	
75-01-4	Vinyl chloride	ND	1.9	0.19	ug/kg	
	m,p-Xylene	ND	0.93	0.20	ug/kg	
95-47-6	o-Xylene	ND	0.93	0.19	ug/kg	
1330-20-7	Xylene (total)	ND	0.93	0.19	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		72-129%
17060-07-0	1,2-Dichloroethane-D4	106%		73-132%
2037-26-5	Toluene-D8	97%		80-120%
460-00-4	4-Bromofluorobenzene	106%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-3(9')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-4	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	91.7
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C137745.D	1	06/09/17 08:43	PS	06/03/17 09:00	n/a	V3C6256
Run #2							

Run #	Initial Weight
Run #1	5.3 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	7.1	10	5.1	ug/kg	J
71-43-2	Benzene	ND	0.51	0.12	ug/kg	
74-97-5	Bromochloromethane	ND	5.1	0.33	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.16	ug/kg	
75-25-2	Bromoform	ND	5.1	0.27	ug/kg	
74-83-9	Bromomethane	ND	5.1	0.50	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	1.8	ug/kg	
75-15-0	Carbon disulfide	ND	2.1	0.17	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	0.17	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.17	ug/kg	
75-00-3	Chloroethane	ND	5.1	0.44	ug/kg	
67-66-3	Chloroform	ND	2.1	0.24	ug/kg	
74-87-3	Chloromethane	ND	5.1	0.22	ug/kg	
110-82-7	Cyclohexane	ND	2.1	0.56	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	0.50	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	0.15	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.25	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.18	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.14	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.16	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.1	0.56	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.0	0.19	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.18	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.45	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.16	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.32	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.20	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.23	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.15	ug/kg	
76-13-1	Freon 113	ND	5.1	0.50	ug/kg	
591-78-6	2-Hexanone	ND	5.1	1.4	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.4
4

Report of Analysis

Client Sample ID:	SWB-3(9')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-4	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	91.7
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.1	0.16	ug/kg	
79-20-9	Methyl Acetate	ND	5.1	2.1	ug/kg	
108-87-2	Methylcyclohexane	ND	2.1	0.52	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.27	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.1	0.87	ug/kg	
75-09-2	Methylene chloride	ND	5.1	1.0	ug/kg	
100-42-5	Styrene	ND	2.1	0.15	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.25	ug/kg	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ug/kg	
108-88-3	Toluene	0.27	1.0	0.13	ug/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	5.1	0.51	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.1	0.51	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.17	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.33	ug/kg	
79-01-6	Trichloroethene	ND	1.0	0.20	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.1	0.65	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.21	ug/kg	
	m,p-Xylene	ND	1.0	0.23	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.21	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.21	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		72-129%
17060-07-0	1,2-Dichloroethane-D4	107%		73-132%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	107%		77-125%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.4
4

Report of Analysis

Client Sample ID:	SWB-4(7')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-5	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	90.4
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218675.D	1	06/12/17 17:04	SY	06/03/17 09:00	n/a	VC8073
Run #2							

Run #	Initial Weight
Run #1	5.4 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	11.3	10	5.1	ug/kg	
71-43-2	Benzene	ND	0.51	0.12	ug/kg	
74-97-5	Bromochloromethane	ND	5.1	0.33	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.16	ug/kg	
75-25-2	Bromoform	ND	5.1	0.27	ug/kg	
74-83-9	Bromomethane ^a	ND	5.1	0.50	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	1.8	ug/kg	
75-15-0	Carbon disulfide	ND	2.0	0.17	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	0.17	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	0.17	ug/kg	
75-00-3	Chloroethane	ND	5.1	0.44	ug/kg	
67-66-3	Chloroform	ND	2.0	0.24	ug/kg	
74-87-3	Chloromethane	ND	5.1	0.22	ug/kg	
110-82-7	Cyclohexane	ND	2.0	0.56	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.50	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.15	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.25	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.18	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.14	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.16	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.1	0.56	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.0	0.19	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.18	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.45	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.16	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	0.32	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.20	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.23	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.15	ug/kg	
76-13-1	Freon 113	ND	5.1	0.50	ug/kg	
591-78-6	2-Hexanone	ND	5.1	1.4	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-4(7')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-5	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	90.4
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.0	0.16	ug/kg	
79-20-9	Methyl Acetate	ND	5.1	2.1	ug/kg	
108-87-2	Methylcyclohexane	ND	2.0	0.52	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.27	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.1	0.87	ug/kg	
75-09-2	Methylene chloride	ND	5.1	1.0	ug/kg	
100-42-5	Styrene	ND	2.0	0.15	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.24	ug/kg	
127-18-4	Tetrachloroethene	4.1	2.0	0.29	ug/kg	
108-88-3	Toluene	0.21	1.0	0.13	ug/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	5.1	0.51	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.1	0.51	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.17	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.33	ug/kg	
79-01-6	Trichloroethene	ND	1.0	0.19	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.1	0.64	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	0.21	ug/kg	
	m,p-Xylene	ND	1.0	0.22	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.21	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.21	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		72-129%
17060-07-0	1,2-Dichloroethane-D4	86%		73-132%
2037-26-5	Toluene-D8	95%		80-120%
460-00-4	4-Bromofluorobenzene	100%		77-125%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

(a) This compound in BS is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-1(5')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-6	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	93.2
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218676.D	1	06/12/17 17:34	SY	06/03/17 09:00	n/a	VC8073
Run #2							

Run #	Initial Weight
Run #1	6.3 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	8.5	4.3	ug/kg	
71-43-2	Benzene	ND	0.43	0.10	ug/kg	
74-97-5	Bromochloromethane	ND	4.3	0.27	ug/kg	
75-27-4	Bromodichloromethane	ND	1.7	0.13	ug/kg	
75-25-2	Bromoform	ND	4.3	0.23	ug/kg	
74-83-9	Bromomethane ^a	ND	4.3	0.41	ug/kg	
78-93-3	2-Butanone (MEK)	ND	8.5	1.5	ug/kg	
75-15-0	Carbon disulfide	ND	1.7	0.14	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.7	0.14	ug/kg	
108-90-7	Chlorobenzene	ND	1.7	0.14	ug/kg	
75-00-3	Chloroethane	ND	4.3	0.37	ug/kg	
67-66-3	Chloroform	ND	1.7	0.20	ug/kg	
74-87-3	Chloromethane	ND	4.3	0.18	ug/kg	
110-82-7	Cyclohexane	ND	1.7	0.46	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.7	0.41	ug/kg	
124-48-1	Dibromochloromethane	ND	1.7	0.13	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.85	0.21	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.85	0.15	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.85	0.12	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.85	0.13	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.3	0.46	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.85	0.16	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.85	0.15	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.85	0.13	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.85	0.37	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.85	0.13	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.7	0.26	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.7	0.17	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.7	0.19	ug/kg	
100-41-4	Ethylbenzene	ND	0.85	0.13	ug/kg	
76-13-1	Freon 113	ND	4.3	0.41	ug/kg	
591-78-6	2-Hexanone	ND	4.3	1.2	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-1(5')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-6	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	93.2
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.7	0.13	ug/kg	
79-20-9	Methyl Acetate	ND	4.3	1.7	ug/kg	
108-87-2	Methylcyclohexane	ND	1.7	0.43	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.85	0.23	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.3	0.72	ug/kg	
75-09-2	Methylene chloride	ND	4.3	0.85	ug/kg	
100-42-5	Styrene	ND	1.7	0.12	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.7	0.20	ug/kg	
127-18-4	Tetrachloroethene	ND	1.7	0.24	ug/kg	
108-88-3	Toluene	0.18	0.85	0.11	ug/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	4.3	0.43	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.3	0.43	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.7	0.14	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.7	0.28	ug/kg	
79-01-6	Trichloroethene	ND	0.85	0.16	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.3	0.54	ug/kg	
75-01-4	Vinyl chloride	ND	1.7	0.17	ug/kg	
	m,p-Xylene	ND	0.85	0.19	ug/kg	
95-47-6	o-Xylene	ND	0.85	0.17	ug/kg	
1330-20-7	Xylene (total)	ND	0.85	0.17	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%		72-129%
17060-07-0	1,2-Dichloroethane-D4	86%		73-132%
2037-26-5	Toluene-D8	96%		80-120%
460-00-4	4-Bromofluorobenzene	101%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

(a) This compound in BS is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-1(12')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-7	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	91.6
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218677.D	1	06/12/17 18:03	SY	06/03/17 09:00	n/a	VC8073
Run #2							

Run #	Initial Weight
Run #1	4.8 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	6.6	11	5.7	ug/kg	J
71-43-2	Benzene	ND	0.57	0.14	ug/kg	
74-97-5	Bromochloromethane	ND	5.7	0.36	ug/kg	
75-27-4	Bromodichloromethane	ND	2.3	0.17	ug/kg	
75-25-2	Bromoform	ND	5.7	0.30	ug/kg	
74-83-9	Bromomethane ^a	ND	5.7	0.55	ug/kg	
78-93-3	2-Butanone (MEK)	ND	11	2.0	ug/kg	
75-15-0	Carbon disulfide	ND	2.3	0.19	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.3	0.19	ug/kg	
108-90-7	Chlorobenzene	ND	2.3	0.18	ug/kg	
75-00-3	Chloroethane	ND	5.7	0.49	ug/kg	
67-66-3	Chloroform	1.6	2.3	0.27	ug/kg	J
74-87-3	Chloromethane	ND	5.7	0.24	ug/kg	
110-82-7	Cyclohexane	ND	2.3	0.62	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.3	0.55	ug/kg	
124-48-1	Dibromochloromethane	ND	2.3	0.17	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.1	0.28	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.1	0.19	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.1	0.16	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.1	0.17	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.7	0.62	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	0.21	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.1	0.19	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.1	0.17	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.1	0.50	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.18	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.3	0.35	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	0.22	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	0.25	ug/kg	
100-41-4	Ethylbenzene	ND	1.1	0.17	ug/kg	
76-13-1	Freon 113	ND	5.7	0.55	ug/kg	
591-78-6	2-Hexanone	ND	5.7	1.6	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-1(12')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-7	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	91.6
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.3	0.18	ug/kg	
79-20-9	Methyl Acetate	ND	5.7	2.3	ug/kg	
108-87-2	Methylcyclohexane	ND	2.3	0.57	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.1	0.30	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.7	0.97	ug/kg	
75-09-2	Methylene chloride	ND	5.7	1.1	ug/kg	
100-42-5	Styrene	ND	2.3	0.16	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	0.27	ug/kg	
127-18-4	Tetrachloroethene	ND	2.3	0.32	ug/kg	
108-88-3	Toluene	ND	1.1	0.14	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.7	0.57	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.7	0.57	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.3	0.19	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.3	0.37	ug/kg	
79-01-6	Trichloroethene	ND	1.1	0.22	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.7	0.72	ug/kg	
75-01-4	Vinyl chloride	ND	2.3	0.23	ug/kg	
	m,p-Xylene	ND	1.1	0.25	ug/kg	
95-47-6	o-Xylene	ND	1.1	0.23	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	0.23	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		72-129%
17060-07-0	1,2-Dichloroethane-D4	88%		73-132%
2037-26-5	Toluene-D8	96%		80-120%
460-00-4	4-Bromofluorobenzene	101%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

(a) This compound in BS is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	SWB-3(3')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-8	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	89.7
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218678.D	1	06/12/17 18:31	SY	06/03/17 09:00	n/a	VC8073
Run #2							

Run #	Initial Weight
Run #1	6.0 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	9.3	4.6	ug/kg	
71-43-2	Benzene	ND	0.46	0.11	ug/kg	
74-97-5	Bromochloromethane	ND	4.6	0.30	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	0.14	ug/kg	
75-25-2	Bromoform	ND	4.6	0.25	ug/kg	
74-83-9	Bromomethane ^a	ND	4.6	0.45	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.3	1.6	ug/kg	
75-15-0	Carbon disulfide	ND	1.9	0.16	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	0.15	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	0.15	ug/kg	
75-00-3	Chloroethane	ND	4.6	0.40	ug/kg	
67-66-3	Chloroform	1.3	1.9	0.22	ug/kg	J
74-87-3	Chloromethane	ND	4.6	0.20	ug/kg	
110-82-7	Cyclohexane	ND	1.9	0.51	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.45	ug/kg	
124-48-1	Dibromochloromethane	ND	1.9	0.14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.93	0.22	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.93	0.16	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.93	0.13	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.93	0.14	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.6	0.51	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.93	0.17	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.93	0.16	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.93	0.14	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.93	0.41	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.93	0.15	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	0.29	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.18	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.21	ug/kg	
100-41-4	Ethylbenzene	ND	0.93	0.14	ug/kg	
76-13-1	Freon 113	ND	4.6	0.45	ug/kg	
591-78-6	2-Hexanone	ND	4.6	1.3	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-3(3')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-8	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	89.7
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.9	0.14	ug/kg	
79-20-9	Methyl Acetate	ND	4.6	1.9	ug/kg	
108-87-2	Methylcyclohexane	ND	1.9	0.47	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.93	0.25	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.6	0.79	ug/kg	
75-09-2	Methylene chloride	ND	4.6	0.93	ug/kg	
100-42-5	Styrene	ND	1.9	0.13	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.22	ug/kg	
127-18-4	Tetrachloroethene	1.3	1.9	0.26	ug/kg	J
108-88-3	Toluene	ND	0.93	0.12	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.6	0.46	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.6	0.46	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.30	ug/kg	
79-01-6	Trichloroethene	0.81	0.93	0.18	ug/kg	J
75-69-4	Trichlorofluoromethane	ND	4.6	0.58	ug/kg	
75-01-4	Vinyl chloride	ND	1.9	0.19	ug/kg	
	m,p-Xylene	ND	0.93	0.20	ug/kg	
95-47-6	o-Xylene	ND	0.93	0.19	ug/kg	
1330-20-7	Xylene (total)	ND	0.93	0.19	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		72-129%
17060-07-0	1,2-Dichloroethane-D4	90%		73-132%
2037-26-5	Toluene-D8	94%		80-120%
460-00-4	4-Bromofluorobenzene	100%		77-125%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

(a) This compound in BS is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-7(5')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-9	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	90.3
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218679.D	1	06/12/17 19:00	SY	06/03/17 09:00	n/a	VC8073
Run #2							

Run #	Initial Weight
Run #1	5.9 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	9.4	4.7	ug/kg	
71-43-2	Benzene	ND	0.47	0.11	ug/kg	
74-97-5	Bromochloromethane	ND	4.7	0.30	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	0.14	ug/kg	
75-25-2	Bromoform	ND	4.7	0.25	ug/kg	
74-83-9	Bromomethane ^a	ND	4.7	0.46	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.4	1.7	ug/kg	
75-15-0	Carbon disulfide	ND	1.9	0.16	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	0.16	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	0.15	ug/kg	
75-00-3	Chloroethane	ND	4.7	0.40	ug/kg	
67-66-3	Chloroform	1.1	1.9	0.22	ug/kg	J
74-87-3	Chloromethane	ND	4.7	0.20	ug/kg	
110-82-7	Cyclohexane	ND	1.9	0.51	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.45	ug/kg	
124-48-1	Dibromochloromethane	ND	1.9	0.14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.94	0.23	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.94	0.16	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.94	0.13	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.94	0.14	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.7	0.51	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.94	0.18	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.94	0.16	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.94	0.14	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.94	0.41	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.94	0.15	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	0.29	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.18	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.21	ug/kg	
100-41-4	Ethylbenzene	ND	0.94	0.14	ug/kg	
76-13-1	Freon 113	ND	4.7	0.45	ug/kg	
591-78-6	2-Hexanone	ND	4.7	1.3	ug/kg	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-7(5')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-9	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	90.3
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.9	0.14	ug/kg	
79-20-9	Methyl Acetate	ND	4.7	1.9	ug/kg	
108-87-2	Methylcyclohexane	ND	1.9	0.47	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.94	0.25	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.7	0.80	ug/kg	
75-09-2	Methylene chloride	ND	4.7	0.94	ug/kg	
100-42-5	Styrene	ND	1.9	0.14	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.22	ug/kg	
127-18-4	Tetrachloroethene	ND	1.9	0.26	ug/kg	
108-88-3	Toluene	ND	0.94	0.12	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.7	0.47	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.7	0.47	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.30	ug/kg	
79-01-6	Trichloroethene	ND	0.94	0.18	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.7	0.59	ug/kg	
75-01-4	Vinyl chloride	ND	1.9	0.19	ug/kg	
	m,p-Xylene	ND	0.94	0.21	ug/kg	
95-47-6	o-Xylene	ND	0.94	0.19	ug/kg	
1330-20-7	Xylene (total)	ND	0.94	0.19	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%		72-129%
17060-07-0	1,2-Dichloroethane-D4	90%		73-132%
2037-26-5	Toluene-D8	95%		80-120%
460-00-4	4-Bromofluorobenzene	99%		77-125%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

(a) This compound in BS is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-7(7')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-10	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	85.5
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218680.D	1	06/12/17 19:29	SY	06/03/17 09:00	n/a	VC8073
Run #2							

Run #	Initial Weight
Run #1	5.5 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	11	5.3	ug/kg	
71-43-2	Benzene	ND	0.53	0.13	ug/kg	
74-97-5	Bromochloromethane	ND	5.3	0.34	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.16	ug/kg	
75-25-2	Bromoform	ND	5.3	0.28	ug/kg	
74-83-9	Bromomethane ^a	ND	5.3	0.52	ug/kg	
78-93-3	2-Butanone (MEK)	ND	11	1.9	ug/kg	
75-15-0	Carbon disulfide	ND	2.1	0.18	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	0.18	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.17	ug/kg	
75-00-3	Chloroethane	ND	5.3	0.46	ug/kg	
67-66-3	Chloroform	0.96	2.1	0.25	ug/kg	J
74-87-3	Chloromethane	ND	5.3	0.22	ug/kg	
110-82-7	Cyclohexane	ND	2.1	0.58	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	0.51	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	0.16	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.1	0.26	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.1	0.18	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.1	0.15	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.1	0.16	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.3	0.58	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	0.20	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.1	0.18	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.1	0.16	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.1	0.47	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.17	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.33	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.21	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.23	ug/kg	
100-41-4	Ethylbenzene	ND	1.1	0.16	ug/kg	
76-13-1	Freon 113	ND	5.3	0.51	ug/kg	
591-78-6	2-Hexanone	ND	5.3	1.5	ug/kg	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-7(7')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-10	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	85.5
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.1	0.16	ug/kg	
79-20-9	Methyl Acetate	ND	5.3	2.2	ug/kg	
108-87-2	Methylcyclohexane	ND	2.1	0.54	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.1	0.28	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.3	0.90	ug/kg	
75-09-2	Methylene chloride	ND	5.3	1.1	ug/kg	
100-42-5	Styrene	ND	2.1	0.15	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.25	ug/kg	
127-18-4	Tetrachloroethene	ND	2.1	0.30	ug/kg	
108-88-3	Toluene	0.35	1.1	0.13	ug/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	5.3	0.53	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.3	0.53	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.18	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.34	ug/kg	
79-01-6	Trichloroethene	ND	1.1	0.20	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.3	0.67	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.21	ug/kg	
	m,p-Xylene	ND	1.1	0.23	ug/kg	
95-47-6	o-Xylene	ND	1.1	0.21	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	0.21	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%		72-129%
17060-07-0	1,2-Dichloroethane-D4	87%		73-132%
2037-26-5	Toluene-D8	94%		80-120%
460-00-4	4-Bromofluorobenzene	101%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

(a) This compound in BS is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-8(9')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-11	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	91.7
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218625.D	1	06/09/17 13:33	SY	06/03/17 09:00	n/a	VC8070
Run #2							

Run #	Initial Weight
Run #1	4.3 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	13	6.3	ug/kg	
71-43-2	Benzene	ND	0.63	0.15	ug/kg	
74-97-5	Bromochloromethane	ND	6.3	0.40	ug/kg	
75-27-4	Bromodichloromethane	ND	2.5	0.19	ug/kg	
75-25-2	Bromoform	ND	6.3	0.34	ug/kg	
74-83-9	Bromomethane	ND	6.3	0.61	ug/kg	
78-93-3	2-Butanone (MEK)	ND	13	2.2	ug/kg	
75-15-0	Carbon disulfide	ND	2.5	0.22	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.5	0.21	ug/kg	
108-90-7	Chlorobenzene	ND	2.5	0.21	ug/kg	
75-00-3	Chloroethane	ND	6.3	0.54	ug/kg	
67-66-3	Chloroform	2.0	2.5	0.30	ug/kg	J
74-87-3	Chloromethane	ND	6.3	0.27	ug/kg	
110-82-7	Cyclohexane	ND	2.5	0.69	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.61	ug/kg	
124-48-1	Dibromochloromethane	ND	2.5	0.19	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.3	0.31	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.3	0.22	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.3	0.17	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.3	0.19	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.3	0.69	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.3	0.24	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.3	0.22	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.3	0.19	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.3	0.56	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.3	0.20	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.5	0.39	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.5	0.25	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	0.28	ug/kg	
100-41-4	Ethylbenzene	ND	1.3	0.19	ug/kg	
76-13-1	Freon 113	ND	6.3	0.61	ug/kg	
591-78-6	2-Hexanone	ND	6.3	1.8	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-8(9')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-11	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	91.7
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.5	0.20	ug/kg	
79-20-9	Methyl Acetate	ND	6.3	2.6	ug/kg	
108-87-2	Methylcyclohexane	ND	2.5	0.64	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.3	0.34	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	6.3	1.1	ug/kg	
75-09-2	Methylene chloride	ND	6.3	1.3	ug/kg	
100-42-5	Styrene	ND	2.5	0.18	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.5	0.30	ug/kg	
127-18-4	Tetrachloroethene	ND	2.5	0.36	ug/kg	
108-88-3	Toluene	ND	1.3	0.16	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.3	0.63	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.3	0.63	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.21	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.5	0.41	ug/kg	
79-01-6	Trichloroethene	ND	1.3	0.24	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.3	0.80	ug/kg	
75-01-4	Vinyl chloride	ND	2.5	0.26	ug/kg	
	m,p-Xylene	ND	1.3	0.28	ug/kg	
95-47-6	o-Xylene	ND	1.3	0.26	ug/kg	
1330-20-7	Xylene (total)	ND	1.3	0.26	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		72-129%
17060-07-0	1,2-Dichloroethane-D4	101%		73-132%
2037-26-5	Toluene-D8	94%		80-120%
460-00-4	4-Bromofluorobenzene	107%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-8(4')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-12	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	92.2
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218681.D	1	06/12/17 19:58	SY	06/03/17 09:00	n/a	VC8073
Run #2							

Run #	Initial Weight
Run #1	5.1 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	11	5.3	ug/kg	
71-43-2	Benzene	ND	0.53	0.13	ug/kg	
74-97-5	Bromochloromethane	ND	5.3	0.34	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.16	ug/kg	
75-25-2	Bromoform	ND	5.3	0.28	ug/kg	
74-83-9	Bromomethane ^a	ND	5.3	0.52	ug/kg	
78-93-3	2-Butanone (MEK)	ND	11	1.9	ug/kg	
75-15-0	Carbon disulfide	ND	2.1	0.18	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	0.18	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.17	ug/kg	
75-00-3	Chloroethane	ND	5.3	0.46	ug/kg	
67-66-3	Chloroform	1.4	2.1	0.25	ug/kg	J
74-87-3	Chloromethane	ND	5.3	0.22	ug/kg	
110-82-7	Cyclohexane	ND	2.1	0.58	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	0.51	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	0.16	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.1	0.26	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.1	0.18	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.1	0.15	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.1	0.16	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.3	0.58	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	0.20	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.1	0.18	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.1	0.16	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.1	0.47	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.17	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.33	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.21	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.23	ug/kg	
100-41-4	Ethylbenzene	ND	1.1	0.16	ug/kg	
76-13-1	Freon 113	ND	5.3	0.51	ug/kg	
591-78-6	2-Hexanone	ND	5.3	1.5	ug/kg	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-8(4')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-12	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	92.2
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.1	0.16	ug/kg	
79-20-9	Methyl Acetate	ND	5.3	2.2	ug/kg	
108-87-2	Methylcyclohexane	ND	2.1	0.54	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.1	0.28	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.3	0.90	ug/kg	
75-09-2	Methylene chloride	ND	5.3	1.1	ug/kg	
100-42-5	Styrene	ND	2.1	0.15	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.25	ug/kg	
127-18-4	Tetrachloroethene	ND	2.1	0.30	ug/kg	
108-88-3	Toluene	ND	1.1	0.13	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.3	0.53	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.3	0.53	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.18	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.34	ug/kg	
79-01-6	Trichloroethene	ND	1.1	0.20	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.3	0.67	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.21	ug/kg	
	m,p-Xylene	ND	1.1	0.23	ug/kg	
95-47-6	o-Xylene	ND	1.1	0.21	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	0.21	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%		72-129%
17060-07-0	1,2-Dichloroethane-D4	88%		73-132%
2037-26-5	Toluene-D8	96%		80-120%
460-00-4	4-Bromofluorobenzene	102%		77-125%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

(a) This compound in BS is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-2(11.5')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-13	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	91.7
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218682.D	1	06/12/17 20:27	SY	06/03/17 11:00	n/a	VC8073
Run #2							

Run #	Initial Weight
Run #1	4.7 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	12	5.8	ug/kg	
71-43-2	Benzene	ND	0.58	0.14	ug/kg	
74-97-5	Bromochloromethane	ND	5.8	0.37	ug/kg	
75-27-4	Bromodichloromethane	ND	2.3	0.18	ug/kg	
75-25-2	Bromoform	ND	5.8	0.31	ug/kg	
74-83-9	Bromomethane ^a	ND	5.8	0.56	ug/kg	
78-93-3	2-Butanone (MEK)	ND	12	2.0	ug/kg	
75-15-0	Carbon disulfide	ND	2.3	0.20	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.3	0.19	ug/kg	
108-90-7	Chlorobenzene	ND	2.3	0.19	ug/kg	
75-00-3	Chloroethane	ND	5.8	0.50	ug/kg	
67-66-3	Chloroform	1.2	2.3	0.28	ug/kg	J
74-87-3	Chloromethane	ND	5.8	0.24	ug/kg	
110-82-7	Cyclohexane	ND	2.3	0.63	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.3	0.56	ug/kg	
124-48-1	Dibromochloromethane	ND	2.3	0.17	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.2	0.28	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.2	0.20	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.2	0.16	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.2	0.18	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.8	0.63	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.2	0.22	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.2	0.20	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.2	0.18	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.2	0.51	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.2	0.18	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.3	0.36	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	0.23	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	0.26	ug/kg	
100-41-4	Ethylbenzene	ND	1.2	0.17	ug/kg	
76-13-1	Freon 113	ND	5.8	0.56	ug/kg	
591-78-6	2-Hexanone	ND	5.8	1.6	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-2(11.5')	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-13	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	91.7
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.3	0.18	ug/kg	
79-20-9	Methyl Acetate	ND	5.8	2.4	ug/kg	
108-87-2	Methylcyclohexane	ND	2.3	0.59	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.2	0.31	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.8	0.98	ug/kg	
75-09-2	Methylene chloride	ND	5.8	1.2	ug/kg	
100-42-5	Styrene	ND	2.3	0.17	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	0.28	ug/kg	
127-18-4	Tetrachloroethene	2.4	2.3	0.33	ug/kg	
108-88-3	Toluene	0.24	1.2	0.15	ug/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	5.8	0.58	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.8	0.58	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.3	0.19	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.3	0.37	ug/kg	
79-01-6	Trichloroethene	ND	1.2	0.22	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.8	0.73	ug/kg	
75-01-4	Vinyl chloride	ND	2.3	0.23	ug/kg	
	m,p-Xylene	ND	1.2	0.25	ug/kg	
95-47-6	o-Xylene	ND	1.2	0.23	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	0.23	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		72-129%
17060-07-0	1,2-Dichloroethane-D4	88%		73-132%
2037-26-5	Toluene-D8	95%		80-120%
460-00-4	4-Bromofluorobenzene	103%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

(a) This compound in BS is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-17(13')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-14	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	83.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218626.D	1	06/09/17 14:02	SY	06/03/17 11:00	n/a	VC8070
Run #2							

Run #	Initial Weight
Run #1	5.5 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	11	5.4	ug/kg	
71-43-2	Benzene	ND	0.54	0.13	ug/kg	
74-97-5	Bromochloromethane	ND	5.4	0.35	ug/kg	
75-27-4	Bromodichloromethane	ND	2.2	0.16	ug/kg	
75-25-2	Bromoform	ND	5.4	0.29	ug/kg	
74-83-9	Bromomethane	ND	5.4	0.53	ug/kg	
78-93-3	2-Butanone (MEK)	ND	11	1.9	ug/kg	
75-15-0	Carbon disulfide	ND	2.2	0.18	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.2	0.18	ug/kg	
108-90-7	Chlorobenzene	ND	2.2	0.18	ug/kg	
75-00-3	Chloroethane	ND	5.4	0.47	ug/kg	
67-66-3	Chloroform	1.5	2.2	0.26	ug/kg	J
74-87-3	Chloromethane	ND	5.4	0.23	ug/kg	
110-82-7	Cyclohexane	ND	2.2	0.59	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.2	0.53	ug/kg	
124-48-1	Dibromochloromethane	ND	2.2	0.16	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.1	0.26	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.1	0.19	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.1	0.15	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.1	0.17	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.4	0.59	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	0.20	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.1	0.19	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.1	0.17	ug/kg	
156-59-2	cis-1,2-Dichloroethene	1.1	1.1	0.48	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.17	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.2	0.34	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.21	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.24	ug/kg	
100-41-4	Ethylbenzene	ND	1.1	0.16	ug/kg	
76-13-1	Freon 113	ND	5.4	0.53	ug/kg	
591-78-6	2-Hexanone	ND	5.4	1.5	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-17(13')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-14	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	83.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.2	0.17	ug/kg	
79-20-9	Methyl Acetate	ND	5.4	2.2	ug/kg	
108-87-2	Methylcyclohexane	ND	2.2	0.55	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.1	0.29	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.4	0.92	ug/kg	
75-09-2	Methylene chloride	ND	5.4	1.1	ug/kg	
100-42-5	Styrene	ND	2.2	0.16	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.26	ug/kg	
127-18-4	Tetrachloroethene	6.8	2.2	0.30	ug/kg	
108-88-3	Toluene	ND	1.1	0.14	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.4	0.54	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.4	0.54	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.18	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.35	ug/kg	
79-01-6	Trichloroethene	1.1	1.1	0.21	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.4	0.68	ug/kg	
75-01-4	Vinyl chloride	ND	2.2	0.22	ug/kg	
	m,p-Xylene	ND	1.1	0.24	ug/kg	
95-47-6	o-Xylene	ND	1.1	0.22	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	0.22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		72-129%
17060-07-0	1,2-Dichloroethane-D4	99%		73-132%
2037-26-5	Toluene-D8	93%		80-120%
460-00-4	4-Bromofluorobenzene	108%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-10(4')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-15	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	88.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218699.D	1	06/13/17 11:41	SY	06/03/17 11:00	n/a	VC8074
Run #2							

Run #	Initial Weight
Run #1	5.8 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	9.7	4.9	ug/kg	
71-43-2	Benzene	ND	0.49	0.12	ug/kg	
74-97-5	Bromochloromethane	ND	4.9	0.31	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	0.15	ug/kg	
75-25-2	Bromoform	ND	4.9	0.26	ug/kg	
74-83-9	Bromomethane	ND	4.9	0.47	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.7	1.7	ug/kg	
75-15-0	Carbon disulfide	ND	1.9	0.17	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	0.16	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	0.16	ug/kg	
75-00-3	Chloroethane	ND	4.9	0.42	ug/kg	
67-66-3	Chloroform	0.87	1.9	0.23	ug/kg	J
74-87-3	Chloromethane	ND	4.9	0.20	ug/kg	
110-82-7	Cyclohexane	ND	1.9	0.53	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.47	ug/kg	
124-48-1	Dibromochloromethane	ND	1.9	0.15	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.97	0.23	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.97	0.17	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.97	0.13	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.97	0.15	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.9	0.53	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.97	0.18	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.97	0.17	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.97	0.15	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.97	0.43	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.97	0.15	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	0.30	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.19	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.21	ug/kg	
100-41-4	Ethylbenzene	ND	0.97	0.14	ug/kg	
76-13-1	Freon 113	ND	4.9	0.47	ug/kg	
591-78-6	2-Hexanone	ND	4.9	1.3	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.15
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Report of Analysis

Client Sample ID:	SWB-10(4')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-15	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	88.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.9	0.15	ug/kg	
79-20-9	Methyl Acetate	ND	4.9	2.0	ug/kg	
108-87-2	Methylcyclohexane	ND	1.9	0.49	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.97	0.26	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.9	0.82	ug/kg	
75-09-2	Methylene chloride	ND	4.9	0.97	ug/kg	
100-42-5	Styrene	ND	1.9	0.14	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.23	ug/kg	
127-18-4	Tetrachloroethene	ND	1.9	0.27	ug/kg	
108-88-3	Toluene	ND	0.97	0.12	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.9	0.49	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.9	0.49	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.31	ug/kg	
79-01-6	Trichloroethene	ND	0.97	0.18	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.9	0.61	ug/kg	
75-01-4	Vinyl chloride	ND	1.9	0.20	ug/kg	
	m,p-Xylene	ND	0.97	0.21	ug/kg	
95-47-6	o-Xylene	ND	0.97	0.20	ug/kg	
1330-20-7	Xylene (total)	ND	0.97	0.20	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	87%		72-129%
17060-07-0	1,2-Dichloroethane-D4	91%		73-132%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	100%		77-125%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-18(5')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-16	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	87.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218700.D	1	06/13/17 12:10	SY	06/03/17 11:00	n/a	VC8074
Run #2							

Run #	Initial Weight
Run #1	5.5 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	15.9	10	5.2	ug/kg	
71-43-2	Benzene	ND	0.52	0.12	ug/kg	
74-97-5	Bromochloromethane	ND	5.2	0.33	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.16	ug/kg	
75-25-2	Bromoform	ND	5.2	0.28	ug/kg	
74-83-9	Bromomethane	ND	5.2	0.50	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	1.8	ug/kg	
75-15-0	Carbon disulfide	0.52	2.1	0.18	ug/kg	J
56-23-5	Carbon tetrachloride	ND	2.1	0.17	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.17	ug/kg	
75-00-3	Chloroethane	ND	5.2	0.44	ug/kg	
67-66-3	Chloroform	0.79	2.1	0.25	ug/kg	J
74-87-3	Chloromethane	ND	5.2	0.22	ug/kg	
110-82-7	Cyclohexane	ND	2.1	0.57	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	0.50	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	0.16	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.25	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.18	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.14	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.16	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.2	0.56	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.0	0.19	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.18	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.45	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.16	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.32	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.20	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.23	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.15	ug/kg	
76-13-1	Freon 113	ND	5.2	0.50	ug/kg	
591-78-6	2-Hexanone	ND	5.2	1.4	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-18(5')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-16	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	87.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.1	0.16	ug/kg	
79-20-9	Methyl Acetate	ND	5.2	2.1	ug/kg	
108-87-2	Methylcyclohexane	ND	2.1	0.52	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.27	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.2	0.88	ug/kg	
75-09-2	Methylene chloride	ND	5.2	1.0	ug/kg	
100-42-5	Styrene	ND	2.1	0.15	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.25	ug/kg	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ug/kg	
108-88-3	Toluene	0.25	1.0	0.13	ug/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	5.2	0.52	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.2	0.52	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.17	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.33	ug/kg	
79-01-6	Trichloroethene	ND	1.0	0.20	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.2	0.65	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.21	ug/kg	
	m,p-Xylene	ND	1.0	0.23	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.21	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.21	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	87%		72-129%
17060-07-0	1,2-Dichloroethane-D4	89%		73-132%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	102%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-10(11')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-17	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	84.3
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218709.D	1	06/13/17 17:12	SY	06/03/17 11:00	n/a	VC8074
Run #2							

Run #	Initial Weight
Run #1	6.4 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	9.3	4.6	ug/kg	
71-43-2	Benzene	ND	0.46	0.11	ug/kg	
74-97-5	Bromochloromethane	ND	4.6	0.30	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	0.14	ug/kg	
75-25-2	Bromoform	ND	4.6	0.25	ug/kg	
74-83-9	Bromomethane	ND	4.6	0.45	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.3	1.6	ug/kg	
75-15-0	Carbon disulfide	ND	1.9	0.16	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	0.15	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	0.15	ug/kg	
75-00-3	Chloroethane	ND	4.6	0.40	ug/kg	
67-66-3	Chloroform	0.71	1.9	0.22	ug/kg	J
74-87-3	Chloromethane	ND	4.6	0.20	ug/kg	
110-82-7	Cyclohexane	ND	1.9	0.51	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.45	ug/kg	
124-48-1	Dibromochloromethane	ND	1.9	0.14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.93	0.22	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.93	0.16	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.93	0.13	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.93	0.14	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.6	0.51	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.93	0.17	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.93	0.16	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.93	0.14	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.93	0.41	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.93	0.15	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	0.29	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.18	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.20	ug/kg	
100-41-4	Ethylbenzene	ND	0.93	0.14	ug/kg	
76-13-1	Freon 113	ND	4.6	0.45	ug/kg	
591-78-6	2-Hexanone	ND	4.6	1.3	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-10(11')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-17	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	84.3
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

4.17
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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.9	0.14	ug/kg	
79-20-9	Methyl Acetate	ND	4.6	1.9	ug/kg	
108-87-2	Methylcyclohexane	ND	1.9	0.47	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.93	0.25	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.6	0.79	ug/kg	
75-09-2	Methylene chloride	ND	4.6	0.93	ug/kg	
100-42-5	Styrene	ND	1.9	0.13	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.22	ug/kg	
127-18-4	Tetrachloroethene	ND	1.9	0.26	ug/kg	
108-88-3	Toluene	ND	0.93	0.12	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.6	0.46	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.6	0.46	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.15	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.30	ug/kg	
79-01-6	Trichloroethene	ND	0.93	0.18	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.6	0.58	ug/kg	
75-01-4	Vinyl chloride	ND	1.9	0.19	ug/kg	
	m,p-Xylene	ND	0.93	0.20	ug/kg	
95-47-6	o-Xylene	ND	0.93	0.19	ug/kg	
1330-20-7	Xylene (total)	ND	0.93	0.19	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%		72-129%
17060-07-0	1,2-Dichloroethane-D4	88%		73-132%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	104%		77-125%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-15(8')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-18	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	90.1
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218710.D	1	06/13/17 17:40	SY	06/03/17 11:00	n/a	VC8074
Run #2							

Run #	Initial Weight
Run #1	5.9 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	9.4	4.7	ug/kg	
71-43-2	Benzene	ND	0.47	0.11	ug/kg	
74-97-5	Bromochloromethane	ND	4.7	0.30	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	0.14	ug/kg	
75-25-2	Bromoform	ND	4.7	0.25	ug/kg	
74-83-9	Bromomethane	ND	4.7	0.46	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.4	1.7	ug/kg	
75-15-0	Carbon disulfide	ND	1.9	0.16	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	0.16	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	0.15	ug/kg	
75-00-3	Chloroethane	ND	4.7	0.40	ug/kg	
67-66-3	Chloroform	0.87	1.9	0.22	ug/kg	J
74-87-3	Chloromethane	ND	4.7	0.20	ug/kg	
110-82-7	Cyclohexane	ND	1.9	0.51	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.46	ug/kg	
124-48-1	Dibromochloromethane	ND	1.9	0.14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.94	0.23	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.94	0.16	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.94	0.13	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.94	0.14	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.7	0.51	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.94	0.18	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.94	0.16	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.94	0.14	ug/kg	
156-59-2	cis-1,2-Dichloroethene	2.4	0.94	0.41	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.94	0.15	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	0.29	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.18	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.21	ug/kg	
100-41-4	Ethylbenzene	ND	0.94	0.14	ug/kg	
76-13-1	Freon 113	ND	4.7	0.46	ug/kg	
591-78-6	2-Hexanone	ND	4.7	1.3	ug/kg	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-15(8')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-18	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	90.1
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.9	0.14	ug/kg	
79-20-9	Methyl Acetate	ND	4.7	1.9	ug/kg	
108-87-2	Methylcyclohexane	ND	1.9	0.47	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.94	0.25	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.7	0.80	ug/kg	
75-09-2	Methylene chloride	ND	4.7	0.94	ug/kg	
100-42-5	Styrene	ND	1.9	0.14	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.22	ug/kg	
127-18-4	Tetrachloroethene	9.3	1.9	0.26	ug/kg	
108-88-3	Toluene	0.19	0.94	0.12	ug/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	4.7	0.47	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.7	0.47	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.30	ug/kg	
79-01-6	Trichloroethene	2.1	0.94	0.18	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.7	0.59	ug/kg	
75-01-4	Vinyl chloride	ND	1.9	0.19	ug/kg	
	m,p-Xylene	ND	0.94	0.21	ug/kg	
95-47-6	o-Xylene	ND	0.94	0.19	ug/kg	
1330-20-7	Xylene (total)	ND	0.94	0.19	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	87%		72-129%
17060-07-0	1,2-Dichloroethane-D4	92%		73-132%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	100%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-17(5')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-19	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	89.3
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218714.D	1	06/13/17 19:36	SY	06/03/17 11:00	n/a	VC8074
Run #2							

Run #	Initial Weight
Run #1	4.1 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	12.1	14	6.8	ug/kg	J
71-43-2	Benzene	ND	0.68	0.16	ug/kg	
74-97-5	Bromochloromethane	ND	6.8	0.44	ug/kg	
75-27-4	Bromodichloromethane	ND	2.7	0.21	ug/kg	
75-25-2	Bromoform	ND	6.8	0.36	ug/kg	
74-83-9	Bromomethane	ND	6.8	0.66	ug/kg	
78-93-3	2-Butanone (MEK)	ND	14	2.4	ug/kg	
75-15-0	Carbon disulfide	0.51	2.7	0.23	ug/kg	J
56-23-5	Carbon tetrachloride	ND	2.7	0.23	ug/kg	
108-90-7	Chlorobenzene	ND	2.7	0.22	ug/kg	
75-00-3	Chloroethane	ND	6.8	0.59	ug/kg	
67-66-3	Chloroform	1.8	2.7	0.33	ug/kg	J
74-87-3	Chloromethane	ND	6.8	0.29	ug/kg	
110-82-7	Cyclohexane	ND	2.7	0.75	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.7	0.66	ug/kg	
124-48-1	Dibromochloromethane	ND	2.7	0.20	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.4	0.33	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.4	0.23	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.4	0.19	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.4	0.21	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.8	0.74	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.4	0.26	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.4	0.23	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.4	0.21	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.4	0.60	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.4	0.22	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.7	0.42	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.7	0.27	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.7	0.30	ug/kg	
100-41-4	Ethylbenzene	ND	1.4	0.20	ug/kg	
76-13-1	Freon 113	ND	6.8	0.66	ug/kg	
591-78-6	2-Hexanone	ND	6.8	1.9	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-17(5')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-19	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	89.3
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.7	0.21	ug/kg	
79-20-9	Methyl Acetate	ND	6.8	2.8	ug/kg	
108-87-2	Methylcyclohexane	ND	2.7	0.69	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.4	0.36	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	6.8	1.2	ug/kg	
75-09-2	Methylene chloride	ND	6.8	1.4	ug/kg	
100-42-5	Styrene	ND	2.7	0.20	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.7	0.33	ug/kg	
127-18-4	Tetrachloroethene	1.7	2.7	0.38	ug/kg	J
108-88-3	Toluene	ND	1.4	0.17	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.8	0.68	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.8	0.68	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.7	0.23	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.7	0.44	ug/kg	
79-01-6	Trichloroethene	ND	1.4	0.26	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.8	0.86	ug/kg	
75-01-4	Vinyl chloride	ND	2.7	0.28	ug/kg	
	m,p-Xylene	ND	1.4	0.30	ug/kg	
95-47-6	o-Xylene	ND	1.4	0.28	ug/kg	
1330-20-7	Xylene (total)	ND	1.4	0.28	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	87%		72-129%
17060-07-0	1,2-Dichloroethane-D4	92%		73-132%
2037-26-5	Toluene-D8	98%		80-120%
460-00-4	4-Bromofluorobenzene	101%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-12(4')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-20	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	84.7
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218711.D	1	06/13/17 18:09	SY	06/03/17 11:00	n/a	VC8074
Run #2							

Run #	Initial Weight
Run #1	5.5 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	11	5.4	ug/kg	
71-43-2	Benzene	ND	0.54	0.13	ug/kg	
74-97-5	Bromochloromethane	ND	5.4	0.34	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.16	ug/kg	
75-25-2	Bromoform	ND	5.4	0.29	ug/kg	
74-83-9	Bromomethane	ND	5.4	0.52	ug/kg	
78-93-3	2-Butanone (MEK)	ND	11	1.9	ug/kg	
75-15-0	Carbon disulfide	ND	2.1	0.18	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	0.18	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.17	ug/kg	
75-00-3	Chloroethane	ND	5.4	0.46	ug/kg	
67-66-3	Chloroform	1.1	2.1	0.26	ug/kg	J
74-87-3	Chloromethane	ND	5.4	0.23	ug/kg	
110-82-7	Cyclohexane	ND	2.1	0.59	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	0.52	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	0.16	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.1	0.26	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.1	0.18	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.1	0.15	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.1	0.16	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.4	0.58	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	0.20	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.1	0.18	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.1	0.16	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.1	0.47	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.17	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.33	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.21	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.24	ug/kg	
100-41-4	Ethylbenzene	ND	1.1	0.16	ug/kg	
76-13-1	Freon 113	ND	5.4	0.52	ug/kg	
591-78-6	2-Hexanone	ND	5.4	1.5	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.20
4

Report of Analysis

Client Sample ID:	SWB-12(4')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-20	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	84.7
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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4

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.1	0.17	ug/kg	
79-20-9	Methyl Acetate	ND	5.4	2.2	ug/kg	
108-87-2	Methylcyclohexane	ND	2.1	0.54	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.1	0.28	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.4	0.91	ug/kg	
75-09-2	Methylene chloride	ND	5.4	1.1	ug/kg	
100-42-5	Styrene	ND	2.1	0.16	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.26	ug/kg	
127-18-4	Tetrachloroethene	ND	2.1	0.30	ug/kg	
108-88-3	Toluene	ND	1.1	0.13	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.4	0.54	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.4	0.54	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.18	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.35	ug/kg	
79-01-6	Trichloroethene	ND	1.1	0.20	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.4	0.68	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.22	ug/kg	
	m,p-Xylene	ND	1.1	0.24	ug/kg	
95-47-6	o-Xylene	ND	1.1	0.22	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	0.22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	87%		72-129%
17060-07-0	1,2-Dichloroethane-D4	90%		73-132%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	100%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-12(13')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-21	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	90.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218712.D	1	06/13/17 18:38	SY	06/03/17 11:00	n/a	VC8074
Run #2							

Run #	Initial Weight
Run #1	5.1 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	11	5.4	ug/kg	
71-43-2	Benzene	ND	0.54	0.13	ug/kg	
74-97-5	Bromochloromethane	ND	5.4	0.34	ug/kg	
75-27-4	Bromodichloromethane	ND	2.2	0.16	ug/kg	
75-25-2	Bromoform	ND	5.4	0.29	ug/kg	
74-83-9	Bromomethane	ND	5.4	0.52	ug/kg	
78-93-3	2-Butanone (MEK)	ND	11	1.9	ug/kg	
75-15-0	Carbon disulfide	ND	2.2	0.18	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.2	0.18	ug/kg	
108-90-7	Chlorobenzene	ND	2.2	0.17	ug/kg	
75-00-3	Chloroethane	ND	5.4	0.46	ug/kg	
67-66-3	Chloroform	0.94	2.2	0.26	ug/kg	J
74-87-3	Chloromethane	ND	5.4	0.23	ug/kg	
110-82-7	Cyclohexane	ND	2.2	0.59	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.2	0.52	ug/kg	
124-48-1	Dibromochloromethane	ND	2.2	0.16	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.1	0.26	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.1	0.18	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.1	0.15	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.1	0.17	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.4	0.59	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	0.20	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.1	0.18	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.1	0.17	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.1	0.47	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.17	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.2	0.33	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.21	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.24	ug/kg	
100-41-4	Ethylbenzene	ND	1.1	0.16	ug/kg	
76-13-1	Freon 113	ND	5.4	0.52	ug/kg	
591-78-6	2-Hexanone	ND	5.4	1.5	ug/kg	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-12(13')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-21	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	90.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.2	0.17	ug/kg	
79-20-9	Methyl Acetate	ND	5.4	2.2	ug/kg	
108-87-2	Methylcyclohexane	ND	2.2	0.55	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.1	0.29	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.4	0.92	ug/kg	
75-09-2	Methylene chloride	ND	5.4	1.1	ug/kg	
100-42-5	Styrene	ND	2.2	0.16	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.26	ug/kg	
127-18-4	Tetrachloroethene	ND	2.2	0.30	ug/kg	
108-88-3	Toluene	ND	1.1	0.13	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.4	0.54	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.4	0.54	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.18	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.35	ug/kg	
79-01-6	Trichloroethene	ND	1.1	0.21	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.4	0.68	ug/kg	
75-01-4	Vinyl chloride	ND	2.2	0.22	ug/kg	
	m,p-Xylene	ND	1.1	0.24	ug/kg	
95-47-6	o-Xylene	ND	1.1	0.22	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	0.22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%		72-129%
17060-07-0	1,2-Dichloroethane-D4	92%		73-132%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	102%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-15(13.5')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-22	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	91.6
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218688.D	1	06/12/17 23:20	SY	06/03/17 11:00	n/a	VC8073
Run #2							

Run #	Initial Weight
Run #1	6.3 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	5.9	8.7	4.3	ug/kg	J
71-43-2	Benzene	ND	0.43	0.10	ug/kg	
74-97-5	Bromochloromethane	ND	4.3	0.28	ug/kg	
75-27-4	Bromodichloromethane	ND	1.7	0.13	ug/kg	
75-25-2	Bromoform	ND	4.3	0.23	ug/kg	
74-83-9	Bromomethane ^a	ND	4.3	0.42	ug/kg	
78-93-3	2-Butanone (MEK)	ND	8.7	1.5	ug/kg	
75-15-0	Carbon disulfide	0.27	1.7	0.15	ug/kg	J
56-23-5	Carbon tetrachloride	ND	1.7	0.14	ug/kg	
108-90-7	Chlorobenzene	ND	1.7	0.14	ug/kg	
75-00-3	Chloroethane	ND	4.3	0.37	ug/kg	
67-66-3	Chloroform	0.76	1.7	0.21	ug/kg	J
74-87-3	Chloromethane	ND	4.3	0.18	ug/kg	
110-82-7	Cyclohexane	ND	1.7	0.47	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.7	0.42	ug/kg	
124-48-1	Dibromochloromethane	ND	1.7	0.13	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.87	0.21	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.87	0.15	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.87	0.12	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.87	0.13	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.3	0.47	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.87	0.16	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.87	0.15	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.87	0.13	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.87	0.38	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.87	0.14	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.7	0.27	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.7	0.17	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.7	0.19	ug/kg	
100-41-4	Ethylbenzene	ND	0.87	0.13	ug/kg	
76-13-1	Freon 113	ND	4.3	0.42	ug/kg	
591-78-6	2-Hexanone	ND	4.3	1.2	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-15(13.5')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-22	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	91.6
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.7	0.13	ug/kg	
79-20-9	Methyl Acetate	ND	4.3	1.8	ug/kg	
108-87-2	Methylcyclohexane	ND	1.7	0.44	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.87	0.23	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.3	0.74	ug/kg	
75-09-2	Methylene chloride	ND	4.3	0.87	ug/kg	
100-42-5	Styrene	ND	1.7	0.13	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.7	0.21	ug/kg	
127-18-4	Tetrachloroethene	3.0	1.7	0.24	ug/kg	
108-88-3	Toluene	0.25	0.87	0.11	ug/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	4.3	0.43	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.3	0.43	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.7	0.14	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.7	0.28	ug/kg	
79-01-6	Trichloroethene	ND	0.87	0.16	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.3	0.54	ug/kg	
75-01-4	Vinyl chloride	ND	1.7	0.18	ug/kg	
	m,p-Xylene	ND	0.87	0.19	ug/kg	
95-47-6	o-Xylene	ND	0.87	0.18	ug/kg	
1330-20-7	Xylene (total)	ND	0.87	0.18	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		72-129%
17060-07-0	1,2-Dichloroethane-D4	89%		73-132%
2037-26-5	Toluene-D8	94%		80-120%
460-00-4	4-Bromofluorobenzene	101%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

(a) This compound in BS is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-18(11')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-23	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	86.6
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218689.D	1	06/12/17 23:49	SY	06/03/17 11:00	n/a	VC8073
Run #2							

Run #	Initial Weight
Run #1	6.2 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	9.3	4.7	ug/kg	
71-43-2	Benzene	ND	0.47	0.11	ug/kg	
74-97-5	Bromochloromethane	ND	4.7	0.30	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	0.14	ug/kg	
75-25-2	Bromoform	ND	4.7	0.25	ug/kg	
74-83-9	Bromomethane ^a	ND	4.7	0.45	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.3	1.6	ug/kg	
75-15-0	Carbon disulfide	ND	1.9	0.16	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	0.15	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	0.15	ug/kg	
75-00-3	Chloroethane	ND	4.7	0.40	ug/kg	
67-66-3	Chloroform	0.71	1.9	0.22	ug/kg	J
74-87-3	Chloromethane	ND	4.7	0.20	ug/kg	
110-82-7	Cyclohexane	ND	1.9	0.51	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.45	ug/kg	
124-48-1	Dibromochloromethane	ND	1.9	0.14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.93	0.23	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.93	0.16	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.93	0.13	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.93	0.14	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.7	0.51	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.93	0.17	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.93	0.16	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.93	0.14	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.93	0.41	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.93	0.15	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	0.29	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.18	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.21	ug/kg	
100-41-4	Ethylbenzene	ND	0.93	0.14	ug/kg	
76-13-1	Freon 113	ND	4.7	0.45	ug/kg	
591-78-6	2-Hexanone	ND	4.7	1.3	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	SWB-18(11')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-23	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	86.6
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.9	0.14	ug/kg	
79-20-9	Methyl Acetate	ND	4.7	1.9	ug/kg	
108-87-2	Methylcyclohexane	ND	1.9	0.47	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.93	0.25	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.7	0.79	ug/kg	
75-09-2	Methylene chloride	ND	4.7	0.93	ug/kg	
100-42-5	Styrene	ND	1.9	0.14	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.22	ug/kg	
127-18-4	Tetrachloroethene	0.31	1.9	0.26	ug/kg	J
108-88-3	Toluene	ND	0.93	0.12	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.7	0.47	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.7	0.47	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.30	ug/kg	
79-01-6	Trichloroethene	0.20	0.93	0.18	ug/kg	J
75-69-4	Trichlorofluoromethane	ND	4.7	0.59	ug/kg	
75-01-4	Vinyl chloride	ND	1.9	0.19	ug/kg	
	m,p-Xylene	ND	0.93	0.20	ug/kg	
95-47-6	o-Xylene	ND	0.93	0.19	ug/kg	
1330-20-7	Xylene (total)	ND	0.93	0.19	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		72-129%
17060-07-0	1,2-Dichloroethane-D4	92%		73-132%
2037-26-5	Toluene-D8	93%		80-120%
460-00-4	4-Bromofluorobenzene	101%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

(a) This compound in BS is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-16(8')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-24	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	88.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218738.D	1	06/14/17 07:04	SY	06/03/17 11:00	n/a	VC8075
Run #2							

Run #	Initial Weight
Run #1	6.8 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	15.2	8.3	4.1	ug/kg	
71-43-2	Benzene	ND	0.41	0.099	ug/kg	
74-97-5	Bromochloromethane	ND	4.1	0.26	ug/kg	
75-27-4	Bromodichloromethane	ND	1.7	0.13	ug/kg	
75-25-2	Bromoform	ND	4.1	0.22	ug/kg	
74-83-9	Bromomethane	ND	4.1	0.40	ug/kg	
78-93-3	2-Butanone (MEK)	ND	8.3	1.5	ug/kg	
75-15-0	Carbon disulfide	0.88	1.7	0.14	ug/kg	J
56-23-5	Carbon tetrachloride	ND	1.7	0.14	ug/kg	
108-90-7	Chlorobenzene	ND	1.7	0.13	ug/kg	
75-00-3	Chloroethane	ND	4.1	0.36	ug/kg	
67-66-3	Chloroform	0.98	1.7	0.20	ug/kg	J
74-87-3	Chloromethane	ND	4.1	0.17	ug/kg	
110-82-7	Cyclohexane	ND	1.7	0.45	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.7	0.40	ug/kg	
124-48-1	Dibromochloromethane	ND	1.7	0.12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.83	0.20	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.83	0.14	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.83	0.11	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.83	0.13	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.1	0.45	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.83	0.15	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.83	0.14	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.83	0.13	ug/kg	
156-59-2	cis-1,2-Dichloroethene	5.4	0.83	0.36	ug/kg	
156-60-5	trans-1,2-Dichloroethene	0.17	0.83	0.13	ug/kg	J
78-87-5	1,2-Dichloropropane	ND	1.7	0.26	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.7	0.16	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.7	0.18	ug/kg	
100-41-4	Ethylbenzene	ND	0.83	0.12	ug/kg	
76-13-1	Freon 113	ND	4.1	0.40	ug/kg	
591-78-6	2-Hexanone	ND	4.1	1.2	ug/kg	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-16(8')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-24	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	88.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.7	0.13	ug/kg	
79-20-9	Methyl Acetate	ND	4.1	1.7	ug/kg	
108-87-2	Methylcyclohexane	ND	1.7	0.42	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.83	0.22	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.1	0.70	ug/kg	
75-09-2	Methylene chloride	ND	4.1	0.83	ug/kg	
100-42-5	Styrene	ND	1.7	0.12	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.7	0.20	ug/kg	
127-18-4	Tetrachloroethene	8.7	1.7	0.23	ug/kg	
108-88-3	Toluene	0.17	0.83	0.10	ug/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	4.1	0.41	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.1	0.41	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.7	0.14	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.7	0.27	ug/kg	
79-01-6	Trichloroethene	3.4	0.83	0.16	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.1	0.52	ug/kg	
75-01-4	Vinyl chloride	ND	1.7	0.17	ug/kg	
	m,p-Xylene	ND	0.83	0.18	ug/kg	
95-47-6	o-Xylene	ND	0.83	0.17	ug/kg	
1330-20-7	Xylene (total)	ND	0.83	0.17	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	86%		72-129%
17060-07-0	1,2-Dichloroethane-D4	91%		73-132%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	104%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-18(18')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-25	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	90.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218690.D	1	06/13/17 00:18	SY	06/03/17 11:00	n/a	VC8073
Run #2							

Run #	Initial Weight
Run #1	6.1 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	9.0	4.5	ug/kg	
71-43-2	Benzene	ND	0.45	0.11	ug/kg	
74-97-5	Bromochloromethane	ND	4.5	0.29	ug/kg	
75-27-4	Bromodichloromethane	ND	1.8	0.14	ug/kg	
75-25-2	Bromoform	ND	4.5	0.24	ug/kg	
74-83-9	Bromomethane ^a	ND	4.5	0.44	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.0	1.6	ug/kg	
75-15-0	Carbon disulfide	ND	1.8	0.15	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.8	0.15	ug/kg	
108-90-7	Chlorobenzene	ND	1.8	0.15	ug/kg	
75-00-3	Chloroethane	ND	4.5	0.39	ug/kg	
67-66-3	Chloroform	1.1	1.8	0.21	ug/kg	J
74-87-3	Chloromethane	ND	4.5	0.19	ug/kg	
110-82-7	Cyclohexane	ND	1.8	0.49	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.8	0.44	ug/kg	
124-48-1	Dibromochloromethane	ND	1.8	0.14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.90	0.22	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.90	0.15	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.90	0.12	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.90	0.14	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.5	0.49	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.90	0.17	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.90	0.15	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.90	0.14	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.90	0.40	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.90	0.14	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.8	0.28	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.8	0.18	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.8	0.20	ug/kg	
100-41-4	Ethylbenzene	ND	0.90	0.13	ug/kg	
76-13-1	Freon 113	ND	4.5	0.44	ug/kg	
591-78-6	2-Hexanone	ND	4.5	1.3	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-18(18')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-25	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	90.8
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.8	0.14	ug/kg	
79-20-9	Methyl Acetate	ND	4.5	1.8	ug/kg	
108-87-2	Methylcyclohexane	ND	1.8	0.46	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.90	0.24	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.5	0.77	ug/kg	
75-09-2	Methylene chloride	ND	4.5	0.90	ug/kg	
100-42-5	Styrene	ND	1.8	0.13	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.8	0.22	ug/kg	
127-18-4	Tetrachloroethene	0.88	1.8	0.25	ug/kg	J
108-88-3	Toluene	ND	0.90	0.11	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.5	0.45	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.5	0.45	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.8	0.15	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.8	0.29	ug/kg	
79-01-6	Trichloroethene	ND	0.90	0.17	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.5	0.57	ug/kg	
75-01-4	Vinyl chloride	ND	1.8	0.18	ug/kg	
	m,p-Xylene	ND	0.90	0.20	ug/kg	
95-47-6	o-Xylene	ND	0.90	0.18	ug/kg	
1330-20-7	Xylene (total)	ND	0.90	0.18	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		72-129%
17060-07-0	1,2-Dichloroethane-D4	89%		73-132%
2037-26-5	Toluene-D8	94%		80-120%
460-00-4	4-Bromofluorobenzene	102%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

(a) This compound in BS is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-17(17')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-26	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	91.3
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C218713.D	1	06/13/17 19:07	SY	06/03/17 11:00	n/a	VC8074
Run #2							

Run #	Initial Weight
Run #1	5.5 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	8.8	10	5.0	ug/kg	J
71-43-2	Benzene	ND	0.50	0.12	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	0.32	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.15	ug/kg	
75-25-2	Bromoform	ND	5.0	0.26	ug/kg	
74-83-9	Bromomethane	ND	5.0	0.48	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	1.8	ug/kg	
75-15-0	Carbon disulfide	ND	2.0	0.17	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	0.17	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	0.16	ug/kg	
75-00-3	Chloroethane	ND	5.0	0.43	ug/kg	
67-66-3	Chloroform	0.95	2.0	0.24	ug/kg	J
74-87-3	Chloromethane	ND	5.0	0.21	ug/kg	
110-82-7	Cyclohexane	ND	2.0	0.54	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.48	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.15	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.24	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.17	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.14	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.15	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	0.54	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.0	0.19	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.0	0.15	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.44	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.16	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	0.31	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.20	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.22	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.15	ug/kg	
76-13-1	Freon 113	ND	5.0	0.48	ug/kg	
591-78-6	2-Hexanone	ND	5.0	1.4	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.26
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Report of Analysis

Client Sample ID:	SWB-17(17')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-26	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	91.3
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.0	0.15	ug/kg	
79-20-9	Methyl Acetate	ND	5.0	2.0	ug/kg	
108-87-2	Methylcyclohexane	ND	2.0	0.50	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	0.85	ug/kg	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/kg	
100-42-5	Styrene	ND	2.0	0.14	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.24	ug/kg	
127-18-4	Tetrachloroethene	1.4	2.0	0.28	ug/kg	J
108-88-3	Toluene	ND	1.0	0.12	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.17	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.32	ug/kg	
79-01-6	Trichloroethene	ND	1.0	0.19	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	0.63	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	0.20	ug/kg	
	m,p-Xylene	ND	1.0	0.22	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.20	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.20	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%		72-129%
17060-07-0	1,2-Dichloroethane-D4	92%		73-132%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	101%		77-125%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-16(12')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-27	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	91.5
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C137831.D	1	06/14/17 16:57	PS	06/03/17 11:00	n/a	V3C6260
Run #2							

Run #	Initial Weight
Run #1	5.8 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	9.2	9.4	4.7	ug/kg	J
71-43-2	Benzene	ND	0.47	0.11	ug/kg	
74-97-5	Bromochloromethane	ND	4.7	0.30	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	0.14	ug/kg	
75-25-2	Bromoform	ND	4.7	0.25	ug/kg	
74-83-9	Bromomethane	ND	4.7	0.46	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.4	1.7	ug/kg	
75-15-0	Carbon disulfide	ND	1.9	0.16	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	0.16	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	0.15	ug/kg	
75-00-3	Chloroethane	ND	4.7	0.40	ug/kg	
67-66-3	Chloroform	ND	1.9	0.22	ug/kg	
74-87-3	Chloromethane	ND	4.7	0.20	ug/kg	
110-82-7	Cyclohexane	ND	1.9	0.51	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.46	ug/kg	
124-48-1	Dibromochloromethane	ND	1.9	0.14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.94	0.23	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.94	0.16	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.94	0.13	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.94	0.14	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.7	0.51	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.94	0.18	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.94	0.16	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.94	0.14	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.94	0.41	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.94	0.15	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	0.29	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.18	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.21	ug/kg	
100-41-4	Ethylbenzene	ND	0.94	0.14	ug/kg	
76-13-1	Freon 113	ND	4.7	0.46	ug/kg	
591-78-6	2-Hexanone	ND	4.7	1.3	ug/kg	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.27
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Report of Analysis

Client Sample ID:	SWB-16(12')	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-27	Date Received:	06/02/17
Matrix:	SO - Soil	Percent Solids:	91.5
Method:	SW846 8260C SW846 5035		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.9	0.15	ug/kg	
79-20-9	Methyl Acetate ^a	ND	4.7	1.9	ug/kg	
108-87-2	Methylcyclohexane	ND	1.9	0.48	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.94	0.25	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.7	0.80	ug/kg	
75-09-2	Methylene chloride	1.5	4.7	0.94	ug/kg	J
100-42-5	Styrene	ND	1.9	0.14	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.23	ug/kg	
127-18-4	Tetrachloroethene	0.50	1.9	0.26	ug/kg	J
108-88-3	Toluene	ND	0.94	0.12	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.7	0.47	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.7	0.47	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.30	ug/kg	
79-01-6	Trichloroethene	ND	0.94	0.18	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.7	0.59	ug/kg	
75-01-4	Vinyl chloride	ND	1.9	0.19	ug/kg	
	m,p-Xylene	ND	0.94	0.21	ug/kg	
95-47-6	o-Xylene	ND	0.94	0.19	ug/kg	
1330-20-7	Xylene (total)	ND	0.94	0.19	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	116%		72-129%
17060-07-0	1,2-Dichloroethane-D4	122%		73-132%
2037-26-5	Toluene-D8	107%		80-120%
460-00-4	4-Bromofluorobenzene	114%		77-125%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

(a) This compound in BS is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-7	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-28	Date Received:	06/02/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A233662.D	1	06/08/17 04:05	GA	n/a	n/a	VA8847
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.14	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.46	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.55	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
74-83-9	Bromomethane	ND	2.0	0.46	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	1.9	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.33	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.54	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.17	ug/l	
75-00-3	Chloroethane	ND	1.0	0.44	ug/l	
67-66-3	Chloroform	ND	1.0	0.23	ug/l	
74-87-3	Chloromethane	ND	1.0	0.96	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.73	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.23	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.22	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.23	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.21	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.70	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.33	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.19	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.26	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	1.5	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-7	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-28	Date Received:	06/02/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.16	ug/l	
79-20-9	Methyl Acetate	ND	5.0	1.5	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	0.78	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.2	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.27	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.39	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.58	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	
	m,p-Xylene	ND	1.0	0.42	ug/l	
95-47-6	o-Xylene	ND	1.0	0.21	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.21	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		76-120%
17060-07-0	1,2-Dichloroethane-D4	105%		73-122%
2037-26-5	Toluene-D8	95%		84-119%
460-00-4	4-Bromofluorobenzene	92%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-15	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-29	Date Received:	06/02/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A233661.D	1	06/08/17 03:35	GA	n/a	n/a	VA8847
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.14	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.46	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.55	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
74-83-9	Bromomethane	ND	2.0	0.46	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	1.9	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.33	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.54	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.17	ug/l	
75-00-3	Chloroethane	ND	1.0	0.44	ug/l	
67-66-3	Chloroform	0.85	1.0	0.23	ug/l	J
74-87-3	Chloromethane	ND	1.0	0.96	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.73	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.23	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.22	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.23	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.21	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.70	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.51	1.0	0.31	ug/l	J
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.33	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.19	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.26	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	1.5	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SWB-15	Date Sampled: 06/02/17
Lab Sample ID: JC44543-29	Date Received: 06/02/17
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260C	
Project: SI Mall, Platinum Avenue, Staten Island, NY	

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.16	ug/l	
79-20-9	Methyl Acetate	ND	5.0	1.5	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	0.78	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.2	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.27	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.39	ug/l	
127-18-4	Tetrachloroethene	34.3	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	1.2	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.58	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	
	m,p-Xylene	ND	1.0	0.42	ug/l	
95-47-6	o-Xylene	ND	1.0	0.21	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.21	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	104%		73-122%
2037-26-5	Toluene-D8	95%		84-119%
460-00-4	4-Bromofluorobenzene	91%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWB-1	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-30	Date Received:	06/02/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A233660.D	1	06/08/17 03:06	GA	n/a	n/a	VA8847
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.14	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.46	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.55	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
74-83-9	Bromomethane	ND	2.0	0.46	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	1.9	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.33	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.54	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.17	ug/l	
75-00-3	Chloroethane	ND	1.0	0.44	ug/l	
67-66-3	Chloroform	0.73	1.0	0.23	ug/l	J
74-87-3	Chloromethane	ND	1.0	0.96	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.73	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.23	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.22	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.23	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.21	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.70	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.33	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.19	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.26	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	1.5	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	SWB-1	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-30	Date Received:	06/02/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.16	ug/l	
79-20-9	Methyl Acetate	ND	5.0	1.5	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	0.78	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.2	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.27	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.39	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.58	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	
	m,p-Xylene	ND	1.0	0.42	ug/l	
95-47-6	o-Xylene	ND	1.0	0.21	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.21	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		76-120%
17060-07-0	1,2-Dichloroethane-D4	103%		73-122%
2037-26-5	Toluene-D8	96%		84-119%
460-00-4	4-Bromofluorobenzene	93%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-31	Date Received:	06/02/17
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A233659.D	1	06/08/17 02:36	GA	n/a	n/a	VA8847
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.14	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.46	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.55	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
74-83-9	Bromomethane	ND	2.0	0.46	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	1.9	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.33	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.54	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.17	ug/l	
75-00-3	Chloroethane	ND	1.0	0.44	ug/l	
67-66-3	Chloroform	ND	1.0	0.23	ug/l	
74-87-3	Chloromethane	ND	1.0	0.96	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.73	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.23	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.22	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.23	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.21	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.70	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.33	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.19	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.26	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	1.5	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-31	Date Received:	06/02/17
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.16	ug/l	
79-20-9	Methyl Acetate	ND	5.0	1.5	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	0.78	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.2	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.27	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.39	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.58	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	
	m,p-Xylene	ND	1.0	0.42	ug/l	
95-47-6	o-Xylene	ND	1.0	0.21	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.21	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	102%		73-122%
2037-26-5	Toluene-D8	94%		84-119%
460-00-4	4-Bromofluorobenzene	93%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB060117	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-32	Date Received:	06/02/17
Matrix:	AQ - Field Blank Soil	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A233658.D	1	06/08/17 02:07	GA	n/a	n/a	VA8847
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.14	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.46	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.55	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
74-83-9	Bromomethane	ND	2.0	0.46	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	1.9	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.33	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.54	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.17	ug/l	
75-00-3	Chloroethane	ND	1.0	0.44	ug/l	
67-66-3	Chloroform	ND	1.0	0.23	ug/l	
74-87-3	Chloromethane	ND	1.0	0.96	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.73	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.23	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.22	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.23	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.21	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.70	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.33	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.19	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.26	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	1.5	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB060117	Date Sampled:	06/01/17
Lab Sample ID:	JC44543-32	Date Received:	06/02/17
Matrix:	AQ - Field Blank Soil	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.16	ug/l	
79-20-9	Methyl Acetate	ND	5.0	1.5	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	0.78	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.2	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.27	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.39	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.58	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	
	m,p-Xylene	ND	1.0	0.42	ug/l	
95-47-6	o-Xylene	ND	1.0	0.21	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.21	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	101%		73-122%
2037-26-5	Toluene-D8	96%		84-119%
460-00-4	4-Bromofluorobenzene	92%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB060217	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-33	Date Received:	06/02/17
Matrix:	AQ - Field Blank Soil	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A233657.D	1	06/08/17 01:37	GA	n/a	n/a	VA8847
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.14	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.46	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.55	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
74-83-9	Bromomethane	ND	2.0	0.46	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	1.9	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.33	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.54	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.17	ug/l	
75-00-3	Chloroethane	ND	1.0	0.44	ug/l	
67-66-3	Chloroform	ND	1.0	0.23	ug/l	
74-87-3	Chloromethane	ND	1.0	0.96	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.73	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.23	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.22	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.23	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.21	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.70	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.33	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.19	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.26	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	1.5	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.33
4

Report of Analysis

Client Sample ID:	FB060217	Date Sampled:	06/02/17
Lab Sample ID:	JC44543-33	Date Received:	06/02/17
Matrix:	AQ - Field Blank Soil	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

4.33
4

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.16	ug/l	
79-20-9	Methyl Acetate	ND	5.0	1.5	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	0.78	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.2	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.27	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.39	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.58	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	
	m,p-Xylene	ND	1.0	0.42	ug/l	
95-47-6	o-Xylene	ND	1.0	0.21	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.21	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		76-120%
17060-07-0	1,2-Dichloroethane-D4	100%		73-122%
2037-26-5	Toluene-D8	95%		84-119%
460-00-4	4-Bromofluorobenzene	92%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

APPENDIX



WASTE DISPOSAL MANIFESTS



UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number 111000000001	2. Page 1 of	3. Emergency Response Phone 908-281-1010	4. Manifest Tracking Number 014162937 JJK		
5. Generator's Name and Mailing Address NJ State Police 200 North Avenue STATION INLAND, NJ 07114				Generator's Site Address (if different than mailing address)			
Generator's Phone: (201) 910-2700				U.S. EPA ID Number 111000000001			
6. Transporter 1 Company Name CLEAN VENTURE INC.				U.S. EPA ID Number			
7. Transporter 2 Company Name				U.S. EPA ID Number			
8. Designated Facility Name and Site Address 217 South First Street Elizabeth, NJ 07206				U.S. EPA ID Number 111000000001			
Facility's Phone: (908) 345-2880				U.S. EPA ID Number			
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
		No.	Type				
1.	HAZARDOUS WASTE, LIQUID, CORROSIVE, FLAMMABLE, TOXIC	5	DF	1500	P		
2.	HAZARDOUS WASTE, SOLID, NON-FLAMMABLE, NON-CORROSIVE, TOXIC	15	DM	7,500	P		
3.	HAZARDOUS WASTE, SOLID, NON-FLAMMABLE, NON-CORROSIVE, TOXIC	1	DM	300	P		
4.							
14. Special Handling Instructions and Additional Information CHILD-PROOF CONTAINERED SOIL FROM RAZ (TRUCK) CONCRETE AND ASPHALT FROM SHIP LIFT ACTIVITIES							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Offeror's Printed/Typed Name				Signature	Month	Day	Year
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____							
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name				Signature	Month	Day	Year
Transporter 2 Printed/Typed Name				Signature	Month	Day	Year
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
Manifest Reference Number: _____							
18b. Alternate Facility (or Generator)				U.S. EPA ID Number			
Facility's Phone: _____							
18c. Signature of Alternate Facility (or Generator)				Month	Day	Year	
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1.	2.	3.	4.				
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a							
Printed/Typed Name				Signature	Month	Day	Year

CVCC
Clean Venture, Inc. Trip Ticket #: 17581

Driver: Williams, Briandarius
Truck: ST27

Start Date: 10/10/2017	Start Time:	End Date:	End Time:
Start Miles:	Start City:	End Miles:	End City:

Site Name & Address:	Order #: 0	Broker:
Service Center 08 - Cycle Chem 217 South First Street ELIZABETH, NJ/ 07206 () Contact: Trailer/RO: Phone: -- Cell: Begin Empty Tr1: Tr2:		
Time in:	Time out:	Date:
Manifest/BOL #:	Signature:	

Site Name & Address:	Order #: 17744	REF: NJ6134	Broker: HILLTOP ENTERPRISES INC
GGP STATEN ISLAND MALL LLC 280 Marsh Ave STATEN ISLAND, NY/ 10314 () Contact: Matthew Trailer/RO: Phone: 201-739-2369 Cell: 201-321-6596 Live Load Tr1: Tr2:			
Time in:	Time out: 0:50	Date: 10/10/2017	
Manifest/BOL #:	Signature:		

Site Name & Address:	Order #: 17744	REF: NJ6134	Broker: HILLTOP ENTERPRISES INC
Service Center 08 - Cycle Chem 217 South First Street ELIZABETH, NJ/ 07206 () Contact: Trailer/RO: Phone: -- Cell: Live Unload Tr1: Tr2:			
Time in:	Time out:	Date:	
Manifest/BOL #:	Signature:		

APPENDIX

IV ●

MONITOR WELL
CONSTRUCTION LOGS



GEOLOGIC LOG

Leggette, Brashears & Graham, Inc.
 600 East Crescent Avenue, Suite 200
 Upper Saddle River, New Jersey 07458
www.lbgweb.com

OWNER: GGP Staten Island Mall

WELL NO.: MW-25

PAGE: 1 of 2 PAGES

SITE LOCATION: 280 Marsh Avenue Staten Island, New York	SCREEN TYPE: PVC	DIAMETER: 4"
	SLOT NO.: 20	SETTING: 8'-13'
DATE COMPLETED: 6/29/2017	SAND PACK SIZE: #2	
DRILLING COMPANY: AmeriDrill	SETTING: 7'-13'	
	CASING TYPE: PVC	DIAMETER: 4"
DRILLING METHOD: Hollow Stem Auger	SETTING: 0-13'	
SAMPLING METHOD: Split Spoon, 140 lb hammer	SEAL TYPE: Bentonite	
OBSERVER: SS, MK	SETTING: 7'-8'	
REFERENCE POINT (RP): Grade	BACKFILL TYPE: Cement Grout	
ELEVATION OF RP:	STATIC WATER LEVEL:	DATE:
SURFACE COMPLETION: Flush Mount	DEVELOPMENT METHOD: Submersible Pump	
	DURATION: 1 Hour	ESTIMATED YIELD: 1 gpm
COMMENTS:		
ABBREVIATIONS: c = Coarse, m = Medium, f = Fine, SS = Split Spoon, C = Cuttings		

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	C	N/A		First 5' was soft dig, not representative of overburden.
5	7	SS	5-6-7-10	1.1	Red Brown f SAND; with silt; some subangular to angular f m c gravel; few weathered bedrock at 1.1'; moist. PID=4.4 at 5.7'
7	10	C	N/A		Brown Red f Sand and Silt; with f m c subrounded gravel.
10	12	SS	17-18	1.1	Red Brown Silt and f m c Sand; some f m subrounded-subangular gravel; little weathered bedrock at 11.9'; moist.
12	15	C	N/A		Red Brown Silt and f m c Sand; some f m c



GEOLOGIC LOG

Leggette, Brashears & Graham, Inc.
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OWNER: GGP Staten Island Mall

WELL NO.: MW-26

PAGE: 1 of 2 PAGES

SITE LOCATION: 280 Marsh Avenue
 Staten Island, New York

SCREEN TYPE: PVC **DIAMETER:** 4"

SLOT NO.: 20 **SETTING:** 9-14'

DATE COMPLETED: 6/28/2017

SAND PACK SIZE: #2

DRILLING COMPANY: AmeriDrill

SETTING: 8-14'

CASING TYPE: PVC **DIAMETER:** 4"

DRILLING METHOD: Hollow Stem Auger

SETTING: 0-14'

SAMPLING METHOD: Split Spoon, 140 lb hammer

SEAL TYPE: Bentonite

OBSERVER: SS, MK

SETTING: 8-9'

REFERENCE POINT (RP): Grade

BACKFILL TYPE: Cement Grout

ELEVATION OF RP:

STATIC WATER LEVEL: **DATE:**

SURFACE COMPLETION: Flush Mount

DEVELOPMENT METHOD: Submersible Pump

DURATION: 1 Hour **ESTIMATED YIELD:** 1 gpm

COMMENTS:

ABBREVIATIONS: c = Coarse, m = Medium, f = Fine, SS = Split Spoon, C = Cuttings

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	C	N/A		Soft dig, fill.
5	7	SS	9-9-22-22	2.0	5-6' Red Brown Silt and f Sand; with f m c subangular gravel; tight; dry.
					6-7' Weathered Bedrock; at 6.6' bedrock cobble.
7	10	C	N/A		Light Brown Silt and f Sand; some f m c subrounded gravel.
10	12	SS	11-12-20-39	2.0	10-12' Red Brown Silt and f m c Sand; with m c subangular-angular gravel; cobble at 10.9'; bedrock cobble at 11.6'; slightly moist. PID=0.3 at 10'; PID= 1.2 at 12'



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 Upper Saddle River, New Jersey 07458
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OWNER: GGP Staten Island Mall

WELL NO.: MW-28

PAGE: 1 of 2 PAGES

SITE LOCATION: 280 Marsh Avenue Staten Island, New York	SCREEN TYPE: PVC	DIAMETER: 4"
	SLOT NO.: 20	SETTING: 17.5-22.5'
DATE COMPLETED: 6/29/2017	SAND PACK SIZE: #2	
DRILLING COMPANY: AmeriDrill	SETTING: 16.5-22.5'	
	CASING TYPE: PVC	DIAMETER: 4"
DRILLING METHOD: Hollow Stem Auger	SETTING: 0-22.5'	
SAMPLING METHOD: Split Spoon, 140 lb hammer	SEAL TYPE: Bentonite	
OBSERVER: SS, MK	SETTING: 16.5-17.5'	
REFERENCE POINT (RP): Grade	BACKFILL TYPE: Cement Grout	
ELEVATION OF RP:	STATIC WATER LEVEL:	DATE:
SURFACE COMPLETION: Flush Mount	DEVELOPMENT METHOD: Submersible Pump	
	DURATION: ~1 Hour ESTIMATED YIELD: 1 gpm	
COMMENTS:		
ABBREVIATIONS: c = Coarse, m = Medium, f = Fine, SS = Split Spoon, C = Cuttings		

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	C	N/A		Soft dig, fill material.
5	7	SS	10-12-17-10	0.3	Red Brown Clay and Silt; with f subrounded to subangular gravel; saturated.
7	10	C	N/A		7-9' Red Brown Clay and Silt; with f subrounded to subangular gravel; moist
					9-10' Dark Brown Clay and Silt; with organic material
10	12	SS	4-5-7-9	1.6	10-11' Grey Brown Silt and f m c Sand; little f m c subrounded gravel.
					11-11.3' Grey Brown Silt and f m c Sand; little f m c subrounded gravel; little organic matter;



GEOLOGIC LOG

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 Upper Saddle River, New Jersey 07458
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OWNER: GGP Staten Island Mall

WELL NO.: MW-29

PAGE: 1 of 2 PAGES

SITE LOCATION: 280 Marsh Avenue Staten Island, New York	SCREEN TYPE: PVC	DIAMETER: 4"
	SLOT NO.: 20	SETTING: 19-24'
DATE COMPLETED: 6/29/2017	SAND PACK SIZE: #2	
DRILLING COMPANY: AmeriDrill	SETTING: 18-24'	
	CASING TYPE: PVC	DIAMETER: 4"
DRILLING METHOD: Hollow Stem Auger	SETTING: 0-24'	
SAMPLING METHOD: Split Spoon, 140 lb hammer	SEAL TYPE: Bentonite	
OBSERVER: SS, MK	SETTING: 18-19'	
REFERENCE POINT (RP): Grade	BACKFILL TYPE: Cement Grout	
ELEVATION OF RP:	STATIC WATER LEVEL:	DATE:
SURFACE COMPLETION: Flush Mount	DEVELOPMENT METHOD: Submersible Pump	
	DURATION: 1 Hour ESTIMATED YIELD: 1 gpm	
COMMENTS:		
ABBREVIATIONS: c = Coarse, m = Medium, f = Fine, SS = Split Spoon, C = Cuttings		

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	RECOVERY (feet)	DESCRIPTION
FROM	TO				
0	5	C	N/A		Soft dig, fill material.
5	7	SS	6-7-6-8	2.0	5-6.2' Brown Red Silt and f Sand; with f m c subangular gravel; little clay; little weathered bedrock.
					6.2-7' Dark Brown f Sand and Silt; some f m angular gravel; some organic material; slightly moist; tight.
7	10	C	N/A		Red Brown Clay and Silt; with f sand; some f m c subangular gravel; moist.
10	12	SS	3-12-17-11	1.5	10-10.8' Brown Red Clay and Silt; with f sand; some f m angular gravel; slightly moist; tight.

APPENDIX

V



FIELD SAMPLING
FORMS



**LBG-New Jersey Office
Standard Low-Flow Ground Water Sampling Log**

This form should be used in addition to the standard monitor well sampling form. This form is used to record data to establish the flow rate and duration for the initial low-flow event at a single monitor well. This data reported on this form can be used to establish the flow rate and duration for subsequent sampling events from the same well without the need to conduct full flow-through monitoring. For Subsequent rounds, only the standard monitor well sampling form needs to be completed.

Project:	RSIRI	Site:	Carol Cleaners	Well No.:	MW-17	Date:	7/21/2017	Total Well Depth:	15.0'
Screen/Intake Zone:	19-26'	Well Diameter:	2"	Pre-Pumping Water Level:	8.76	Measuring Point:	TOC		
Casing Type:	PVC	Calculated Water Column Volume:	NA	Purge Device:	Geotech	Tubing Type:	Poly		
Flow Through Device:	Horiba	Sampling Personnel:	M.Karban	Monitoring Equipment:	Horiba,M-Scope				

	+/-0.1	+/-3%	+/-10%	+/-10%	+/-3%	+/-10	Rate	<0.3
Time	pH (units)	Conductivity(ms/cm)	Turbidity (NTU)	DO (mg/L)	Temp. (°C)	ORP (mV)	(gal/min)	DTW (feet)
10:20	6.46	2.33	33	8.36	24.69	101	0.08	8.9
10:25	6.41	2.36	23.3	8.48	22.09	41	0.08	8.9
10:30	6.41	2.42	43.7	8.31	20.94	35	0.08	8.91
10:35	6.4	2.45	66	8.32	20.39	33	0.08	8.92
10:40	6.4	2.45	59	8.22	20.41	32	0.08	8.92
10:45	6.4	2.45	30.6	8.07	20.38	30	0.08	8.92
10:50	6.4	2.45	18.6	7.85	20.48	29	0.08	8.92
10:55	6.4	2.45	17.2	7.7	20.49	27	0.08	8.92
11:00	6.4	2.44	17.9	7.6	20.5	27	0.08	8.92
11:05	6.4	2.44	16.8	7.65	20.51	24	0.08	8.92

Notes: MS,MSD, REP-1

**LBG-New Jersey Office
Standard Low-Flow Ground Water Sampling Log**

This form should be used in addition to the standard monitor well sampling form. This form is used to record data to establish the flow rate and duration for the initial low-flow event at a single monitor well. This data reported on this form can be used to establish the flow rate and duration for subsequent sampling events from the same well without the need to conduct full flow-through monitoring. For Subsequent rounds, only the standard monitor well sampling form needs to be completed.

Project:	RSIRI	Site:	Carol Cleaners	Well No.:	MW-18	Date:	7/21/2017	Total Well Depth:	19.65'
Screen/Intake Zone:	15.5-20.5'	Well Diameter:	2"	Pre-Pumping Water Level:	9.3	Measuring Point:	TOC		
Casing Type:	PVC	Calculated Water Column Volume:	NA	Purge Device:	Geotech	Tubing Type:	Poly		
Flow Through Device:	Horiba	Sampling Personnel:	S.Sansone	Monitoring Equipment:	Horiba,M-Scope				

	+/-0.1	+/-3%	+/-10%	+/-10%	+/-3%	+/-10		<0.3
Time	pH (units)	Conductivity(ms/cm)	Turbidity (NTU)	DO (mg/L)	Temp. (°C)	ORP (mV)	Rate (gal/min)	DTW (feet)
10:32	7.39	2.58	532	11.61	24.33	114	0.1	9.49
10:37	7.4	2.62	233	9.2	23.24	27	0.1	9.51
10:42	7.36	2.55	71.6	8.34	23.84	10	0.1	9.51
10:47	7.33	2.53	46.4	8	24.09	6	0.1	9.53
10:52	7.31	2.52	44.3	7.71	24.44	5	0.1	9.53
10:57	7.3	2.5	36.8	7.44	24.76	5	0.1	9.53
11:02	7.3	2.48	28.2	7.2	25.01	5	0.1	9.53
11:07	7.29	2.47	22.6	6.94	25.31	4	0.1	9.53
11:12	7.29	2.46	21.2	6.71	25.53	4	0.1	9.53
11:17	7.28	2.44	22.2	6.74	25.53	4	0.1	9.53
11:22	7.28	2.44	22.8	6.73	25.54	4	0.1	9.53

Notes: MS,MSD, REP-2

APPENDIX

VI. LABORATORY ANALYTICAL REPORTS - GROUNDWATER



Results of FB071717

Client Sample ID: **FB071717**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700628001-A
Lab Project ID: 31700628

Collection Date: 07/17/2017 09:40
Received Date: 07/20/2017 09:29
Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	ND	U	0.492	1.97	ng/L	1	07/24/2017 12:52
8:2 FTS	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
PFBA	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
PFPeA	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
PFBS	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
PFHxA	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
PFHpA	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
PFHxS	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
PFOA	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
PFHpS	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
PFNA	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
PFOS	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
PFDA	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
PFuNA	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
NMeFOSAA	ND	U	0.492	1.97	ng/L	1	07/24/2017 12:52
NetFOSAA	ND	U	0.492	1.97	ng/L	1	07/24/2017 12:52
PFDS	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
PFDoA	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
PFTriA	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
PFTreA	ND	U	0.197	1.97	ng/L	1	07/24/2017 12:52
Surrogates							
13C2-PFHxA	91.1			70.0-130	%	1	07/24/2017 12:52
d5-NEtFOSAA	91.8			70.0-130	%	1	07/24/2017 12:52
13C2-PFDA	93.3			70.0-130	%	1	07/24/2017 12:52

Batch Information

Analytical Batch: XLC1044
Analytical Method: EPA 537 v1.1
Instrument: TQS1
Analyst: ADM

Prep Batch: HXX2034
Prep Method: EPA 537 1.1 PREP
Prep Date/Time: 07/20/2017 08:57
Prep Initial Wt./Vol.: 254.3 mL
Prep Extract Vol: 1 mL



Results of MW-1

Client Sample ID: **MW-1**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700628002-A
Lab Project ID: 31700628

Collection Date: 07/17/2017 10:45
Received Date: 07/20/2017 09:29
Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	ND	U	0.456	1.82	ng/L	1	07/24/2017 13:22
8:2 FTS	ND	U	0.182	1.82	ng/L	1	07/24/2017 13:22
PFBA	85.2		0.182	1.82	ng/L	1	07/24/2017 13:22
PFPeA	123		0.182	1.82	ng/L	1	07/24/2017 13:22
PFBS	12.7		0.182	1.82	ng/L	1	07/24/2017 13:22
PFHxA	31.5		0.182	1.82	ng/L	1	07/24/2017 13:22
PFHpA	27.9		0.182	1.82	ng/L	1	07/24/2017 13:22
PFHxS	9.60		0.182	1.82	ng/L	1	07/24/2017 13:22
PFOA	39.4		0.182	1.82	ng/L	1	07/24/2017 13:22
PFHpS	ND	U	0.182	1.82	ng/L	1	07/24/2017 13:22
PFNA	5.58		0.182	1.82	ng/L	1	07/24/2017 13:22
PFOS	2.50		0.182	1.82	ng/L	1	07/24/2017 13:22
PFDA	ND	U	0.182	1.82	ng/L	1	07/24/2017 13:22
PFuNA	4.02		0.182	1.82	ng/L	1	07/24/2017 13:22
NMeFOSAA	ND	U	0.456	1.82	ng/L	1	07/24/2017 13:22
NetFOSAA	ND	U	0.456	1.82	ng/L	1	07/24/2017 13:22
PFDS	ND	U	0.182	1.82	ng/L	1	07/24/2017 13:22
PFDoA	2.04		0.182	1.82	ng/L	1	07/24/2017 13:22
PFTriA	4.66		0.182	1.82	ng/L	1	07/24/2017 13:22
PFTreA	ND	U	0.182	1.82	ng/L	1	07/24/2017 13:22
Surrogates							
13C2-PFHxA	86.5			70.0-130	%	1	07/24/2017 13:22
d5-NEtFOSAA	85.5			70.0-130	%	1	07/24/2017 13:22
13C2-PFDA	98.7			70.0-130	%	1	07/24/2017 13:22

Batch Information

Analytical Batch: **XLC1044**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2034**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **07/20/2017 08:57**
Prep Initial Wt./Vol.: **274.3 mL**
Prep Extract Vol: **1 mL**



Results of MW-24

Client Sample ID: **MW-24**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700628003-A
Lab Project ID: 31700628

Collection Date: 07/17/2017 14:25
Received Date: 07/20/2017 09:29
Matrix: Water

Results by EPA 537 v1.1

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
6:2 FTS	ND	U	0.435	1.74	ng/L	1	07/24/2017 13:53
8:2 FTS	ND	U	0.174	1.74	ng/L	1	07/24/2017 13:53
PFBA	50.8		0.174	1.74	ng/L	1	07/24/2017 13:53
PFPeA	88.5		0.174	1.74	ng/L	1	07/24/2017 13:53
PFBS	5.25		0.174	1.74	ng/L	1	07/24/2017 13:53
PFHxA	32.7		0.174	1.74	ng/L	1	07/24/2017 13:53
PFHpA	21.0		0.174	1.74	ng/L	1	07/24/2017 13:53
PFHxS	2.65		0.174	1.74	ng/L	1	07/24/2017 13:53
PFOA	28.4		0.174	1.74	ng/L	1	07/24/2017 13:53
PFHpS	ND	U	0.174	1.74	ng/L	1	07/24/2017 13:53
PFNA	5.17		0.174	1.74	ng/L	1	07/24/2017 13:53
PFOS	1.77		0.174	1.74	ng/L	1	07/24/2017 13:53
PFDA	ND	U	0.174	1.74	ng/L	1	07/24/2017 13:53
PFuNA	1.46	J	0.174	1.74	ng/L	1	07/24/2017 13:53
NMeFOSAA	ND	U	0.435	1.74	ng/L	1	07/24/2017 13:53
NetFOSAA	ND	U	0.435	1.74	ng/L	1	07/24/2017 13:53
PFDS	ND	U	0.174	1.74	ng/L	1	07/24/2017 13:53
PFDoA	0.449	J	0.174	1.74	ng/L	1	07/24/2017 13:53
PFTriA	0.561	J	0.174	1.74	ng/L	1	07/24/2017 13:53
PFTreA	ND	U	0.174	1.74	ng/L	1	07/24/2017 13:53
Surrogates							
13C2-PFHxA	84.3			70.0-130	%	1	07/24/2017 13:53
d5-NEtFOSAA	98.6			70.0-130	%	1	07/24/2017 13:53
13C2-PFDA	104			70.0-130	%	1	07/24/2017 13:53

Batch Information

Analytical Batch: **XLC1044**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2034**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **07/20/2017 08:57**
Prep Initial Wt./Vol.: **287.2 mL**
Prep Extract Vol: **1 mL**



Results of MW-25

Client Sample ID: **MW-25**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700628004-A
Lab Project ID: 31700628

Collection Date: 07/17/2017 11:25
Received Date: 07/20/2017 09:29
Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	0.609	J	0.443	1.77	ng/L	1	07/24/2017 14:24
8:2 FTS	ND	U	0.177	1.77	ng/L	1	07/24/2017 14:24
PFBA	29.3		0.177	1.77	ng/L	1	07/24/2017 14:24
PFPeA	45.4		0.177	1.77	ng/L	1	07/24/2017 14:24
PFBS	12.3		0.177	1.77	ng/L	1	07/24/2017 14:24
PFHxA	22.0		0.177	1.77	ng/L	1	07/24/2017 14:24
PFHpA	19.9		0.177	1.77	ng/L	1	07/24/2017 14:24
PFHxS	8.61		0.177	1.77	ng/L	1	07/24/2017 14:24
PFOA	77.6		0.177	1.77	ng/L	1	07/24/2017 14:24
PFHpS	0.186	J	0.177	1.77	ng/L	1	07/24/2017 14:24
PFNA	2.68		0.177	1.77	ng/L	1	07/24/2017 14:24
PFOS	3.93		0.177	1.77	ng/L	1	07/24/2017 14:24
PFDA	ND	U	0.177	1.77	ng/L	1	07/24/2017 14:24
PFuNA	1.56	J	0.177	1.77	ng/L	1	07/24/2017 14:24
NMeFOSAA	ND	U	0.443	1.77	ng/L	1	07/24/2017 14:24
NetFOSAA	ND	U	0.443	1.77	ng/L	1	07/24/2017 14:24
PFDS	ND	U	0.177	1.77	ng/L	1	07/24/2017 14:24
PFDoA	0.860	J	0.177	1.77	ng/L	1	07/24/2017 14:24
PFTriA	1.48	J	0.177	1.77	ng/L	1	07/24/2017 14:24
PFTreA	ND	U	0.177	1.77	ng/L	1	07/24/2017 14:24
Surrogates							
13C2-PFHxA	78.0			70.0-130	%	1	07/24/2017 14:24
d5-NEtFOSAA	88.8			70.0-130	%	1	07/24/2017 14:24
13C2-PFDA	99.8			70.0-130	%	1	07/24/2017 14:24

Batch Information

Analytical Batch: XLC1044
Analytical Method: EPA 537 v1.1
Instrument: TQS1
Analyst: ADM

Prep Batch: HXX2034
Prep Method: EPA 537 1.1 PREP
Prep Date/Time: 07/20/2017 08:57
Prep Initial Wt./Vol.: 282.1 mL
Prep Extract Vol: 1 mL



Results of MW-27

Client Sample ID: **MW-27**
 Client Project ID: **Carol Cleaners**
 Lab Sample ID: 31700628005-A
 Lab Project ID: 31700628

Collection Date: 07/17/2017 13:00
 Received Date: 07/20/2017 09:29
 Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	ND	U	0.440	1.76	ng/L	1	07/24/2017 15:18
8:2 FTS	ND	U	0.176	1.76	ng/L	1	07/24/2017 15:18
PFBA	34.6		0.176	1.76	ng/L	1	07/24/2017 15:18
PFPeA	52.3		0.176	1.76	ng/L	1	07/24/2017 15:18
PFBS	7.70		0.176	1.76	ng/L	1	07/24/2017 15:18
PFHxA	24.4		0.176	1.76	ng/L	1	07/24/2017 15:18
PFHpA	15.1		0.176	1.76	ng/L	1	07/24/2017 15:18
PFHxS	3.36		0.176	1.76	ng/L	1	07/24/2017 15:18
PFOA	25.3		0.176	1.76	ng/L	1	07/24/2017 15:18
PFHpS	ND	U	0.176	1.76	ng/L	1	07/24/2017 15:18
PFNA	ND	U	0.176	1.76	ng/L	1	07/24/2017 15:18
PFOS	0.271	J	0.176	1.76	ng/L	1	07/24/2017 15:18
PFDA	ND	U	0.176	1.76	ng/L	1	07/24/2017 15:18
PFuNA	0.807	J	0.176	1.76	ng/L	1	07/24/2017 15:18
NMeFOSAA	ND	U	0.440	1.76	ng/L	1	07/24/2017 15:18
NetFOSAA	ND	U	0.440	1.76	ng/L	1	07/24/2017 15:18
PFDS	ND	U	0.176	1.76	ng/L	1	07/24/2017 15:18
PFDoA	0.327	J	0.176	1.76	ng/L	1	07/24/2017 15:18
PFTriA	0.346	J	0.176	1.76	ng/L	1	07/24/2017 15:18
PFTreA	ND	U	0.176	1.76	ng/L	1	07/24/2017 15:18
Surrogates							
13C2-PFHxA	84.9			70.0-130	%	1	07/24/2017 15:18
d5-NEtFOSAA	117			70.0-130	%	1	07/24/2017 15:18
13C2-PFDA	118			70.0-130	%	1	07/24/2017 15:18

Batch Information

Analytical Batch: **XLC1044**
 Analytical Method: **EPA 537 v1.1**
 Instrument: **TQS1**
 Analyst: **ADM**

Prep Batch: **HXX2034**
 Prep Method: **EPA 537 1.1 PREP**
 Prep Date/Time: **07/20/2017 08:57**
 Prep Initial Wt./Vol.: **284.4 mL**
 Prep Extract Vol: **1 mL**



Results of MW-26

Client Sample ID: **MW-26**
 Client Project ID: **Carol Cleaners**
 Lab Sample ID: 31700628006-A
 Lab Project ID: 31700628

Collection Date: 07/17/2017 12:25
 Received Date: 07/20/2017 09:29
 Matrix: Water

Results by EPA 537 v1.1

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
6:2 FTS	ND	U	0.453	1.81	ng/L	1	07/24/2017 16:50
8:2 FTS	ND	U	0.181	1.81	ng/L	1	07/24/2017 16:50
PFBA	47.7		0.181	1.81	ng/L	1	07/24/2017 16:50
PFPeA	85.6		0.181	1.81	ng/L	1	07/24/2017 16:50
PFBS	17.2		0.181	1.81	ng/L	1	07/24/2017 16:50
PFHxA	36.0		0.181	1.81	ng/L	1	07/24/2017 16:50
PFHpA	29.5		0.181	1.81	ng/L	1	07/24/2017 16:50
PFHxS	15.0		0.181	1.81	ng/L	1	07/24/2017 16:50
PFOA	20.3		0.181	1.81	ng/L	1	07/24/2017 16:50
PFHpS	ND	U	0.181	1.81	ng/L	1	07/24/2017 16:50
PFNA	2.30		0.181	1.81	ng/L	1	07/24/2017 16:50
PFOS	ND	U	0.181	1.81	ng/L	1	07/24/2017 16:50
PFDA	ND	U	0.181	1.81	ng/L	1	07/24/2017 16:50
PFuNA	1.50	J	0.181	1.81	ng/L	1	07/24/2017 16:50
NMeFOSAA	ND	U	0.453	1.81	ng/L	1	07/24/2017 16:50
NetFOSAA	ND	U	0.453	1.81	ng/L	1	07/24/2017 16:50
PFDS	ND	U	0.181	1.81	ng/L	1	07/24/2017 16:50
PFDoA	0.594	J	0.181	1.81	ng/L	1	07/24/2017 16:50
PFTriA	0.838	J	0.181	1.81	ng/L	1	07/24/2017 16:50
PFTreA	ND	U	0.181	1.81	ng/L	1	07/24/2017 16:50
Surrogates							
13C2-PFHxA	82.7			70.0-130	%	1	07/24/2017 16:50
d5-NEtFOSAA	73.4			70.0-130	%	1	07/24/2017 16:50
13C2-PFDA	85.1			70.0-130	%	1	07/24/2017 16:50

Batch Information

Analytical Batch: **XLC1044**
 Analytical Method: **EPA 537 v1.1**
 Instrument: **TQS1**
 Analyst: **ADM**

Prep Batch: **HXX2034**
 Prep Method: **EPA 537 1.1 PREP**
 Prep Date/Time: **07/20/2017 08:57**
 Prep Initial Wt./Vol.: **276.1 mL**
 Prep Extract Vol: **1 mL**



Results of MW-6R

Client Sample ID: **MW-6R**
 Client Project ID: **Carol Cleaners**
 Lab Sample ID: 31700628007-A
 Lab Project ID: 31700628

Collection Date: 07/17/2017 13:55
 Received Date: 07/20/2017 09:29
 Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	ND	U	0.894	3.58	ng/L	2	07/25/2017 16:58
8:2 FTS	ND	U	0.358	3.58	ng/L	2	07/25/2017 16:58
PFBA	39.3		0.358	3.58	ng/L	2	07/25/2017 16:58
PFPeA	51.7		0.358	3.58	ng/L	2	07/25/2017 16:58
PFBS	3.36	J	0.358	3.58	ng/L	2	07/25/2017 16:58
PFHxA	11.1		0.358	3.58	ng/L	2	07/25/2017 16:58
PFHpA	10.8		0.358	3.58	ng/L	2	07/25/2017 16:58
PFHxS	0.844	J	0.358	3.58	ng/L	2	07/25/2017 16:58
PFOA	22.5		0.358	3.58	ng/L	2	07/25/2017 16:58
PFHpS	ND	U	0.358	3.58	ng/L	2	07/25/2017 16:58
PFNA	ND	U	0.358	3.58	ng/L	2	07/25/2017 16:58
PFOS	4.34		0.358	3.58	ng/L	2	07/25/2017 16:58
PFDA	ND	U	0.358	3.58	ng/L	2	07/25/2017 16:58
PFuNA	2.61	J	0.358	3.58	ng/L	2	07/25/2017 16:58
NMeFOSAA	ND	U	0.894	3.58	ng/L	2	07/25/2017 16:58
NetFOSAA	ND	U	0.894	3.58	ng/L	2	07/25/2017 16:58
PFDS	ND	U	0.358	3.58	ng/L	2	07/25/2017 16:58
PFDoA	1.90	J	0.358	3.58	ng/L	2	07/25/2017 16:58
PFTriA	2.84	J	0.358	3.58	ng/L	2	07/25/2017 16:58
PFTreA	ND	U	0.358	3.58	ng/L	2	07/25/2017 16:58
Surrogates							
13C2-PFHxA	86.7			70.0-130	%	2	07/25/2017 16:58
d5-NEtFOSAA	93.7			70.0-130	%	2	07/25/2017 16:58
13C2-PFDA	120			70.0-130	%	2	07/25/2017 16:58

Batch Information

Analytical Batch: **XLC1044**
 Analytical Method: **EPA 537 v1.1**
 Instrument: **TQS1**
 Analyst: **ADM**

Prep Batch: **HXX2034**
 Prep Method: **EPA 537 1.1 PREP**
 Prep Date/Time: **07/20/2017 08:57**
 Prep Initial Wt./Vol.: **279.6 mL**
 Prep Extract Vol: **1 mL**

**Results of FB071817**

Client Sample ID: **FB071817**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700628008-A
Lab Project ID: 31700628

Collection Date: 07/18/2017 09:45
Received Date: 07/20/2017 09:29
Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	ND	U	0.507	2.03	ng/L	1	07/24/2017 18:22
8:2 FTS	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
PFBA	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
PFPeA	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
PFBS	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
PFHxA	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
PFHpA	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
PFHxS	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
PFOA	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
PFHpS	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
PFNA	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
PFOS	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
PFDA	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
PFuNA	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
NMeFOSAA	ND	U	0.507	2.03	ng/L	1	07/24/2017 18:22
NetFOSAA	ND	U	0.507	2.03	ng/L	1	07/24/2017 18:22
PFDS	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
PFDoA	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
PFTriA	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
PFTreA	ND	U	0.203	2.03	ng/L	1	07/24/2017 18:22
Surrogates							
13C2-PFHxA	92.8			70.0-130	%	1	07/24/2017 18:22
d5-NEtFOSAA	91.1			70.0-130	%	1	07/24/2017 18:22
13C2-PFDA	94.4			70.0-130	%	1	07/24/2017 18:22

Batch Information

Analytical Batch: **XLC1044**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2034**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **07/20/2017 08:57**
Prep Initial Wt./Vol.: **246.5 mL**
Prep Extract Vol: **1 mL**



Results of MW-23

Client Sample ID: **MW-23**
 Client Project ID: **Carol Cleaners**
 Lab Sample ID: 31700628009-A
 Lab Project ID: 31700628

Collection Date: 07/18/2017 10:35
 Received Date: 07/20/2017 09:29
 Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	ND	U	0.439	1.75	ng/L	1	07/24/2017 18:53
8:2 FTS	ND	U	0.175	1.75	ng/L	1	07/24/2017 18:53
PFBA	31.8		0.175	1.75	ng/L	1	07/24/2017 18:53
PFPeA	52.4		0.175	1.75	ng/L	1	07/24/2017 18:53
PFBS	5.52		0.175	1.75	ng/L	1	07/24/2017 18:53
PFHxA	21.9		0.175	1.75	ng/L	1	07/24/2017 18:53
PFHpA	12.5		0.175	1.75	ng/L	1	07/24/2017 18:53
PFHxS	3.43		0.175	1.75	ng/L	1	07/24/2017 18:53
PFOA	25.6		0.175	1.75	ng/L	1	07/24/2017 18:53
PFHpS	ND	U	0.175	1.75	ng/L	1	07/24/2017 18:53
PFNA	1.92		0.175	1.75	ng/L	1	07/24/2017 18:53
PFOS	2.37		0.175	1.75	ng/L	1	07/24/2017 18:53
PFDA	0.659	J	0.175	1.75	ng/L	1	07/24/2017 18:53
PFuNA	1.09	J	0.175	1.75	ng/L	1	07/24/2017 18:53
NMeFOSAA	ND	U	0.439	1.75	ng/L	1	07/24/2017 18:53
NetFOSAA	ND	U	0.439	1.75	ng/L	1	07/24/2017 18:53
PFDS	ND	U	0.175	1.75	ng/L	1	07/24/2017 18:53
PFDoA	0.376	J	0.175	1.75	ng/L	1	07/24/2017 18:53
PFTriA	0.569	J	0.175	1.75	ng/L	1	07/24/2017 18:53
PFTreA	ND	U	0.175	1.75	ng/L	1	07/24/2017 18:53
Surrogates							
13C2-PFHxA	89.6			70.0-130	%	1	07/24/2017 18:53
d5-NEtFOSAA	77.5			70.0-130	%	1	07/24/2017 18:53
13C2-PFDA	92.3			70.0-130	%	1	07/24/2017 18:53

Batch Information

Analytical Batch: **XLC1044**
 Analytical Method: **EPA 537 v1.1**
 Instrument: **TQS1**
 Analyst: **ADM**

Prep Batch: **HXX2034**
 Prep Method: **EPA 537 1.1 PREP**
 Prep Date/Time: **07/20/2017 08:57**
 Prep Initial Wt./Vol.: **285 mL**
 Prep Extract Vol: **1 mL**



Results of MW-4

Client Sample ID: **MW-4**
 Client Project ID: **Carol Cleaners**
 Lab Sample ID: 31700628010-A
 Lab Project ID: 31700628

Collection Date: 07/18/2017 11:00
 Received Date: 07/20/2017 09:29
 Matrix: Water

Results by EPA 537 v1.1

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
6:2 FTS	0.631	J	0.451	1.80	ng/L	1	07/24/2017 19:23
8:2 FTS	ND	U	0.180	1.80	ng/L	1	07/24/2017 19:23
PFBA	48.7		0.180	1.80	ng/L	1	07/24/2017 19:23
PFPeA	76.4		0.180	1.80	ng/L	1	07/24/2017 19:23
PFBS	4.99		0.180	1.80	ng/L	1	07/24/2017 19:23
PFHxA	24.1		0.180	1.80	ng/L	1	07/24/2017 19:23
PFHpA	19.3		0.180	1.80	ng/L	1	07/24/2017 19:23
PFHxS	3.31		0.180	1.80	ng/L	1	07/24/2017 19:23
PFOA	35.0		0.180	1.80	ng/L	1	07/24/2017 19:23
PFHpS	ND	U	0.180	1.80	ng/L	1	07/24/2017 19:23
PFNA	4.08		0.180	1.80	ng/L	1	07/24/2017 19:23
PFOS	3.42		0.180	1.80	ng/L	1	07/24/2017 19:23
PFDA	ND	U	0.180	1.80	ng/L	1	07/24/2017 19:23
PFuNA	1.21	J	0.180	1.80	ng/L	1	07/24/2017 19:23
NMeFOSAA	1.30	J	0.451	1.80	ng/L	1	07/24/2017 19:23
NetFOSAA	1.14	J	0.451	1.80	ng/L	1	07/24/2017 19:23
PFDS	0.632	J	0.180	1.80	ng/L	1	07/24/2017 19:23
PFDoA	0.293	J	0.180	1.80	ng/L	1	07/24/2017 19:23
PFTriA	0.206	J	0.180	1.80	ng/L	1	07/24/2017 19:23
PFTreA	ND	U	0.180	1.80	ng/L	1	07/24/2017 19:23
Surrogates							
13C2-PFHxA	88.4			70.0-130	%	1	07/24/2017 19:23
d5-NEtFOSAA	111			70.0-130	%	1	07/24/2017 19:23
13C2-PFDA	122			70.0-130	%	1	07/24/2017 19:23

Batch Information

Analytical Batch: **XLC1044**
 Analytical Method: **EPA 537 v1.1**
 Instrument: **TQS1**
 Analyst: **ADM**

Prep Batch: **HXX2034**
 Prep Method: **EPA 537 1.1 PREP**
 Prep Date/Time: **07/20/2017 08:57**
 Prep Initial Wt./Vol.: **277.4 mL**
 Prep Extract Vol: **1 mL**

**Results of MW-2**

Client Sample ID: **MW-2**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700647001-A
Lab Project ID: 31700647

Collection Date: 07/18/2017 14:45
Received Date: 07/22/2017 10:44
Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	106		0.425	1.70	ng/L	1	07/26/2017 18:50
8:2 FTS	10.6		0.170	1.70	ng/L	1	07/26/2017 18:50
PFBA	ND	U	0.170	1.70	ng/L	1	07/26/2017 18:50
PFPeA	87.6		0.170	1.70	ng/L	1	07/26/2017 18:50
PFBS	ND	U	0.170	1.70	ng/L	1	07/26/2017 18:50
PFHxA	78.3		0.170	1.70	ng/L	1	07/26/2017 18:50
PFHpA	48.9		0.170	1.70	ng/L	1	07/26/2017 18:50
PFHxS	ND	U	0.170	1.70	ng/L	1	07/26/2017 18:50
PFOA	156		0.170	1.70	ng/L	1	07/26/2017 18:50
PFHpS	3.06		0.170	1.70	ng/L	1	07/26/2017 18:50
PFNA	53.0		0.170	1.70	ng/L	1	07/26/2017 18:50
PFOS	204		0.170	1.70	ng/L	1	07/26/2017 18:50
PFDA	107		0.170	1.70	ng/L	1	07/26/2017 18:50
PFuNA	11.3		0.170	1.70	ng/L	1	07/26/2017 18:50
NMeFOSAA	345		0.425	1.70	ng/L	1	07/26/2017 18:50
NetFOSAA	176		0.425	1.70	ng/L	1	07/26/2017 18:50
PFDS	9.07		0.170	1.70	ng/L	1	07/26/2017 18:50
PFDoA	46.9		0.170	1.70	ng/L	1	07/26/2017 18:50
PFTriA	19.3		0.170	1.70	ng/L	1	07/26/2017 18:50
PFTreA	39.4		0.170	1.70	ng/L	1	07/26/2017 18:50
Surrogates							
d5-NEtFOSAA	39.5*			70.0-130	%	1	07/26/2017 18:50
13C2-PFHxA	65.0*			70.0-130	%	1	07/26/2017 18:50
13C2-PFDA	50.4*			70.0-130	%	1	07/26/2017 18:50

Batch Information

Analytical Batch: **XLC1045**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2036**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **07/25/2017 18:57**
Prep Initial Wt./Vol.: **294 mL**
Prep Extract Vol: **1 mL**



Results of MW-15

Client Sample ID: **MW-15**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700647002-A
Lab Project ID: 31700647

Collection Date: 07/18/2017 12:52
Received Date: 07/22/2017 10:44
Matrix: Water

Results by EPA 537 v1.1

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
6:2 FTS	2.78	B	0.453	1.81	ng/L	1	07/26/2017 19:21
PFBA	ND	U	0.181	1.81	ng/L	1	07/26/2017 19:21
8:2 FTS	0.444	J	0.181	1.81	ng/L	1	07/26/2017 19:21
PFPeA	25.1		0.181	1.81	ng/L	1	07/26/2017 19:21
PFBS	ND	U	0.181	1.81	ng/L	1	07/26/2017 19:21
PFHxA	8.39		0.181	1.81	ng/L	1	07/26/2017 19:21
PFHpA	5.41		0.181	1.81	ng/L	1	07/26/2017 19:21
PFHxS	ND	U	0.181	1.81	ng/L	1	07/26/2017 19:21
PFOA	4.51		0.181	1.81	ng/L	1	07/26/2017 19:21
PFHpS	ND	U	0.181	1.81	ng/L	1	07/26/2017 19:21
PFNA	1.71	J	0.181	1.81	ng/L	1	07/26/2017 19:21
PFOS	0.948	J	0.181	1.81	ng/L	1	07/26/2017 19:21
PFDA	ND	U	0.181	1.81	ng/L	1	07/26/2017 19:21
PFuNA	1.70	J	0.181	1.81	ng/L	1	07/26/2017 19:21
NMeFOSAA	ND	U	0.453	1.81	ng/L	1	07/26/2017 19:21
NetFOSAA	ND	U	0.453	1.81	ng/L	1	07/26/2017 19:21
PFDS	ND	U	0.181	1.81	ng/L	1	07/26/2017 19:21
PFDaA	1.49	J	0.181	1.81	ng/L	1	07/26/2017 19:21
PFTriA	1.80	J	0.181	1.81	ng/L	1	07/26/2017 19:21
PFTreA	ND	U	0.181	1.81	ng/L	1	07/26/2017 19:21
Surrogates							
d5-NEtFOSAA	85.3			70.0-130	%	1	07/26/2017 19:21
13C2-PFHxA	72.6			70.0-130	%	1	07/26/2017 19:21
13C2-PFDA	104			70.0-130	%	1	07/26/2017 19:21

Batch Information

Analytical Batch: XLC1045
Analytical Method: EPA 537 v1.1
Instrument: TQS1
Analyst: ADM

Prep Batch: HXX2036
Prep Method: EPA 537 1.1 PREP
Prep Date/Time: 07/25/2017 18:57
Prep Initial Wt./Vol.: 275.8 mL
Prep Extract Vol: 1 mL



Results of MW-14

Client Sample ID: **MW-14**
 Client Project ID: **Carol Cleaners**
 Lab Sample ID: 31700647003-A
 Lab Project ID: 31700647

Collection Date: 07/18/2017 14:37
 Received Date: 07/22/2017 10:44
 Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	1.55	J B	0.450	1.80	ng/L	1	07/26/2017 20:23
PFBA	66.0		0.180	1.80	ng/L	1	07/26/2017 20:23
8:2 FTS	ND	U	0.180	1.80	ng/L	1	07/26/2017 20:23
PFPeA	117		0.180	1.80	ng/L	1	07/26/2017 20:23
PFBS	4.14		0.180	1.80	ng/L	1	07/26/2017 20:23
PFHxA	21.7		0.180	1.80	ng/L	1	07/26/2017 20:23
PFHpA	24.9		0.180	1.80	ng/L	1	07/26/2017 20:23
PFHxS	ND	U	0.180	1.80	ng/L	1	07/26/2017 20:23
PFOA	17.8		0.180	1.80	ng/L	1	07/26/2017 20:23
PFHpS	ND	U	0.180	1.80	ng/L	1	07/26/2017 20:23
PFNA	ND	U	0.180	1.80	ng/L	1	07/26/2017 20:23
PFOS	3.79		0.180	1.80	ng/L	1	07/26/2017 20:23
PFDA	ND	U	0.180	1.80	ng/L	1	07/26/2017 20:23
PFuNA	2.44		0.180	1.80	ng/L	1	07/26/2017 20:23
NMeFOSAA	ND	U	0.450	1.80	ng/L	1	07/26/2017 20:23
NetFOSAA	ND	U	0.450	1.80	ng/L	1	07/26/2017 20:23
PFDS	ND	U	0.180	1.80	ng/L	1	07/26/2017 20:23
PFDoA	0.554	J	0.180	1.80	ng/L	1	07/26/2017 20:23
PFTriA	0.268	J	0.180	1.80	ng/L	1	07/26/2017 20:23
PFTreA	ND	U	0.180	1.80	ng/L	1	07/26/2017 20:23
Surrogates							
d5-NEtFOSAA	77.4			70.0-130	%	1	07/26/2017 20:23
13C2-PFHxA	69.3*			70.0-130	%	1	07/26/2017 20:23
13C2-PFDA	93.9			70.0-130	%	1	07/26/2017 20:23

Batch Information

Analytical Batch: XLC1045
 Analytical Method: EPA 537 v1.1
 Instrument: TQS1
 Analyst: ADM

Prep Batch: HXX2036
 Prep Method: EPA 537 1.1 PREP
 Prep Date/Time: 07/25/2017 18:57
 Prep Initial Wt./Vol.: 277.8 mL
 Prep Extract Vol: 1 mL



Results of MW-7

Client Sample ID: **MW-7**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700647004
Lab Project ID: 31700647

Collection Date: 07/19/2017 13:55
Received Date: 07/22/2017 10:44
Matrix: Water

Results by EPA 537 v1.1

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
6:2 FTS	3.22		0.456	1.82	ng/L	1	08/11/2017 3:08
8:2 FTS	1.31	J	0.182	1.82	ng/L	1	08/11/2017 3:08
PFBA	ND	U	0.182	1.82	ng/L	1	08/11/2017 3:08
PFPeA	57.3		0.182	1.82	ng/L	1	08/11/2017 3:08
PFBS	ND	U	0.182	1.82	ng/L	1	08/11/2017 3:08
PFHxA	17.7		0.182	1.82	ng/L	1	08/11/2017 3:08
PFHpA	16.5		0.182	1.82	ng/L	1	08/11/2017 3:08
PFHxS	4.02		0.182	1.82	ng/L	1	08/11/2017 3:08
PFOA	14.4		0.182	1.82	ng/L	1	08/11/2017 3:08
PFHpS	ND	U	0.182	1.82	ng/L	1	08/11/2017 3:08
PFNA	3.00		0.182	1.82	ng/L	1	08/11/2017 3:08
PFOS	1.38	J	0.182	1.82	ng/L	1	08/11/2017 3:08
PFDA	ND	U	0.182	1.82	ng/L	1	08/11/2017 3:08
PFuNA	0.934	J	0.182	1.82	ng/L	1	08/11/2017 3:08
NMeFOSAA	ND	U	0.456	1.82	ng/L	1	08/11/2017 3:08
NetFOSAA	ND	U	0.456	1.82	ng/L	1	08/11/2017 3:08
PFDS	ND	U	0.182	1.82	ng/L	1	08/11/2017 3:08
PFDoA	0.539	J	0.182	1.82	ng/L	1	08/11/2017 3:08
PFTriA	0.222	J	0.182	1.82	ng/L	1	08/11/2017 3:08
PFTreA	ND	U	0.182	1.82	ng/L	1	08/11/2017 3:08
Surrogates							
d5-NEtFOSAA	92.7			70.0-130	%	1	08/11/2017 3:08
13C2-PFHxA	74.5			70.0-130	%	1	08/11/2017 3:08
13C2-PFDA	117			70.0-130	%	1	08/11/2017 3:08

Batch Information

Analytical Batch: XLC1053
Analytical Method: EPA 537 v1.1
Instrument: TQS1
Analyst: ADM

Prep Batch: HXX2043
Prep Method: EPA 537 1.1 PREP
Prep Date/Time: 08/02/2017 15:45
Prep Initial Wt./Vol.: 274.11 mL
Prep Extract Vol: 1 mL



Results of MW-10

Client Sample ID: **MW-10**
 Client Project ID: **Carol Cleaners**
 Lab Sample ID: 31700647005-A
 Lab Project ID: 31700647

Collection Date: 07/18/2017 12:00
 Received Date: 07/22/2017 10:44
 Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	10.6		0.437	1.75	ng/L	1	07/26/2017 21:24
8:2 FTS	0.331	J	0.175	1.75	ng/L	1	07/26/2017 21:24
PFBA	16.0		0.175	1.75	ng/L	1	07/26/2017 21:24
PFPeA	42.4		0.175	1.75	ng/L	1	07/26/2017 21:24
PFBS	11.1		0.175	1.75	ng/L	1	07/26/2017 21:24
PFHxA	30.5		0.175	1.75	ng/L	1	07/26/2017 21:24
PFHpA	20.5		0.175	1.75	ng/L	1	07/26/2017 21:24
PFHxS	7.75		0.175	1.75	ng/L	1	07/26/2017 21:24
PFOA	34.0		0.175	1.75	ng/L	1	07/26/2017 21:24
PFHpS	ND	U	0.175	1.75	ng/L	1	07/26/2017 21:24
PFNA	ND	U	0.175	1.75	ng/L	1	07/26/2017 21:24
PFOS	2.80		0.175	1.75	ng/L	1	07/26/2017 21:24
PFDA	ND	U	0.175	1.75	ng/L	1	07/26/2017 21:24
PFuNA	1.69	J	0.175	1.75	ng/L	1	07/26/2017 21:24
NMeFOSAA	ND	U	0.437	1.75	ng/L	1	07/26/2017 21:24
NetFOSAA	ND	U	0.437	1.75	ng/L	1	07/26/2017 21:24
PFDS	ND	U	0.175	1.75	ng/L	1	07/26/2017 21:24
PFDaA	1.26	J	0.175	1.75	ng/L	1	07/26/2017 21:24
PFTriA	1.60	J	0.175	1.75	ng/L	1	07/26/2017 21:24
PFTreA	ND	U	0.175	1.75	ng/L	1	07/26/2017 21:24
Surrogates							
d5-NEtFOSAA	72.8			70.0-130	%	1	07/26/2017 21:24
13C2-PFHxA	62.8*			70.0-130	%	1	07/26/2017 21:24
13C2-PFDA	88.7			70.0-130	%	1	07/26/2017 21:24

Batch Information

Analytical Batch: **XLC1045**
 Analytical Method: **EPA 537 v1.1**
 Instrument: **TQS1**
 Analyst: **ADM**

Prep Batch: **HXX2036**
 Prep Method: **EPA 537 1.1 PREP**
 Prep Date/Time: **07/25/2017 18:57**
 Prep Initial Wt./Vol.: **286.1 mL**
 Prep Extract Vol: **1 mL**

**Results of MW-22**

Client Sample ID: **MW-22**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700647006
Lab Project ID: 31700647

Collection Date: 07/19/2017 11:25
Received Date: 07/22/2017 10:44
Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	0.649	J	0.461	1.84	ng/L	1	08/11/2017 2:07
8:2 FTS	ND	U	0.184	1.84	ng/L	1	08/11/2017 2:07
PFBA	17.0		0.184	1.84	ng/L	1	08/11/2017 2:07
PFPeA	35.4		0.184	1.84	ng/L	1	08/11/2017 2:07
PFBS	7.66		0.184	1.84	ng/L	1	08/11/2017 2:07
PFHxA	25.0		0.184	1.84	ng/L	1	08/11/2017 2:07
PFHpA	18.0		0.184	1.84	ng/L	1	08/11/2017 2:07
PFHxS	7.71		0.184	1.84	ng/L	1	08/11/2017 2:07
PFOA	30.8		0.184	1.84	ng/L	1	08/11/2017 2:07
PFHpS	ND	U	0.184	1.84	ng/L	1	08/11/2017 2:07
PFNA	1.07	J	0.184	1.84	ng/L	1	08/11/2017 2:07
PFOS	1.99		0.184	1.84	ng/L	1	08/11/2017 2:07
PFDA	0.408	J	0.184	1.84	ng/L	1	08/11/2017 2:07
PFuNA	0.389	J	0.184	1.84	ng/L	1	08/11/2017 2:07
NMeFOSAA	ND	U	0.461	1.84	ng/L	1	08/11/2017 2:07
NetFOSAA	ND	U	0.461	1.84	ng/L	1	08/11/2017 2:07
PFDS	ND	U	0.184	1.84	ng/L	1	08/11/2017 2:07
PFDoA	ND	U	0.184	1.84	ng/L	1	08/11/2017 2:07
PFTriA	ND	U	0.184	1.84	ng/L	1	08/11/2017 2:07
PFTreA	ND	U	0.184	1.84	ng/L	1	08/11/2017 2:07
Surrogates							
d5-NEFOSAA	82.0			70.0-130	%	1	08/11/2017 2:07
13C2-PFHxA	91.4			70.0-130	%	1	08/11/2017 2:07
13C2-PFDA	99.5			70.0-130	%	1	08/11/2017 2:07

Batch Information

Analytical Batch: **XLC1053**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2043**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **08/02/2017 15:45**
Prep Initial Wt./Vol.: **271.1 mL**
Prep Extract Vol: **1 mL**



Results of MW-5

Client Sample ID: **MW-5**
 Client Project ID: **Carol Cleaners**
 Lab Sample ID: 31700647007-A
 Lab Project ID: 31700647

Collection Date: 07/19/2017 12:52
 Received Date: 07/22/2017 10:44
 Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	16.7		0.441	1.76	ng/L	1	07/26/2017 22:56
PFBA	37.7		0.176	1.76	ng/L	1	07/26/2017 22:56
8:2 FTS	ND	U	0.176	1.76	ng/L	1	07/26/2017 22:56
PFPeA	65.9		0.176	1.76	ng/L	1	07/26/2017 22:56
PFBS	4.89		0.176	1.76	ng/L	1	07/26/2017 22:56
PFHxA	13.1		0.176	1.76	ng/L	1	07/26/2017 22:56
PFHpA	13.7		0.176	1.76	ng/L	1	07/26/2017 22:56
PFHxS	1.71	J	0.176	1.76	ng/L	1	07/26/2017 22:56
PFOA	23.3		0.176	1.76	ng/L	1	07/26/2017 22:56
PFHpS	0.246	J	0.176	1.76	ng/L	1	07/26/2017 22:56
PFNA	ND	U	0.176	1.76	ng/L	1	07/26/2017 22:56
PFOS	26.7		0.176	1.76	ng/L	1	07/26/2017 22:56
PFDA	3.18		0.176	1.76	ng/L	1	07/26/2017 22:56
PFuNA	1.65	J	0.176	1.76	ng/L	1	07/26/2017 22:56
NMeFOSAA	ND	U	0.441	1.76	ng/L	1	07/26/2017 22:56
NetFOSAA	ND	U	0.441	1.76	ng/L	1	07/26/2017 22:56
PFDS	1.50	J	0.176	1.76	ng/L	1	07/26/2017 22:56
PFDoA	0.444	J	0.176	1.76	ng/L	1	07/26/2017 22:56
PFTriA	0.196	J	0.176	1.76	ng/L	1	07/26/2017 22:56
PFTreA	ND	U	0.176	1.76	ng/L	1	07/26/2017 22:56
Surrogates							
d5-NEtFOSAA	76.7			70.0-130	%	1	07/26/2017 22:56
13C2-PFHxA	68.5*			70.0-130	%	1	07/26/2017 22:56
13C2-PFDA	93.1			70.0-130	%	1	07/26/2017 22:56

Batch Information

Analytical Batch: **XLC1045**
 Analytical Method: **EPA 537 v1.1**
 Instrument: **TQS1**
 Analyst: **ADM**

Prep Batch: **HXX2036**
 Prep Method: **EPA 537 1.1 PREP**
 Prep Date/Time: **07/25/2017 18:57**
 Prep Initial Wt./Vol.: **283.6 mL**
 Prep Extract Vol: **1 mL**



Results of MW-21

Client Sample ID: **MW-21**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700647008
Lab Project ID: 31700647

Collection Date: 07/19/2017 11:15
Received Date: 07/22/2017 10:44
Matrix: Water

Results by EPA 537 v1.1

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
6:2 FTS	3.15		0.444	1.78	ng/L	1	08/11/2017 3:39
8:2 FTS	1.62	J	0.178	1.78	ng/L	1	08/11/2017 3:39
PFBA	ND	U	0.178	1.78	ng/L	1	08/11/2017 3:39
PFPeA	ND	U	0.178	1.78	ng/L	1	08/11/2017 3:39
PFBS	ND	U	0.178	1.78	ng/L	1	08/11/2017 3:39
PFHxA	ND	U	0.178	1.78	ng/L	1	08/11/2017 3:39
PFHpA	9.49		0.178	1.78	ng/L	1	08/11/2017 3:39
PFHxS	ND	U	0.178	1.78	ng/L	1	08/11/2017 3:39
PFOA	6.85		0.178	1.78	ng/L	1	08/11/2017 3:39
PFHpS	ND	U	0.178	1.78	ng/L	1	08/11/2017 3:39
PFNA	3.08		0.178	1.78	ng/L	1	08/11/2017 3:39
PFOS	4.66		0.178	1.78	ng/L	1	08/11/2017 3:39
PFDA	1.67	J	0.178	1.78	ng/L	1	08/11/2017 3:39
PFuNA	0.766	J	0.178	1.78	ng/L	1	08/11/2017 3:39
NMeFOSAA	ND	U	0.444	1.78	ng/L	1	08/11/2017 3:39
NetFOSAA	ND	U	0.444	1.78	ng/L	1	08/11/2017 3:39
PFDS	ND	U	0.178	1.78	ng/L	1	08/11/2017 3:39
PFDaA	0.500	J	0.178	1.78	ng/L	1	08/11/2017 3:39
PFTriA	0.257	J	0.178	1.78	ng/L	1	08/11/2017 3:39
PFTreA	ND	U	0.178	1.78	ng/L	1	08/11/2017 3:39
Surrogates							
d5-NEtFOSAA	43.0*			70.0-130	%	1	08/11/2017 3:39
13C2-PFHxA	42.9*			70.0-130	%	1	08/11/2017 3:39
13C2-PFDA	46.6*			70.0-130	%	1	08/11/2017 3:39

Batch Information

Analytical Batch: **XLC1053**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2043**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **08/02/2017 15:45**
Prep Initial Wt./Vol.: **281.42 mL**
Prep Extract Vol: **1 mL**



Results of MW-3D

Client Sample ID: **MW-3D**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700647009-A
Lab Project ID: 31700647

Collection Date: 07/19/2017 12:55
Received Date: 07/22/2017 10:44
Matrix: Water

Results by EPA 537 v1.1

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
6:2 FTS	0.532	J B	0.445	1.78	ng/L	1	07/26/2017 23:58
8:2 FTS	ND	U	0.178	1.78	ng/L	1	07/26/2017 23:58
PFBA	34.8		0.178	1.78	ng/L	1	07/26/2017 23:58
PFPeA	51.6		0.178	1.78	ng/L	1	07/26/2017 23:58
PFBS	1.27	J	0.178	1.78	ng/L	1	07/26/2017 23:58
PFHxA	16.4		0.178	1.78	ng/L	1	07/26/2017 23:58
PFHpA	9.96		0.178	1.78	ng/L	1	07/26/2017 23:58
PFHxS	1.31	J	0.178	1.78	ng/L	1	07/26/2017 23:58
PFOA	5.84		0.178	1.78	ng/L	1	07/26/2017 23:58
PFHpS	ND	U	0.178	1.78	ng/L	1	07/26/2017 23:58
PFNA	ND	U	0.178	1.78	ng/L	1	07/26/2017 23:58
PFOS	ND	U	0.178	1.78	ng/L	1	07/26/2017 23:58
PFDA	ND	U	0.178	1.78	ng/L	1	07/26/2017 23:58
PFuNA	3.02		0.178	1.78	ng/L	1	07/26/2017 23:58
NMeFOSAA	ND	U	0.445	1.78	ng/L	1	07/26/2017 23:58
NetFOSAA	ND	U	0.445	1.78	ng/L	1	07/26/2017 23:58
PFDS	ND	U	0.178	1.78	ng/L	1	07/26/2017 23:58
PFDoA	1.27	J	0.178	1.78	ng/L	1	07/26/2017 23:58
PFTriA	2.15		0.178	1.78	ng/L	1	07/26/2017 23:58
PFTreA	ND	U	0.178	1.78	ng/L	1	07/26/2017 23:58
Surrogates							
d5-NEtFOSAA	78.8			70.0-130	%	1	07/26/2017 23:58
13C2-PFHxA	87.3			70.0-130	%	1	07/26/2017 23:58
13C2-PFDA	89.1			70.0-130	%	1	07/26/2017 23:58

Batch Information

Analytical Batch: XLC1045
Analytical Method: EPA 537 v1.1
Instrument: TQS1
Analyst: ADM

Prep Batch: HXX2036
Prep Method: EPA 537 1.1 PREP
Prep Date/Time: 07/25/2017 18:57
Prep Initial Wt./Vol.: 281.2 mL
Prep Extract Vol: 1 mL

**Results of MW-3**

Client Sample ID: **MW-3**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700647010
Lab Project ID: 31700647

Collection Date: 07/19/2017 14:10
Received Date: 07/22/2017 10:44
Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	ND	U	0.449	1.80	ng/L	1	08/11/2017 2:38
8:2 FTS	0.259	J	0.180	1.80	ng/L	1	08/11/2017 2:38
PFBA	15.9		0.180	1.80	ng/L	1	08/11/2017 2:38
PFPeA	28.0		0.180	1.80	ng/L	1	08/11/2017 2:38
PFBS	1.41	J	0.180	1.80	ng/L	1	08/11/2017 2:38
PFHxA	7.97		0.180	1.80	ng/L	1	08/11/2017 2:38
PFHpA	7.22		0.180	1.80	ng/L	1	08/11/2017 2:38
PFHxS	0.760	J	0.180	1.80	ng/L	1	08/11/2017 2:38
PFOA	10.4		0.180	1.80	ng/L	1	08/11/2017 2:38
PFHpS	ND	U	0.180	1.80	ng/L	1	08/11/2017 2:38
PFNA	3.90		0.180	1.80	ng/L	1	08/11/2017 2:38
PFOS	7.28		0.180	1.80	ng/L	1	08/11/2017 2:38
PFDA	14.1		0.180	1.80	ng/L	1	08/11/2017 2:38
PFuNA	3.36		0.180	1.80	ng/L	1	08/11/2017 2:38
NMeFOSAA	ND	U	0.449	1.80	ng/L	1	08/11/2017 2:38
NetFOSAA	ND	U	0.449	1.80	ng/L	1	08/11/2017 2:38
PFDS	ND	U	0.180	1.80	ng/L	1	08/11/2017 2:38
PFDoA	2.73		0.180	1.80	ng/L	1	08/11/2017 2:38
PFTriA	3.43		0.180	1.80	ng/L	1	08/11/2017 2:38
PFTreA	ND	U	0.180	1.80	ng/L	1	08/11/2017 2:38
Surrogates							
d5-NetFOSAA	84.5			70.0-130	%	1	08/11/2017 2:38
13C2-PFHxA	88.5			70.0-130	%	1	08/11/2017 2:38
13C2-PFDA	112			70.0-130	%	1	08/11/2017 2:38

Batch Information

Analytical Batch: **XLC1053**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2043**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **08/02/2017 15:45**
Prep Initial Wt./Vol.: **278.34 mL**
Prep Extract Vol: **1 mL**



Results of FB071917

Client Sample ID: **FB071917**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700647011
Lab Project ID: 31700647

Collection Date: 07/19/2017 10:00
Received Date: 07/22/2017 10:44
Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	ND	U	0.496	1.98	ng/L	1	08/10/2017 21:30
8:2 FTS	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
PFBA	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
PFPeA	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
PFBS	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
PFHxA	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
PFHpA	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
PFHxS	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
PFOA	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
PFHpS	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
PFNA	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
PFOS	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
PFDA	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
PFuNA	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
NMeFOSAA	ND	U	0.496	1.98	ng/L	1	08/10/2017 21:30
NetFOSAA	ND	U	0.496	1.98	ng/L	1	08/10/2017 21:30
PFDS	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
PFDoA	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
PFTriA	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
PFTreA	ND	U	0.198	1.98	ng/L	1	08/10/2017 21:30
Surrogates							
d5-NEtFOSAA	84.8			70.0-130	%	1	08/10/2017 21:30
13C2-PFHxA	80.4			70.0-130	%	1	08/10/2017 21:30
13C2-PFDA	84.9			70.0-130	%	1	08/10/2017 21:30

Batch Information

Analytical Batch: **XLC1053**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2043**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **08/02/2017 15:45**
Prep Initial Wt./Vol.: **252.09 mL**
Prep Extract Vol: **1 mL**



Results of FB072017

Client Sample ID: **FB072017**
 Client Project ID: **Carol Cleaners**
 Lab Sample ID: 31700647012
 Lab Project ID: 31700647

Collection Date: 07/20/2017 10:00
 Received Date: 07/22/2017 10:44
 Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	ND	U	0.487	1.95	ng/L	1	08/10/2017 22:01
8:2 FTS	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
PFBA	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
PFPeA	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
PFBS	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
PFHxA	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
PFHpA	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
PFHxS	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
PFOA	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
PFHpS	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
PFNA	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
PFOS	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
PFDA	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
PFuNA	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
NMeFOSAA	ND	U	0.487	1.95	ng/L	1	08/10/2017 22:01
NetFOSAA	ND	U	0.487	1.95	ng/L	1	08/10/2017 22:01
PFDS	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
PFDoA	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
PFTriA	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
PFTreA	ND	U	0.195	1.95	ng/L	1	08/10/2017 22:01
Surrogates							
d5-NEtFOSAA	84.5			70.0-130	%	1	08/10/2017 22:01
13C2-PFHxA	93.8			70.0-130	%	1	08/10/2017 22:01
13C2-PFDA	86.9			70.0-130	%	1	08/10/2017 22:01

Batch Information

Analytical Batch: **XLC1053**
 Analytical Method: **EPA 537 v1.1**
 Instrument: **TQS1**
 Analyst: **ADM**

Prep Batch: **HXX2043**
 Prep Method: **EPA 537 1.1 PREP**
 Prep Date/Time: **08/02/2017 15:45**
 Prep Initial Wt./Vol.: **256.45 mL**
 Prep Extract Vol: **1 mL**



Results of MW-29

Client Sample ID: **MW-29**
 Client Project ID: **Carol Cleaners**
 Lab Sample ID: 31700647013
 Lab Project ID: 31700647

Collection Date: 07/20/2017 11:15
 Received Date: 07/22/2017 10:44
 Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
PFBA	40.0		0.176	1.76	ng/L	1	07/27/2017 18:02
PFPeA	66.4		0.176	1.76	ng/L	1	07/27/2017 18:02
PFHxA	22.9		0.176	1.76	ng/L	1	07/27/2017 18:02
PFHpA	17.2		0.176	1.76	ng/L	1	07/27/2017 18:02
PFOA	16.3		0.176	1.76	ng/L	1	07/27/2017 18:02
PFNA	ND	U	0.176	1.76	ng/L	1	07/27/2017 18:02
PFDA	ND	U	0.176	1.76	ng/L	1	07/27/2017 18:02
PFuNA	1.52	J	0.176	1.76	ng/L	1	07/27/2017 18:02
PFDoA	0.494	J	0.176	1.76	ng/L	1	07/27/2017 18:02
PFTriA	0.746	J	0.176	1.76	ng/L	1	07/27/2017 18:02
PFTreA	0.525	J	0.176	1.76	ng/L	1	07/27/2017 18:02
PFBS	3.77		0.176	1.76	ng/L	1	07/27/2017 18:02
PFHxS	3.31		0.176	1.76	ng/L	1	07/27/2017 18:02
PFHpS	ND	U	0.176	1.76	ng/L	1	07/27/2017 18:02
PFOS	0.188	J	0.176	1.76	ng/L	1	07/27/2017 18:02
PFDS	ND	U	0.176	1.76	ng/L	1	07/27/2017 18:02
NMeFOSAA	ND	U	0.441	1.76	ng/L	1	07/27/2017 18:02
NetFOSAA	ND	U	0.441	1.76	ng/L	1	07/27/2017 18:02
6:2 FTS	1.96		0.441	1.76	ng/L	1	07/27/2017 18:02
8:2 FTS	ND	U	0.176	1.76	ng/L	1	07/27/2017 18:02
Surrogates							
13C2-PFHxA	89.4			70.0-130	%	1	07/27/2017 18:02
13C2-PFDA	87.8			70.0-130	%	1	07/27/2017 18:02
d5-NEtFOSAA	78.8			70.0-130	%	1	07/27/2017 18:02

Batch Information

Analytical Batch: **XLC1057**
 Analytical Method: **EPA 537 v1.1**
 Instrument: **TQS1**
 Analyst: **ADM**

Prep Batch: **HXX2037**
 Prep Method: **EPA 537 1.1 PREP**
 Prep Date/Time: **07/26/2017 16:56**
 Prep Initial Wt./Vol.: **283.4 mL**
 Prep Extract Vol: **1 mL**



Results of MW-8

Client Sample ID: **MW-8**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700647014
Lab Project ID: 31700647

Collection Date: 07/20/2017 11:43
Received Date: 07/22/2017 10:44
Matrix: Water

Results by EPA 537 v1.1

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
PFBA	86.7		0.185	1.85	ng/L	1	07/27/2017 19:04
PFPeA	132		0.185	1.85	ng/L	1	07/27/2017 19:04
PFHxA	28.6		0.185	1.85	ng/L	1	07/27/2017 19:04
PFHpA	27.9		0.185	1.85	ng/L	1	07/27/2017 19:04
PFOA	30.6		0.185	1.85	ng/L	1	07/27/2017 19:04
PFNA	ND	U	0.185	1.85	ng/L	1	07/27/2017 19:04
PFDA	ND	U	0.185	1.85	ng/L	1	07/27/2017 19:04
PFuNA	1.53	J	0.185	1.85	ng/L	1	07/27/2017 19:04
PFDoA	0.257	J	0.185	1.85	ng/L	1	07/27/2017 19:04
PFTriA	ND	U	0.185	1.85	ng/L	1	07/27/2017 19:04
PFTreA	ND	U	0.185	1.85	ng/L	1	07/27/2017 19:04
PFBS	7.16		0.185	1.85	ng/L	1	07/27/2017 19:04
PFHxS	6.06		0.185	1.85	ng/L	1	07/27/2017 19:04
PFHpS	0.312	J	0.185	1.85	ng/L	1	07/27/2017 19:04
PFOS	4.76		0.185	1.85	ng/L	1	07/27/2017 19:04
PFDS	ND	U	0.185	1.85	ng/L	1	07/27/2017 19:04
NMeFOSAA	ND	U	0.462	1.85	ng/L	1	07/27/2017 19:04
NetFOSAA	ND	U	0.462	1.85	ng/L	1	07/27/2017 19:04
6:2 FTS	3.19		0.462	1.85	ng/L	1	07/27/2017 19:04
8:2 FTS	ND	U	0.185	1.85	ng/L	1	07/27/2017 19:04
Surrogates							
13C2-PFHxA	89.2			70.0-130	%	1	07/27/2017 19:04
13C2-PFDA	111			70.0-130	%	1	07/27/2017 19:04
d5-NEtFOSAA	95.6			70.0-130	%	1	07/27/2017 19:04

Batch Information

Analytical Batch: XLC1057
Analytical Method: EPA 537 v1.1
Instrument: TQS1
Analyst: ADM

Prep Batch: HXX2037
Prep Method: EPA 537 1.1 PREP
Prep Date/Time: 07/26/2017 16:56
Prep Initial Wt./Vol.: 270.5 mL
Prep Extract Vol: 1 mL



Results of MW-19

Client Sample ID: **MW-19**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700654001-A
Lab Project ID: 31700654

Collection Date: 07/20/2017 15:02
Received Date: 07/26/2017 10:17
Matrix: Water

Results by EPA 537 v1.1

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
6:2 FTS	0.478	J	0.446	1.78	ng/L	1	08/10/2017 16:23
8:2 FTS	ND	U	0.178	1.78	ng/L	1	08/10/2017 16:23
PFBA	38.1		0.178	1.78	ng/L	1	08/10/2017 16:23
PFPeA	62.9		0.178	1.78	ng/L	1	08/10/2017 16:23
PFBS	6.46		0.178	1.78	ng/L	1	08/10/2017 16:23
PFHxA	24.0		0.178	1.78	ng/L	1	08/10/2017 16:23
PFHpA	14.3		0.178	1.78	ng/L	1	08/10/2017 16:23
PFHxS	4.34		0.178	1.78	ng/L	1	08/10/2017 16:23
PFOA	19.6		0.178	1.78	ng/L	1	08/10/2017 16:23
PFHpS	ND	U	0.178	1.78	ng/L	1	08/10/2017 16:23
PFNA	1.87		0.178	1.78	ng/L	1	08/10/2017 16:23
PFOS	3.24		0.178	1.78	ng/L	1	08/10/2017 16:23
PFDA	ND	U	0.178	1.78	ng/L	1	08/10/2017 16:23
PFuNA	0.596	J	0.178	1.78	ng/L	1	08/10/2017 16:23
NMeFOSAA	ND	U	0.446	1.78	ng/L	1	08/10/2017 16:23
NetFOSAA	ND	U	0.446	1.78	ng/L	1	08/10/2017 16:23
PFDS	ND	U	0.178	1.78	ng/L	1	08/10/2017 16:23
PFDoA	0.187	J	0.178	1.78	ng/L	1	08/10/2017 16:23
PFTriA	0.236	J	0.178	1.78	ng/L	1	08/10/2017 16:23
PFTreA	0.212	J	0.178	1.78	ng/L	1	08/10/2017 16:23
Surrogates							
d5-NEtFOSAA	76.2			70.0-130	%	1	08/10/2017 16:23
13C2-PFHxA	92.3			70.0-130	%	1	08/10/2017 16:23
13C2-PFDA	94.6			70.0-130	%	1	08/10/2017 16:23

Batch Information

Analytical Batch: **XLC1054**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2041**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **08/03/2017 20:02**
Prep Initial Wt./Vol.: **280.28 mL**
Prep Extract Vol: **1 mL**



Results of MW-16

Client Sample ID: **MW-16**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700654002-A
Lab Project ID: 31700654

Collection Date: 07/20/2017 13:13
Received Date: 07/26/2017 10:17
Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	ND	U	0.441	1.76	ng/L	1	08/10/2017 16:54
8:2 FTS	ND	U	0.176	1.76	ng/L	1	08/10/2017 16:54
PFBA	44.9		0.176	1.76	ng/L	1	08/10/2017 16:54
PFPeA	86.1		0.176	1.76	ng/L	1	08/10/2017 16:54
PFBS	7.69		0.176	1.76	ng/L	1	08/10/2017 16:54
PFHxA	33.3		0.176	1.76	ng/L	1	08/10/2017 16:54
PFHpA	22.5		0.176	1.76	ng/L	1	08/10/2017 16:54
PFHxS	6.73		0.176	1.76	ng/L	1	08/10/2017 16:54
PFOA	26.9		0.176	1.76	ng/L	1	08/10/2017 16:54
PFHpS	ND	U	0.176	1.76	ng/L	1	08/10/2017 16:54
PFNA	2.93		0.176	1.76	ng/L	1	08/10/2017 16:54
PFOS	2.40		0.176	1.76	ng/L	1	08/10/2017 16:54
PFDA	ND	U	0.176	1.76	ng/L	1	08/10/2017 16:54
PFuNA	0.807	J	0.176	1.76	ng/L	1	08/10/2017 16:54
NMeFOSAA	ND	U	0.441	1.76	ng/L	1	08/10/2017 16:54
NetFOSAA	ND	U	0.441	1.76	ng/L	1	08/10/2017 16:54
PFDS	ND	U	0.176	1.76	ng/L	1	08/10/2017 16:54
PFDoA	0.311	J	0.176	1.76	ng/L	1	08/10/2017 16:54
PFTriA	0.423	J	0.176	1.76	ng/L	1	08/10/2017 16:54
PFTreA	0.346	J	0.176	1.76	ng/L	1	08/10/2017 16:54
Surrogates							
d5-NEtFOSAA	111			70.0-130	%	1	08/10/2017 16:54
13C2-PFHxA	92.4			70.0-130	%	1	08/10/2017 16:54
13C2-PFDA	113			70.0-130	%	1	08/10/2017 16:54

Batch Information

Analytical Batch: **XLC1054**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2041**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **08/03/2017 20:02**
Prep Initial Wt./Vol.: **283.74 mL**
Prep Extract Vol: **1 mL**



Results of MW-20

Client Sample ID: **MW-20**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700654003-A
Lab Project ID: 31700654

Collection Date: 07/20/2017 13:00
Received Date: 07/26/2017 10:17
Matrix: Water

Results by EPA 537 v1.1

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
6:2 FTS	ND	U	0.455	1.82	ng/L	1	08/10/2017 17:25
8:2 FTS	ND	U	0.182	1.82	ng/L	1	08/10/2017 17:25
PFBA	19.1		0.182	1.82	ng/L	1	08/10/2017 17:25
PFPeA	37.8		0.182	1.82	ng/L	1	08/10/2017 17:25
PFBS	7.46		0.182	1.82	ng/L	1	08/10/2017 17:25
PFHxA	30.0		0.182	1.82	ng/L	1	08/10/2017 17:25
PFHpA	17.7		0.182	1.82	ng/L	1	08/10/2017 17:25
PFHxS	5.91		0.182	1.82	ng/L	1	08/10/2017 17:25
PFOA	14.2		0.182	1.82	ng/L	1	08/10/2017 17:25
PFHpS	ND	U	0.182	1.82	ng/L	1	08/10/2017 17:25
PFNA	1.26	J	0.182	1.82	ng/L	1	08/10/2017 17:25
PFOS	0.230	J	0.182	1.82	ng/L	1	08/10/2017 17:25
PFDA	ND	U	0.182	1.82	ng/L	1	08/10/2017 17:25
PFuNA	1.64	J	0.182	1.82	ng/L	1	08/10/2017 17:25
NMeFOSAA	ND	U	0.455	1.82	ng/L	1	08/10/2017 17:25
NetFOSAA	ND	U	0.455	1.82	ng/L	1	08/10/2017 17:25
PFDS	ND	U	0.182	1.82	ng/L	1	08/10/2017 17:25
PFDaA	0.709	J	0.182	1.82	ng/L	1	08/10/2017 17:25
PFTriA	1.12	J	0.182	1.82	ng/L	1	08/10/2017 17:25
PFTreA	ND	U	0.182	1.82	ng/L	1	08/10/2017 17:25
Surrogates							
d5-NEtFOSAA	75.0			70.0-130	%	1	08/10/2017 17:25
13C2-PFHxA	96.9			70.0-130	%	1	08/10/2017 17:25
13C2-PFDA	87.4			70.0-130	%	1	08/10/2017 17:25

Batch Information

Analytical Batch: **XLC1054**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2041**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **08/03/2017 20:02**
Prep Initial Wt./Vol.: **274.54 mL**
Prep Extract Vol: **1 mL**



Results of FB072117

Client Sample ID: **FB072117**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700654004-A
Lab Project ID: 31700654

Collection Date: 07/21/2017 10:00
Received Date: 07/26/2017 10:17
Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	ND	U	0.494	1.97	ng/L	1	08/10/2017 22:32
8:2 FTS	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
PFBA	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
PFPeA	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
PFBS	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
PFHxA	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
PFHpA	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
PFHxS	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
PFOA	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
PFHpS	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
PFNA	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
PFOS	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
PFDA	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
PFuNA	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
NMeFOSAA	ND	U	0.494	1.97	ng/L	1	08/10/2017 22:32
NetFOSAA	ND	U	0.494	1.97	ng/L	1	08/10/2017 22:32
PFDS	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
PFDoA	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
PFTriA	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
PFTreA	ND	U	0.197	1.97	ng/L	1	08/10/2017 22:32
Surrogates							
d5-NEtFOSAA	85.2			70.0-130	%	1	08/10/2017 22:32
13C2-PFHxA	98.8			70.0-130	%	1	08/10/2017 22:32
13C2-PFDA	90.3			70.0-130	%	1	08/10/2017 22:32

Batch Information

Analytical Batch: **XLC1053**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2043**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **08/02/2017 22:57**
Prep Initial Wt./Vol.: **253.2 mL**
Prep Extract Vol: **1 mL**



Results of MW-28

Client Sample ID: **MW-28**
 Client Project ID: **Carol Cleaners**
 Lab Sample ID: 31700654005-A
 Lab Project ID: 31700654

Collection Date: 07/20/2017 14:25
 Received Date: 07/26/2017 10:17
 Matrix: Water

Results by EPA 537 v1.1

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
6:2 FTS	ND	U	0.443	1.77	ng/L	1	08/10/2017 17:56
8:2 FTS	ND	U	0.177	1.77	ng/L	1	08/10/2017 17:56
PFBA	18.7		0.177	1.77	ng/L	1	08/10/2017 17:56
PFPeA	31.6		0.177	1.77	ng/L	1	08/10/2017 17:56
PFBS	4.18		0.177	1.77	ng/L	1	08/10/2017 17:56
PFHxA	20.7		0.177	1.77	ng/L	1	08/10/2017 17:56
PFHpA	12.8		0.177	1.77	ng/L	1	08/10/2017 17:56
PFHxS	3.66		0.177	1.77	ng/L	1	08/10/2017 17:56
PFOA	18.5		0.177	1.77	ng/L	1	08/10/2017 17:56
PFHpS	ND	U	0.177	1.77	ng/L	1	08/10/2017 17:56
PFNA	1.31	J	0.177	1.77	ng/L	1	08/10/2017 17:56
PFOS	0.968	J	0.177	1.77	ng/L	1	08/10/2017 17:56
PFDA	ND	U	0.177	1.77	ng/L	1	08/10/2017 17:56
PFuNA	1.53	J	0.177	1.77	ng/L	1	08/10/2017 17:56
NMeFOSAA	ND	U	0.443	1.77	ng/L	1	08/10/2017 17:56
NetFOSAA	ND	U	0.443	1.77	ng/L	1	08/10/2017 17:56
PFDS	ND	U	0.177	1.77	ng/L	1	08/10/2017 17:56
PFDoA	0.616	J	0.177	1.77	ng/L	1	08/10/2017 17:56
PFTriA	1.12	J	0.177	1.77	ng/L	1	08/10/2017 17:56
PFTreA	ND	U	0.177	1.77	ng/L	1	08/10/2017 17:56
Surrogates							
d5-NEtFOSAA	64.5*			70.0-130	%	1	08/10/2017 17:56
13C2-PFHxA	84.2			70.0-130	%	1	08/10/2017 17:56
13C2-PFDA	75.0			70.0-130	%	1	08/10/2017 17:56

Batch Information

Analytical Batch: **XLC1054**
 Analytical Method: **EPA 537 v1.1**
 Instrument: **TQS1**
 Analyst: **ADM**

Prep Batch: **HXX2041**
 Prep Method: **EPA 537 1.1 PREP**
 Prep Date/Time: **08/03/2017 20:02**
 Prep Initial Wt./Vol.: **282.28 mL**
 Prep Extract Vol: **1 mL**



Results of MW-17

Client Sample ID: **MW-17**
 Client Project ID: **Carol Cleaners**
 Lab Sample ID: 31700654006-A
 Lab Project ID: 31700654

Collection Date: 07/21/2017 11:10
 Received Date: 07/26/2017 10:17
 Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	ND	U	0.450	1.80	ng/L	1	08/10/2017 18:26
8:2 FTS	ND	U	0.180	1.80	ng/L	1	08/10/2017 18:26
PFBA	60.7		0.180	1.80	ng/L	1	08/10/2017 18:26
PFPeA	89.5		0.180	1.80	ng/L	1	08/10/2017 18:26
PFBS	4.93		0.180	1.80	ng/L	1	08/10/2017 18:26
PFHxA	21.3		0.180	1.80	ng/L	1	08/10/2017 18:26
PFHpA	15.2		0.180	1.80	ng/L	1	08/10/2017 18:26
PFHxS	3.62		0.180	1.80	ng/L	1	08/10/2017 18:26
PFOA	28.6		0.180	1.80	ng/L	1	08/10/2017 18:26
PFHpS	ND	U	0.180	1.80	ng/L	1	08/10/2017 18:26
PFNA	3.51		0.180	1.80	ng/L	1	08/10/2017 18:26
PFOS	2.78		0.180	1.80	ng/L	1	08/10/2017 18:26
PFDA	ND	U	0.180	1.80	ng/L	1	08/10/2017 18:26
PFuNA	1.15	J	0.180	1.80	ng/L	1	08/10/2017 18:26
NMeFOSAA	ND	U	0.450	1.80	ng/L	1	08/10/2017 18:26
NetFOSAA	ND	U	0.450	1.80	ng/L	1	08/10/2017 18:26
PFDS	ND	U	0.180	1.80	ng/L	1	08/10/2017 18:26
PFDoA	0.717	J	0.180	1.80	ng/L	1	08/10/2017 18:26
PFTriA	0.934	J	0.180	1.80	ng/L	1	08/10/2017 18:26
PFTreA	ND	U	0.180	1.80	ng/L	1	08/10/2017 18:26
Surrogates							
d5-NEtFOSAA	89.7			70.0-130	%	1	08/10/2017 18:26
13C2-PFHxA	104			70.0-130	%	1	08/10/2017 18:26
13C2-PFDA	92.5			70.0-130	%	1	08/10/2017 18:26

Batch Information

Analytical Batch: **XLC1054**
 Analytical Method: **EPA 537 v1.1**
 Instrument: **TQS1**
 Analyst: **ADM**

Prep Batch: **HXX2041**
 Prep Method: **EPA 537 1.1 PREP**
 Prep Date/Time: **08/03/2017 20:02**
 Prep Initial Wt./Vol.: **277.96 mL**
 Prep Extract Vol: **1 mL**



Results of MW-18

Client Sample ID: **MW-18**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700654009-A
Lab Project ID: 31700654

Collection Date: 07/21/2017 11:27
Received Date: 07/26/2017 10:17
Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	ND	U	0.448	1.79	ng/L	1	08/10/2017 23:02
8:2 FTS	ND	U	0.179	1.79	ng/L	1	08/10/2017 23:02
PFBA	18.2		0.179	1.79	ng/L	1	08/10/2017 23:02
PFPeA	32.5		0.179	1.79	ng/L	1	08/10/2017 23:02
PFBS	6.30		0.179	1.79	ng/L	1	08/10/2017 23:02
PFHxA	21.0		0.179	1.79	ng/L	1	08/10/2017 23:02
PFHpA	13.3		0.179	1.79	ng/L	1	08/10/2017 23:02
PFHxS	5.74		0.179	1.79	ng/L	1	08/10/2017 23:02
PFOA	29.5		0.179	1.79	ng/L	1	08/10/2017 23:02
PFHpS	ND	U	0.179	1.79	ng/L	1	08/10/2017 23:02
PFNA	1.43	J	0.179	1.79	ng/L	1	08/10/2017 23:02
PFOS	5.05		0.179	1.79	ng/L	1	08/10/2017 23:02
PFDA	ND	U	0.179	1.79	ng/L	1	08/10/2017 23:02
PFuNA	0.285	J	0.179	1.79	ng/L	1	08/10/2017 23:02
NMeFOSAA	ND	U	0.448	1.79	ng/L	1	08/10/2017 23:02
NetFOSAA	ND	U	0.448	1.79	ng/L	1	08/10/2017 23:02
PFDS	ND	U	0.179	1.79	ng/L	1	08/10/2017 23:02
PFDoA	ND	U	0.179	1.79	ng/L	1	08/10/2017 23:02
PFTriA	0.190	J	0.179	1.79	ng/L	1	08/10/2017 23:02
PFTreA	0.187	J	0.179	1.79	ng/L	1	08/10/2017 23:02
Surrogates							
d5-NEtFOSAA	74.7			70.0-130	%	1	08/10/2017 23:02
13C2-PFHxA	90.7			70.0-130	%	1	08/10/2017 23:02
13C2-PFDA	98.8			70.0-130	%	1	08/10/2017 23:02

Batch Information

Analytical Batch: **XLC1053**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2043**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **08/02/2017 22:57**
Prep Initial Wt./Vol.: **278.97 mL**
Prep Extract Vol: **1 mL**



Results of Rep-1

Client Sample ID: **Rep-1**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700654012-A
Lab Project ID: 31700654

Collection Date: 07/21/2017 00:00
Received Date: 07/26/2017 10:17
Matrix: Water

Results by EPA 537 v1.1

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
6:2 FTS	ND	U	0.454	1.81	ng/L	1	08/11/2017 0:35
8:2 FTS	ND	U	0.181	1.81	ng/L	1	08/11/2017 0:35
PFBA	39.2		0.181	1.81	ng/L	1	08/11/2017 0:35
PFPeA	62.1		0.181	1.81	ng/L	1	08/11/2017 0:35
PFBS	4.78		0.181	1.81	ng/L	1	08/11/2017 0:35
PFHxA	19.3		0.181	1.81	ng/L	1	08/11/2017 0:35
PFHpA	13.9		0.181	1.81	ng/L	1	08/11/2017 0:35
PFHxS	3.49		0.181	1.81	ng/L	1	08/11/2017 0:35
PFOA	30.0		0.181	1.81	ng/L	1	08/11/2017 0:35
PFHpS	ND	U	0.181	1.81	ng/L	1	08/11/2017 0:35
PFNA	4.09		0.181	1.81	ng/L	1	08/11/2017 0:35
PFOS	3.20		0.181	1.81	ng/L	1	08/11/2017 0:35
PFDA	ND	U	0.181	1.81	ng/L	1	08/11/2017 0:35
PFuNA	3.26		0.181	1.81	ng/L	1	08/11/2017 0:35
NMeFOSAA	ND	U	0.454	1.81	ng/L	1	08/11/2017 0:35
NetFOSAA	ND	U	0.454	1.81	ng/L	1	08/11/2017 0:35
PFDS	ND	U	0.181	1.81	ng/L	1	08/11/2017 0:35
PFDoA	1.84		0.181	1.81	ng/L	1	08/11/2017 0:35
PFTriA	2.98		0.181	1.81	ng/L	1	08/11/2017 0:35
PFTreA	ND	U	0.181	1.81	ng/L	1	08/11/2017 0:35
Surrogates							
d5-NEtFOSAA	82.5			70.0-130	%	1	08/11/2017 0:35
13C2-PFHxA	97.0			70.0-130	%	1	08/11/2017 0:35
13C2-PFDA	93.4			70.0-130	%	1	08/11/2017 0:35

Batch Information

Analytical Batch: **XLC1053**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2043**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **08/02/2017 22:57**
Prep Initial Wt./Vol.: **275.55 mL**
Prep Extract Vol: **1 mL**



Results of Rep-2

Client Sample ID: **Rep-2**
Client Project ID: **Carol Cleaners**
Lab Sample ID: 31700654013-A
Lab Project ID: 31700654

Collection Date: 07/21/2017 00:00
Received Date: 07/26/2017 10:17
Matrix: Water

Results by EPA 537 v1.1

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
6:2 FTS	0.720	J	0.459	1.84	ng/L	1	08/11/2017 1:05
8:2 FTS	ND	U	0.184	1.84	ng/L	1	08/11/2017 1:05
PFBA	48.4		0.184	1.84	ng/L	1	08/11/2017 1:05
PFPeA	84.4		0.184	1.84	ng/L	1	08/11/2017 1:05
PFBS	6.49		0.184	1.84	ng/L	1	08/11/2017 1:05
PFHxA	24.9		0.184	1.84	ng/L	1	08/11/2017 1:05
PFHpA	19.8		0.184	1.84	ng/L	1	08/11/2017 1:05
PFHxS	5.80		0.184	1.84	ng/L	1	08/11/2017 1:05
PFOA	33.2		0.184	1.84	ng/L	1	08/11/2017 1:05
PFHpS	ND	U	0.184	1.84	ng/L	1	08/11/2017 1:05
PFNA	4.56		0.184	1.84	ng/L	1	08/11/2017 1:05
PFOS	8.10		0.184	1.84	ng/L	1	08/11/2017 1:05
PFDA	ND	U	0.184	1.84	ng/L	1	08/11/2017 1:05
PFuNA	1.26	J	0.184	1.84	ng/L	1	08/11/2017 1:05
NMeFOSAA	ND	U	0.459	1.84	ng/L	1	08/11/2017 1:05
NetFOSAA	ND	U	0.459	1.84	ng/L	1	08/11/2017 1:05
PFDS	ND	U	0.184	1.84	ng/L	1	08/11/2017 1:05
PFDoA	0.213	J	0.184	1.84	ng/L	1	08/11/2017 1:05
PFTriA	0.188	J	0.184	1.84	ng/L	1	08/11/2017 1:05
PFTreA	ND	U	0.184	1.84	ng/L	1	08/11/2017 1:05
Surrogates							
d5-NEtFOSAA	60.0*			70.0-130	%	1	08/11/2017 1:05
13C2-PFHxA	83.7			70.0-130	%	1	08/11/2017 1:05
13C2-PFDA	88.3			70.0-130	%	1	08/11/2017 1:05

Batch Information

Analytical Batch: **XLC1053**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2043**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **08/02/2017 22:57**
Prep Initial Wt./Vol.: **272.4 mL**
Prep Extract Vol: **1 mL**



Results of FB072817

Client Sample ID: **FB072817**
Client Project ID: **Carol Cleaners RSI RI**
Lab Sample ID: 31700681001-A
Lab Project ID: 31700681

Collection Date: 07/28/2017 08:30
Received Date: 08/03/2017 09:41
Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	ND	U	0.456	1.82	ng/L	1	08/11/2017 17:14
8:2 FTS	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
PFBA	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
PFPeA	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
PFBS	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
PFHxA	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
PFHpA	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
PFHxS	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
PFOA	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
PFHpS	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
PFNA	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
PFOS	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
PFDA	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
PFuNA	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
NMeFOSAA	ND	U	0.456	1.82	ng/L	1	08/11/2017 17:14
NetFOSAA	ND	U	0.456	1.82	ng/L	1	08/11/2017 17:14
PFDS	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
PFDoA	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
PFTriA	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
PFTreA	ND	U	0.182	1.82	ng/L	1	08/11/2017 17:14
Surrogates							
13C2-PFHxA	79.8			70.0-130	%	1	08/11/2017 17:14
13C2-PFDA	85.0			70.0-130	%	1	08/11/2017 17:14
d5-NEtFOSAA	84.0			70.0-130	%	1	08/11/2017 17:14

Batch Information

Analytical Batch: **XLC1056**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2045**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **08/10/2017 16:40**
Prep Initial Wt./Vol.: **274.14 mL**
Prep Extract Vol: **1 mL**



Results of MW-11

Client Sample ID: **MW-11**
Client Project ID: **Carol Cleaners RSI RI**
Lab Sample ID: 31700681002-A
Lab Project ID: 31700681

Collection Date: 07/28/2017 09:55
Received Date: 08/03/2017 09:41
Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	ND	U	0.446	1.78	ng/L	1	08/11/2017 17:45
8:2 FTS	ND	U	0.178	1.78	ng/L	1	08/11/2017 17:45
PFBA	15.3		0.178	1.78	ng/L	1	08/11/2017 17:45
PFPeA	28.3		0.178	1.78	ng/L	1	08/11/2017 17:45
PFBS	3.92		0.178	1.78	ng/L	1	08/11/2017 17:45
PFHxA	13.6		0.178	1.78	ng/L	1	08/11/2017 17:45
PFHpA	9.62		0.178	1.78	ng/L	1	08/11/2017 17:45
PFHxS	3.21		0.178	1.78	ng/L	1	08/11/2017 17:45
PFOA	22.4		0.178	1.78	ng/L	1	08/11/2017 17:45
PFHpS	0.260	J	0.178	1.78	ng/L	1	08/11/2017 17:45
PFNA	2.60		0.178	1.78	ng/L	1	08/11/2017 17:45
PFOS	5.55		0.178	1.78	ng/L	1	08/11/2017 17:45
PFDA	1.35	J	0.178	1.78	ng/L	1	08/11/2017 17:45
PFuNA	1.12	J	0.178	1.78	ng/L	1	08/11/2017 17:45
NMeFOSAA	ND	U	0.446	1.78	ng/L	1	08/11/2017 17:45
NetFOSAA	ND	U	0.446	1.78	ng/L	1	08/11/2017 17:45
PFDS	ND	U	0.178	1.78	ng/L	1	08/11/2017 17:45
PFDoA	0.374	J	0.178	1.78	ng/L	1	08/11/2017 17:45
PFTriA	0.957	J	0.178	1.78	ng/L	1	08/11/2017 17:45
PFTreA	ND	U	0.178	1.78	ng/L	1	08/11/2017 17:45
Surrogates							
13C2-PFHxA	83.0			70.0-130	%	1	08/11/2017 17:45
13C2-PFDA	106			70.0-130	%	1	08/11/2017 17:45
d5-NEtFOSAA	56.3*			70.0-130	%	1	08/11/2017 17:45

Batch Information

Analytical Batch: **XLC1056**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2045**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **08/10/2017 16:40**
Prep Initial Wt./Vol.: **280.21 mL**
Prep Extract Vol: **1 mL**



Results of MW-12

Client Sample ID: **MW-12**
Client Project ID: **Carol Cleaners RSI RI**
Lab Sample ID: 31700681003-A
Lab Project ID: 31700681

Collection Date: 07/28/2017 11:05
Received Date: 08/03/2017 09:41
Matrix: Water

Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
6:2 FTS	1.60	J	0.451	1.80	ng/L	1	08/11/2017 18:46
8:2 FTS	ND	U	0.180	1.80	ng/L	1	08/11/2017 18:46
PFBA	44.7		0.180	1.80	ng/L	1	08/11/2017 18:46
PFPeA	78.9		0.180	1.80	ng/L	1	08/11/2017 18:46
PFBS	4.14		0.180	1.80	ng/L	1	08/11/2017 18:46
PFHxA	17.2		0.180	1.80	ng/L	1	08/11/2017 18:46
PFHpA	16.2		0.180	1.80	ng/L	1	08/11/2017 18:46
PFHxS	2.66		0.180	1.80	ng/L	1	08/11/2017 18:46
PFOA	28.2		0.180	1.80	ng/L	1	08/11/2017 18:46
PFHpS	0.261	J	0.180	1.80	ng/L	1	08/11/2017 18:46
PFNA	3.35		0.180	1.80	ng/L	1	08/11/2017 18:46
PFOS	4.46		0.180	1.80	ng/L	1	08/11/2017 18:46
PFDA	1.11	J	0.180	1.80	ng/L	1	08/11/2017 18:46
PFuNA	0.539	J	0.180	1.80	ng/L	1	08/11/2017 18:46
NMeFOSAA	ND	U	0.451	1.80	ng/L	1	08/11/2017 18:46
NetFOSAA	ND	U	0.451	1.80	ng/L	1	08/11/2017 18:46
PFDS	ND	U	0.180	1.80	ng/L	1	08/11/2017 18:46
PFDoA	ND	U	0.180	1.80	ng/L	1	08/11/2017 18:46
PFTriA	ND	U	0.180	1.80	ng/L	1	08/11/2017 18:46
PFTreA	ND	U	0.180	1.80	ng/L	1	08/11/2017 18:46
Surrogates							
13C2-PFHxA	77.6			70.0-130	%	1	08/11/2017 18:46
13C2-PFDA	101			70.0-130	%	1	08/11/2017 18:46
d5-NEtFOSAA	63.6*			70.0-130	%	1	08/11/2017 18:46

Batch Information

Analytical Batch: **XLC1056**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2045**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **08/10/2017 16:40**
Prep Initial Wt./Vol.: **277.1 mL**
Prep Extract Vol: **1 mL**



Results of MW-13

Client Sample ID: **MW-13**
Client Project ID: **Carol Cleaners RSI RI**
Lab Sample ID: 31700681004-A
Lab Project ID: 31700681

Collection Date: 07/28/2017 12:20
Received Date: 08/03/2017 09:41
Matrix: Water

Results by EPA 537 v1.1

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
6:2 FTS	ND	U	0.438	1.75	ng/L	1	08/11/2017 19:17
8:2 FTS	ND	U	0.175	1.75	ng/L	1	08/11/2017 19:17
PFBA	13.6		0.175	1.75	ng/L	1	08/11/2017 19:17
PFPeA	23.8		0.175	1.75	ng/L	1	08/11/2017 19:17
PFBS	3.77		0.175	1.75	ng/L	1	08/11/2017 19:17
PFHxA	14.6		0.175	1.75	ng/L	1	08/11/2017 19:17
PFHpA	8.86		0.175	1.75	ng/L	1	08/11/2017 19:17
PFHxS	1.74	J	0.175	1.75	ng/L	1	08/11/2017 19:17
PFOA	28.3		0.175	1.75	ng/L	1	08/11/2017 19:17
PFHpS	0.290	J	0.175	1.75	ng/L	1	08/11/2017 19:17
PFNA	1.25	J	0.175	1.75	ng/L	1	08/11/2017 19:17
PFOS	1.77		0.175	1.75	ng/L	1	08/11/2017 19:17
PFDA	0.396	J	0.175	1.75	ng/L	1	08/11/2017 19:17
PFuNA	0.360	J	0.175	1.75	ng/L	1	08/11/2017 19:17
NMeFOSAA	ND	U	0.438	1.75	ng/L	1	08/11/2017 19:17
NetFOSAA	ND	U	0.438	1.75	ng/L	1	08/11/2017 19:17
PFDS	ND	U	0.175	1.75	ng/L	1	08/11/2017 19:17
PFDoA	ND	U	0.175	1.75	ng/L	1	08/11/2017 19:17
PFTriA	ND	U	0.175	1.75	ng/L	1	08/11/2017 19:17
PFTreA	ND	U	0.175	1.75	ng/L	1	08/11/2017 19:17
Surrogates							
13C2-PFHxA	77.5			70.0-130	%	1	08/11/2017 19:17
13C2-PFDA	93.9			70.0-130	%	1	08/11/2017 19:17
d5-NEtFOSAA	63.0*			70.0-130	%	1	08/11/2017 19:17

Batch Information

Analytical Batch: **XLC1056**
Analytical Method: **EPA 537 v1.1**
Instrument: **TQS1**
Analyst: **ADM**

Prep Batch: **HXX2045**
Prep Method: **EPA 537 1.1 PREP**
Prep Date/Time: **08/10/2017 16:40**
Prep Initial Wt./Vol.: **285.59 mL**
Prep Extract Vol: **1 mL**

Report of Analysis

Client Sample ID: MW-1	Date Sampled: 07/17/17
Lab Sample ID: JC47247-1	Date Received: 07/18/17
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260C	
Project: SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A173038.D	1	07/20/17 13:48	VC	n/a	n/a	V1A7353
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	2.8	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.1
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Report of Analysis

Client Sample ID: MW-1	Date Sampled: 07/17/17
Lab Sample ID: JC47247-1	Date Received: 07/18/17
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260C	
Project: SI Mall, Platinum Avenue, Staten Island, NY	

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-1	Date Sampled: 07/17/17
Lab Sample ID: JC47247-1	Date Received: 07/18/17
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270D BY SIM SW846 3510C	
Project: SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3M70415.D	1	07/21/17 12:29	KM	07/20/17 11:00	OP4607A	E3M3344
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	79%		29-124%		
321-60-8	2-Fluorobiphenyl	70%		23-122%		
1718-51-0	Terphenyl-d14	72%		22-130%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.1
4

Report of Analysis

Client Sample ID:	FB071717	Date Sampled:	07/17/17
Lab Sample ID:	JC47247-2	Date Received:	07/18/17
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A173045.D	1	07/20/17 17:19	VC	n/a	n/a	V1A7353
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB071717	Date Sampled:	07/17/17
Lab Sample ID:	JC47247-2	Date Received:	07/18/17
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		76-120%
17060-07-0	1,2-Dichloroethane-D4	107%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB071717	Date Sampled:	07/17/17
Lab Sample ID:	JC47247-2	Date Received:	07/18/17
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3M70416.D	1	07/21/17 13:00	KM	07/20/17 11:00	OP4607A	E3M3344
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	88%		29-124%
321-60-8	2-Fluorobiphenyl	79%		23-122%
1718-51-0	Terphenyl-d14	91%		22-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.2
4

Report of Analysis

Page 1 of 2

Client Sample ID:	MW-25	Date Sampled:	07/17/17
Lab Sample ID:	JC47247-3	Date Received:	07/18/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A173039.D	1	07/20/17 14:18	VC	n/a	n/a	V1A7353
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	1.2	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-25	Date Sampled:	07/17/17
Lab Sample ID:	JC47247-3	Date Received:	07/18/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-25	Date Sampled:	07/17/17
Lab Sample ID:	JC47247-3	Date Received:	07/18/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3M70417.D	1	07/21/17 13:32	KM	07/20/17 11:00	OP4607A	E3M3344
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	88%		29-124%		
321-60-8	2-Fluorobiphenyl	75%		23-122%		
1718-51-0	Terphenyl-d14	80%		22-130%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.3
4

Report of Analysis

Client Sample ID:	MW-26	Date Sampled:	07/17/17
Lab Sample ID:	JC47247-4	Date Received:	07/18/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A173040.D	1	07/20/17 14:48	VC	n/a	n/a	V1A7353
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	2.7	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-26	Date Sampled:	07/17/17
Lab Sample ID:	JC47247-4	Date Received:	07/18/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-26	Date Sampled: 07/17/17
Lab Sample ID: JC47247-4	Date Received: 07/18/17
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270D BY SIM SW846 3510C	
Project: SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3M70418.D	1	07/21/17 14:04	KM	07/20/17 11:00	OP4607A	E3M3344
Run #2							

Run #	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.11	0.051	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	81%		29-124%		
321-60-8	2-Fluorobiphenyl	71%		23-122%		
1718-51-0	Terphenyl-d14	86%		22-130%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.4
4

Report of Analysis

Client Sample ID: MW-27	Date Sampled: 07/17/17
Lab Sample ID: JC47247-5	Date Received: 07/18/17
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260C	
Project: SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A173048.D	1	07/20/17 18:50	VC	n/a	n/a	V1A7353
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.5
 4

Report of Analysis

Client Sample ID:	MW-27	Date Sampled:	07/17/17
Lab Sample ID:	JC47247-5	Date Received:	07/18/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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4

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	109%		73-122%
2037-26-5	Toluene-D8	98%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-27	Date Sampled: 07/17/17
Lab Sample ID: JC47247-5	Date Received: 07/18/17
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270D BY SIM SW846 3510C	
Project: SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3M70419.D	1	07/21/17 14:35	KM	07/20/17 11:00	OP4607A	E3M3344
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	92%		29-124%		
321-60-8	2-Fluorobiphenyl	83%		23-122%		
1718-51-0	Terphenyl-d14	95%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

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4

Report of Analysis

Client Sample ID: MW-6R	Date Sampled: 07/17/17
Lab Sample ID: JC47247-6	Date Received: 07/18/17
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260C	
Project: SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A173049.D	1	07/20/17 19:20	VC	n/a	n/a	V1A7353
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-6R	Date Sampled:	07/17/17
Lab Sample ID:	JC47247-6	Date Received:	07/18/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		76-120%
17060-07-0	1,2-Dichloroethane-D4	107%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-6R Lab Sample ID: JC47247-6 Matrix: AQ - Ground Water Method: SW846 8270D BY SIM SW846 3510C Project: SI Mall, Platinum Avenue, Staten Island, NY	Date Sampled: 07/17/17 Date Received: 07/18/17 Percent Solids: n/a
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	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3M70420.D	1	07/21/17 15:07	KM	07/20/17 11:00	OP4607A	E3M3344
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.11	0.051	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	85%		29-124%		
321-60-8	2-Fluorobiphenyl	73%		23-122%		
1718-51-0	Terphenyl-d14	77%		22-130%		

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound	J = Indicates an estimated value
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4.6
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Report of Analysis

Client Sample ID:	MW-24	Date Sampled:	07/17/17
Lab Sample ID:	JC47247-7	Date Received:	07/18/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A173050.D	1	07/20/17 19:50	VC	n/a	n/a	V1A7353
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.65	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-24	Date Sampled:	07/17/17
Lab Sample ID:	JC47247-7	Date Received:	07/18/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		76-120%
17060-07-0	1,2-Dichloroethane-D4	109%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-24		
Lab Sample ID: JC47247-7		Date Sampled: 07/17/17
Matrix: AQ - Ground Water		Date Received: 07/18/17
Method: SW846 8270D BY SIM SW846 3510C		Percent Solids: n/a
Project: SI Mall, Platinum Avenue, Staten Island, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3M70421.D	1	07/21/17 15:38	KM	07/20/17 11:00	OP4607A	E3M3344
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	79%		29-124%		
321-60-8	2-Fluorobiphenyl	69%		23-122%		
1718-51-0	Terphenyl-d14	84%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	07/18/17
Lab Sample ID:	JC47247-8	Date Received:	07/18/17
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A173046.D	1	07/20/17 17:49	VC	n/a	n/a	V1A7353
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL = Method Detection Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	07/18/17
Lab Sample ID:	JC47247-8	Date Received:	07/18/17
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	107%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB071817	Date Sampled:	07/18/17
Lab Sample ID:	JC47247-9	Date Received:	07/18/17
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A173047.D	1	07/20/17 18:20	VC	n/a	n/a	V1A7353
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB071817	Date Sampled:	07/18/17
Lab Sample ID:	JC47247-9	Date Received:	07/18/17
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		76-120%
17060-07-0	1,2-Dichloroethane-D4	107%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB071817	
Lab Sample ID:	JC47247-9	Date Sampled: 07/18/17
Matrix:	AQ - Field Blank Water	Date Received: 07/18/17
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids: n/a
Project:	SI Mall, Platinum Avenue, Staten Island, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3M70422.D	1	07/21/17 16:10	KM	07/20/17 11:00	OP4607A	E3M3344
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	90%		29-124%
321-60-8	2-Fluorobiphenyl	81%		23-122%
1718-51-0	Terphenyl-d14	94%		22-130%

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	MW-23	Date Sampled:	07/18/17
Lab Sample ID:	JC47247-10	Date Received:	07/18/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A173060.D	1	07/21/17 10:29	VC	n/a	n/a	V1A7354
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-23	Date Sampled:	07/18/17
Lab Sample ID:	JC47247-10	Date Received:	07/18/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	0.50	1.0	0.50	ug/l	J
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	104%		73-122%
2037-26-5	Toluene-D8	98%		84-119%
460-00-4	4-Bromofluorobenzene	101%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-23	Date Sampled:	07/18/17
Lab Sample ID:	JC47247-10	Date Received:	07/18/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3M70423.D	1	07/21/17 16:42	KM	07/20/17 11:00	OP4607A	E3M3344
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	69%		29-124%		
321-60-8	2-Fluorobiphenyl	63%		23-122%		
1718-51-0	Terphenyl-d14	77%		22-130%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4	Date Sampled:	07/18/17
Lab Sample ID:	JC47247-11	Date Received:	07/18/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A173061.D	1	07/21/17 10:59	VC	n/a	n/a	V1A7354
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoforn	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	23.7	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.7	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4	Date Sampled:	07/18/17
Lab Sample ID:	JC47247-11	Date Received:	07/18/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	1.4	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	2.8	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	16.7	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	103%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-4 Lab Sample ID: JC47247-11 Matrix: AQ - Ground Water Method: SW846 8270D BY SIM SW846 3510C Project: SI Mall, Platinum Avenue, Staten Island, NY	Date Sampled: 07/18/17 Date Received: 07/18/17 Percent Solids: n/a
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3M70424.D	1	07/21/17 17:14	KM	07/20/17 11:00	OP4607A	E3M3344
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	73%		29-124%		
321-60-8	2-Fluorobiphenyl	63%		23-122%		
1718-51-0	Terphenyl-d14	83%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.11
4

Report of Analysis

Client Sample ID:	MW-3D	Date Sampled:	07/19/17
Lab Sample ID:	JC47387-1	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2B152610.D	1	07/21/17 15:06	EH	n/a	n/a	V2B6783
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.77	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.1
 4

Report of Analysis

Client Sample ID:	MW-3D	Date Sampled:	07/19/17
Lab Sample ID:	JC47387-1	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

4.1
4

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	1.5	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		76-120%
17060-07-0	1,2-Dichloroethane-D4	100%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	100%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-3D Lab Sample ID: JC47387-1A Matrix: AQ - Ground Water Method: SW846 8270D BY SIM SW846 3510C Project: SI Mall, Platinum Avenue, Staten Island, NY	Date Sampled: 07/19/17 Date Received: 07/20/17 Percent Solids: n/a
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P60989.D	1	07/24/17 14:03	KM	07/22/17 16:30	OP4660A	E3P2868
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	80%		29-124%		
321-60-8	2-Fluorobiphenyl	69%		23-122%		
1718-51-0	Terphenyl-d14	68%		22-130%		

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit	J = Indicates an estimated value B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound
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4.2
4

Report of Analysis

Client Sample ID:	MW-14	Date Sampled:	07/18/17
Lab Sample ID:	JC47387-2	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2B152611.D	1	07/21/17 15:37	EH	n/a	n/a	V2B6783
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-14	Date Sampled:	07/18/17
Lab Sample ID:	JC47387-2	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

4.3
4

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		76-120%
17060-07-0	1,2-Dichloroethane-D4	100%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-14		
Lab Sample ID: JC47387-2A		Date Sampled: 07/18/17
Matrix: AQ - Ground Water		Date Received: 07/20/17
Method: SW846 8270D BY SIM SW846 3510C		Percent Solids: n/a
Project: SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P60992.D	1	07/24/17 15:34	KM	07/22/17 16:30	OP4660A	E3P2868
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	71%		29-124%		
321-60-8	2-Fluorobiphenyl	62%		23-122%		
1718-51-0	Terphenyl-d14	61%		22-130%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.4
4

Report of Analysis

Client Sample ID: MW-5		Date Sampled: 07/19/17
Lab Sample ID: JC47387-3		Date Received: 07/20/17
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260C		
Project: SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2B152612.D	1	07/21/17 16:08	EH	n/a	n/a	V2B6783
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	4.8	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.5
4

Report of Analysis

Client Sample ID:	MW-5	Date Sampled:	07/19/17
Lab Sample ID:	JC47387-3	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	4.2	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	5.2	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		76-120%
17060-07-0	1,2-Dichloroethane-D4	101%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-5	
Lab Sample ID:	JC47387-3A	Date Sampled: 07/19/17
Matrix:	AQ - Ground Water	Date Received: 07/20/17
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids: n/a
Project:	SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P60993.D	1	07/24/17 16:05	KM	07/22/17 16:30	OP4660A	E3P2868
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	73%		29-124%		
321-60-8	2-Fluorobiphenyl	67%		23-122%		
1718-51-0	Terphenyl-d14	60%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

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4

Report of Analysis

Client Sample ID:	MW-22	Date Sampled:	07/19/17
Lab Sample ID:	JC47387-4	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V43520.D	1	07/22/17 12:46	EH	n/a	n/a	V2V1718
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	0.58	1.0	0.29	ug/l	J
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.63	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-22	Date Sampled:	07/19/17
Lab Sample ID:	JC47387-4	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	2.4	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	93%		73-122%
2037-26-5	Toluene-D8	95%		84-119%
460-00-4	4-Bromofluorobenzene	101%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-22	Date Sampled:	07/19/17
Lab Sample ID:	JC47387-4	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3M70432.D	1	07/24/17 12:56	KM	07/21/17 22:42	OP4646A	E3M3345
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	79%		29-124%		
321-60-8	2-Fluorobiphenyl	76%		23-122%		
1718-51-0	Terphenyl-d14	70%		22-130%		

(a) Laboratory contamination detected in the Method blank. There is no sample left to reextract for confirmation.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	FB071917	Date Sampled:	07/19/17
Lab Sample ID:	JC47387-5	Date Received:	07/20/17
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V43534.D	1	07/22/17 19:03	EH	n/a	n/a	V2V1718
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB071917	Date Sampled:	07/19/17
Lab Sample ID:	JC47387-5	Date Received:	07/20/17
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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4

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	93%		73-122%
2037-26-5	Toluene-D8	95%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB071917	
Lab Sample ID:	JC47387-5	Date Sampled: 07/19/17
Matrix:	AQ - Field Blank Water	Date Received: 07/20/17
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids: n/a
Project:	SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M72393.D	1	07/27/17 12:19	AD	07/26/17 08:35	OP4761A	E4M3372
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	66%		29-124%		
321-60-8	2-Fluorobiphenyl	72%		23-122%		
1718-51-0	Terphenyl-d14	98%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.8
4

Report of Analysis

Client Sample ID:	MW-15	Date Sampled:	07/18/17
Lab Sample ID:	JC47387-6	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V43521.D	1	07/22/17 13:13	EH	n/a	n/a	V2V1718
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	0.38	1.0	0.29	ug/l	J
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-15	Date Sampled:	07/18/17
Lab Sample ID:	JC47387-6	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		76-120%
17060-07-0	1,2-Dichloroethane-D4	90%		73-122%
2037-26-5	Toluene-D8	96%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-15		
Lab Sample ID: JC47387-6		Date Sampled: 07/18/17
Matrix: AQ - Ground Water		Date Received: 07/20/17
Method: SW846 8270D BY SIM SW846 3510C		Percent Solids: n/a
Project: SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3M70436.D	1	07/24/17 15:02	KM	07/21/17 22:42	OP4646A	E3M3345
Run #2 ^b	4M72394.D	1	07/27/17 12:49	AD	07/26/17 08:35	OP4761A	E4M3372

Run #	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2	1000 ml	1.0 ml

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.11	0.052	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	78%	69%	29-124%		
321-60-8	2-Fluorobiphenyl	72%	77%	23-122%		
1718-51-0	Terphenyl-d14	68%	90%	22-130%		

- (a) There are compounds contamination in MB. The results confirmed by reextraction outside the holding time.
 (b) Confirmation run.

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

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Report of Analysis

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Client Sample ID: MW-10	Date Sampled: 07/18/17
Lab Sample ID: JC47387-7	Date Received: 07/20/17
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260C	
Project: SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V43522.D	1	07/22/17 13:40	EH	n/a	n/a	V2V1718
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	0.74	1.0	0.29	ug/l	J
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-10	Date Sampled:	07/18/17
Lab Sample ID:	JC47387-7	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	88%		73-122%
2037-26-5	Toluene-D8	97%		84-119%
460-00-4	4-Bromofluorobenzene	98%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	system artifact	3.61	120	ug/l	J
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-10 Lab Sample ID: JC47387-7 Matrix: AQ - Ground Water Method: SW846 8270D BY SIM SW846 3510C Project: SI Mall, Platinum Avenue, Staten Island, NY	Date Sampled: 07/18/17 Date Received: 07/20/17 Percent Solids: n/a
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3M70437.D	1	07/24/17 15:34	KM	07/21/17 22:42	OP4646A	E3M3345
Run #2 ^b	4M72395.D	1	07/27/17 13:19	AD	07/26/17 08:35	OP4761A	E4M3372

Run #	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2	910 ml	1.0 ml

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	79%	64%	29-124%
321-60-8	2-Fluorobiphenyl	73%	71%	23-122%
1718-51-0	Terphenyl-d14	69%	95%	22-130%

- (a) There are compounds contamination in MB. The results confirmed by reextraction outside the holding time.
 (b) Confirmation run.

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit J = Indicates an estimated value B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound
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Report of Analysis

Client Sample ID:	MW-2	Date Sampled:	07/18/17
Lab Sample ID:	JC47387-8	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V43523.D	1	07/22/17 14:07	EH	n/a	n/a	V2V1718
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	0.34	2.0	0.23	ug/l	J
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.65	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-2	Date Sampled:	07/18/17
Lab Sample ID:	JC47387-8	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	1.1	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	89%		73-122%
2037-26-5	Toluene-D8	96%		84-119%
460-00-4	4-Bromofluorobenzene	97%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	3.61	190	ug/l	J
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-2	Date Sampled:	07/18/17
Lab Sample ID:	JC47387-8	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3M70455.D	1	07/25/17 10:16	KM	07/21/17 22:42	OP4646A	E3M3347
Run #2 ^b	3M70456.D	1	07/25/17 11:34	KM	07/21/17 22:42	OP4646A	E3M3347
Run #3 ^c	3P61222.D	1	08/02/17 21:11	KM	07/26/17 08:35	OP4761A	E3P2879

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml
Run #3	940 ml	10.0 ml

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
4165-60-0	Nitrobenzene-d5	58%	68%	72%	29-124%
321-60-8	2-Fluorobiphenyl	56%	55%	63%	23-122%
1718-51-0	Terphenyl-d14	51%	50%	64%	22-130%

- (a) There are compounds contamination in MB. The results confirmed by reextraction outside the holding time.
- (b) Confirmation run for internal standard areas.
- (c) Confirmation run.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	MW-21	Date Sampled:	07/19/17
Lab Sample ID:	JC47387-9	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L292885.D	1	07/24/17 13:16	JC	n/a	n/a	VL8219
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	14.9	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	5.8	10	4.8	ug/l	J
75-15-0	Carbon disulfide	0.25	2.0	0.23	ug/l	J
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-21	Date Sampled:	07/19/17
Lab Sample ID:	JC47387-9	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	113%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-21 Lab Sample ID: JC47387-9A Matrix: AQ - Ground Water Method: SW846 8270D BY SIM SW846 3510C Project: SI Mall, Platinum Avenue, Staten Island, NY	Date Sampled: 07/19/17 Date Received: 07/20/17 Percent Solids: n/a
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P60994.D	1	07/24/17 16:35	KM	07/22/17 16:30	OP4660A	E3P2868
Run #2							

Run #	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.050	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	79%		29-124%		
321-60-8	2-Fluorobiphenyl	71%		23-122%		
1718-51-0	Terphenyl-d14	67%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.13
4

Report of Analysis

Client Sample ID:	MW-7	Date Sampled:	07/19/17
Lab Sample ID:	JC47387-10	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B73442.D	1	07/25/17 18:14	HT	n/a	n/a	V4B3018
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	13.8	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	0.72	1.0	0.29	ug/l	J
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7	Date Sampled:	07/19/17
Lab Sample ID:	JC47387-10	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

4.14
4

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	29.7	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	0.68	1.0	0.27	ug/l	J
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	108%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-7		Date Sampled: 07/19/17
Lab Sample ID: JC47387-10A		Date Received: 07/20/17
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8270D BY SIM SW846 3510C		
Project: SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P60995.D	1	07/24/17 17:05	KM	07/22/17 16:30	OP4660A	E3P2868
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	74%		29-124%		
321-60-8	2-Fluorobiphenyl	70%		23-122%		
1718-51-0	Terphenyl-d14	61%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.15
4

Report of Analysis

Client Sample ID:	MW-3	Date Sampled:	07/19/17
Lab Sample ID:	JC47387-11	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V43526.D	1	07/22/17 15:27	EH	n/a	n/a	V2V1718
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	0.33	1.0	0.29	ug/l	J
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	132	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	1.7	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.16
 4

Report of Analysis

Client Sample ID:	MW-3	Date Sampled:	07/19/17
Lab Sample ID:	JC47387-11	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	89.0	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	91.4	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	24.9	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	90%		73-122%
2037-26-5	Toluene-D8	96%		84-119%
460-00-4	4-Bromofluorobenzene	98%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3	
Lab Sample ID:	JC47387-11A	Date Sampled: 07/19/17
Matrix:	AQ - Ground Water	Date Received: 07/20/17
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids: n/a
Project:	SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P60996.D	1	07/24/17 17:36	KM	07/22/17 16:30	OP4660A	E3P2868
Run #2							

Run #	Initial Volume	Final Volume
Run #1	960 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.051	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	81%		29-124%		
321-60-8	2-Fluorobiphenyl	75%		23-122%		
1718-51-0	Terphenyl-d14	62%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.17
4

Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	07/20/17
Lab Sample ID:	JC47387-12	Date Received:	07/20/17
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V43535.D	1	07/22/17 19:30	EH	n/a	n/a	V2V1718
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK	
Lab Sample ID:	JC47387-12	Date Sampled: 07/20/17
Matrix:	AQ - Trip Blank Water	Date Received: 07/20/17
Method:	SW846 8260C	Percent Solids: n/a
Project:	SI Mall, Platinum Avenue, Staten Island, NY	

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VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	92%		73-122%
2037-26-5	Toluene-D8	95%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB072017	Date Sampled:	07/20/17
Lab Sample ID:	JC47387-13	Date Received:	07/20/17
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V43527.D	1	07/22/17 15:54	EH	n/a	n/a	V2V1718
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.53	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB072017	Date Sampled:	07/20/17
Lab Sample ID:	JC47387-13	Date Received:	07/20/17
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	0.28	1.0	0.27	ug/l	J
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	90%		73-122%
2037-26-5	Toluene-D8	96%		84-119%
460-00-4	4-Bromofluorobenzene	100%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB072017	
Lab Sample ID:	JC47387-13	Date Sampled: 07/20/17
Matrix:	AQ - Field Blank Water	Date Received: 07/20/17
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids: n/a
Project:	SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M72396.D	1	07/27/17 13:50	AD	07/26/17 08:35	OP4761A	E4M3372
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	69%		29-124%		
321-60-8	2-Fluorobiphenyl	74%		23-122%		
1718-51-0	Terphenyl-d14	101%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID:	MW-29	Date Sampled:	07/20/17
Lab Sample ID:	JC47387-14	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V43528.D	1	07/22/17 16:21	EH	n/a	n/a	V2V1718
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	1.1	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-29	Date Sampled:	07/20/17
Lab Sample ID:	JC47387-14	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	91%		73-122%
2037-26-5	Toluene-D8	95%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-29		Date Sampled: 07/20/17
Lab Sample ID: JC47387-14		Date Received: 07/20/17
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8270D BY SIM SW846 3510C		
Project: SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M72397.D	1	07/27/17 14:20	AD	07/26/17 08:35	OP4761A	E4M3372
Run #2							

Run #	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	59%		29-124%		
321-60-8	2-Fluorobiphenyl	65%		23-122%		
1718-51-0	Terphenyl-d14	89%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.20
4

Report of Analysis

Client Sample ID: MW-8	Date Sampled: 07/20/17
Lab Sample ID: JC47387-15	Date Received: 07/20/17
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260C	
Project: SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V43529.D	1	07/22/17 16:48	EH	n/a	n/a	V2V1718
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	0.42	1.0	0.29	ug/l	J
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	1.6	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.21
4

Report of Analysis

Client Sample ID:	MW-8	Date Sampled:	07/20/17
Lab Sample ID:	JC47387-15	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	24.0	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	3.2	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	91%		73-122%
2037-26-5	Toluene-D8	95%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	system artifact	3.61	150	ug/l	J
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-8	Date Sampled:	07/20/17
Lab Sample ID:	JC47387-15	Date Received:	07/20/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M72398.D	1	07/27/17 14:50	AD	07/26/17 08:35	OP4761A	E4M3372
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	58%		29-124%
321-60-8	2-Fluorobiphenyl	63%		23-122%
1718-51-0	Terphenyl-d14	65%		22-130%

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-16	Date Sampled:	07/20/17
Lab Sample ID:	JC47543-1	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C151875.D	1	07/27/17 17:31	HT	n/a	n/a	V2C6736
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	0.75	1.0	0.29	ug/l	J
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	28.6	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-16	Date Sampled:	07/20/17
Lab Sample ID:	JC47543-1	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	72.2	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	12.5	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	109%		73-122%
2037-26-5	Toluene-D8	102%		84-119%
460-00-4	4-Bromofluorobenzene	96%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-16	Date Sampled:	07/20/17
Lab Sample ID:	JC47543-1	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M72403.D	1	07/27/17 17:21	AD	07/25/17 18:00	OP4731A	E4M3372
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	70%		29-124%		
321-60-8	2-Fluorobiphenyl	74%		23-122%		
1718-51-0	Terphenyl-d14	53%		22-130%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 2

Client Sample ID:	MW-19	Date Sampled:	07/20/17
Lab Sample ID:	JC47543-2	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C151876.D	1	07/27/17 17:59	HT	n/a	n/a	V2C6736
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	0.32	1.0	0.29	ug/l	J
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	14.8	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-19	Date Sampled:	07/20/17
Lab Sample ID:	JC47543-2	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	52.2	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	10.7	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	1.6	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	111%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	96%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-19	
Lab Sample ID:	JC47543-2	Date Sampled: 07/20/17
Matrix:	AQ - Ground Water	Date Received: 07/21/17
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids: n/a
Project:	SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M72404.D	1	07/27/17 17:51	AD	07/25/17 18:00	OP4731A	E4M3372
Run #2							

Run #	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	55%		29-124%
321-60-8	2-Fluorobiphenyl	60%		23-122%
1718-51-0	Terphenyl-d14	80%		22-130%

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	MW-28	Date Sampled:	07/20/17
Lab Sample ID:	JC47543-3	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B73488.D	1	07/26/17 17:48	HT	n/a	n/a	V4B3020
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	0.75	1.0	0.29	ug/l	J
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	6.7	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-28	Date Sampled:	07/20/17
Lab Sample ID:	JC47543-3	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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4

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	0.96	1.0	0.50	ug/l	J
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	1.3	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-28 Lab Sample ID: JC47543-3 Matrix: AQ - Ground Water Method: SW846 8270D BY SIM SW846 3510C Project: SI Mall, Platinum Avenue, Staten Island, NY	Date Sampled: 07/20/17 Date Received: 07/21/17 Percent Solids: n/a
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M72405.D	1	07/27/17 18:22	AD	07/25/17 18:00	OP4731A	E4M3372
Run #2							

Run #	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.050	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	54%		29-124%		
321-60-8	2-Fluorobiphenyl	60%		23-122%		
1718-51-0	Terphenyl-d14	72%		22-130%		

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit J = Indicates an estimated value B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound
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Report of Analysis

Client Sample ID:	MW-20	Date Sampled:	07/20/17
Lab Sample ID:	JC47543-4	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B73485.D	1	07/26/17 16:21	HT	n/a	n/a	V4B3020
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	0.58	1.0	0.29	ug/l	J
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	4.5	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.4
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Report of Analysis

Client Sample ID:	MW-20	Date Sampled:	07/20/17
Lab Sample ID:	JC47543-4	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	25.1	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	3.3	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	111%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID: MW-20	Date Sampled: 07/20/17
Lab Sample ID: JC47543-4	Date Received: 07/21/17
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270D BY SIM SW846 3510C	
Project: SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M72406.D	1	07/27/17 18:52	AD	07/25/17 18:00	OP4731A	E4M3372
Run #2							

Run #	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	53%		29-124%		
321-60-8	2-Fluorobiphenyl	59%		23-122%		
1718-51-0	Terphenyl-d14	70%		22-130%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 2

Client Sample ID:	FB072117	Date Sampled:	07/21/17
Lab Sample ID:	JC47543-5	Date Received:	07/21/17
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C151871.D	1	07/27/17 15:36	HT	n/a	n/a	V2C6736
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB072117	Date Sampled:	07/21/17
Lab Sample ID:	JC47543-5	Date Received:	07/21/17
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	110%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	97%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID: FB072117	Date Sampled: 07/21/17
Lab Sample ID: JC47543-5	Date Received: 07/21/17
Matrix: AQ - Field Blank Water	Percent Solids: n/a
Method: SW846 8270D BY SIM SW846 3510C	
Project: SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M72407.D	1	07/27/17 19:22	AD	07/25/17 18:00	OP4731A	E4M3372
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	62%		29-124%		
321-60-8	2-Fluorobiphenyl	66%		23-122%		
1718-51-0	Terphenyl-d14	103%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.5
4

Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	07/21/17
Lab Sample ID:	JC47543-6	Date Received:	07/21/17
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C151872.D	1	07/27/17 16:04	HT	n/a	n/a	V2C6736
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	07/21/17
Lab Sample ID:	JC47543-6	Date Received:	07/21/17
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

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4

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	109%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-17	Date Sampled:	07/21/17
Lab Sample ID:	JC47543-7	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B73520.D	2	07/27/17 12:17	HT	n/a	n/a	V4B3021
Run #2	4B73521.D	20	07/27/17 12:45	HT	n/a	n/a	V4B3021

Run #	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.35	ug/l	
74-97-5	Bromochloromethane	ND	2.0	0.77	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	0.43	ug/l	
75-25-2	Bromoform	ND	2.0	0.85	ug/l	
74-83-9	Bromomethane	ND	4.0	2.7	ug/l	
78-93-3	2-Butanone (MEK)	ND	20	9.5	ug/l	
75-15-0	Carbon disulfide	ND	4.0	0.47	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	0.67	ug/l	
108-90-7	Chlorobenzene	ND	2.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	1.2	ug/l	
67-66-3	Chloroform	ND	2.0	0.57	ug/l	
74-87-3	Chloromethane	ND	2.0	1.1	ug/l	
110-82-7	Cyclohexane	ND	10	1.3	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.0	1.4	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.33	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.42	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	4.0	3.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	0.41	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.40	ug/l	
75-35-4	1,1-Dichloroethene	ND	2.0	0.95	ug/l	
156-59-2	cis-1,2-Dichloroethene	44.7	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.80	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.47	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.43	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.45	ug/l	
76-13-1	Freon 113	ND	10	2.5	ug/l	
591-78-6	2-Hexanone	ND	10	6.5	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-17	Date Sampled:	07/21/17
Lab Sample ID:	JC47543-7	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.0	0.50	ug/l	
79-20-9	Methyl Acetate	ND	10	6.1	ug/l	
108-87-2	Methylcyclohexane	ND	10	3.7	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	10	6.0	ug/l	
75-09-2	Methylene chloride	ND	4.0	2.0	ug/l	
100-42-5	Styrene	ND	2.0	0.48	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.34	ug/l	
127-18-4	Tetrachloroethene	983 ^a	20	10	ug/l	
108-88-3	Toluene	ND	2.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.48	ug/l	
79-01-6	Trichloroethene	31.1	2.0	0.53	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	1.2	ug/l	
75-01-4	Vinyl chloride	7.2	2.0	1.2	ug/l	
	m,p-Xylene	ND	2.0	0.85	ug/l	
95-47-6	o-Xylene	ND	2.0	0.43	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.43	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	103%	106%	73-122%
2037-26-5	Toluene-D8	101%	103%	84-119%
460-00-4	4-Bromofluorobenzene	108%	108%	78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-17	Date Sampled: 07/21/17
Lab Sample ID: JC47543-7	Date Received: 07/21/17
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270D BY SIM SW846 3510C	
Project: SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M72408.D	1	07/27/17 19:52	AD	07/25/17 18:00	OP4731A	E4M3372
Run #2							

Run #	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	56%		29-124%		
321-60-8	2-Fluorobiphenyl	62%		23-122%		
1718-51-0	Terphenyl-d14	70%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	MW-18	Date Sampled:	07/21/17
Lab Sample ID:	JC47543-8	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B73516.D	1	07/27/17 10:21	HT	n/a	n/a	V4B3020
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	129	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	1.2	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-18	Date Sampled:	07/21/17
Lab Sample ID:	JC47543-8	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	55.6	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	30.3	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	9.3	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	105%		73-122%
2037-26-5	Toluene-D8	104%		84-119%
460-00-4	4-Bromofluorobenzene	107%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-18 Lab Sample ID: JC47543-8 Matrix: AQ - Ground Water Method: SW846 8270D BY SIM SW846 3510C Project: SI Mall, Platinum Avenue, Staten Island, NY	Date Sampled: 07/21/17 Date Received: 07/21/17 Percent Solids: n/a
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	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3M70515.D	1	07/26/17 19:51	KM	07/25/17 09:15	OP4732A	E3M3350
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	86%		29-124%		
321-60-8	2-Fluorobiphenyl	75%		23-122%		
1718-51-0	Terphenyl-d14	73%		22-130%		

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound	J = Indicates an estimated value
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Report of Analysis

Client Sample ID:	REP-1	Date Sampled:	07/21/17
Lab Sample ID:	JC47543-9	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B73522.D	2	07/27/17 13:15	HT	n/a	n/a	V4B3021
Run #2	4B73523.D	20	07/27/17 13:44	HT	n/a	n/a	V4B3021

Run #	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.35	ug/l	
74-97-5	Bromochloromethane	ND	2.0	0.77	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	0.43	ug/l	
75-25-2	Bromoform	ND	2.0	0.85	ug/l	
74-83-9	Bromomethane	ND	4.0	2.7	ug/l	
78-93-3	2-Butanone (MEK)	ND	20	9.5	ug/l	
75-15-0	Carbon disulfide	ND	4.0	0.47	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	0.67	ug/l	
108-90-7	Chlorobenzene	ND	2.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	1.2	ug/l	
67-66-3	Chloroform	ND	2.0	0.57	ug/l	
74-87-3	Chloromethane	ND	2.0	1.1	ug/l	
110-82-7	Cyclohexane	ND	10	1.3	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.0	1.4	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.33	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.42	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	4.0	3.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	0.41	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.40	ug/l	
75-35-4	1,1-Dichloroethene	ND	2.0	0.95	ug/l	
156-59-2	cis-1,2-Dichloroethene	41.5	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.80	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.47	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.43	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.45	ug/l	
76-13-1	Freon 113	ND	10	2.5	ug/l	
591-78-6	2-Hexanone	ND	10	6.5	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	REP-1	Date Sampled:	07/21/17
Lab Sample ID:	JC47543-9	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.0	0.50	ug/l	
79-20-9	Methyl Acetate	ND	10	6.1	ug/l	
108-87-2	Methylcyclohexane	ND	10	3.7	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	10	6.0	ug/l	
75-09-2	Methylene chloride	ND	4.0	2.0	ug/l	
100-42-5	Styrene	ND	2.0	0.48	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.34	ug/l	
127-18-4	Tetrachloroethene	888 ^a	20	10	ug/l	
108-88-3	Toluene	ND	2.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.48	ug/l	
79-01-6	Trichloroethene	28.8	2.0	0.53	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	1.2	ug/l	
75-01-4	Vinyl chloride	6.8	2.0	1.2	ug/l	
	m,p-Xylene	ND	2.0	0.85	ug/l	
95-47-6	o-Xylene	ND	2.0	0.43	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.43	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%	101%	76-120%
17060-07-0	1,2-Dichloroethane-D4	106%	105%	73-122%
2037-26-5	Toluene-D8	102%	103%	84-119%
460-00-4	4-Bromofluorobenzene	104%	108%	78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	REP-1	
Lab Sample ID:	JC47543-9	Date Sampled: 07/21/17
Matrix:	AQ - Ground Water	Date Received: 07/21/17
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids: n/a
Project:	SI Mall, Platinum Avenue, Staten Island, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M72409.D	1	07/27/17 20:23	AD	07/25/17 18:00	OP4731A	E4M3372
Run #2							

	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.050	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	57%		29-124%		
321-60-8	2-Fluorobiphenyl	62%		23-122%		
1718-51-0	Terphenyl-d14	63%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 2

Client Sample ID:	REP-2	Date Sampled:	07/21/17
Lab Sample ID:	JC47543-10	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C151877.D	1	07/27/17 18:28	HT	n/a	n/a	V2C6736
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	138	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	1.2	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	REP-2	Date Sampled:	07/21/17
Lab Sample ID:	JC47543-10	Date Received:	07/21/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	54.7	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	32.2	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	11.6	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	110%		73-122%
2037-26-5	Toluene-D8	102%		84-119%
460-00-4	4-Bromofluorobenzene	96%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
1066-40-6	Silanol, trimethyl-	9.82	5.2	ug/l	JN
	Total TIC, Volatile		5.2	ug/l	J

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	REP-2	
Lab Sample ID:	JC47543-10	Date Sampled: 07/21/17
Matrix:	AQ - Ground Water	Date Received: 07/21/17
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids: n/a
Project:	SI Mall, Platinum Avenue, Staten Island, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P61041.D	1	07/26/17 14:17	KM	07/25/17 15:45	OP4733A	E3P2871
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	75%		29-124%		
321-60-8	2-Fluorobiphenyl	60%		23-122%		
1718-51-0	Terphenyl-d14	89%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	TB072817	Date Sampled:	07/28/17
Lab Sample ID:	JC47938-1	Date Received:	07/28/17
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2A180009.D	1	08/01/17 01:35	JC	n/a	n/a	V2A7605
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB072817	Date Sampled:	07/28/17
Lab Sample ID:	JC47938-1	Date Received:	07/28/17
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		76-120%
17060-07-0	1,2-Dichloroethane-D4	95%		73-122%
2037-26-5	Toluene-D8	97%		84-119%
460-00-4	4-Bromofluorobenzene	100%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.1
4

Report of Analysis

Client Sample ID:	FB072817	Date Sampled:	07/28/17
Lab Sample ID:	JC47938-2	Date Received:	07/28/17
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2A180010.D	1	08/01/17 02:03	JC	n/a	n/a	V2A7605
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: FB072817	Date Sampled: 07/28/17
Lab Sample ID: JC47938-2	Date Received: 07/28/17
Matrix: AQ - Field Blank Water	Percent Solids: n/a
Method: SW846 8270D BY SIM SW846 3510C	
Project: SI Mall, Platinum Avenue, Staten Island, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P61378.D	1	08/10/17 02:57	CS	07/31/17 16:00	OP4883A	E3P2888
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	85%		29-124%		
321-60-8	2-Fluorobiphenyl	72%		23-122%		
1718-51-0	Terphenyl-d14	80%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.2
4

Report of Analysis

Client Sample ID:	MW-11	Date Sampled:	07/28/17
Lab Sample ID:	JC47938-3	Date Received:	07/28/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2A180011.D	1	08/01/17 02:31	JC	n/a	n/a	V2A7605
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	18.6	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.59	1.0	0.40	ug/l	J
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-11	Date Sampled: 07/28/17
Lab Sample ID: JC47938-3	Date Received: 07/28/17
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260C	
Project: SI Mall, Platinum Avenue, Staten Island, NY	

4.3
4

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	9.6	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	4.8	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	4.5	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-120%
17060-07-0	1,2-Dichloroethane-D4	95%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-11 Lab Sample ID: JC47938-3 Matrix: AQ - Ground Water Method: SW846 8270D BY SIM SW846 3510C Project: SI Mall, Platinum Avenue, Staten Island, NY	Date Sampled: 07/28/17 Date Received: 07/28/17 Percent Solids: n/a
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	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P61381.D	1	08/10/17 04:27	CS	07/31/17 16:00	OP4883A	E3P2888
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.11	0.051	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	72%		29-124%		
321-60-8	2-Fluorobiphenyl	65%		23-122%		
1718-51-0	Terphenyl-d14	70%		22-130%		

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit J = Indicates an estimated value B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound
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4.3
4

Report of Analysis

Client Sample ID:	MW-12	Date Sampled:	07/28/17
Lab Sample ID:	JC47938-4	Date Received:	07/28/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2A180012.D	1	08/01/17 02:59	JC	n/a	n/a	V2A7605
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	7.0	10	5.0	ug/l	J
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	85.7	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.79	1.0	0.40	ug/l	J
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-12		Date Sampled: 07/28/17
Lab Sample ID: JC47938-4		Date Received: 07/28/17
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260C		
Project: SI Mall, Platinum Avenue, Staten Island, NY		

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4

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	0.99	1.0	0.50	ug/l	J
108-88-3	Toluene	0.62	1.0	0.25	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	10.1	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	7.8	1.0	0.62	ug/l	
	m,p-Xylene	0.45	1.0	0.43	ug/l	J
95-47-6	o-Xylene	0.25	1.0	0.22	ug/l	J
1330-20-7	Xylene (total)	0.70	1.0	0.22	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-120%
17060-07-0	1,2-Dichloroethane-D4	93%		73-122%
2037-26-5	Toluene-D8	95%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-12		Date Sampled: 07/28/17
Lab Sample ID: JC47938-4		Date Received: 07/28/17
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8270D BY SIM SW846 3510C		
Project: SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P61380.D	1	08/10/17 03:57	CS	07/31/17 16:00	OP4883A	E3P2888
Run #2							

Run #	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.050	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	78%		29-124%		
321-60-8	2-Fluorobiphenyl	70%		23-122%		
1718-51-0	Terphenyl-d14	68%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.4
4

Report of Analysis

Client Sample ID:	MW-13	Date Sampled:	07/28/17
Lab Sample ID:	JC47938-5	Date Received:	07/28/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2A180013.D	1	08/01/17 03:27	JC	n/a	n/a	V2A7605
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	37.1	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.5
 4

Report of Analysis

Client Sample ID:	MW-13	Date Sampled:	07/28/17
Lab Sample ID:	JC47938-5	Date Received:	07/28/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	SI Mall, Platinum Avenue, Staten Island, NY		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	3.7	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	22.9	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	4.2	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		76-120%
17060-07-0	1,2-Dichloroethane-D4	94%		73-122%
2037-26-5	Toluene-D8	98%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	unknown	3.77	16	ug/l	J
	Total TIC, Volatile		16	ug/l	J

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-13		
Lab Sample ID: JC47938-5		Date Sampled: 07/28/17
Matrix: AQ - Ground Water		Date Received: 07/28/17
Method: SW846 8270D BY SIM SW846 3510C		Percent Solids: n/a
Project: SI Mall, Platinum Avenue, Staten Island, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P61379.D	1	08/10/17 03:27	CS	07/31/17 16:00	OP4883A	E3P2888
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

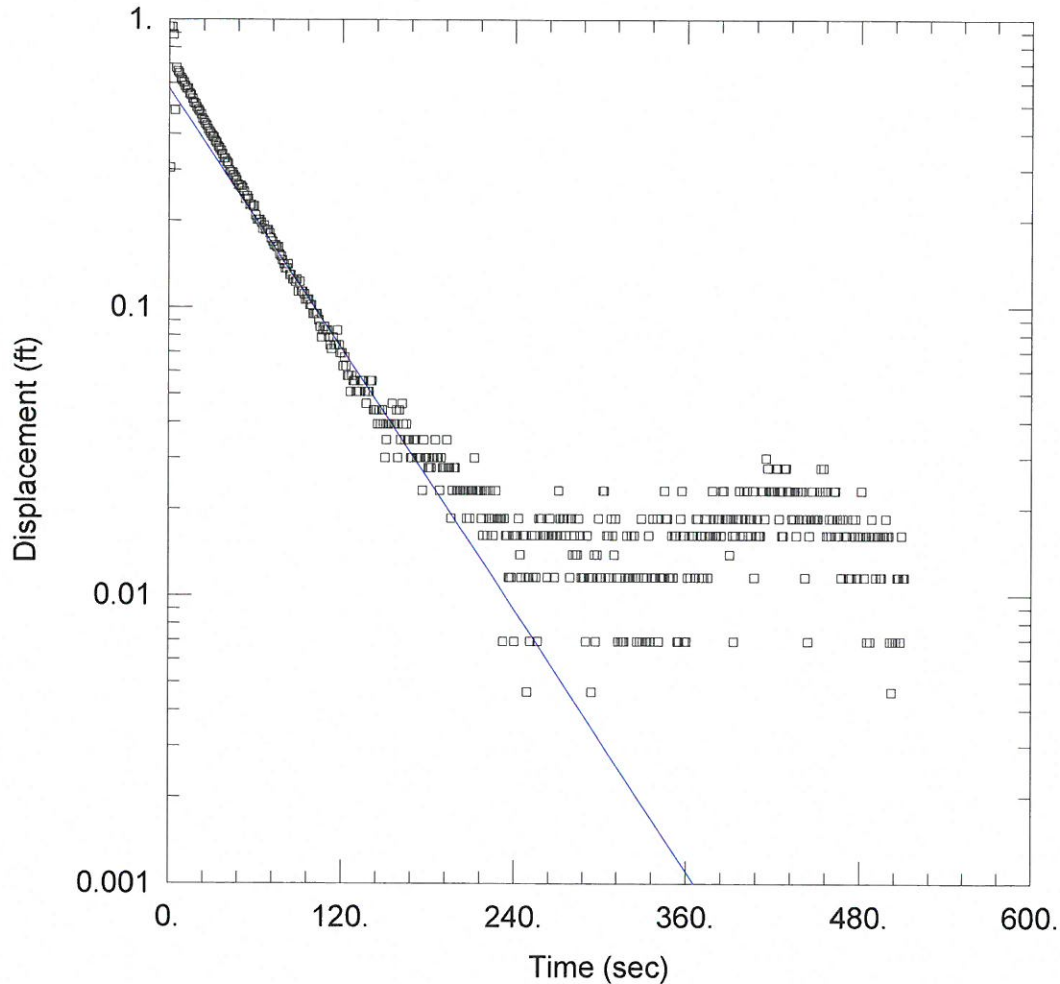
CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	76%		29-124%		
321-60-8	2-Fluorobiphenyl	70%		23-122%		
1718-51-0	Terphenyl-d14	74%		22-130%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.5
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APPENDIX

VII. SLUG TEST ANALYSIS



MW-20 SLUG IN

Data Set: B:\Carol Cleaners\Techfiles\2017\Slug Test May 2017\AQT\MW-20 Slug In.aqt
 Date: 02/16/18 Time: 09:18:09

PROJECT INFORMATION

Company: LBG
 Client: Carol Cleaners
 Project: RSIRI
 Location: Staten Island
 Test Well: MW-20
 Test Date: 6/2/2017

AQUIFER DATA

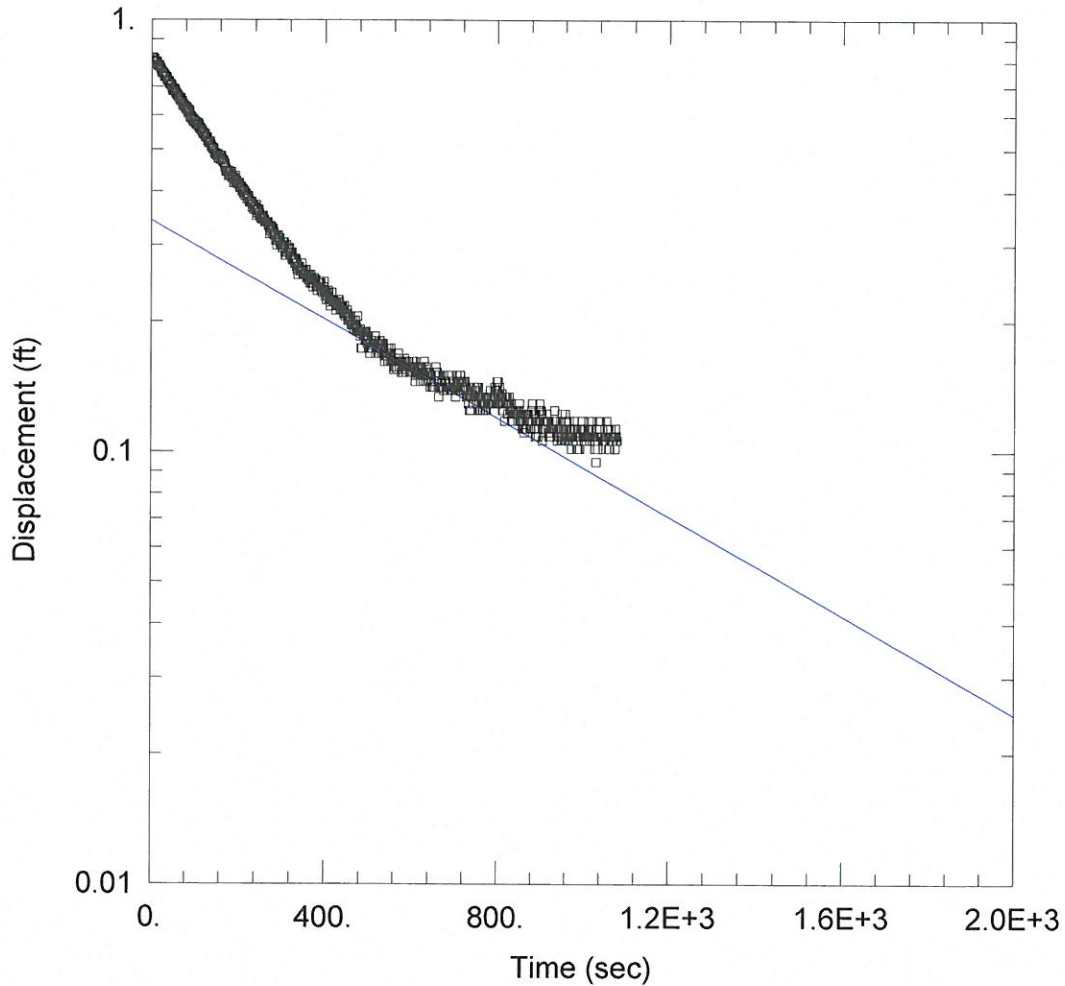
Saturated Thickness: 17.46 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-20 Slug In)

Initial Displacement: 0.9402 ft Static Water Column Height: 17.46 ft
 Total Well Penetration Depth: 25.5 ft Screen Length: 13.04 ft
 Casing Radius: 0.166 ft Well Radius: 0.166 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 K = 5.991 ft/day y0 = 0.5696 ft



MW-21SLUGIN

Data Set: B:\Carol Cleaners\Techfiles\2017\Slug Test May 2017\AQT\MW-21In.aqt
 Date: 02/16/18 Time: 08:49:18

PROJECT INFORMATION

Company: LBG
 Client: Carol Cleaners
 Project: RSIRI
 Location: Staten Island
 Test Well: MW-21
 Test Date: 5/24/2017

AQUIFER DATA

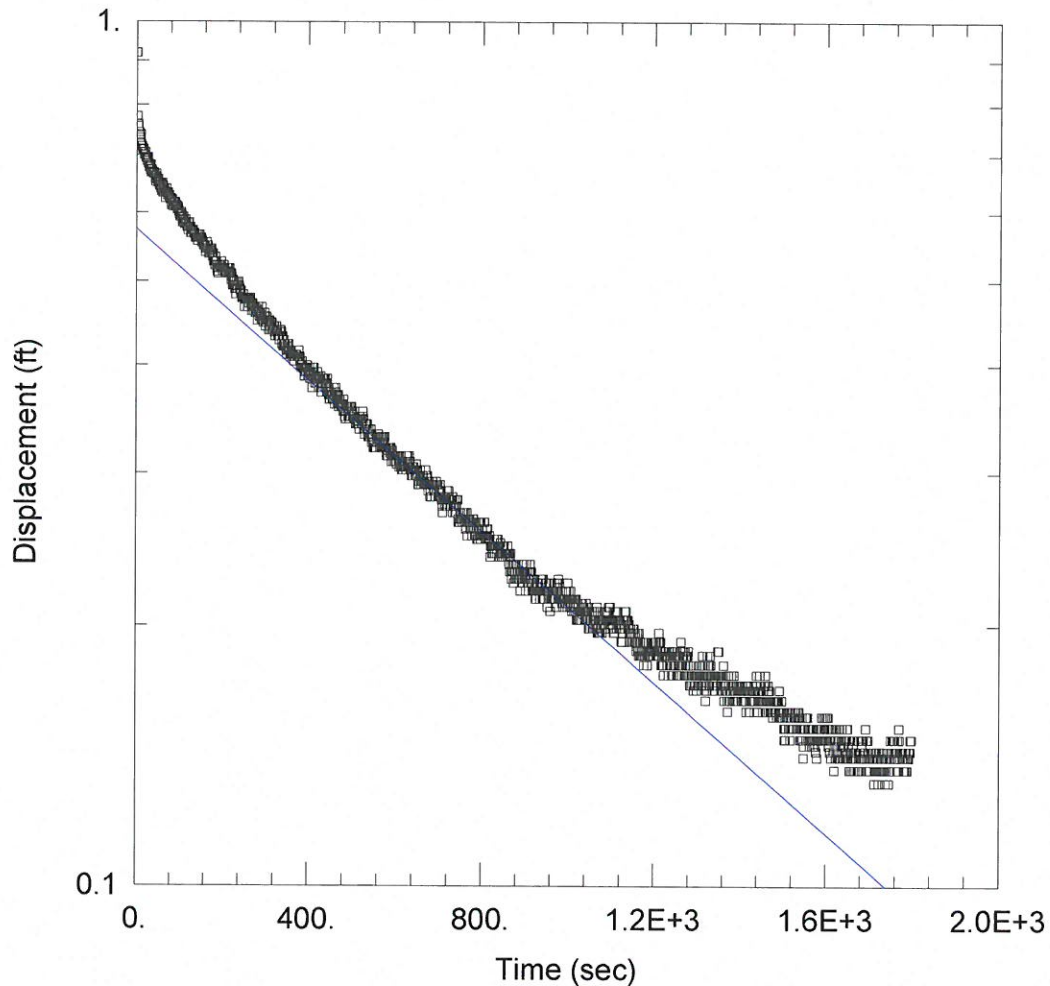
Saturated Thickness: 11.97 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-21)

Initial Displacement: 1.07 ft Static Water Column Height: 8.968 ft
 Total Well Penetration Depth: 17. ft Screen Length: 13.03 ft
 Casing Radius: 0.167 ft Well Radius: 0.167 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 K = 0.4646 ft/day y0 = 0.3419 ft



MW-22SLUGIN

Data Set: B:\Carol Cleaners\Techfiles\2017\Slug Test May 2017\AQT\MW-22SlugIn.aqt
 Date: 02/16/18 Time: 08:49:34

PROJECT INFORMATION

Company: LBG
 Client: Carol Cleaners
 Project: RSIRI
 Location: Staten Island
 Test Well: MW-22
 Test Date: 5/24/2017

AQUIFER DATA

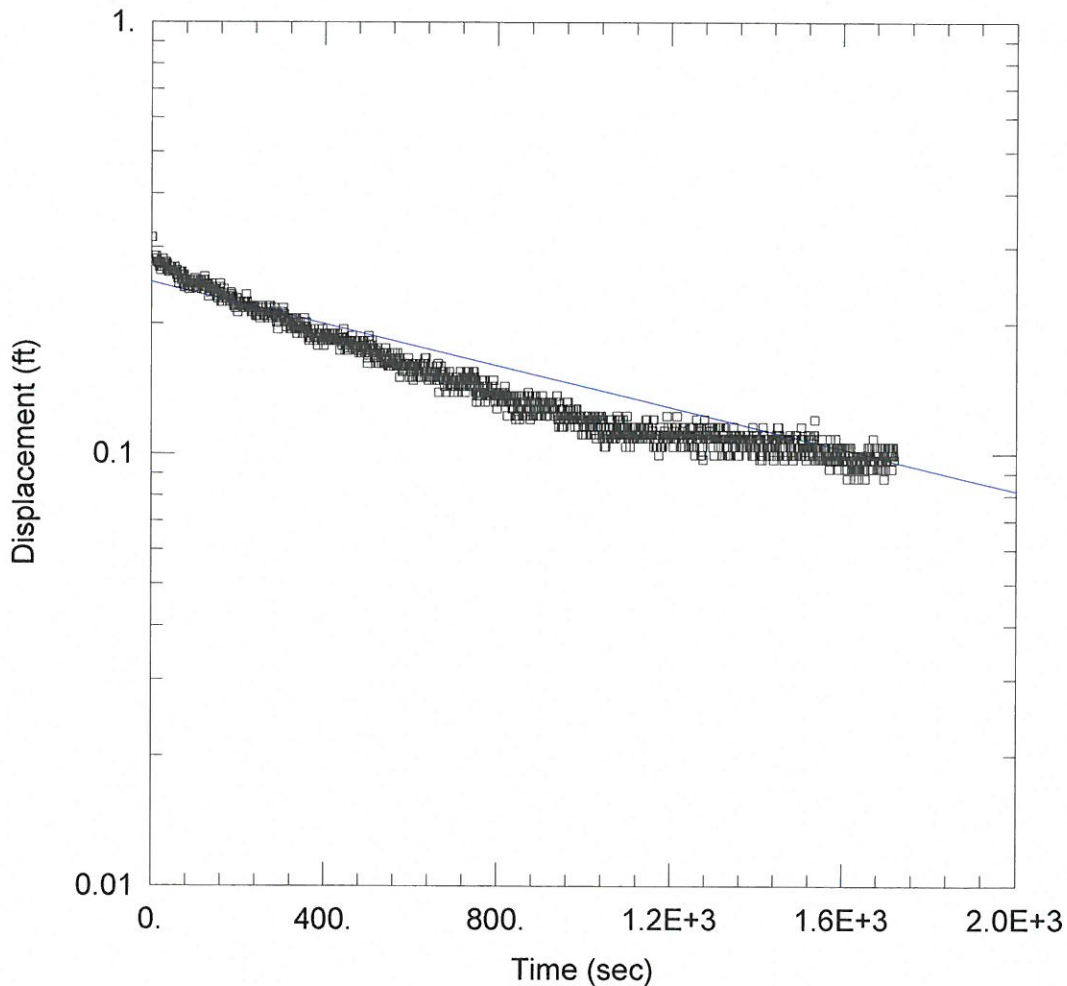
Saturated Thickness: 7.12 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-22)

Initial Displacement: 0.9194 ft Static Water Column Height: 6.62 ft
 Total Well Penetration Depth: 14.5 ft Screen Length: 12.88 ft
 Casing Radius: 0.167 ft Well Radius: 0.167 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bower-Rice
 K = 0.5625 ft/day y0 = 0.5735 ft



MW-23SLUGIN

Data Set: B:\Carol Cleaners\Techfiles\2017\Slug Test May 2017\AQTMW-23SlugIn.aqt
 Date: 02/16/18 Time: 08:52:35

PROJECT INFORMATION

Company: LBG
 Client: Carol Cleaners
 Project: RSIRI
 Location: Staten Island
 Test Well: MW-23
 Test Date: 5/24/2017

AQUIFER DATA

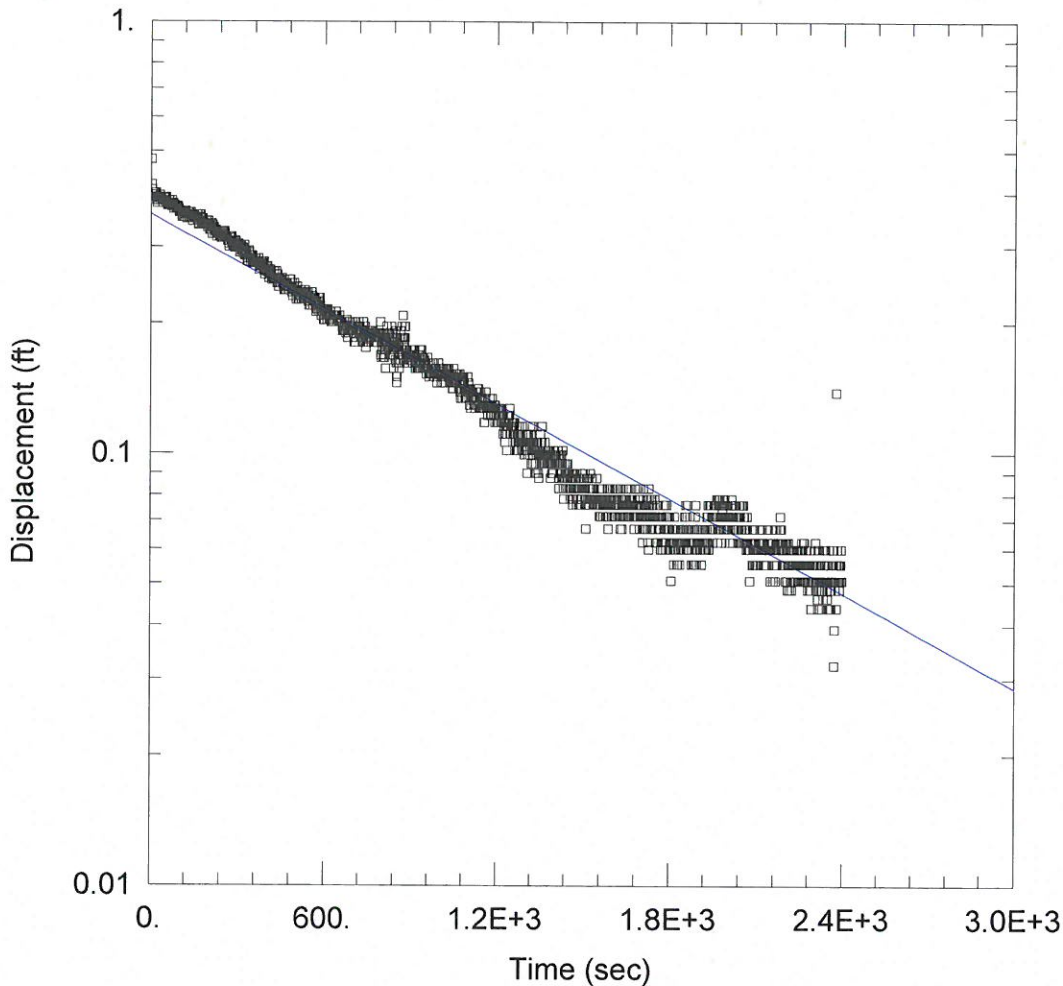
Saturated Thickness: 4.81 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (Mw-23)

Initial Displacement: 0.3165 ft Static Water Column Height: 4.81 ft
 Total Well Penetration Depth: 10.1 ft Screen Length: 10.1 ft
 Casing Radius: 0.167 ft Well Radius: 0.167 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bower-Rice
 K = 0.4155 ft/day y0 = 0.2485 ft



MW-24 SLUG IN TEST

Data Set: B:\Carol Cleaners\Techfiles\2017\Slug Test May 2017\AQT\MW-24SlugIn.aqt
 Date: 02/16/18 Time: 08:52:54

PROJECT INFORMATION

Company: LBG
 Client: Carol Cleaners
 Project: RSIRI
 Location: Staten Island
 Test Well: MW-24
 Test Date: 5/24/2017

AQUIFER DATA

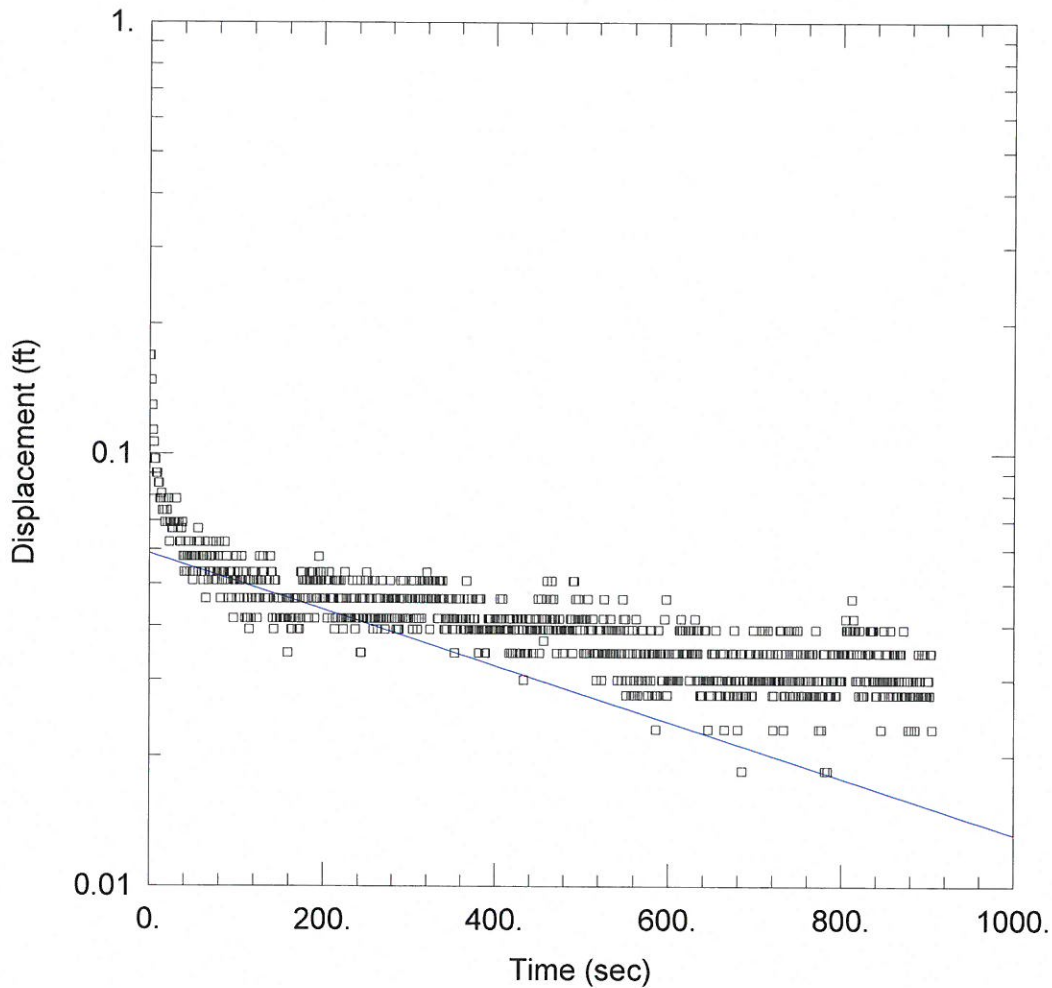
Saturated Thickness: 3.055 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-24)

Initial Displacement: 1.61 ft Static Water Column Height: 3.432 ft
 Total Well Penetration Depth: 3.432 ft Screen Length: 3.432 ft
 Casing Radius: 0.1667 ft Well Radius: 0.1667 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 K = 0.7311 ft/day y0 = 0.3552 ft



MW-1 SLUG OUT

Data Set: B:\Carol Cleaners\Techfiles\2017\Slug Test July 2017\AQT\MW-1 Slug Out.aqt
 Date: 02/16/18 Time: 09:06:49

PROJECT INFORMATION

Company: LBG
 Client: Carol Cleaners
 Project: RSIRI
 Location: Staten Island
 Test Well: MW-1
 Test Date: 6/2/2017

AQUIFER DATA

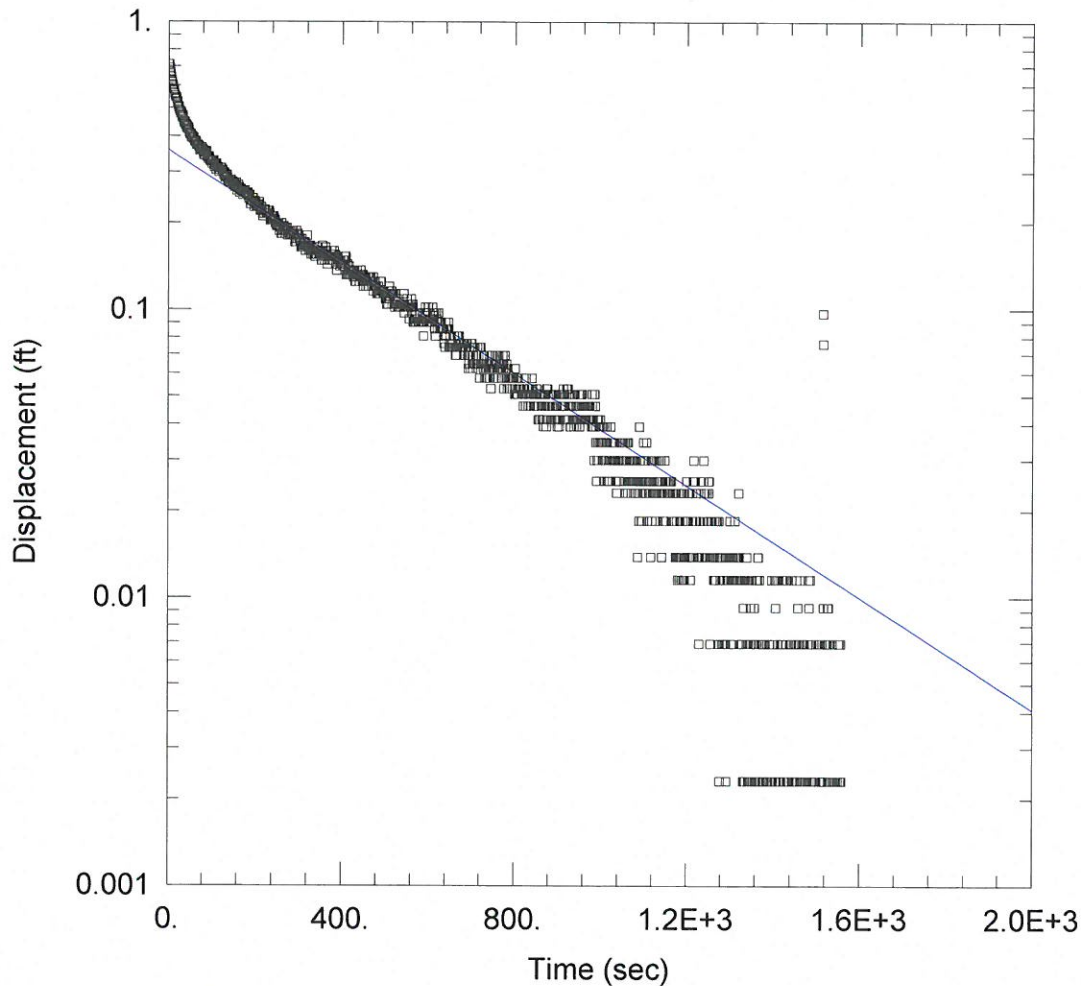
Saturated Thickness: 2.07 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-1)

Initial Displacement: 0.1686 ft Static Water Column Height: 2.07 ft
 Total Well Penetration Depth: 13.5 ft Screen Length: 5. ft
 Casing Radius: 0.166 ft Well Radius: 0.166 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bower-Rice
 K = 2.375 ft/day y0 = 0.05861 ft



MW-7 SLUG IN

Data Set: B:\Carol Cleaners\Techfiles\2017\Slug Test July 2017\AQT\MW-7 Slug In.aqt
 Date: 02/16/18 Time: 09:05:23

PROJECT INFORMATION

Company: LBG
 Client: Carol Cleaners
 Project: RSIRI
 Location: Staten Island
 Test Well: MW-7
 Test Date: 6/2/2017

AQUIFER DATA

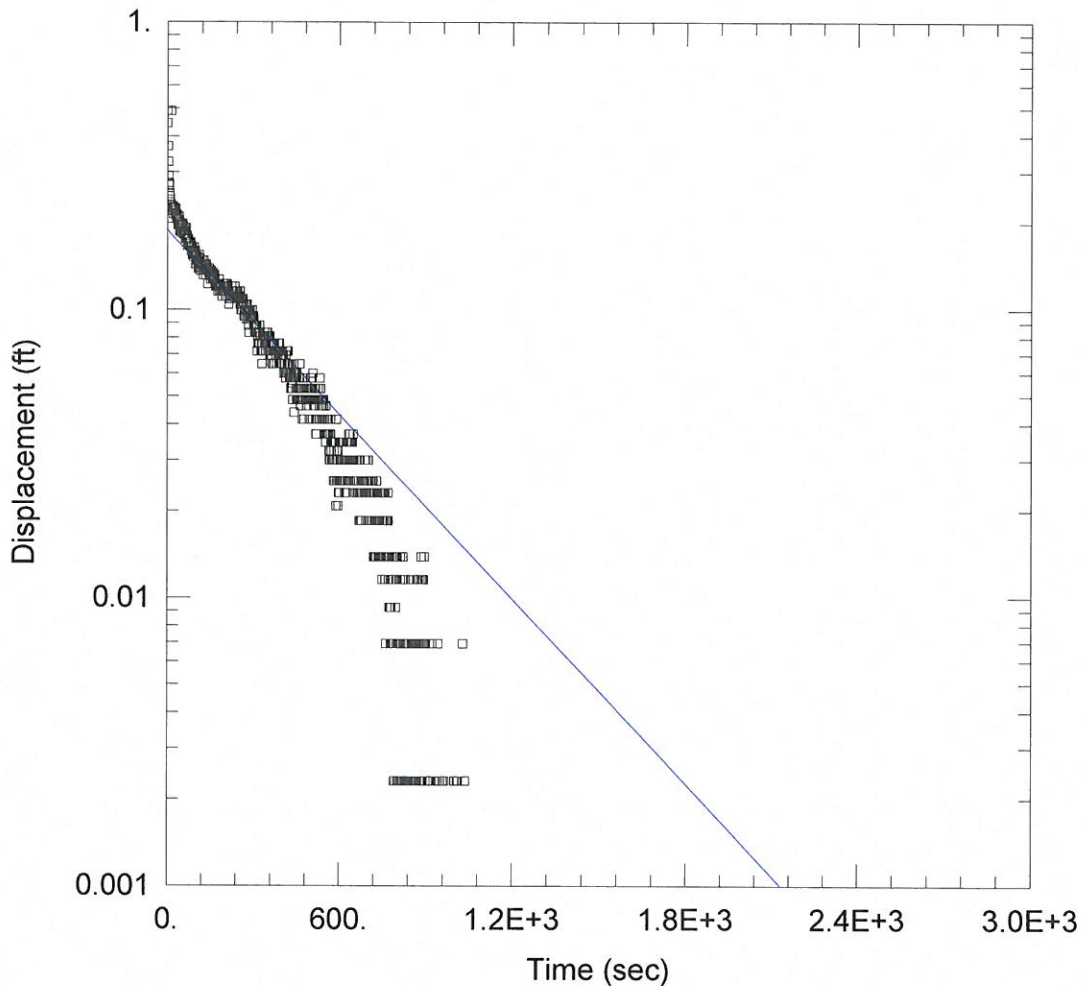
Saturated Thickness: 6.94 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-7 Slug In)

Initial Displacement: 0.7092 ft Static Water Column Height: 6.94 ft
 Total Well Penetration Depth: 14.4 ft Screen Length: 12.46 ft
 Casing Radius: 0.166 ft Well Radius: 0.166 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bower-Rice
 K = 1.266 ft/day y0 = 0.3551 ft



MW-25 SLUG IN

Data Set: B:\Carol Cleaners\Techfiles\2017\Slug Test July 2017\AQTMW-25 Slug In.aqt
 Date: 02/16/18 Time: 09:10:20

PROJECT INFORMATION

Company: LBG
 Client: Carol Cleaners
 Project: RSIRI
 Location: Staten Island
 Test Well: MW-25
 Test Date: 6/2/2017

AQUIFER DATA

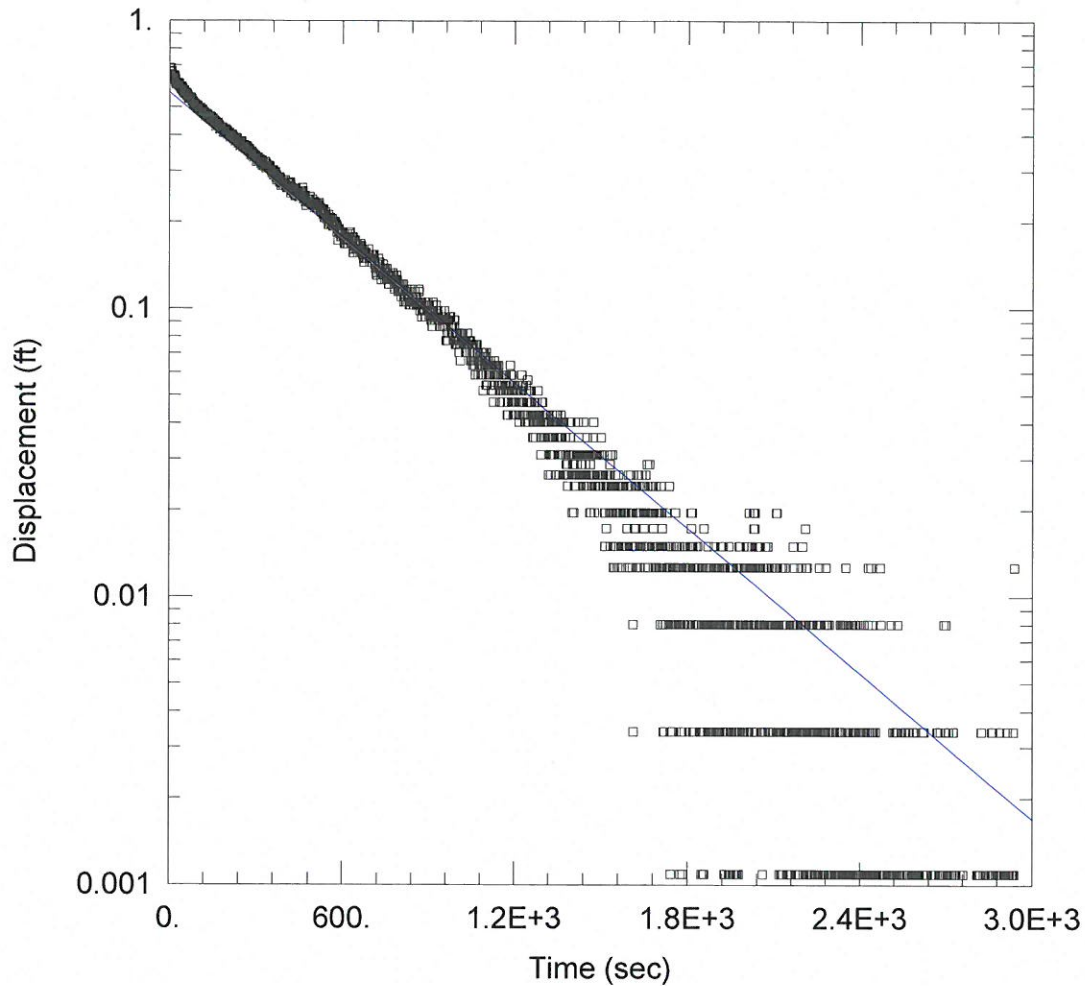
Saturated Thickness: 5.08 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-25)

Initial Displacement: 0.49 ft Static Water Column Height: 5.08 ft
 Total Well Penetration Depth: 13. ft Screen Length: 12.92 ft
 Casing Radius: 0.166 ft Well Radius: 0.166 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bower-Rice
 K = 1.815 ft/day y0 = 0.1874 ft



MW-26 SLUG IN

Data Set: B:\Carol Cleaners\Techfiles\2017\Slug Test July 2017\AQTMW-26 Slug In.aqt
 Date: 02/16/18 Time: 09:10:01

PROJECT INFORMATION

Company: LBG
 Client: Carol Cleaners
 Project: RSIRI
 Location: Staten Island
 Test Well: MW-26
 Test Date: 6/2/2017

AQUIFER DATA

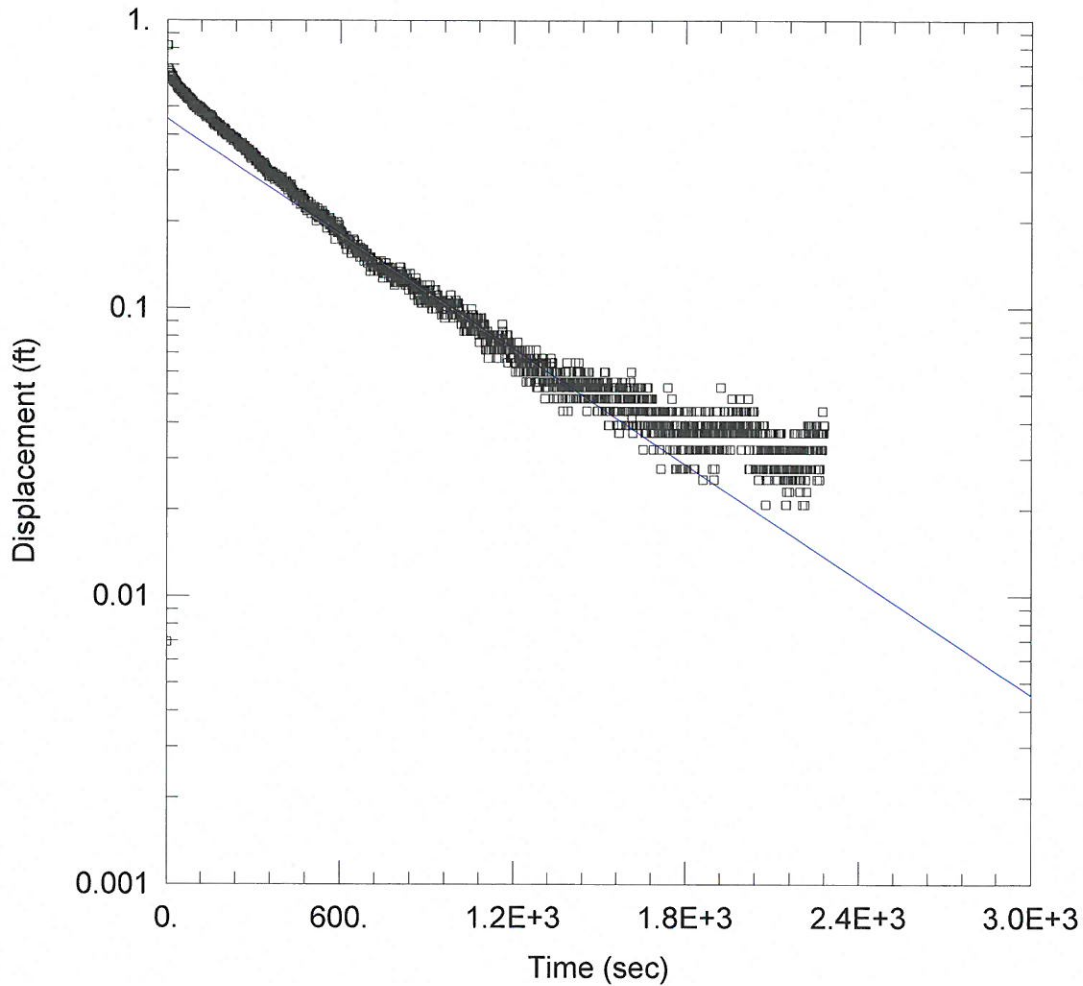
Saturated Thickness: 8.38 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-26)

Initial Displacement: 0.6825 ft Static Water Column Height: 8.38 ft
 Total Well Penetration Depth: 14. ft Screen Length: 10.62 ft
 Casing Radius: 0.166 ft Well Radius: 0.166 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bower-Rice
 K = 0.914 ft/day $y_0 =$ 0.5578 ft



MW-27 SLUG IN

Data Set: B:\Carol Cleaners\Techfiles\2017\Slug Test July 2017\AQT\MW-27 Slug In.aqt
 Date: 02/16/18 Time: 09:09:50

PROJECT INFORMATION

Company: LBG
 Client: Carol Cleaners
 Project: RSIRI
 Location: Staten Island
 Test Well: MW-27
 Test Date: 6/2/2017

AQUIFER DATA

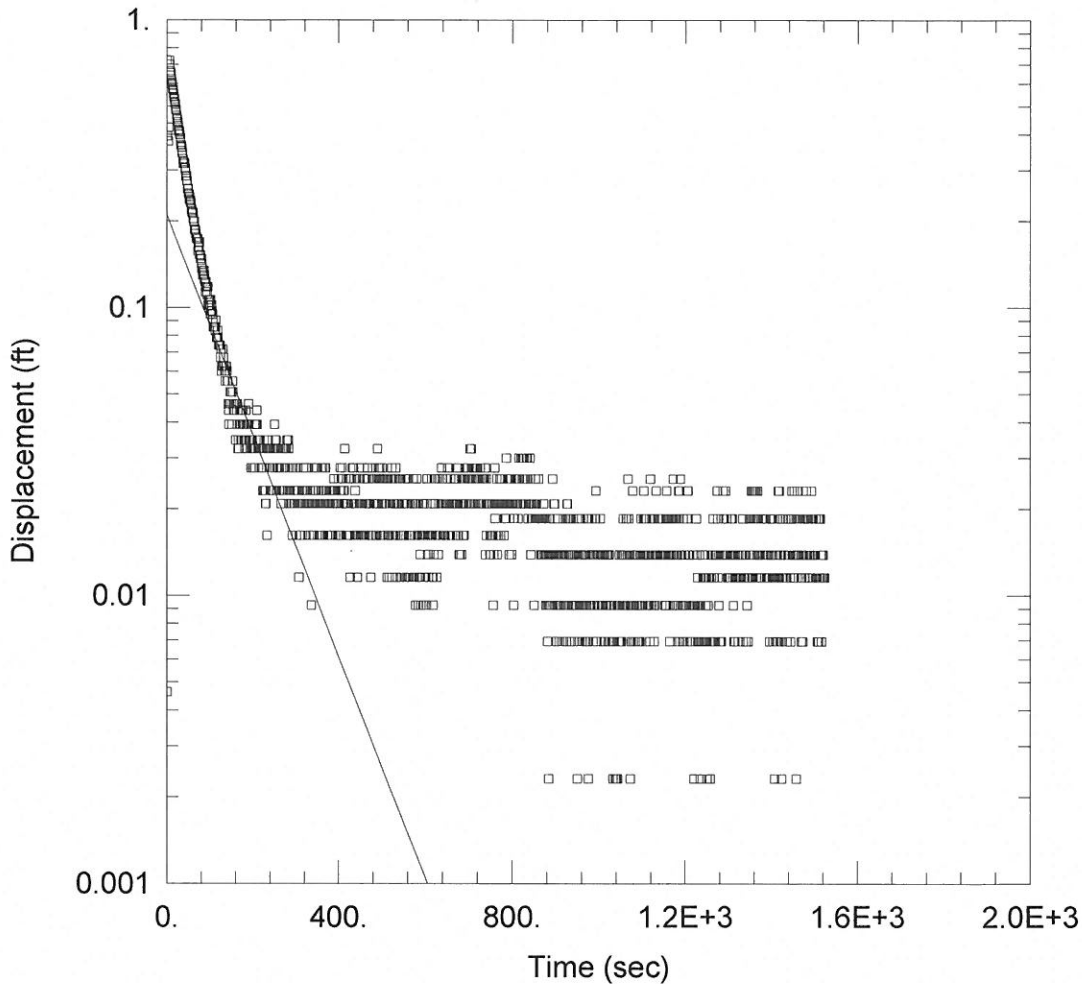
Saturated Thickness: 6.5 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-27)

Initial Displacement: 0.8154 ft Static Water Column Height: 6.5 ft
 Total Well Penetration Depth: 10. ft Screen Length: 8.5 ft
 Casing Radius: 0.166 ft Well Radius: 0.166 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bower-Rice
 K = 0.8617 ft/day y0 = 0.4512 ft



MW-28 SLUG OUT

Data Set: B:\Carol Cleaners\Techfiles\2017\Slug Test July 2017\AQTMW-28 Slug Out.aqt
 Date: 02/16/18 Time: 09:09:35

PROJECT INFORMATION

Company: LBG
 Client: Carol Cleaners
 Project: RSIRI
 Location: Staten Island
 Test Well: MW-28
 Test Date: 6/2/2017

AQUIFER DATA

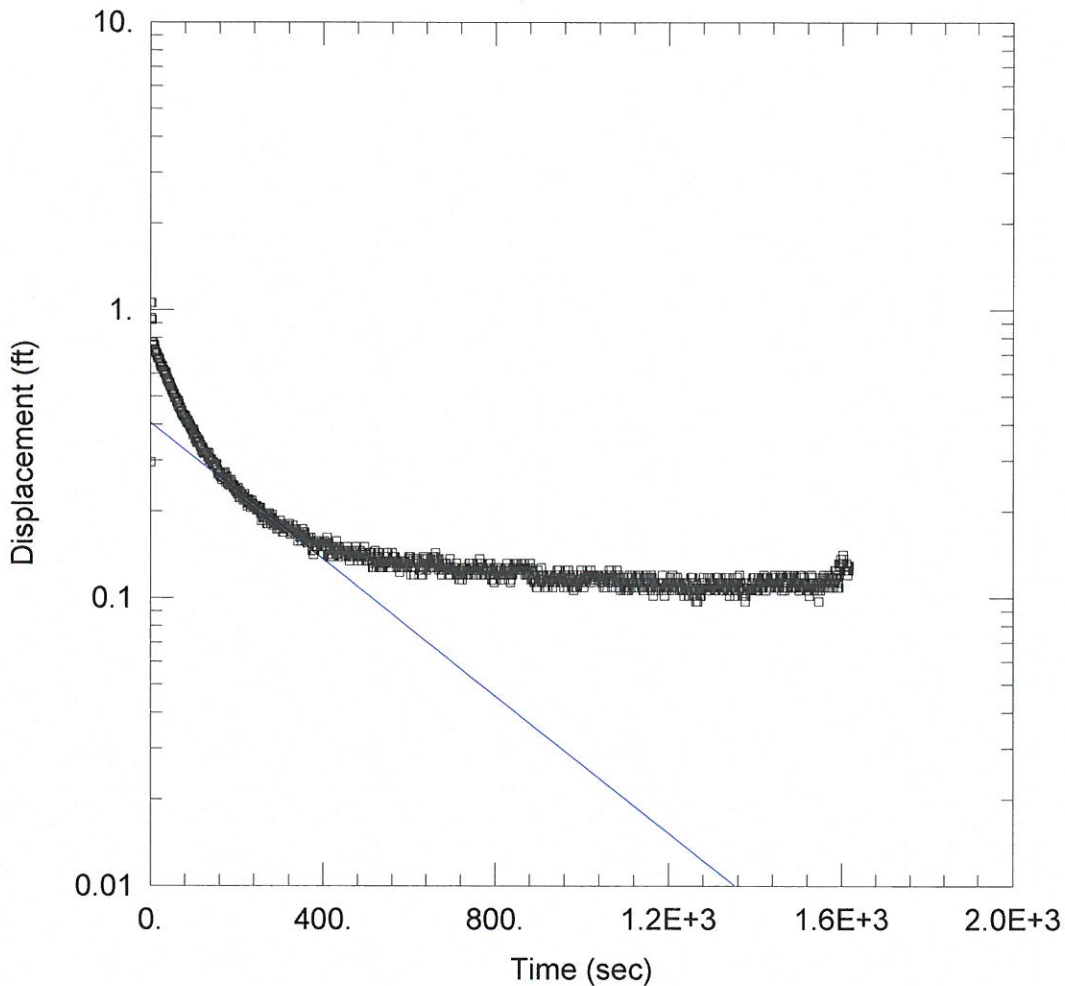
Saturated Thickness: 14.88 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-28)

Initial Displacement: 0.723 ft Static Water Column Height: 14.88 ft
 Total Well Penetration Depth: 22.5 ft Screen Length: 12.62 ft
 Casing Radius: 0.166 ft Well Radius: 0.166 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bower-Rice
 K = 3.077 ft/day y0 = 0.2082 ft



MW-29

Data Set: B:\Carol Cleaners\Techfiles\2017\Slug Test July 2017\AQT\mw-29Slug In.aqt
 Date: 02/16/18 Time: 09:09:21

PROJECT INFORMATION

Company: LBG
 Client: Carol Cleaners
 Project: RSIRI
 Location: Staten Island
 Test Well: MW-29
 Test Date: 6/2/2017

AQUIFER DATA

Saturated Thickness: 14.68 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-29 Slug In)

Initial Displacement: 1.056 ft Static Water Column Height: 14.68 ft
 Total Well Penetration Depth: 24. ft Screen Length: 14.33 ft
 Casing Radius: 0.166 ft Well Radius: 0.166 ft

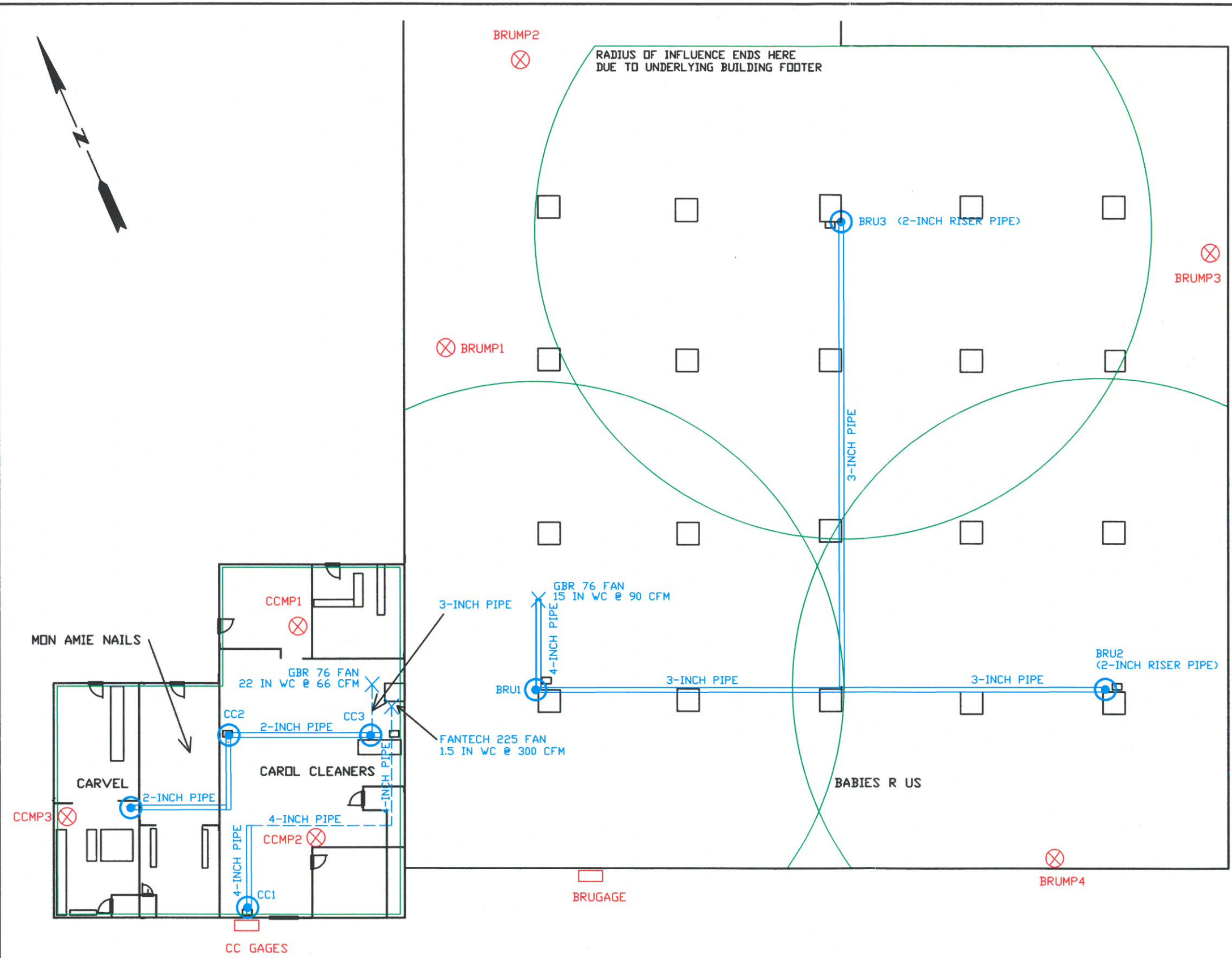
SOLUTION

Aquifer Model: Unconfined Solution Method: Bower-Rice
 K = 0.8535 ft/day y0 = 0.4032 ft








APPENDIX

VIII. SSDS AS-BUILT





LEGEND

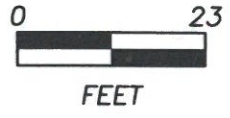
-  SUCTION POINT LOCATION WITH DESIGNATION
-  TEST LOCATION WITH DESIGNATION
-  PVC PIPING
-  PIPING LOCATED ON ROOF OF BUILDING
-  LOCATION OF FAN ON ROOF OF BUILDING WITH TYPE
-  PROPOSED EFFECTIVE RADIUS OF INFLUENCE EXERTED BY BLOWER FAN
-  MAGNAHELIC GAGE LOCATION

**GGP STATEN ISLAND MALL, LLC
STATEN ISLAND, NEW YORK**

SUB-SLAB DEPRESSURIZATION SYSTEM AS-BUILT



PREPARED BY:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Groundwater and Environmental Services
600 E. Crescent Ave; Suite 200
Upper Saddle River, New Jersey
(201) 818-0700



APPENDIX

IX.

JRW WILCLEAR PLUS
FACT SHEET

WILCLEAR PLUS[®]

LACTATE w/ACCELERITE[®]

PROVEN ELECTRON DONOR EFFICIENCY AND RAPID DECHLORINATION KINETICS OF SODIUM LACTATE ENHANCED BY ACCELERITE[®] NUTRIENT BLEND

Wilclear Plus[®] lactate with Accelerite[®] is a proprietary blend of neutral pH fatty acids combined with Accelerite[®] nutrient blend for use in enhanced anaerobic reductive dechlorination. Wilclear Plus[®] contains 61% fermentable material providing a high fermentable fraction with minimum amount of water.

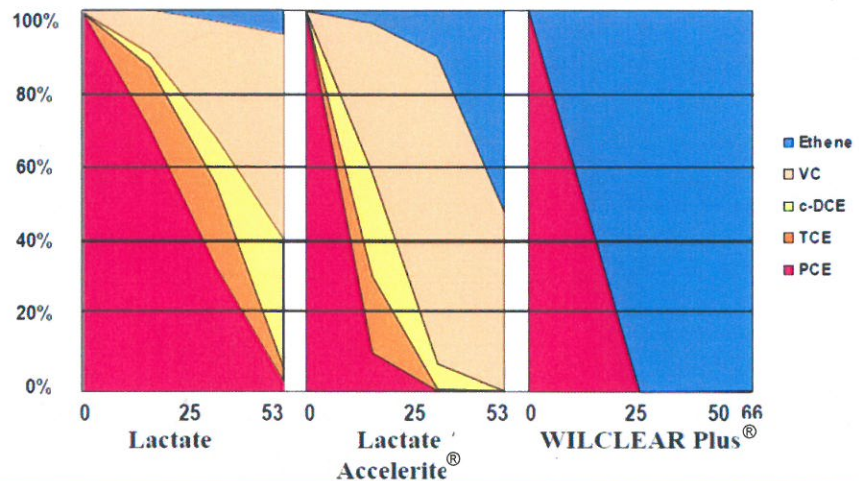
BENEFITS OF WILCLEAR PLUS[®]

Lactate provides carbon for rapid establishment of anaerobic conditions.

- Volatile fatty acids and fermentables provide a range of material to help promote the growth of an assortment of dechlorinating microbial populations.
- Accelerite[®] provides growth factors to increase efficiency and kinetics.

RAPID DECHLORINATION KINETICS

Microcosm studies comparing Wilclear Plus[®] to lactate and lactate plus Accelerite[®] showed that Wilclear Plus[®] demonstrated dechlorination kinetics faster than the other substrates. At 25 days, the Wilclear Plus[®] microcosm converted more than 99% of PCE to ethene.



TYPICAL PROPERTIES

- Sodium lactate: 33-40%
- Sodium propionate: 0-8%
- Sodium acetate: 0-8%
- Sodium butyrate: 0-8%
- Total Sodium Carboxylates: 40-45%
- Carbohydrates/metabolites: 15-20%
- Water: 30-38%

- pH: 7 ±1.0
- Viscosity: < 500cP at 20°C
- Specific gravity: 1.2 - 1.3
- Soluble in water
- Color: light to dark brown



JRW BIOREMEDIATION LLC

www.jrwbioremediation.com
(913)438-5544
info@jrwbiorem.com

APPENDIX

X.

JRW WILCLEAR PLUS
SDS



SAFETY DATA SHEET



1. IDENTIFICATION OF MATERIAL AND SUPPLIER

Product Identifier: Wilclear Plus® Lactate with Accelerite®
Recommended Use: In-situ Bioremediation
Recommended Restrictions: none known

Supplier Name: JRW Bioremediation, LLC
Address: 14321 W. 96th Terrace
Lenexa, KS 66215
Telephone: 913-438-5544
EMERGENCY Telephone: 800-779-5545 x 116 (Mon-Fri 9am-5pm CST)
913-961-6644 (afterhours)

2. HAZARD IDENTIFICATION

Health & Physical Hazards:

This product contains no substances in their current physical state that are considered to be hazardous to health and has a low order of toxicity. While the chemical, physical, and toxicological properties have not been thoroughly examined, no acute or delayed symptoms or effects have been observed to date.

Flammability Hazards:

This is a Non-Flammable liquid but it is recommended to avoid temperatures above 150°C.

Reactivity Hazards:

This product is considered stable. Thermal decomposition may lead to release of irritating gases and vapors. Hazardous polymerization is not expected to occur. Fermentation can occur when diluted with water.

OSHA Hazards:

This material is not considered hazardous by OSHA. No labels or signage are known to be required.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS #	% by Weight
Sodium lactate	72-17-3	33-40%
Sodium propionate	137-40-6	0-8%
Sodium acetate	127-09-3	0-8%
Sodium butyrate	156-54-7	0-8%
Total sodium carboxylates		45-50%
Carbohydrates & fermentation metabolites	68476-78-8	15-20%
Water	7732-18-5	40%

4. FIRST-AID MEASURES

Inhalation:

Inhalation of mist may cause mild irritation of respiratory system. Move to fresh air.

Skin Contact:

In case of contact with skin, immediately wash with plenty of soap and water while removing contaminated clothing. Seek medical attention if skin irritation develops or persists.

Eye Contact:

In case of contact with eyes, immediately flush eyes with water for at least 15 minutes, lifting eyelids to facilitate irrigation. Get medical attention if necessary.

Ingestion:

If swallowed, get medical attention.

Signs and symptoms of exposure:

Mild irritation to skin and eyes upon contact; mild irritation to respiratory system upon inhalation.

Medical Conditions aggravated by exposure:

None determined. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:	Water, carbon dioxide, or dry chemical.
Unsuitable Extinguishing Media:	Do not use heavy water stream as it may spread or scatter.
Specific hazards from substance/mixture:	Thermal decomposition may lead to release of irritating or toxic gases and vapors.
General fire hazards:	No unusual fire or explosion hazards noted

Special protective equipment / precautions for fire-fighters:

Wear full protective clothing and positive pressure breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Methods and Materials for containment and clean up:

Contain spill with absorbent materials such as vermiculite or soil; shovel and place material in drum for disposal. Flush area with water. Surfaces may become slippery after spillage. Dispose of according to all local, state, and federal regulations at an approved waste treatment facility.

Personal precautions / Protective equipment:

Use personal protective equipment. Prevent spills, contamination, and leakage.

Environmental precautions:

No special environmental precautions required.

7. HANDLING AND STORAGE

Precautions for safe handling:

Observe good work and industrial hygiene practices. Use personal protective equipment. Avoid contact with skin, eyes, and clothing. Avoid breathing mists and vapors. Wash hands after use of this product. Do not eat, drink, or smoke while using product. Prevent spills, contamination, and leakage.

Conditions for safe storage, including any incompatibilities:

Keep container tightly closed. Keep in properly labeled containers. Store in a well ventilated, cool, dry area.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:	No exposure or biological limits noted for ingredients(s).
Appropriate engineering controls:	Use adequate mechanical ventilation, especially in confined spaces. Temperatures best kept below 150 ^o C.
Individual protection measures, such as Personal Protective Equipment (PPE):	
Eye/Face protection:	Chemical goggles recommended.
Skin / hand / body protection:	Chemical resistant gloves recommended. Suitable protective clothing as defined by employer.
Respiratory protection:	None required under normal use in well ventilated area.
General considerations:	Use good industrial hygiene and best safety practices. When using material, do not eat, drink, or smoke. Remove and wash any contaminated clothing before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	light to medium brown
Physical state:	liquid
Odor:	slight sweet yeast-like aroma
Odor threshold:	not applicable
pH:	not determined
Melting point/freezing point:	not determined
Initial boiling point:	>100°C
Closed cup Flash point:	not applicable
Evaporation rate:	not determined
Flammability (solid, gas):	not determined
Upper/lower flammability or explosive limits:	not determined
Vapor pressure (Mg Hg):	not determined
Vapor density (air = 1):	not determined
Density:	not determined
Viscosity	not determined
Solubility in water:	completely soluble
Auto-ignition temperature:	not determined
Specific Gravity (H₂O = 1):	>1

10. STABILITY AND REACTIVITY

Reactivity:	Non-reactive under conditions of normal use, storage & transport.
Chemical stability:	Stable under conditions of normal use, storage and transport.
Possibility of hazardous reactions:	Hazardous polymerization will not occur.
Conditions to avoid:	Temperatures above $>150^{\circ}$ C.
Incompatible materials:	Fermentation can occur when diluted with water.
Hazardous decomposition products:	Thermal decomposition may lead to release of irritating gases and vapors.

11. TOXICOLOGICAL INFORMATION

No adverse health effects are expected if the product is used as intended and in accordance with this Safety Data Sheet.

Inhalation:	Inhalation of mist may cause mild irritation of respiratory system. Move to fresh air.
Ingestion:	If swallowed, get medical attention.
Skin:	In case of contact with skin, immediately wash with plenty of soap and water while removing contaminated clothing. May cause mild irritation. Seek medical attention if skin irritation develops or persists.
Eye contact:	In case of contact with eyes, immediately flush eyes with water for at least 15 minutes, lifting eyelids to facilitate irrigation. Get medical attention if necessary.
Signs & symptoms of exposure:	Mild irritation to skin and eyes upon contact; mild irritation to respiratory system upon inhalation.
Carcinogenicity:	Contains no known ingredient listed as carcinogen.
Mutagenicity:	No known effect.
Reproductive Toxicity:	No known effect.

12. ECOLOGICAL INFORMATION

Ecotoxicity:	Product is not considered environmentally hazardous and is not expected to cause significant harm to aquatic, animal, or plant life.
Persistence/degradability:	Readily biodegradable.
Bioaccumulative potential:	Not expected to bioconcentrate or bioaccumulate.
Mobility in soil:	No specific information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods:

Contain spill with absorbent materials such as clay or soil and shovel and place material in drum for disposal. Surfaces may become slippery after spillage. Dispose of according to all local, state, and federal regulations at an approved waste treatment facility.

14. TRANSPORTATION INFORMATION

DOT hazard class:	Not Applicable, non-regulated
Labeling:	Not Applicable
Proper Shipping Name:	Wilclear® Sodium Lactate 60% Solution
NMFC#:	46400.02
Class	70

15. REGULATORY INFORMATION

Restrictions on use:	None.
Other regulations:	No information available or not applicable.

16. OTHER INFORMATION

The information in this SDS summarizes to the best of our knowledge at the date of issue, the chemical health and safety hazards of this material and general guidance for safe handling, use, processing, storage, transportation, disposal, and release. This information is not intended to be considered a warranty or quality specifications. The information contained relates only to the specific material designated and may not be valid if used in conjunction with other materials or in any other processes other than intended use. If further clarification or information is required, please contact JRW Bioremediation.

APPENDIX

XI.

USEPA
AUTHORIZATION
BY-RULE



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

JUL 1 1 2013

Kelly Webb
General Growth Properties, Inc.
10440 Little Patuxent Parkway, Suite 1000
Columbia, MD 21044

Re: Underground Injection Control (UIC) Program Regulation
Carol Cleaners, Staten Island Mall (**Reference UICID: 13NY08534013**)
280 Marsh Avenue
Staten Island, NY 10314
Richmond County
Authorization to Inject

Dear Ms. Webb:

This letter serves to inform you that the U.S. Environmental Protection Agency ("EPA") is in receipt of inventory information addressing wells authorized by rule located at the above-referenced facility in accordance with 40 Code of Federal Regulations ("CFR") §144.26. The operation of the following Underground Injection Control wells are authorized by rule, pursuant to 40 CFR §144.24:

Injection of sodium lactate (a blend of non-toxic fatty acids and fermentables) into ten (10) temporary well points (IP-1 through IP-10) advanced via direct push Geoprobe. The New York State Department of Environmental Conservation ("NYSDEC") Class 2 Inactive Hazardous Waste Disposal Site ("IHWDS") Number is 24-3-020.

Should any conditions change in the operation of any of the wells listed above (such as injectate composition, closure of the well, injection of cooling water greater than 150 degrees Fahrenheit, construction of additional wells, etc.) you are required to notify this office within five (5) days. Any accidental spills into a well should be reported within twenty-four (24) hours after the event. Change in operation information should be addressed to:

Nicole Foley Kraft, Chief
Ground Water Compliance Section
United States Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007-1866
Re: 13NY08534013
Attn: Lisa Kim Pelcyger

Should you own or operate **other** facilities using underground injection wells, please use the enclosed inventory form (EPA Form 7520-16) and instructions, copy for multiple facilities, and submit them to the address listed above. These documents can also be found on the internet at:

<http://www.epa.gov/safewater/uic/pdfs/7520-16.pdf>

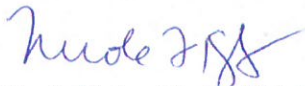
http://www.epa.gov/region02/water/compliance/supplemental_instructions_inventory.pdf

http://www.epa.gov/region02/water/compliance/wellclasstypetable_inventoryc_form

Failure to respond to this letter truthfully and accurately within the time provided may subject you to sanctions authorized by federal law. Please also note that all information submitted by you may be used in an administrative, civil judicial or criminal action. In addition, making a knowing submission of materially false information to the U.S. Government may be a criminal offense.

Should you have any questions, please contact Lisa Kim Pelcyger of my staff at (212) 637-4225 or kim.lisa@epa.gov.

Sincerely,



Nicole Foley Kraft, Chief
Ground Water Compliance Section

Enclosure

cc: Robert Elburn
NYSDEC, Region 2
1 Hunter's Point Plaza
Long Island City, NY 11101

Christine Stokes, Senior Engineer
Leggette, Brashears & Graham, Inc.
600 East Crescent Avenue, Suite 200
Upper Saddle River, NJ 07458

**USEPA REGION II SUPPLEMENTAL INSTRUCTIONS
FOR COMPLETING
INVENTORY OF INJECTION WELLS**

EPA FORM 7520-16 (Rev. 8-01)

SECTION 2. FACILITY ID NUMBER: Leave blank. EPA will assign an ID number.

SECTION 3. TRANSACTION TYPE: Check either First Time Entry or Entry Change. If this is the first time you have submitted this form for your injection wells(s), check First Time Entry and fill in all the appropriate information. If you are modifying information you sent in before, check Entry Change, fill in the Facility Name and Location and fill in the information that has changed. (Note: If the facility name has changed, in the blank space in the upper left hand corner write the prior facility name under which the form was first submitted, and the date it was submitted.)

SECTION 4. FACILITY NAME AND LOCATION: If you know the latitude and longitude of your facility, fill in line 4C and 4D. You do not need to fill in 4E, Township/Range. If you know the Numeric County Code, fill in line 4I, otherwise just write in the name of the County.

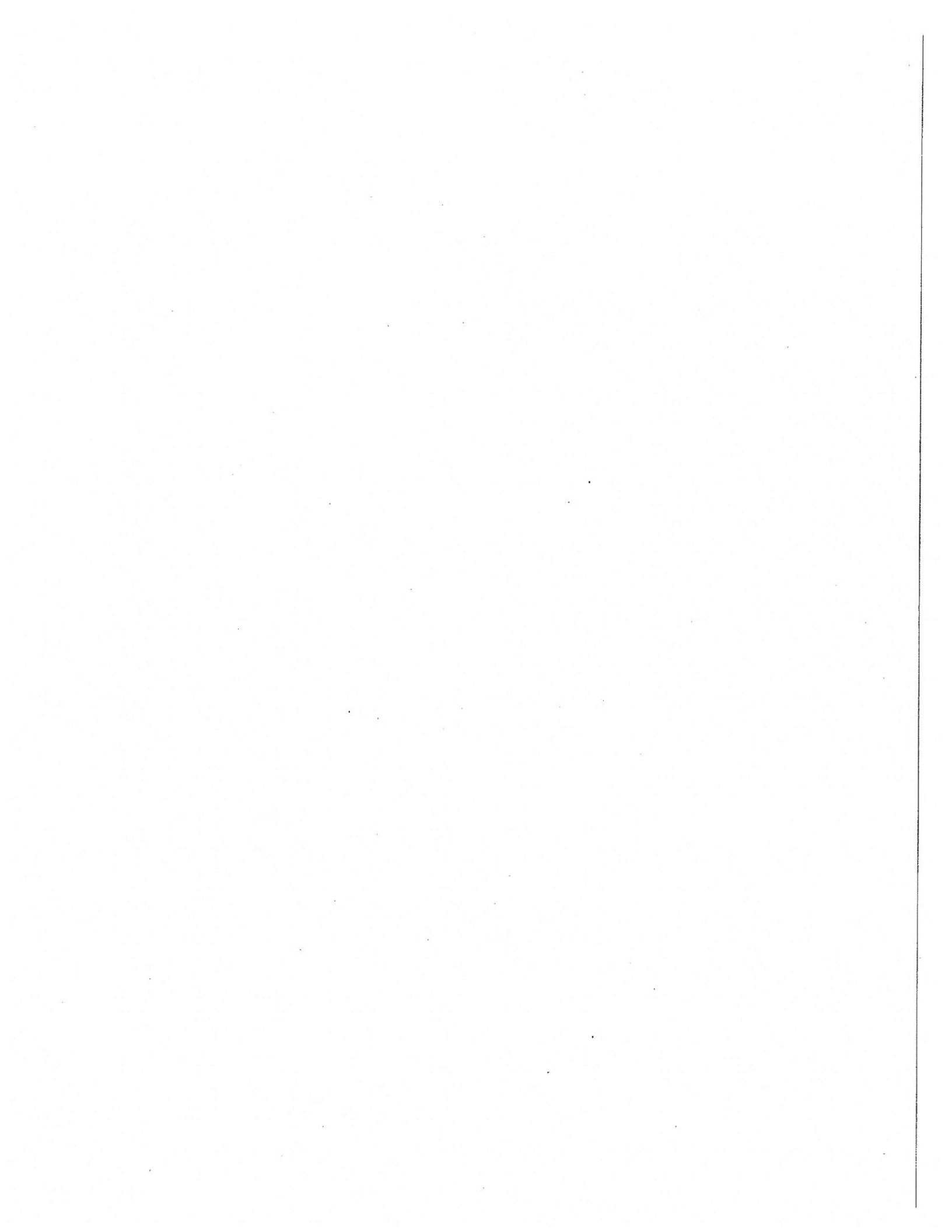
SECTION 5. LEGAL CONTACT: Under 5A, if the Legal Contact you are identifying owns the land, check Owner. If the Legal Contact owns and/or operates the business but someone else owns the land, check Operator. Under 5I, "Private" means privately owned. "Public" means owned by local/municipal government. "State" and "Federal" mean owned by state/federal government.

SECTION 6. WELL INFORMATION: Under 6A CLASS AND TYPE, use the attached table "USEPA Region II List of Class V Injection Well Types" to determine the CLASS V "TYPE". Enter the appropriate Type Code in 6A (the Type Code does not have to fit within the two boxes on the Inventory Form). Select the Class V well type(s) that most accurately fit the well(s) at your facility. When reviewing the attached table and making your determination, be sure to consider all of the fluids entering the well or having the potential to enter the well. For example, Storm Water Drainage Wells located in industrial areas which are susceptible to spills, leaks or other chemical discharges are inventoried as Industrial Drainage Wells. If Cesspools and Septic Systems are receiving fluids other than sanitary waste (human excreta), that should be noted in the Additional Information below.

IMPORTANT: ADDITIONAL INFORMATION

In order to ensure that the Class V Well(s) at your facility are accurately inventoried you must also submit on a separate piece of paper: (1) a brief description characterizing your facility and the types of activities conducted; (2) a brief description of what you use each of your injection well(s) for; (3) a brief description of the types of fluids that enter, or have the potential to enter, each of your injection well(s). (Note: wells with the same information may be grouped).

If you require assistance, please contact EPA Region II at (212) 637-3093.



INVENTORY OF INJECTION WELLS
 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 OFFICE OF GROUND WATER AND DRINKING WATER
(This information is collected under the authority of the Safe Drinking Water Act)

PAPERWORK REDUCTION ACT NOTICE
 The public reporting burden for this collection of information is estimated to average 0.5 hour per response including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, Director, Collection Strategies Division (2822), U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460, and to the Office of Management and Budget, Paperwork Reduction Project (2040-0042), Washington, DC 20503.

4. FACILITY NAME AND LOCATION
(last, first, and middle initials)

A. NAME (last, first, and middle initials) _____

B. STREET ADDRESS/ROUTE NUMBER _____

C. LATITUDE _____

D. LONGITUDE _____

E. TOWNSHIP/RANGE _____

F. CITY/TOWN _____ G. STATE _____ H. ZIP CODE _____

I. NUMERIC COUNTY CODE _____ J. INDIAN LAND (mark "X") Yes No

5. LEGAL CONTACT:

A. TYPE (mark "X") Owner Operator

B. NAME (last, first, and middle initials) _____

C. PHONE (area code and number) _____

D. ORGANIZATION _____

E. STREET/P.O. BOX _____

F. CITY/TOWN _____ G. STATE _____ H. ZIP CODE _____

I. OWNERSHIP (mark "X") PRIVATE PUBLIC SPECIFY OTHER _____

STATE FEDERAL

6. WELL INFORMATION:

A. CLASS AND TYPE	B. NUMBER OF WELLS		C. TOTAL NUMBER OF WELLS	D. WELL OPERATION STATUS						
	COMM	NON-COMM		UC	AC	TA	PA	AN		
			0							
			0							
			0							
			0							
			0							
			0							

COMMENTS (Optional): _____

KEY:
 DEG = Degree
 MIN = Minute
 SEC = Second
 SECT = Section
 1/4 SECT = Quarter Section

COMM = Commercial
 NON-COMM = Non-Commercial
 AC = Active
 UC = Under Construction
 TA = Temporarily Abandoned
 PA = Permanently Abandoned and Approved by State
 AN = Permanently Abandoned and not Approved by State

SECTION 1. DATE PREPARED: Enter date in order of year, month, and day.

SECTION 2. FACILITY ID NUMBER: In the first two spaces, insert the appropriate U.S. Postal Service State Code. In the third space, insert one of the following one letter alphabetic identifiers:

- D - DUNS Number,
- G - GSA Number, or
- S - State Facility Number.

In the remaining spaces, insert the appropriate nine digit DUNS, GSA, or State Facility Number. For example, A Federal facility (GSA - 123456789) located in Virginia would be entered as : VAG123456789.

SECTION 3. TRANSACTION TYPE: Place an "x" in the applicable box. See below for further instructions.

- Deletion.** Fill in the Facility ID Number.
- First Time Entry.** Fill in all the appropriate information.
- Entry Change.** Fill in the Facility ID Number and the information that has changed.
- Replacement.**

SECTION 4. FACILITY NAME AND LOCATION:

- A. **Name.** Fill in the facility's official or legal name.
- B. **Street Address.** Self Explanatory.
- C. **Latitude.** Enter the facility's latitude (all latitudes assume North Except for American Samoa).
- D. **Longitude.** Enter the facility's longitude (all longitudes assume West except Guam).
- E. **Township/Range.** Fill in the complete township and range. The first 3 spaces are numerical and the fourth is a letter (N,S,E,W) specifying a compass direction. A township is North or South of the baseline, and a range is East or West of the principal meridian (e.g., 132N, 343W).
- F. **City/Town.** Self Explanatory.
- G. **State.** Insert the U.S. Postal Service State abbreviation.
- H. **Zip Code.** Insert the five digit zip code plus any extension.

SECTION 4. FACILITY NAME & LOCATION (CONT'D.):

- I. **Numeric County Code.** Insert the numeric county code from the Federal Information Processing Standards Publication (FIPS Pub 6-1) June 15, 1970, U.S. Department of Commerce, National Bureau of Standards. For Alaska, use the Census Division Code developed by the U.S. Census Bureau.
- J. **Indian Land.** Mark an "x" in the appropriate box (Yes or No) to indicate if the facility is located on Indian land.

SECTION 5. LEGAL CONTACT:

- A. **Type.** Mark an "x" in the appropriate box to indicate the type of legal contact (Owner or Operator). For wells operated by lease, the operator is the legal contact.
- B. **Name.** Self Explanatory.
- C. **Phone.** Self Explanatory.
- D. **Organization.** If the legal contact is an individual, give the name of the business organization to expedite mail distribution.
- E. **Street/P.O. Box.** Self Explanatory.
- F. **City/Town.** Self Explanatory.
- G. **State.** Insert the U.S. Postal Service State abbreviation.
- H. **Zip Code.** Insert the five digit zip code plus any extension.
- I. **Ownership.** Place an "x" in the appropriate box to indicate ownership status.

SECTION 6. WELL INFORMATION:

- A. **Class and Type.** Fill in the Class and Type of injection wells located at the listed facility. Use the most pertinent code (specified below) to accurately describe each type of injection well. For example, 2R for a Class II Enhanced Recovery Well, or 3M for a Class III Solution Mining Well, etc.
- B. **Number of Commercial and Non-Commercial Wells.** Enter the total number of commercial and non-commercial wells for each Class/Type, as applicable.
- C. **Total Number of Wells.** Enter the total number of injection wells for each specified Class/Type.
- D. **Well Operation Status.** Enter the number of wells for each Class/Type under each operation status (see key on other side).

CLASS I Industrial, Municipal, and Radioactive Waste Disposal Wells used to inject waste below the lowermost Underground Source of Drinking Water (USDW).

- TYPE 1I** Non-Hazardous Industrial Disposal Well.
- 1M** Non-Hazardous Municipal Disposal Well.
- 1H** Hazardous Waste Disposal Well injecting below the lowermost USDW.
- 1R** Radioactive Waste Disposal Well.
- 1X** Other Class I Wells.

CLASS II Oil and Gas Production and Storage Related Injection Wells.

- TYPE 2A** Annular Disposal Well.
- 2D** Produced Fluid Disposal Well.
- 2H** Hydrocarbon Storage Well.
- 2R** Enhanced Recovery Well.
- 2X** Other Class II Wells.

CLASS III Special Process Injection Wells.

- TYPE 3G** *In Situ* Gasification Well
- 3M** Solution Mining Well.

CLASS III (CONT'D.)

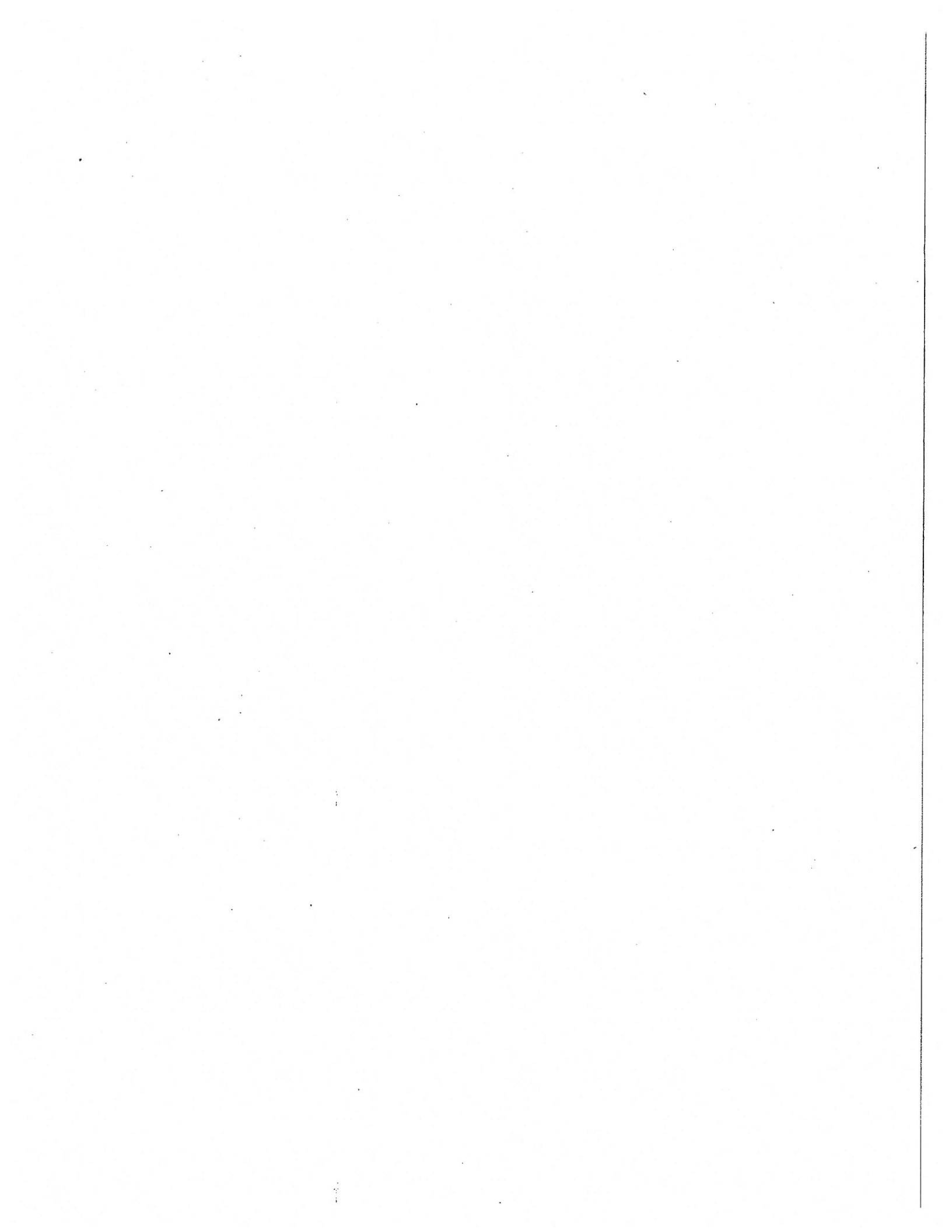
- TYPE 3S** Sulfur Mining Well by Frasch Process.
- 3T** Geothermal Well.
- 3U** Uranium Mining Well.
- 3X** Other Class III Wells.

CLASS IV Wells that inject hazardous waste into/above USDWs.

- TYPE 4H** Hazardous Facility Injection Well.
- 4R** Remediation Well at RCRA or CERCLA site.

CLASS V Any Underground Injection Well not included in Classes I through IV.

- TYPE 5A** Industrial Well.
- 5B** Beneficial Use Well.
- 5C** Fluid Return Well.
- 5D** Sewage Treatment Effluent Well.
- 5E** Cesspools (non-domestic).
- 5F** Septic Systems.
- 5G** Experimental Technology Well.
- 5H** Drainage Well.
- 5I** Mine Backfill Well.
- 5J** Waste Discharge Well.



PAPERWORK REDUCTION ACT The public reporting and record keeping burden for this collection of information is estimated to average 0.5 hours per response. Burden means the total time, effort, or financial resource expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal Agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to the collection of information; search data sources; complete and review the collection of information; and, transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW., Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed forms to this address.

**USEPA REGION II LIST OF
CLASS V INJECTION WELL TYPES**

TYPE CODE	NAME	DESCRIPTION
INDUSTRIAL/COMMERCIAL/UTILITY DISPOSAL WELLS		
5X28	MOTOR VEHICLE WASTE DISPOSAL WELLS	- wells that receive or have received fluids from vehicular repair or maintenance activities, such as an auto body repair shop, automotive repair shop, new and used car dealership, specialty repair shop (e.g., transmission and muffler repair shop), or any facility that does any vehicular repair work.
5W20	INDUSTRIAL PROCESS WATER & WASTE DISPOSAL WELLS	- used to dispose of a wide variety of wastes and wastewater from industrial, commercial, or utility processes. Industries include refineries, chemical plants, smelters, pharmaceutical plants, laundromats and dry cleaners, tanneries, carwashes, laboratories, funeral homes, etc. Specify industry <u>and</u> waste stream.
5A19	COOLING WATER RETURN FLOW WELLS	- used to inject water which was used in a cooling process.
DRAINAGE WELLS		
5D4	INDUSTRIAL DRAINAGE WELL	- wells located in industrial areas which primarily receive storm water runoff but are susceptible to spills, leaks, or other chemical discharges.
5D2	STORM WATER DRAINAGE WELLS	- receive storm water runoff from paved areas, including parking lots, streets, residential subdivisions, building roofs, highways, etc.
5F1	AGRICULTURAL DRAINAGE WELLS	- receive irrigation tailwaters, other field drainage, animal yard, feedlot, or dairy runoff, etc.
5D3	IMPROVED SINKHOLES	- receive storm water runoff from developments located in karst topographic areas.
5G30	SPECIAL DRAINAGE WELLS	- used for disposing water from sources other than direct precipitation—such as landslide control drainage wells, potable water tank overflow drainage wells, swimming pool drainage wells, and lake level control drainage wells.

DOMESTIC WASTEWATER DISPOSAL WELLS		
5W9	UNTREATED SEWAGE WASTE DISPOSAL	- receive raw sewage wastes from pumping trucks or other vehicles which collect such wastes from single or multiple sources. (No treatment)
5W10	LARGE CAPACITY CESSPOOLS	- large capacity cesspools including multiple dwelling, community or regional cesspools, or other devices that receive sanitary wastes, containing human excreta, which have an open bottom and sometimes perforated sides. Includes non-residential cesspools which receive solely sanitary waste and have the capacity to serve greater than or equal to 20 persons a day. DOES NOT apply to single family residential cesspools.
5W11	SEPTIC SYSTEM (UNDIFFERENTIATED DISPOSAL METHOD)	- used to inject the waste or effluent from a multiple dwelling, business establishment, community or regional business establishment septic tank to an undetermined final discharge point. Includes non-residential septic systems which receive solely sanitary waste and have the capacity to serve greater than or equal to 20 persons a day. DOES NOT apply to single family residential septic systems. (Primary Treatment)
5W31	SEPTIC SYSTEMS (WELL DISPOSAL METHOD)	- used to inject the waste or effluent from a multiple dwelling, business establishment, community or regional business establishment septic tank to a well-- examples of wells include dry wells, seepage pits, cavitettes, etc. The largest surface dimension is less than or equal to the depth dimension. Includes non-residential septic systems which receive solely sanitary waste and have the capacity to serve greater than or equal to 20 persons a day. DOES NOT apply to single family residential septic systems. (Primary Treatment)
5W32	SEPTIC SYSTEMS (DRAIN FIELD DISPOSAL METHOD)	- used to inject the waste or effluent from a multiple dwelling, business establishment, community or regional business establishment septic tank to a drainfield--examples of drainfields include drain or tile lines, and trenches. Includes non-residential septic systems which receive solely sanitary waste and have the capacity to serve greater than or equal to 20 persons a day. DOES NOT apply to single family residential septic systems. (Primary Treatment)
5W12	DOMESTIC WASTEWATER TREATMENT PLANT EFFLUENT DISPOSAL	- dispose of treated sewage or domestic effluent from small package plants up to large municipal treatment plants. Final discharge points may include drywells or leachfields. (Secondary or further treatment)

GEOHERMAL REINJECTION WELLS		
5A5	ELECTRIC POWER REINJECTION WELLS	- reinject geothermal fluids used to generate electric power.
5A6	DIRECT HEAT REINJECTION WELLS	- reinject geothermal fluids used to provide heat for large buildings or developments.
5A7	HEAT/PUMP/AIR CONDITIONING RETURN FLOW WELLS	- reinject groundwater used to heat or cool a building in a heat pump system.
5A8	GROUNDWATER AQUACULTURE RETURN FLOW WELLS	- reinject groundwater or geothermal fluids used to support aquaculture. Non-geothermal aquaculture disposal wells are also included in this category (e.g., Marine aquariums in Hawaii use relatively cool sea water).
RECHARGE WELLS		
5R21	AQUIFER RECHARGE WELLS	- used to recharge depleted aquifers and may inject fluids from a variety of sources such as lakes, streams, domestic wastewater treatment plants, other aquifers, etc.
5B22	SALINE WATER INTRUSION BARRIER WELLS	- used to inject water into fresh water aquifers to prevent intrusion of salt water into fresh water aquifers.
5S23	SUBSIDENCE CONTROL WELLS	- used to inject fluids into a non-oil or gas producing zone to reduce or eliminate subsidence associated with overdraft of fresh water and not used for the purpose of oil or natural gas production.
OIL FIELD PRODUCTION WASTE DISPOSAL WELLS		
5X17	AIR SCRUBBER WASTE DISPOSAL WELLS	- inject waste from air scrubbers used to remove sulfur from crude oil which is burned in steam generation for thermal oil recovery projects. (If injection is used directly for enhanced recovery and not just disposal it is a Class II well.)
5X18	WATER SOFTENER REGENERATION BRINE DISPOSAL WELLS	- inject regeneration waste from water softeners which are used to improve the quality of brines used for enhanced recovery. (If injection is used directly for enhanced recovery and not just disposal it is a Class II well.)

MINERAL AND FOSSIL FUEL RECOVERY RELATED WELLS		
5X13	MINING, SAND, OR OTHER BACKFILL WELLS	- used to inject a mixture of water and sand, mill tailings, and other solids into mined out portions of subsurface mines whether what is injected is radioactive waste or not. Also includes special wells used to control mine fires and acid mine drainage wells.
5X14	SOLUTION MINING WELLS	- used for in situ solution mining in conventional mines, such as slopes leaching.
5X15	IN-SITU FOSSIL FUEL RECOVERY WELLS	- used for in situ recovery of coal, lignite, oil shale, and tar sands.
5X16	SPENT BRINE RETURN FLOW WELLS	- used to reinject spent brine into the same formation from which it was withdrawn after extraction of halogens or their salts.
MISCELLANEOUS WELLS		
5X25	EXPERIMENTAL TECHNOLOGY WELL	- wells used in experimental or unproven technologies such as pilot scale in situ solution mining wells in previously unmined areas.
5X26	AQUIFER REMEDIATION RELATED WELLS	- wells used to prevent, control, or remediate aquifer pollution, including but not limited to Superfund sites.
5X29	ABANDONED DRINKING WATER WELLS	- used for disposal of fluids. Specify well purpose and injected fluids.
5X27	OTHER WELLS	- any other unspecified Class V wells. Specify well type/purpose and injected fluids.

SOURCE: Prepared by EPA Region II. Based on 1987 Report to Congress on Class V Wells; and 40 C.F.R. §144.81.

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