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Division of Environmental Remediation

By United Parcel Service

Mr. Gardiner W. Cross
New York Department of Environmental Conservation
Remedial Bureau C, 11th Floor
625 Broadway
Albany, New York 12233-7014

Re: White Plains Former MGP
White Plains, New York
NYSDEC Site #V00438-3

Dear Mr. Cross,

Enclosed for filing, please find an electronic copy of the Final Site Management Plan (SMP) for the above-referenced site on compact disk. The Final SMP addresses the Department's comment contained in its letter dated February 28, 2011. Also attached are the paper copies of the SMP's pages 36 through 40 that supersede the pages in the SMP that was previously submitted to the Department. Please switch out those pages in your paper copy accordingly.

If you have any questions or require further information, please do not hesitate to call me at (718) 204-4205 or via email at skorobogatovy@coned.com.

Very truly yours,

Y. Skorobogatov

Yelena Skorobogatov
Technical Specialist
MGP Remediation
Environmental, Health and Safety

Enc:

Cc: Mr. Mark Van Valkenburg, NYSDOH – 1 copy
D. Keehn, Esq., NYSDEC – w/o enc.
Mr. Edward Moore, NYSDEC Region 3 - w/o enc.
Eddy Louie, Con Edison – w/o enc.
Carolyn Jaffe, Esq., Con Edison – w/o enc.
Helen Collier Mauch, Esq., Zarin & Steinmetz – 1 copy

future monitoring activities. Based on the data obtained, Site conditions, and Site use, Con Edison may request from the NYSDEC and NYSDOH that the monitoring frequency be modified.

Prior to sampling, the headspace within each well will be measured with a PID. An oil/water level interface probe and/or a water level indicator will be used to measure the depths to the water table and thickness of any free product in the wells. The monitoring wells will be purged by removing a minimum of three times the volume of standing water in the well to allow for collection of a representative sample. Groundwater samples will then be collected. Prior to filling the sample bottles, the turbidity, pH, temperature, and conductivity of the sample will be measured and recorded. The groundwater samples will be analyzed for TCL VOCs and SVOCs.

3.3.1.2 Monitoring Well Repairs, Replacement and Decommissioning

If bio-fouling or silt accumulation occurs in the on-Site and/or off-Site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced (as per the Monitoring Plan), in the event that the wells become unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Well decommissioning without replacement will be done only with the prior approval of NYSDEC. Well abandonment will be performed in accordance with NYSDEC's "Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

3.3.2 NAPL Recovery Wells and Piezometers

The on-Site network of NAPL recovery wells and piezometers located within the IRM area in the south-central section of the Con Edison electric distribution substation property portion of the Site will be monitored on a semiannual basis. During each monitoring event, the depth to groundwater and NAPL thickness (if present) will be measured in the recovery wells and piezometers using an electronic oil/water interface probe attached to a measuring tape accurate to 0.01 feet. All measurements will be recorded.

If a measurable quantity of NAPL is observed in a recovery well during a monitoring event, the NAPL will be bailed from the recovery well at that time and the removed volume will be recorded. Measurements obtained from that well during subsequent monitoring events will determine whether the NAPL in that well is recoverable. Should observed NAPL continue to accumulate within a recovery well(s) and if the NAPL is recoverable, the collection schedule will be adjusted to remove NAPL more frequently in order to maintain the integrity of the NAPL collection effort.

Data obtained from the piezometers will be used in conjunction with monitoring data obtained from the recovery wells and monitoring wells at the Site to evaluate potential changes in groundwater conditions, including groundwater flow direction or NAPL distribution in close proximity to the cutoff wall.

3.4 SITE-WIDE INSPECTION

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. During these inspections, an inspection form will be completed (Appendix E). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including Site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General Site conditions at the time of the inspection;
- The Site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;

- Compliance with permits and schedules included in the Operation and Maintenance Plan; and
- Confirm that Site records are up to date.

3.5 MONITORING QUALITY ASSURANCE/QUALITY CONTROL

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan (**QAPP**) prepared for the Site and included as Appendix H of the RDR. The main components of the QAPP include:

- QA/QC Objectives for Data Measurement;
- Sampling Program:
    - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
    - Sample holding times will be in accordance with the NYSDEC ASP requirements.
    - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody;
- Calibration Procedures:
    - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
    - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures;
- Preparation of a Data Usability Summary Report (“**DUSR**”), which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary

assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.

- Internal QC and Checks;
- QA Performance and System Audits;
- Preventative Maintenance Procedures and Schedules;
- Corrective Action Measures.

3.6 MONITORING REPORTING REQUIREMENTS

Forms and any other information generated during regular monitoring events and inspections will be kept on file. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP.

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. A letter report will also be prepared, subsequent to each sampling event. The letter report will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- A data usability summary report. Required laboratory data deliverables for samples collected during the reporting period, which include laboratory reporting forms and analytical results, will be reviewed and validated in accordance to USEPA Region II SOPs for organic and inorganic data review and will be presented in the DUSR.

- Any observations, conclusions, or recommendations; and
- A determination as to whether groundwater conditions have changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables are summarized in Table 4 below.

Table 4: Schedule of Monitoring/Inspection Reports

Task	Reporting Frequency*
Groundwater Sampling	Semiannual
Monitoring Well and Piezometer Gauging	Semiannual
NAPL Recovery Well Gauging	Semiannual
Cover System Monitoring at OU-2	Annually
Site-wide Inspection Reporting	Annually/As necessary after severe weather conditions

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC

White Plains Former MGP Site
Operable Unit Nos. 1 and 2

WHITE PLAINS, WESTCHESTER COUNTY, NEW YORK

Site Management Plan

NYSDEC Site Number: V00438-3

Prepared for:

Consolidated Edison Company of New York, Inc.

31-01 20th Avenue
Long Island City, New York 11105

Prepared by:

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Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

JANUARY 2011

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SITE MANAGEMENT PLAN

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 INTRODUCTION

This document is required as an element of the remedial program for the White Plains Former MGP Site (hereinafter referred to as the "**Site**") under the New York State Voluntary Cleanup Program ("**VCP**") administered by the New York State Department of Environmental Conservation ("**NYSDEC**"). The Site was remediated in accordance with Voluntary Cleanup Agreement ("**VCA**") Index # D3-0002-00-10, Site # V00438-3, which was executed on September 23, 2002 and modified on August 23, 2005.

1.1.1 General

Consolidated Edison Company of New York, Inc. ("**Con Edison**") entered into the VCA with the NYSDEC to develop and implement a NYSDEC-approved remedial program for the contamination caused by the manufactured gas plant ("**MGP**") that Con Edison's predecessor companies formerly operated in the City of White Plains, Westchester County, New York. The Site consists of an approximately two-acre area comprised of the following real properties: (i) a Con Edison electric distribution substation which is located at 9 New Street in the City of White Plains, designated on the Tax Map of the City of White Plains as Section 125.66, Block 4, Lot 2.1, and part of the grounds of the former MGP; and (ii) an adjoining commercial office building with a tenant parking area which is located at 12 Water Street in the City of White Plains, designated on the Tax Map of the City of White Plains as Section 125.66, Block 4, Lot 1.1, and part of the grounds of the former MGP. Site-related contamination is also present on the grounds of the Saint John the Evangelist Roman Catholic Church, which is located at 146-148 Hamilton Avenue in the City of White Plains, and designated on the Tax Map of the City of White Plains as Section 125.66, Block 6, Lot 2. Under the VCA, Con Edison is required to investigate and remediate MGP-contaminated media at the Site and the off-Site Saint John the Evangelist Roman Catholic Church property. Drawings depicting the location and boundaries of the Site and Saint John the Evangelist Roman Catholic Church property are provided in Figures 1 and 2, respectively.

In accordance with the VCA, NYSDEC-approved Remedial Action Work Plans ("**RAWPs**") (Parsons, 2007) were implemented for Operable Unit 1 ("**OU-1**") and Operable Unit 2 ("**OU-2**") of the Site. OU-1 consists of the southern section of the Con Edison electric distribution substation property and the off-Site Saint John the Evangelist Roman Catholic Church property. OU-2 consists of the northern section of the Con Edison electric distribution substation property and the adjoining 12 Water Street property.

The NYSDEC-approved remedy for OU-1 consists of: (i) continued maintenance and use of the non-aqueous phase liquid MGP coal tar ("**NAPL**") cut-off wall installed immediately down-gradient of the former MGP relief holder area in the south-central portion of the Con Edison electric substation property as part of the NYSDEC-approved Interim Remedial Measures ("**IRM**") discussed below; (ii) continued maintenance, operation, and monitoring of the NAPL recovery wells and piezometers installed in that area as part of the IRM;; (iii) installation, maintenance, operation, and periodic monitoring of a network of groundwater monitoring wells on the Saint John the Evangelist Roman Catholic Church property; and (iv) institutional controls, including land use restrictions, groundwater use restrictions, periodic monitoring and data reporting, and the preparation and filing of periodic certifications to the NYSDEC regarding compliance with the required institutional controls and the continued effectiveness of the NYSDEC-approved remedy.

The installation of the required groundwater monitoring well network on the Saint John the Evangelist Roman Catholic Church property was performed between July 2009 and November 2009 pursuant a NYSDEC-approved RAWP (Parsons, 2007). The monitoring program and engineering and institutional controls applicable to the Saint John the Evangelist Roman Catholic Church property are discussed in the NYSDEC-approved Site Management Plan contained in Appendix G to this document.

The NYSDEC-approved remedy for the OU-2 portion of the Site consists of in-situ stabilization/solidification ("**ISS**") of MGP source materials, the installation of a low permeability cap, and the engineering and institutional controls discussed below in Section 1.1.2 of this document. The implementation of the ISS and low permeability cap installation activities of the NYSDEC-approved OU-2 remedy were commenced in September 2008 and completed in August 2010 pursuant to a NYSDEC-approved RAWP (Parsons, 2007).

As discussed above, a NYSDEC-approved IRM was conducted between July 2004 and January 2005 in conjunction with the Phase II construction activities of Con Edison's modernization/improvement project for its electric distribution substation on the Site. The removal of electrical equipment as part of the improvement/modernization project allowed temporary access to the former MGP relief gasholder area located within the south-central section of the Con Edison electric distribution substation property. The NYSDEC-approved IRM addressed, to the extent technically feasible, the subsurface MGP-impacted materials in this area. The NYSDEC-approved IRM activities included the removal of the foundation of the former MGP's southern relief gasholder and associated MGP-impacted soils, the installation of a subsurface NAPL cut-off wall, and the installation of seven NAPL recovery wells and four piezometers. The IRM area and the locations of the NAPL cut-off wall, NAPL recovery wells, and piezometers are shown in Figure 2A.

After these IRM activities were completed, Con Edison constructed two aboveground electric transformer enclosure structures in the IRM area. These structures are shown in Figure 2A. To provide for continuing access to the NAPL cut-off wall, NAPL recovery wells, and piezometers, the portion of the IRM area in which the cut-off wall, recovery wells, and piezometers are located was left open and capped with asphalt paving.

The operation and maintenance of the engineering controls installed as part of the IRM was formerly conducted in accordance with an NYSDEC-approved Operation, Maintenance, and Monitoring Plan (Parsons, 2004), which is superseded by this Site

Management Plan. The NYSDEC-approved Operation, Maintenance, and Monitoring Plan (Parsons, 2004) is included in Appendix F of this SMP.

After completion of the remedial work described in the NYSDEC-approved IRM Work Plan for the former MGP relief holder area in south-central section of the Con Edison electric distribution substation property and the NYSDEC-approved OU-1 and OU-2 RAWPs, some contamination, which is hereafter referred to as the "**remaining contamination**," was left in the subsurface at the Site and the off-Site Saint John the Evangelist property. This Site Management Plan ("**SMP**") was prepared to manage remaining contamination at the Con Edison electric substation property and 12 Water Street property portions of the Site in perpetuity or until extinguishment of the Declarations of Covenants and Restrictions for these portions of the Site. A copy of the respective draft Declarations of Covenants and Restrictions for the Con Edison substation property and the 12 Water Street property is included in Appendix H to this SMP. Appendix G to this SMP was prepared to manage the remaining contamination on the Saint John the Evangelist Roman Catholic Church property. All reports associated with the Site and the Saint John the Evangelist Roman Catholic Church property can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by Parsons, on behalf of Con Edison, in accordance with the requirements specified in NYSDEC Draft DER-10 ***Technical Guidance for Site Investigation and Remediation***, dated May 2010 and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the Institutional Controls ("**ICs**") and Engineering Controls ("**ECs**") that are required at the Site by the NYSDEC-approved Declarations of Covenants and Restrictions for the Site.

1.1.2 Purpose

The Site and Saint John the Evangelist Roman Catholic Church property contains remaining contamination left after completion of the remedial action specified in the IRM Work Plan and OU-1 and OU-2 RAWPs that the NYSDEC approved under the VCA. ECs and ICs have been incorporated into the NYSDEC-approved remedial program for the Site and Saint John the Evangelist Roman Catholic Church property to control exposure and to provide proper management of remaining contamination in the future, and to ensure protection of public health and the environment. A NYSDEC-approved Declaration of Covenants and Restrictions will be executed by Con Edison for the Con Edison electric distribution substation property portion of the Site. A NYSDEC-approved Declaration of Covenants and Restrictions for the 12 Water Street property portion of the Site will be prepared by Con Edison and executed by the fee owner of 12 Water Street property. The NYSDEC-approved Declaration of Covenants and Restrictions for the Con Edison electric distribution substation property and the NYSDEC-approved Declaration of Covenant and Restrictions for the 12 Water Street property will be filed by Con Edison with the Westchester County Clerk for recording to provide enforceable legal instruments to ensure compliance with this SMP and all ECs and ICs placed on the Site. Con Edison as the Remedial Party to the VCA is required to implement the SMP.

The ICs place restrictions on the use of Site and Saint John the Evangelist Roman Catholic Church property, and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. This SMP specifies the methods necessary ensure compliance with all ECs and ICs for the Site and the Saint John the Evangelist Roman Catholic Church property. This SMP has been approved by the NYSDEC, and compliance with this SMP is required by Con Edison, Con Edison's successors and assigns, and all future owners of the Site and Saint John the Evangelist Roman Catholic Church property. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage the remaining contamination on the Site and Saint John the Evangelist Roman Catholic Church property, including: (1) implementation and management of all ECs and ICs for the Site; (2) groundwater and other media monitoring; and (3) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports to the NYSDEC.

To address these needs, this SMP includes three plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; (3) an Operation and Maintenance Plan.

This plan also includes a description of Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

It is important to note that this SMP details the Site-specific implementation procedures that are required as part of the Site's NYSDEC-approved remedial program under the VCA. Failure to properly implement the SMP is a violation of the VCA, which is grounds for revocation of the Release and Limited Covenant Not to Sue issued by the NYSDEC pursuant to the VCA;

Appendix G to this SMP contains the Engineering and Institutional Control Plan and Monitoring Plan applicable to the Saint John the Evangelist Roman Catholic Church property and includes a description of the required Periodic Review Reports for that portion of the Site

1.1.3 Revisions

Revisions to this SMP will be proposed in writing to the NYSDEC's project manager. In accordance with the Declarations of Covenants and Restrictions for the Site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.2 SITE BACKGROUND

The Site is comprised of the grounds of a former MGP that was operated by Con Edison's predecessor companies and an area with DNAPL contamination that migrated from the grounds of the former MGP. Gas at the former MGP was initially produced from coal. Later gas was produced at the MGP from coke, petroleum (naphtha and/or oil), and water in the form of steam. The former grounds of the MGP are currently occupied by a Con Edison electric distribution substation (with a street address of 9 New Street in the City of White Plains) and a commercial office building and tenant parking area (with a street address of 12 Water Street in the City of White Plains) (see Figure 2A).

A description of the site background for the Saint John the Evangelist Roman Catholic Church property is discussed in Appendix G to this SMP.

1.2.1 Site Location and Description

The Site is located in the City of White Plains, Westchester County, New York and is identified as Section 125.66, Block 4, Lots 1.1 and 2.1 on the Tax Map of the City of White Plains.. The Saint John the Evangelist Roman Catholic Church property is designated as Section 125.66, Block 6, Lot 2 on the Tax Map of the City of White Plains The Site encompasses an area of approximately two acres and the Saint John the Evangelist Roman Catholic Church property encompasses an area of approximately 1.75 acres. The Site and Saint John the Evangelist Roman Catholic Church property are bounded by Water Street to the north, Hamilton Street to the south, and North Lexington Avenue, open space, an above-ground parking lot and a commuter transportation center to the west. They are bounded on the east by a parking lot and office building located over the former roadbed of a de-mapped public thoroughfare formerly known as Spring Street. Presently, the closest public street located east of the Site is Dr. Martin Luther King, Jr. Boulevard (see Figures 1 and 2A).

1.2.2 Site History

Historical information relating to past uses of the Site was compiled by Jacques Whitford Company, Inc. ("**JWC**") as part of a Phase I Environmental Site Assessment ("**ESA**") (JWC, 1999). Historical Atlases of Westchester County (1861, 1893, 1901, and 1930), City Directory Abstracts (1937, 1942, 1948, 1952, 1958, and 1965), and historical aerial photographs (1954, 1961, 1964, 1974, 1975, 1979, 1989, and 1994) were reviewed. Sanborn Fire Insurance ("**Sanborn**") maps of areas occupied by the MGP (1885, 1889, 1894, 1900, 1905, 1911, 1930, 1950, 1987, 1989, 1990, 1992, 1993, and 1994) were also examined. Detailed Site information was also obtained from a Westchester Lighting Company Property Plan, dated June 1, 1911. Westchester Lighting was the last of the Con Edison predecessor companies to have operated the MGP.

Beginning in the mid-1800s, a MGP was operated between Lexington Avenue on the west, Spring Street (now Dr. Martin Luther King, Jr. Boulevard) on the east, New Street on the south and Gas Street (now Water Street) on the north. The Site is labeled as "Gasworks" on the 1861 map from the Historical Atlases of Westchester County. The MGP consisted of two buildings and a small gasometer ("**gasholder**"). The 1889 Sanborn map indicates the MGP was operated by the White Plains Gas Light Company. The structures depicted as being present on the Site indicate that gas was produced from coal and naphtha. The MGP contained a retort house, a coal house, a meter room, four purifiers, a 24,000 cubic foot ("**cf**") gasholder, a tar well, and an iron tank for the storage of naphtha. The western and southern portions of the Site contained residential dwellings. A small stream was shown flowing to the north along the eastern side of Spring Street. At the northeast corner of the Site, the stream bent to the west and flowed westward along the northern side of Gas Street.

The same structures appear to be present on an 1893 map from the Historical Atlases of Westchester County. The structures depicted on the 1894 Sanborn map are similar to those shown on the 1889 Sanborn map. The White Plains Lighting Company is now shown as owner of the MGP. The changes to the area depicted on the 1894 Sanborn map include the addition of a White Plains Steam Laundry building in the northern portion of the property and the re-naming of Gas Street to Water Street.

The 1900 Sanborn map indicates an expansion of the MGP and a change in the MGP's gas production process from coal gas to a carbureted water gas. The MGP's retort house has been converted to a boiler house and generator house. A new 50,000 cf one-lift gasholder is present north of the existing gasholder in the vicinity of the former White Plains Steam Laundry. A new gas purifying house is also present in the northeast corner of the MGP. The 1901 Historical Atlas map is similar to the 1900 Sanborn map.

The 1905 Sanborn map indicates further expansion and change of the MGP. A third 150,000 cf two-lift gasholder is present west of the second gasholder. The smaller southern 24,000 cf gasholder has been converted to a 10,000 gallon oil tank. An electric substation was also located adjacent to the boiler house building.

The 1911 Sanborn map and the June 1, 1911 Westchester Lighting Company property plan indicate that ownership of the MGP had changed to the Westchester Lighting Company. The MGP contained various structures including two relief holders, a storage holder, a generator house, a gas purifying house, various storage sheds, a stable, a substation, several oil and tar tanks, a tar separator, and a tar well.

Operations at the MGP reportedly ceased in May 1930. The gasholders and oil tanks are no longer present on the 1930 Sanborn map. The gas purifier house, boiler house and generator house are shown as vacant or used for storage. A two-story building (currently one of the strnctures of Con Edison electric distribution substation) and transformers are present in the southern portion of the area where dwellings were previously located. The substation building was reportedly constructed in 1925 adjacent to the substation on the MGP. A large building (located within the footprint of the current 12 Water Street office building) is also present in the northwest portion of the MGP. The stream located east and north of the MGP is also filled in.

All of the former MGP buildings with the exception of a storage building (the former purifying house) located in the northeast corner of the MGP are no longer shown on the 1950 Sanborn map. A parking lot is also present adjacent to the large building in the northwest portion of the MGP. The remainder of the MGP is similar to the 1930 Sanborn map.

In February 1951, the Westchester Lighting Company was merged with and into Con Edison. The 1954 and later aerial photographs and Sanborn Maps indicate that the former MGP consisted of a Con Edison substation and an adjoining commercial office building property with a street address of 12 Water Street.

1.2.3 Geologic Conditions

The Site is located in Westchester County within the Manhattan and Reading Prongs of the New England Uplands physiographic Province. This province is described as being comprised of mature and complex geology. The regional unconsolidated deposits in the Site area contain glacial deposits overlying metamorphic sedimentary and igneous rocks. Hilly areas are reportedly underlain by erosion-resistant gneiss and schist of the Fordham and Manhattan Formations.

Two geologic cross-sections are presented as Figures 3 and 4. Information concerning the Site's stratigraphy and hydrogeology were obtained from observations made during the installation of soil borings. Based on previous investigation results summarized in the Site Investigation Report (Parsons, 2004), the stratigraphy of the Site can be divided into four geologic units: (i) fill; (ii) fine to medium sand; (iii) glacial till; and (iv) bedrock. The fill ranges in thickness from 3.5 to 9 feet and consists of fine to coarse sand, with varying amounts of gravel, silt, brick, cobbles, cinders, metal and concrete debris, and concrete foundations and slabs. The fill is underlain by up to 77 feet of sand. The upper portion of the sand unit consists predominantly of fine to medium sand with a few discontinuous lenses of fine to coarse sand, fine gravel, and thin discontinuous lenses of clayey silt. The lower portion of the sand unit consists of poorly graded sands. The sand unit ranges in thickness from 2 feet in MW-5 (below 6 feet of fill) at the northeastern side of the Site to over 77 feet in the southeastern end of the Site. Glacial till was not apparent in borings advanced into bedrock at OU-2. Bedrock consisting of Manhattan Schist was observed throughout OU-2 at highly variable depths, ranging from 8 feet below ground surface ("**bgs**") in the northeastern corner to 84 feet bgs in the southeastern corner of the 9 New Street property.

Depths to groundwater in the northern and topographically lower portion of the Site range from approximately 7 to 12 feet bgs. Depths to groundwater in the southern and topographically higher portion of the Site range from 22 to 29 feet bgs. Local groundwater flow is generally toward the south and west. This appears to correspond with the increasing overburden thickness and increasing depth to bedrock towards the south and west. Measured groundwater elevations suggest that the Site is within the Hudson River drainage basin.

Groundwater at the Site is not used as a drinking water source. The entire City of White Plains is served by a public water supply system. According to the City of White Plains Water Department, 95 percent of the City's water is purchased from the New York City Water Board and is drawn from the Kensico Reservoir. Three public water supply wells located approximately 1.5 miles up-gradient of the Site reportedly serve as the source of the remainder of the City of White Plains' drinking water. Regional groundwater flow is assumed to generally mimic the surface topography and flow to the southwest towards the Bronx River.

A comprehensive groundwater gauging event was conducted at the Site in September 2010. The Site's groundwater table elevations at that time ranged in depth from 182.35 feet above mean sea level ("**AMSL**") in monitoring well MW-6 located at the northern extent of the Site to 176.70 feet AMSL in monitoring well MW-15 located in the southwest corner of the Site. A groundwater elevation contour map is shown in Figure 5.

1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS

A Site Investigation ("**SI**") was performed to characterize the nature and extent of the contamination at the Site. The results of the SI are described in detail in the NYSDEC-approved report entitled, ***Site Investigation Report, White Plains Former MGP Site***, (Parsons, 2004).

Generally, the SI determined that subsurface soils in the vicinity of the Site's former MGP structures had been impacted by MGP residuals. MGP source materials, consisting of NAPL and oily or tar-like material, were encountered at various depths in borings conducted within and in the vicinity of the former gasholders, within the former purifying house area, in the vicinity of the former above ground oil and tar tanks, and near the former tar well and tar separator.

The following sections provide a summary of Site conditions when the SI was performed in 2004.

A summary of remedial investigation findings for the Saint John the Evangelist Roman Catholic Church property is discussed in Appendix G to this SMP.

1.3.1 Soil

NAPL was detected at depths of greater than 20 feet bgs in vertically isolated intervals primarily in the vicinity of former MGP structures. MGP source materials at depths of greater than 20 feet bgs were also detected in vertically isolated intervals primarily in the vicinity of the former MGP structures. Volatile organic compounds ("**VOCs**"), polycyclic aromatic hydrocarbons ("**PAHs**"), and metals were detected in the soil samples at concentrations exceeding the NYSDEC Recommended Soil Cleanup Objectives ("**RSCOs**") provided in Technical and Administrative Guidance Memorandum ("**TAGM**") #HWR-94-4046 [NYSDEC, 1994] and included in Tables 4-2 and 4-8 in the SI which is included as Appendix B of this SMP. The highest concentrations were detected in the vicinity of the former MGP structures.

Investigation results indicate that soils in the western portion of the 12 Water Street property (occupied by the commercial office building on that property and the sidewalk area along North Lexington Avenue) have not been impacted by MGP residuals. In addition, MGP-related impacts were not identified in the southwestern portion of the Con Edison electric distribution substation property. Con Edison acquired that portion of the property in 2002 as part of the improvement/modernization project for its electric distribution substation facility. Due to the presence of active electrical equipment in the north substation yard, only limited data could be obtained in this area during Site investigations.

Based upon the investigation results, the NYSDEC informed the City of White Plains Department of Buildings ("**DOB**") that the NYSDEC had no objection to the DOB's issuance of permits for the construction of new structures in southwestern section of the Con Edison electric distribution substation. That area is now occupied by two above-ground electric transformer enclosure structures and a switchgear building extension.

1.3.2 Site-Related Groundwater

Investigation results indicate that groundwater in the vicinity of the former MGP structures has also been impacted by MGP residuals. NAPL present as either a sheen, a thin layer of light non-aqueous phase liquid ("**LNAPL**") (0.01 feet to 0.18 feet in thickness), or floating globules of a brownish oily material were encountered in three wells within the OU-2 section of the Site. Select VOCs and semi-volatile organic compounds ("**SVOCs**") were also detected in groundwater samples above the NYSDEC groundwater quality standards ("**GWQS**") and guidance values presented in NYSDEC

Technical and Operational Guidance Series ("**TOGS**") 1.1.1 [NYSDEC, 1998] and are included in Table 4-4 in the SI. The highest concentrations were detected in wells located in the vicinity of the former MGP structures.

1.3.3 Site-Related Soil Vapor Intrusion

A total of six soil gas samples were collected at the Site on May 28, 2002 and June 4, 2002. Samples were collected along the eastern side of the switch gear building on the Con Edison electric substation portion of the Site. The samples were submitted for analysis of VOCs, naphthalene, 2-methylnaphthalene, and 10 tentatively identified compounds ("**TICs**") by EPA Method TO-15.

Low concentrations of 15 VOCs were detected in the soil gas samples collected from the six locations beneath and along the eastern side of the switchgear building. The VOCs consisted of chlorinated compounds, 2-butanone, acetone, carbon disulfide, xylene, methyl tert-butyl ether ("**MTBE**"), and toluene. Concentrations of all of the VOCs, except acetone and toluene, were generally below 1 part per billion by volume ("**ppbv**").

An evaluation of potential subsurface vapor intrusion for the 12 Water Street commercial office building was conducted in December 2005 by RETEC. The overall goal of the evaluation was to ascertain whether air quality within the building was being adversely affected by the potential presence of residual MGP-related impacts. The study entailed the collection and analysis of a total of 17 air and soil gas samples: (i) two ambient air samples from outside the building; (ii) nine indoor air samples inside the building; (iii) five soil gas samples from beneath the concrete floor slab of the building; and (iv) one subsurface soil gas sample from outside the building. The results of the evaluation were documented in the report entitled, *Evaluation of Indoor Air and Soil Gas Sampling* (RETEC, 2006).

Based on the analytical results from the RETEC study and the SI, indoor air quality at the 12 Water Street commercial office building does not appear to have been adversely impacted by intrusion of MGP-related vapors.

1.3.4 Underground Structures

Available Sanborn maps and Westchester Lighting Company drawings indicated that the MGP formerly located on the Site contained various structures including two relief holders, a storage holder, a generator house, a purifying house, various storage sheds, a stable, a substation, several oil and tar tanks, a tar separator, and a tar well. Test pitting and soil boring activities conducted during the Site investigation confirmed that the subsurface remnants of former MGP structures were present at the Site.

Test pit and boring refusals within the footprint of the MGP's former larger northern storage gasholder indicated that a concrete bottom was present at a depth of approximately 5.5 feet bgs. No refusals were encountered at borings installed within the footprint of the MGP's former central relief gasholder, indicating a bottom to this structure was not present. The MGP's former southernmost gasholder was approximately 45 feet in diameter, with walls constructed of steel lined with brick on either side, approximately 3-foot in thickness. This gasholder was believed to have a concrete bottom approximately 18 feet bgs based on limited borings advanced within the gasholder footprint.

A utility clearance outside of the public properties used ground-penetrating radar (**"GPR"**) and magnetic survey methods to scan each area where borings, wells, or test pits were scheduled for completion. Record drawings for the on-Site buildings were reviewed during sampling placement. In general, utilities present within the vicinity of the Site are located at depths less than five feet bgs. One 24-inch diameter sanitary sewer line beneath the Water Street sidewalk adjacent to the OU-2 section of the Site is present at depths up to 15 feet bgs.

1.4 SUMMARY OF REMEDIAL ACTIONS

As discussed above, the implementation of the NYSDEC-approved IRM for the south-central area of the Con Edison electric distribution substation property portion of the Site was conducted between July 2004 and January 2005. The remedial actions conducted as part of the NYSDEC-approved IRM include:

1. The excavation/removal of the subsurface remnants of former MGP relief holder foundation located in this section of the Site and the MGP-impacted materials contained inside the MGP relief holder foundation;

2. The excavation and off-site treatment/disposal of materials visually impacted with NAPL encountered adjacent to and beneath the relief holder foundation and above the groundwater table;
3. The installation of a NAPL cut-off wall south of the relief holder; and
4. The installation of piezometers and NAPL recovery wells both upgradient and downgradient of the NAPL cut-off wall.

The implementation of the NYSDEC-approved RAWP for OU-2 of the Site commenced in September 2008 and was completed in August 2010. The following is a summary of the remedial actions conducted pursuant to the NYSDEC-approved remedy for the OU-2 section of the Site:

1. Demolition of the former MGP and substation structures and off-Site disposal of materials from the demolished structures including concrete, rebar, scrap metal and asbestos-containing materials ("ACM");
2. Excavation and off-Site disposal of excess surface soil/fill to maintain original surface grade elevations within the tenant parking area of the 12 Water Street property;
3. ISS of MGP source materials using excavators and a crane-mounted auger to bedrock or the maximum depth achievable with the equipment used and Site conditions;
4. ISS of MGP-impacted soil hotspots below ISS auger columns and interstitial spaces between ISS auger columns via jet grouting;
5. Installation of a perimeter wall extending from approximately 3.5 feet below final grade to bedrock via jet grouting;
6. Off-Site disposal of MGP-impacted soil/fill generated as spoils during ISS activities; and
7. Construction/installation of a 3.5-foot thick surface cover system consisting of clean fill, concrete and asphalt to prevent human exposure to remaining contaminated soil/fill at the OU-2 section of the Site;

Implementation of ISS involved the mixing of NAPL-impacted and MGP source soils/materials with a grout mixture of water, Portland cement and slag cement to a depth as close to bedrock as permissible by machinery and field conditions within the OU-2 section of the Site. The ISS area is shown on Figure 6.

ISS was accomplished in the western portion of the OU-2 area by constructing a series of overlapping stabilized soil columns (typically 4 to 9 feet in diameter). The stabilized soil columns were formed by a crane-mounted drill attachment that turned a single shaft large diameter auger head consisting of two or more cutting edges and mixing blades. As the auger head advanced into the soil, the binding reagent (grout) was pumped through a Kelly bar (hollow drill shaft) and injected into the soil using predetermined quantities in accordance with the mix design requirements. Once a shaft was completed, another column was drilled using a specified pattern of overlapping columns, which became a series of interlinked columns that create a monolith of solidified soil. In areas where an overlap of columns was not achieved, jet grout injection was employed to achieve remedial objectives. In the eastern portion of the OU-2 section of the Site, ISS was achieved using an excavator.

By letter dated July 16, 2009, the NYSDEC approved a modification to the approved RAWP due to encountered problems with advancing ISS operations to bedrock. The NYSDEC-approved modification allowed for the advancement of perimeter ISS columns in the western portion of the OU-2 area of the Site to bedrock using auger and jet-grouting methods. Interior ISS columns were advanced to the maximum depth feasible using auger equipment. Perimeter ISS cells in the eastern portion of OU-2 area were jet grouted to bedrock below the excavator based ISS. ISS columns in locations with subsurface MGP source materials ("hotspots") were advanced to the maximum depth feasible using auger equipment and then were jet-grouted to a depth of bedrock.

In addition to these completed remedial activities, the following remedial measures are required for the Site.

1. Execution and recording of a NYSDEC-approved Declaration of Covenants and Restrictions for the Con Edison electric substation property and for 12 Water Street property to impose limitations on the use of these portions of the Site and requirements to prevent future exposure to any contamination remaining at the Site;

2. Implementation of this SMP, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting; and
3. Groundwater Monitoring Program.

A summary of the remedial actions implemented for the Saint John the Evangelist Roman Catholic Church property is discussed in Appendix G to this SMP. Appendix G also describes the required Periodic Review Reports for the Saint John the Evangelist Roman Catholic Church property and contains the Engineering and Institutional Control Plan and Monitoring Plan applicable to that off-Site area.

1.4.1 Removal of Contaminated Materials from the Site

Details of the implementation of the NYSDEC-approved IRM for the former MGP relief holder area in the south-central section of the Con Edison electric distribution substation property portion of the Site are presented in the NYSDEC-approved report entitled, ***Interim Remedial Measures Report for Phase II Construction Activities At White Plains Former MGP Site, White Plains, New York*** (Parsons, 2005).

Soil excavation and gasholder-related structure removal during implementation of the NYSDEC-approved RAWP for the OU-2 area of the Site was conducted by 40-hour OSHA HAZWOPER-certified personnel qualified to perform environmental remediation work. In addition, excavation of asbestos containing materials was performed by workers possessing the proper training and certifications. Soil excavation was conducted using typical excavation and construction equipment, including excavators and backhoes.

The quantity of contaminated material disposed during the remediation of the OU-2 area will be included in the Final Engineering Report ("**FER**") for OU-2 which will be incorporated into this SMP upon completion of the preparation of the FER and the NYSDEC's approval of that report.

Transportation of waste materials to appropriately licensed off-Site commercial waste disposal facilities was accomplished by licensed haulers with valid waste transporter permits in accordance with appropriate local, state, and federal regulations.

All waste transport trucks were decontaminated, lined and covered with polyethylene sheeting (when hauling solid waste), and manifested prior to leaving the decontamination area. A representative of Con Edison signed all manifests and bills of lading. Copies of completed and signed manifests and bills of lading will be included in the NYSDEC-approved FER. A representative of Con Edison signed all manifests and bills of lading. Copies of completed and signed manifests and bills of lading will be included in the NYSDEC-approved FER upon completion of the remedial construction activities.,

1.4.2 Site-Related Treatment Systems

No long-term treatment systems were installed as part of the Site remedy.

1.4.3 Remaining Contamination

As discussed above in Section 1.3, subsurface soil and groundwater have been impacted at the Site. The impacts are shown on Figures 7A, 7B and 8 and analytical results presented in Tables 4-2, 4-4, 4-5 and 4-8 of the Site Investigation Report included as Appendix B.

In addition, visual NAPL and elevated BTEX and PAH concentrations were encountered in close proximity to subsurface utilities beneath the sidewalk area along the southern side of Water Street. These impacts were encountered at depths below 7.5 feet bgs in this area. The majority of the utilities present in this area are present at depths of less than 5 feet bgs which resulted in the restricted access to the contaminated area.

As discussed above in Section 1.4, the NYSDEC approved a modification to the RAWP for the OU-2 area of the Site. The modification allowed for the treatment of MGP source material as well as a perimeter of ISS columns around the OU-2 area to prevent the future migration of source contamination. There is a potential for remaining contamination to exist in subsurface soil within the OU-2 area that was not treated by ISS. These areas will be detailed in the FER that is being prepared to document the implementation of the NYSDEC-approved RAWP for the OU-2 section of the Site.

The potential remaining contamination in the subsurface soil of the OU-2 section of the Site is covered as follows to prevent exposure to such soil:

(a) the paved parking area on the 12 Water Street property and the adjoining northern section of the Con Edison electric distribution substation property are covered by a composite soil cover system that consists of 38 inches of imported clean fill and four inches of asphalt paving; (b) the dumpster storage area on the 12 Water Street property is cover by 30 inches of imported clean fill and 12 inches of concrete pavement; (c) the landscaped areas on the 12 Water Street property and the adjoining northern section of the Con Edison electric distribution substation property and covered by 46 inches of imported clean fill; and (d) the planter wall and retaining wall area of the 12 Water Street property is covered with varying thicknesses of imported clean fill, concrete, and masonry totaling more than 42 inches.

2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

2.1 INTRODUCTION

2.1.1 General

Remedial aetivities completed at the Site were conducted in accordance with the NYSDEC-approved IRM Work Plan, NYSDEC-approved RAWPs for OU-1 and OU-2, and the NYSDEC-approved ISS depth modification letter dated July 16, 2009 for the OU-2 RAWP.

Because remaining contaminated soil and groundwater exist beneath the Site and the off-Site Saint John the Evangelist Roman Catholic Church property, Engineering Controls and Institutional Controls ("**EC/ICs**") are required to protect human health and the environment. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all EC/ICs at the Con Edison electric distribution substation and 12 Water Street property portions of the Site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

The Engineering and Institutional Control Plan for the Saint John the Evangelist Roman Catholic Church property is included in Appendix G to this SMP.

2.1.2 Purpose

This SMP provides:

- A description of all required EC/ICs for the Site;
- The basic implementation and intended role of each EC/IC;
- A description of the key components of the required ICs;
- A description of the features to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan for the

proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the Site; and

- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the Site remedy, as determined by the NYSDEC.

2.2 ENGINEERING CONTROLS

2.2.1 Engineering Control Systems

2.2.1.1 Composite Cover

Exposure to remaining contamination in soil/fill within the OU-2 portion of the Site is prevented by the composite cover system shown on Figures 2A and 2B. This cover system is comprised of a minimum of 3.5 feet of clean soil, asphalt pavement and concrete sidewalks. Exposure to remaining soil/fill within the IRM area located in the former MGP relief holder area of the south-central section of the Con Edison electric distribution substation property portion of the Site is prevented by a cover comprised of the concrete foundation slabs of the aboveground transformer enclosure structures that were constructed in that area after the completion of the IRM, asphalt pavement, and concrete sidewalks. The Excavation Work Plan that appears in Appendix A outlines the procedures required to be implemented in the event that the composite cover system in the OU-2 area or the cover in the IRM area is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection and maintenance of these cover systems are provided in the Monitoring Plan included in Section 4 of this SMP.

2.2.1.2 On-Site Monitoring Well Network

An on-Site network of monitoring wells and piezometers is maintained at the Site to monitor groundwater conditions. Protective casings and vault covers have been installed at each on-Site monitoring well and piezometer to limit access by unqualified personnel to contaminants in the groundwater.

Procedures for operating and maintaining the groundwater monitoring system are documented in the Operation and Maintenance Plan (Section 4 of this SMP). Procedures for monitoring the system are included in the Monitoring Plan (Section 3 of this SMP). The Monitoring Plan also addresses severe condition inspections in the event that a severe condition, which may affect controls at the Site, occurs.

2.2.1.3 On-Site NAPL Recovery Wells

An on-Site network of NAPL recovery wells is maintained within the IRM area in the south-central section of the Con Edison electric distribution substation property portion of the Site to allow the recovery of NAPL within this area. Protective casings and vault covers have been installed at each NAPL recovery well to limit access by unqualified personnel to any NAPL that accumulates within these wells. Procedures for monitoring and removing accumulated NAPL from these wells are included in the Monitoring Plan (Section 3 of this SMP). The Monitoring Plan also addresses severe condition inspections in the event that a severe condition, which may affect controls at the Site, occurs.

2.2.1.4 On-Site NAPL Cut-Off Wall

As part of the NYSDEC-approved IRM for the former MGP relief holder area in the south-central section of the Con Edison electric distribution substation property portion of the Site, an approximately 63-foot long subsurface NAPL cut off wall was installed in this area to prevent potential migration of NAPL towards New Street. The NAPL cut-off wall is comprised of continuous AZ-13 steel sheet pile sections. The joints of the sheet pile sections are sealed with Adeka A-30 Ultra Seal hydrophilic waterstop material. The top of the NAPL cutoff wall is located approximately four feet below surface grade (199.12 feet AMSL at the west end, 198.39 feet AMSL at the midpoint, and 197.93 feet AMSL at the east end). The NAPL cut-off wall extends downward to bedrock.

2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10.

2.2.2.1 Composite Cover System

The composite cover system in the OU-2 area of the Site is a permanent control and the quality and integrity of the system will be inspected at defined, regular intervals in perpetuity or until extinguishment of the Declaration of Covenants and Restrictions for the Con Edison electric substation property portion of the Site and/or the Declaration of Covenants and Restrictions for the 12 Water Street property portion of the Site

2.2.2.2 On-Site Monitoring Well Network

For the duration of the post-remedial Groundwater Monitoring program, the on-Site network of monitoring wells and piezometers will be maintained and the quality and integrity of this network will be inspected at defined, regular intervals in perpetuity.

2.2.2.3 NAPL Recovery Wells

For the duration of the post-remedial NAPL Recovery program, the network of NAPL recovery wells located within the IRM area in the south-section section of the Con Edison electric distribution substation property portion of the Site will be maintained and the quality and integrity of this network will be inspected at defined, regular intervals in perpetuity.

2.2.2.4 NAPL Cut-Off Wall

The subsurface NAPL cut-off wall located within the IRM area in the south-central eastern section of the Con Edison electric distribution substation property portion of the Site as part of the NYSDEC-approved IRM for that area is a permanent control and will be maintained in place in perpetuity or until extinguishment of the Declaration of Covenants and Restrictions for the Con Edison electric distribution substation property portion of the Site. Incidental cuts or penetrations through the NAPL cut-off wall may be made, as necessary for substation operations, up to depths no greater than ten (10) feet below the top of the cut-off wall. Provided that they do not impair the effectiveness of the NAPL cut-off wall, such incidental and penetrations through the NAPL cut-off wall can be made without first obtaining the approval of the NYSDEC. All such incidental cuts and penetrations in the NAPL cut-off wall shall be reported to the NYSDEC in the Periodic Review Report provided for below in Section 5.3 of this SMP. Cuts or penetrations through the NAPL cutoff wall at depths greater than ten (10) feet below the top of the cutoff wall may be made only with the prior written approval of the NYSDEC. If approved by the NYSDEC, all such cuts and penetrations shall be reported to the NYSDEC in the Periodic Review Report provided for below in Section 5.3 of this SMP.

2.3 INSTITUTIONAL CONTROLS

A series of Institutional Controls is required for the Con Edison electric distribution substation property and 12 Water Street property portions of the Site to: (1) implement, maintain and monitor the Site's Engineering Control systems; (2) prevent future exposure to the Site's subsurface remaining contamination by controlling disturbances of that contamination; and, (3) limit the use and development of the Site to restricted commercial or industrial uses only. Adherence to these Institutional Controls for the Site is required by the NYSDEC-approved Declarations of Covenants and Restrictions and will be implemented under this Site Management Plan. The Institutional Controls required for the Saint John the Evangelist Roman Catholic Church property is described in Appendix G to this SMP.

These Institutional Controls for the Con Edison electric distribution substation property and 12 water Street property portions of the Site are:

- Compliance with the NYSDEC-approved Declaration of Covenants and Restrictions for the Con Edison electric distribution substation property portion of the Site by Con Edison, and Con Edison's successors and assigns, including its or their successors-in-title to that portion of the Site, with all elements of this SMP;
- Compliance with the NYSDEC-approved Declaration of Covenants and Restrictions for the 12 Water Street portion of the Site by the fee owner of the 12 Water Street property and its successors and assigns, including its or their successors-in-title to the 12 Water Street portion of the Site;
- All Engineering Controls must be operated and maintained by Con Edison, as the Remedial Party for the Site pursuant to the VCA, as specified in this SMP;
- All Engineering Controls on the Site must be inspected by Con Edison, as the Remedial Party for the Site pursuant to the VCA, at a frequency and in a manner defined in this SMP;

- Groundwater and other environmental or public health monitoring must be performed by Con Edison, as the Remedial Party for the Site pursuant to the VCA, as defined in this SMP;
- Data and information pertinent to Site Management of the Site must be reported by Con Edison, as the Remedial Party for the Site pursuant to the VCA, at the frequency and in a manner defined in this SMP;
- On-Site environmental monitoring devices, including but not limited to, groundwater monitoring wells, must be protected and replaced by Con Edison, as the Remedial Party for the Site pursuant to the VCA, as necessary to ensure the devices function in the manner specified in this SMP;
- Institutional Controls may not be discontinued without an amendment to or extinguishment of the NYSDEC-approved Declarations of Covenants and Restrictions that have been approved by the NYSDEC for the Con Edison electric distribution substation property portion of the Site and the 12 Water Street property portion of the Site.

The Con Edison electric distribution substation property and 12 Water Street property portions of the Site have a series of Institutional Controls in the form of Site restrictions. Adherence to these Institutional Controls is required by the NYSDEC-approved Declarations of Covenants and Restrictions for these portions of the Site. The specific restrictions that apply to the Con Edison electric distribution substation property and 12 Water Street property portions of the Site are as follows:

- Vegetable gardens and farming on these portions of the Site are prohibited;
- These portions of the Site may be used for restricted commercial or industrial use provided that the long-term Engineering and Institutional Controls included in this SMP are employed.
- These portions of the Site may not be used for a higher level of use, such as unrestricted residential use without additional remediation and amendment of the Declaration of Covenants and Restrictions, as approved by the NYSDEC;
- All future activities on these portions of the Site that will disturb remaining contaminated material must be conducted in accordance with this SMP;

- The use of the groundwater underlying these portions of the Site is prohibited without treatment rendering such groundwater safe for intended use;
- The potential for soil vapor intrusion must be evaluated pursuant to the NYSDEC-approved work plans for any new buildings or building additions developed on these portions of the Site, and any potential soil vapor intrusion impacts that are identified must be mitigated pursuant to NYSDEC-approved work plans;
- Con Edison, as the remedial party for the Site pursuant to the VCA, will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) the engineering controls and institutional controls employed at these portions of the Site are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the engineering controls and institutional controls to protect public health and environment from the remaining contamination on these portions of the Site or that constitute a violation or failure to comply with this SMP. The NYSDEC retains the right to access the Site at any times reasonable and necessary in order to evaluate the continued maintenance of any and all engineering controls and institutional controls. This certification must be submitted to the NYSDEC annually, or an alternate period of time that the NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

2.3.1 Excavation Work Plan

The Con Edison electric distribution substation property and 12 Water Street property portions of the Site were remediated for restricted commercial and/or industrial use. Any future intrusive work that will penetrate the composite cover system in the OU-2 area or the cover in the IRM area of the Site, or encounter or disturb remaining contamination, including any modifications or repairs to the existing composite cover system in the OU-2 area or the cover in the IRM area will be performed in compliance with the Excavation Work Plan (**"EWP"**) that is attached as Appendix A to this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (**"HASP"**) and Community Air Monitoring Plan (**CAMP**) prepared for the Site. A sample HASP that meets the requirements of DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable federal, New York State and local laws and regulations is attached as Appendix C to this SMP. Based on future changes to federal, New York State and local health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section A-1 of the EWP. Any intrusive construction work will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (See Section 5).

The Saint John the Evangelist Roman Catholic Church portion of the Site was also remediated for restricted commercial and/or industrial use. Any future intrusive work that encounter or disturb remaining contamination on that portion of the Site will be performed in compliance with the EWP contained in Appendix G to this SMP.

The applicable owners of the affected portion of the Site and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all such intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and bridge footings). The applicable owner of the affected portions of the Site will ensure that site development activities will not interfere with, or otherwise impair or compromise, the engineering controls completed for such portion of the Site as part of the NYSDEC-approved RAWP described in this SMP.

2.3.2 Soil Vapor Intrusion Evaluation

Prior to the construction of any new enclosed structures located over areas of the Site that contain remaining contamination, a soil vapor intrusion (“**SVI**”) evaluation will be performed by Con Edison, as the Remedial Party to the VCA, to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure. Alternatively, an SVI mitigation system may be installed as an element of the building foundation without first conducting an investigation. This mitigation system will include a vapor barrier and passive sub-slab depressurization system that is capable of being converted to an active system.

Prior to conducting an SVI investigation or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan will be developed in accordance with the most recent NYSDOH ***Guidance for***

Evaluating Vapor Intrusion in the State of New York. Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and maintained based on the SVI evaluation, NYSDOH guidance, and construction details of the proposed structure.

Preliminary (un-validated) data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation. Validated SVI data will be transmitted to the applicable property owner within 30 days of validation.

SVI sampling results, evaluations, and follow-up actions will also be summarized in the Periodic Review Report.

2.4 INSPECTIONS AND NOTIFICATIONS

2.4.1 Inspections

Inspections of all remedial components installed at the Site will be conducted by Con Edison, as the Remedial Party under the VCA, at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive Site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether Engineering Controls continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the NYSDEC-approved Declarations of Covenants and Restrictions for the Con Edison electric distribution substation property and 12 Water Street property portions of the Site;
- Achievement of remedial performance criteria;
- Sampling and analysis of appropriate media during monitoring events;
- If Site records are complete and up to date; and
- Changes, or needed changes, to the remedial or monitoring system;

Inspections for the Con Edison electric distribution substation property and 12 Water Street property portions of the Site will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements for these portions of the Site are outlined in the Periodic Review Reporting section of this SMP (Section 5). The Monitoring Plan and Periodic Reporting requirements for the Saint John the Evangelist Roman Catholic Church property are contained in Appendix G to this SMP.

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the Site will be conducted within five (5) days of the event to verify the effectiveness of the EC/ICs implemented at the Site by a qualified environmental professional as determined by NYSDEC.

2.4.2 Notifications

Notifications will be submitted by the owner of the affected portion of the Site to the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in Site use that are required under the terms of the VCA, 6NYCRR Part 375, and/or Environmental Conservation Law.
- 15-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundations of any structures that reduces or has the potential to reduce the effectiveness of any Engineering Controls in place at the Site and likewise any action to be taken to mitigate the damage or defect.
- Notice within 48-hours of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the Site, including a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the Site or Saint John the Evangelist Roman Catholic Church property or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of the VCA, and all approved work plans and reports, including this SMP
- Within 15 days after the transfer of all or part of the Site or Saint John the Evangelist Roman Catholic Church property, the new owner's name, contact representative, and contact information will be confirmed in writing.

2.5 CONTINGENCY PLAN

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

2.5.1 Emergency Telephone Nnmbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance the owner of the affected portion of the Site or such owner's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to the Con Edison Project Manager. These emergency contact lists must be maintained in an easily accessible location at the Site.

Table 1: Emergency Contact Numbers

Medical, Fire, and Police:	911
One Call Center:	(800) 272-4480 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362

Table 2: Other Contact Numbers*

Ms. Yelena Skorobogatov (Con Edison Project Manager)	(718) 204-4205 – office
Mr. Eddy Louie (Con Edison MGP Program Manager)	(718) 204-4262 – office
Daniel Martoccia (Parsons Project Manager)	(732) 537-3557 - office
Dig Safely New York	811

* Note: Contact numbers subject to change and should be updated as necessary

2.5.2 Map and Directions to Nearest Health Facility

Site Location: 9 New Street/12 Water Street White Plains, NY 10601

Nearest Hospital Name: White Plains Hospital Center

Hospital Location: 41 E Post Rd, White Plains, NY

Hospital Telephone: (914) 681-0600

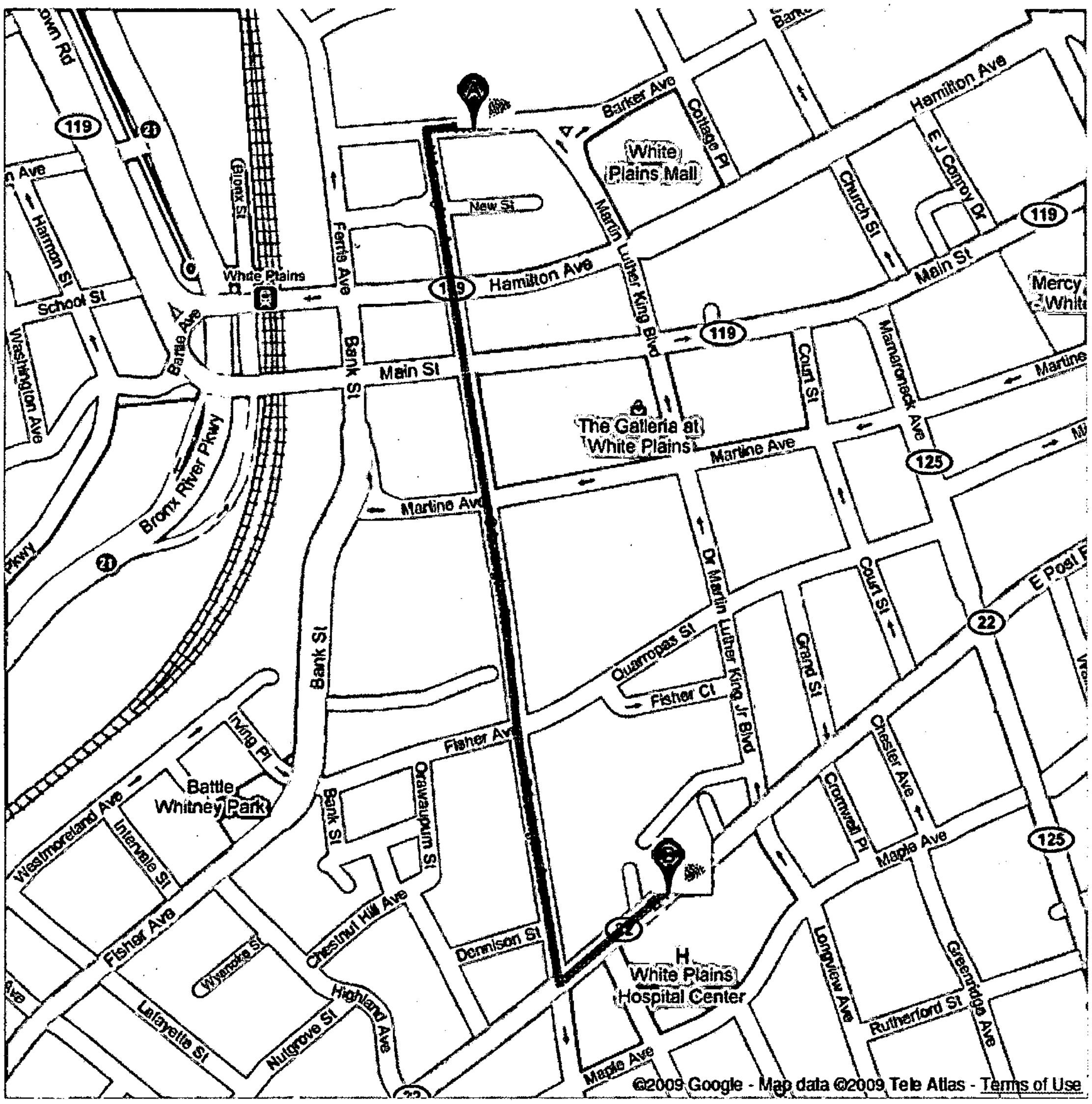
Directions to the Hospital:

1.	Head west on Water St toward N Lexington Ave	177 ft
2.	Take the 1st left onto N Lexington Ave	0.6 mi
3.	Turn left at E Post Rd Destination will be on the right	0.1 mi

Total Distance: 0.8 miles

Total Estimated Time: 5 minutes

Figure 9 Map Showing Route from the Site to the Hospital:



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2.5.3 Response Procedures

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan (Tables 1 and 2). The list will also be posted prominently at the Site and made readily available to all personnel at all times.

Procedures for spills – The nature of the ECs at the Site present very little to no danger of spills. Spill kits will be available on-Site in the event of a spill and, if necessary, a contractor will be dispatched to perform cleanup activities.

Evacuation Plans - the existing Site evacuation plan will be implemented as needed.

Amendments to the contingency plan will be made as required.

Detailed response procedures are included in the Site HASP which is included as Appendix C of this SMP.

3.0 SITE MONITORING PLAN

3.1 INTRODUCTION

3.1.1 General

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the Site and Saint John the Evangelist Roman Catholic Church property, the cover systems, and all affected Site media identified below. Monitoring of other Engineering Controls is described in Chapter 4, Operation, Monitoring and Maintenance Plan. The Monitoring Plan may only be revised with the approval of NYSDEC.

The Monitoring Plan for the Con Edison electric distribution substation property and 12 Water Street property portions of the Site is set out in the remaining sections of Chapter 3 of this SMP. The Monitoring Plan for the Saint John the Evangelist Roman Catholic Church property is contained in Appendix G to this SMP.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance, particularly ambient groundwater standards and Part 375 SCOs for soil;
- Assessing achievement of the remedial performance criteria.
- Evaluating Site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

To adequately address these issues, this Monitoring Plan provides information on:

- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems (e.g., well logs);
- Analytical sampling program requirements;
- Reporting requirements;

- Quality Assurance/Quality Control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Semiannual monitoring of the performance of the remedy and overall stability or reduction in contamination on-Site and off-Site will be conducted for a period of two years. Following a period of two years (four sampling rounds), the frequency thereafter will be determined by NYSDEC and incorporated into the SMP as a NYSDEC-approved amendment thereto. Trends in contaminant levels in groundwater in the affected areas will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. Monitoring programs are summarized in Table 3 and outlined in detail in Sections 3.2 and 3.3 below.

Table 3: Monitoring/Inspection Schedule

Monitoring Program	Frequency*	Matrix	Analysis
Groundwater Sampling	Semiannual	Groundwater	TCL VOCs and SVOCs
Piezometer Gauging	Semiannual	Groundwater	-
NAPL Recovery Well Gauging	Semiannual	Groundwater	-
Cover System	Annually	-	-
Site-wide Inspection	Annually	-	-

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH

3.2 COVER SYSTEM MONITORING

The Site cap (OU-2 composite cover system) will be inspected annually, including the asphalt surfaces and the exposed concrete slabs. Defects in the asphalt surfaces and the exposed concrete slabs (e.g. cracks, holes, etc) will be noted, and necessary repairs will be completed by Con Edison as the Remedial Party under the VCA. The soil in the landscaped islands within the tenant parking areas in the OU-2 area will be monitored annually to ensure that the soil layer is still present and generally undisturbed. Inspection frequency is subject to change with the approval of the NYSDEC.

Unscheduled inspections may take place when a breach in the cap system has been reported or an emergency occurs that is deemed likely to affect the integrity of the system. Monitoring deliverables for the Site cap system are specified later in this Plan.

3.3 MEDIA MONITORING PROGRAM

3.3.1 Groundwater Monitoring

Groundwater monitoring will be performed by Con Edison on a periodic basis to assess the performance of the remedy.

The network of monitoring wells has been installed to monitor both up-gradient and down-gradient groundwater conditions at the Site. Additional monitoring wells will be installed in locations depicted in Figure 5. The network of on-Site and off-Site wells has been designed based on the following criteria:

- To provide monitoring points up-gradient of the Site;
- To provide monitoring points side-gradient of the Site, and
- To provide monitoring points down-gradient of the Site.

Monitoring well construction logs are included in Appendix B of the SI Report which is included as Appendix B of this SMP. The monitoring well construction logs for the additional monitoring wells to be installed will be prepared and appended to this SMP.

3.3.1.1 Sampling Protocol

All monitoring well sampling activities will be recorded in a field book and a groundwater-sampling log presented in Appendix D. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network.

Groundwater samples will be collected from each monitoring well on a semi-annual basis (i.e., approximately every six months). Following four sampling rounds (a period of two years), the data will be evaluated and a recommendation will be made for future monitoring activities. Based on the data obtained, Site conditions, and Site use, Con Edison may request from the NYSDEC and NYSDOH that the monitoring frequency be modified.

Prior to sampling, the headspace within each well will be measured with a PID. An oil/water level interface probe and/or a water level indicator will be used to measure the depths to the water table and thickness of any free product in the wells. The monitoring wells will be purged by removing a minimum of three times the volume of standing water in the well to allow for collection of a representative sample. Groundwater samples will then be collected. Prior to filling the sample bottles, the turbidity, pH, temperature, and conductivity of the sample will be measured and recorded. The groundwater samples will be analyzed for TCL VOCs and SVOCs.

3.3.1.2 Monitoring Well Repairs, Replacement and Decommissioning

If bio-fouling or silt accumulation occurs in the on-Site and/or off-Site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced (as per the Monitoring Plan), in the event that the wells become unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Well decommissioning without replacement will be done only with the prior approval of NYSDEC. Well abandonment will be performed in accordance with NYSDEC's "Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

3.3.2 NAPL Recovery Wells and Piezometers

The on-Site network of NAPL recovery wells and piezometers located within the IRM area in the south-central section of the Con Edison electric distribution substation property portion of the Site will be monitored on a semiannual basis. During each monitoring event, the depth to groundwater and NAPL thickness (if present) will be measured in the recovery wells and piezometers using an electronic oil/water interface probe attached to a measuring tape accurate to 0.01 feet. All measurements will be recorded.

If a measurable quantity of NAPL is observed in a recovery well during a monitoring event, the NAPL will be bailed from the recovery well at that time and the removed volume will be recorded. Measurements obtained from that well during subsequent monitoring events will determine whether the NAPL in that well is recoverable.

Data obtained from the piezometers will be used in conjunction with monitoring data obtained from the recovery wells and monitoring wells at the Site to evaluate potential changes in groundwater conditions, including groundwater flow direction or NAPL distribution in close proximity to the cutoff wall.

3.4 SITE-WIDE INSPECTION

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. During these inspections, an inspection form will be completed (Appendix E). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including Site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General Site conditions at the time of the inspection;
- The Site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Compliance with permits and schedules included in the Operation and Maintenance Plan; and
- Confirm that Site records are up to date.

3.5 MONITORING QUALITY ASSURANCE/QUALITY CONTROL

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan (**QAPP**) prepared for the Site and included as Appendix H of the RDR. The main components of the QAPP include:

- QA/QC Objectives for Data Measurement;
- Sampling Program:
    - o Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
    - o Sample holding times will be in accordance with the NYSDEC ASP requirements.
    - o Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody;
- Calibration Procedures:
    - o All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
    - o The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures;
- Preparation of a Data Usability Summary Report (“**DUSR**”), which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.
- Internal QC and Checks;
- QA Performance and System Audits;

- Preventative Maintenance Procedures and Schedules;
- Corrective Action Measures.

3.6 MONITORING REPORTING REQUIREMENTS

Forms and any other information generated during regular monitoring events and inspections will be kept on file. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP.

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. A letter report will also be prepared, subsequent to each sampling event. The letter report will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- A data usability summary report. Required laboratory data deliverables for samples collected during the reporting period, which include laboratory reporting forms and analytical results, will be reviewed and validated in accordance to USEPA Region II SOPs for organic and inorganic data review and will be presented in the DUSR.
- Any observations, conclusions, or recommendations; and
- A determination as to whether groundwater conditions have changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables are summarized in Table 4 below.

Table 4: Schedule of Monitoring/Inspection Reports

Task	Reporting Frequency*
Groundwater Sampling	Semiannual
Monitoring Well and Piezometer Gauging	Semiannual
NAPL Recovery Well Gauging	Semiannual
Cover System Monitoring at OU-2	Annually
Site-wide Inspection Reporting	Annually/As necessary after severe weather conditions

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC

4.0 OPERATION AND MAINTENANCE PLAN

4.1 INTRODUCTION

The Site remedy does not rely on any mechanical systems, such as sub-slab depressurization systems or air sparge/soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance of such components is not included in this SMP.

Information on non-mechanical Engineering Controls (i.e., cover system, NAPL recovery wells) for the Con Edison electric distribution substation property and 12 Water Street property portions of the Site is provided in Section 3 - Engineering and Institutional Control Plan. A copy of this Operation and Maintenance Plan for the Con Edison electric distribution substation property and 12 Water Street property portions of the Site, along with the complete SMP, will be kept at the Con Edison electric distribution substation property portion of the Site and will be provided to the owner of the 12 Water Street property portion of the Site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of the SMP.

The Operations and Maintenance Plan for the Saint John the Evangelist Roman Catholic Church property is contained in Appendix G to this SMP.

4.1.1 NAPL Recovery Wells, Piezometers and Monitoring Wells

Prior to the initiation of the NYSDEC-approved Phase II IRM activities in the MGP relief holder area within the south-central section of the Con Edison electric distribution substation property , two NAPL monitoring/recovery wells (RW-4 and RW-5) were installed in the sidewalk on the north side of New Street as shown on Figure 2A. Wells RW-4 and RW-5 were installed in accordance with the NYSDEC-approved IRM Work Plan to collect any potentially flowable residual NAPL that had already migrated past the location of the NAPL cut-off wall called for in the NYSDEC-approved IRM Work Plan and to serve as sentinel wells that monitor for potential future NAPL migration. These wells were completed with locking, flush-with-grade gate boxes set in concrete.

Following completion of the NAPL-contaminated soil excavation called for in the IRM Work Plan, five additional NAPL monitoring/recovery wells (RW-1, RW-2, RW-3, RW-6, and RW-7) were installed along the upgradient side of the NAPL cut-off wall to intercept potentially recoverable residual NAPL in this area. One recovery well was installed at each end of the wall, one was installed near the center of the wall, and the remaining two wells were installed along the wall as shown on Figure 2A.

As shown on Figure 2A, new transformer vaults were constructed both north and south of the NAPL cut-off wall. A narrow asphalt alley is maintained between the new transformer vaults to ensure continued access to NAPL recovery wells located upgradient of the cut-off wall for regular maintenance and monitoring. However, access to this area with large construction equipment is limited. For this reason, the five additional NAPL recovery wells discussed above were installed prior to the construction of the transformer vaults. In addition, the following measures were taken to ensure that each of these wells could easily be modified to enhance potential NAPL recovery in the future.

- In order to facilitate potential future installation of a NAPL recovery pump in each well, if necessary, concrete polymer vaults were constructed over each recovery well. Each vault is retro-fitted with an opening at the bottom for the well riser and is equipped with a water-tight lid that is flush-with-grade and load-bearing for vehicular access.
- PVC conduits were installed in the vaults to potentially convey product recovery and air/electric lines associated with a potential future enhanced recovery system.

In the event that the monitoring results indicate that installation of an enhanced NAPL recovery system is appropriate, the above-described measures will ensure that this can be achieved.

In addition to recovery wells, a total of four one-inch diameter piezometers were installed at the Site. Two of the four piezometers were installed immediately upgradient of the NAPL cutoff wall (PZ-1 and PZ-3) and two were installed immediately downgradient of the NAPL cutoff wall (PZ-2 and PZ-4) as shown on Figure 2A.

The on-Site network of monitoring wells, recovery wells and piezometers will be maintained and the quality and integrity of this network will be inspected by Con Edison at defined, regular intervals in perpetuity or until extinguishment of the Declaration of Covenants and Restrictions for the Con Edison electric substation property portion of the Site and/or the Declaration of Covenants and Restrictions for the 12 Water Street property portion of the Site.

5.0 INSPECTIONS, REPORTING AND CERTIFICATIONS

This Chapter addresses the inspection, reporting, and certification requirements applicable to the Con Edison electric distribution substation property and 12 Water Street property portions of the Site. The inspection, reporting and certification requirements for the Saint John the Evangelist Roman Catholic Church property are set out in Appendix G to this SMP.

5.1 SITE INSPECTIONS

5.1.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 Monitoring Plan of this SMP. At a minimum, a Site-wide inspection will be conducted annually. Inspections of remedial components will also be conducted when a breakdown of any treatment system component has occurred or whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events will be recorded on the appropriate forms for their respective systems which are contained in Appendix E. Additionally, a general Site-wide inspection form will be completed during the Site-wide inspection (see Appendix E). These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the Site during the reporting period will be provided in electronic format in the Periodic Review Report.

5.1.3 Evaluation of Records and Reporting

The results of the inspection and Site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;

- Operation and maintenance activities are being conducted properly; and, based on the above items,
- The Site remedy continues to be protective of public health and the environment and is performing as designed in the RDR and FER.

5.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

After the last inspection of the reporting period, a qualified environmental professional acceptable to the NYSDEC or Professional Engineer licensed to practice in New York State will prepare the following certification:

For each institutional or engineering control identified for the Site, I certify that all of the following statements are true:

- The inspection of the Site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at this Site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any Site Management Plan for this control;
- Access to the Site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the Site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the Site is compliant with the environmental easement;
- The engineering control systems are performing as designed and are effective;

- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the Site remedial program and generally accepted engineering practices; and
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form 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.

The signed certification will be included in the Periodic Review Report described below.

5.3 PERIODIC REVIEW REPORT

A Periodic Review Report will be submitted to the NYSDEC by Con Edison every year, beginning one year after the SMP for the Site is approved by the NYSDEC. The frequency of these reports may be reduced in subsequent years if approved by the NYSDEC. In the event that the Site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the Site. The report will be prepared in accordance with NYSDEC DER-10 and submitted within 45 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the Site;
- Results of the required annual Site inspections and severe condition inspections, if applicable;
- All applicable inspection forms and other records generated for the Site during the reporting period in electronic format;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted.

These will include a presentation of past data as part of an evaluation of contaminant concentration trends;

- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format;
- A Site evaluation, which includes the following:
    - o The compliance of the remedy with the requirements of the OU-1 and OU-2 Site-specific RAWPs and the OU-2 RDR;
    - o The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
    - o Any new conclusions or observations regarding Site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
    - o Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
    - o The overall performance and effectiveness of the remedy.

The Periodic Review Report will be submitted, in hard-copy format, to the NYSDEC Central Office and Regional Office in which the Site is located, and in electronic format to NYSDEC Central Office, Regional Office and the NYSDOH Bureau of Environmental Exposure Investigation.

5.4 CORRECTIVE MEASURES PLAN

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.

TABLES 1 THROUGH 4

IN TEXT

TABLE 5

CRITERIA FOR IMPORTED SOILS

TABLE 5
CRITERIA FOR IMPORTED SOILS (6 NYCRR 375-6.8)
WHITE PLAINS FORMER MGP SITE

Contaminant	CAS Number	Unrestricted Use [ppm]
Metals		
Arsenic	7440-38-2	13 [c]
Barium	7440-39-3	350 [c]
Beryllium	7440-41-7	7.2
Cadmium	7440-43-9	2.5 [c]
Chromium, hexavalent [e]	18540-29-9	1 [b]
Chromium, trivalent [e]	16065-83-1	30 [c]
Copper	7440-50-8	50
Total Cyanide [e, f]		27
Lead	7439-92-1	63 [c]
Manganese	7439-96-5	1600 [c]
Total Mercury		0.18 [c]
Nickel	7440-02-0	30
Selenium	7782-49-2	3.9 [c]
Silver	7440-22-4	2
Zinc	7440-66-6	109 [c]
PCBs/Pesticides		
2,4,5-TP Acid (Silvex) [f]	93-72-1	3.8
4,4'-DDE	72-55-9	0.0033 [b]
4,4'-DDT	50-29-3	0.0033 [b]
4,4'-DDD	72-54-8	0.0033 [b]
Aldrin	309-00-2	0.005 [c]
alpha-BHC	319-84-6	0.02
beta-BHC	319-85-7	0.036
Chlordane (alpha)	5103-71-9	0.094
delta-BHC [g]	319-86-8	0.04
Dibenzofuran [f]	132-64-9	7
Dieldrin	60-57-1	0.005 [c]
Endosulfan I [d, f]	959-98-8	2.4
Endosulfan II [d, f]	33213-65-9	2.4
Endosulfan sulfate [d, f]	1031-07-8	2.4
Endrin	72-20-8	0.014
Heptachlor	76-44-8	0.042
Lindane	58-89-9	0.1
Polychlorinated biphenyls	1336-36-3	0.1

TABLE 5
CRITERIA FOR IMPORTED SOILS (6 NYCRR 375-6.8)
WHITE PLAINS FORMER MGP SITE

Contaminant	CAS Number	Unrestricted Use [ppm]
Semivolatile organic compounds		
Acenaphthene	83-32-9	20
Acenapthylene [f]	208-96-8	100 [a]
Anthracene [f]	120-12-7	100 [a]
Benz(a)anthracene [f]	56-55-3	1 [c]
Benzo(a)pyrene	50-32-8	1 [c]
Benzo(b)fluoranthene [f]	205-99-2	1 [c]
Benzo(g,h,i)perylene [f]	191-24-2	100
Benzo(k)fluoranthene [f]	207-08-9	0.8 [c]
Chrysene [f]	218-01-9	1 [c]
Dibenz(a,h)anthracene [f]	53-70-3	0.33 [b]
Fluoranthene [f]	206-44-0	100 [a]
Fluorene	86-73-7	30
Indeno(1,2,3-cd)pyrene [f]	193-39-5	0.5 [c]
m-Cresol [f]	108-39-4	0.33 [b]
Naphthalene [f]	91-20-3	12
o-Cresol [f]	95-48-7	0.33 [b]
p-Cresol [f]	106-44-5	0.33 [b]
Pentachlorophenol	87-86-5	0.8 [b]
Phenanthrene [f]	85-01-8	100
Phenol	108-95-2	0.33 [b]
Pyrene [f]	129-00-0	100
Volatile organic compounds		
1,1,1-Trichloroethane [f]	71-55-6	0.68
1,1-Dichloroethane [f]	75-34-3	0.27
1,1-Dichloroethene [f]	75-35-4	0.33
1,2-Dichlorobenzene [f]	95-50-1	1.1
1,2-Dichloroethane	107-06-2	0.02 [c]
cis -1,2-Dichloroethene [f]	156-59-2	0.25
trans-1,2-Dichloroethene [f]	156-60-5	0.19
1,3-Dichlorobenzene [f]	541-73-1	2.4
1,4-Dichlorobenzene	106-46-7	1.8
1,4-Dioxane	123-91-1	0.1 [b]
Acetone	67-64-1	0.05

TABLE 5
CRITERIA FOR IMPORTED SOILS (6 NYCRR 375-6.8)
WHITE PLAINS FORMER MGP SITE

Contaminant	CAS Number	Unrestricted Use [ppm]
Volatile organic compounds		
Benzene	71-43-2	0.06
n-Butylbenzene [f]	104-51-8	12
Carbon tetrachloride [f]	56-23-5	0.76
Chlorobenzene	108-90-7	1.1
Chloroform	67-66-3	0.37
Ethylbenzene[f]	100-41-4	1
Hexachlorobenzene [f]	118-74-1	0.33[b]
Methyl ethyl ketone	78-93-3	0.12
Methyl tert-butyl ether [f]	1634-04-4	0.93
Methylene chloride	75-09-2	0.05
n - Propylbenzene [f]	103-65-1	3.9
sec-Butylbenzene [f]	135-98-8	11
tert-Butylbenzene[f]	98-06-6	5.9
Tetrachloroethene	127-18-4	1.3
Toluene	108-88-3	0.7
Trichloroethene	79-01-6	0.47
1,2,4-Trimethylbenzene [f]	95-63-6	3.6
1,3,5-Trimethylbenzene[f]	108-67-8	8.4
Vinyl chloride[f]	75-01-4	0.02
Xylene (mixed)	1330-20-7	0.26

Footnotes:

[a] The SCOs for unrestricted use were capped at a maximum value of 100 ppm. See Technical Support Document (TSD), section 9.3.

[b] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.

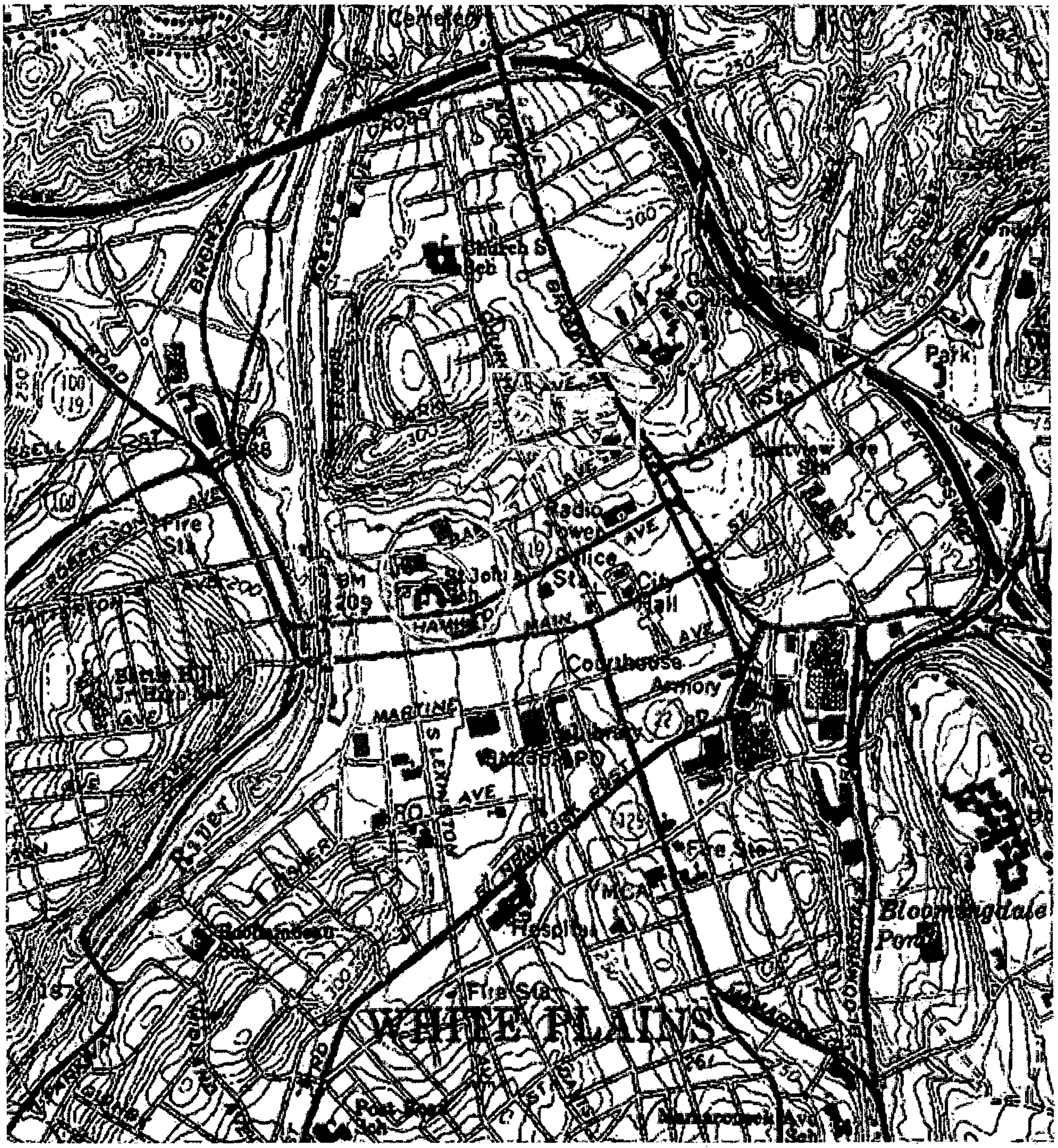
[c] For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.

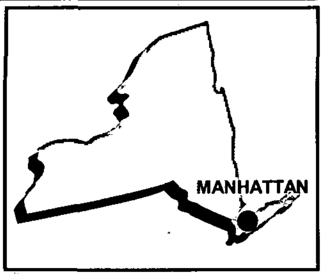
[d] SCO is the sum of endosulfan I, endosulfan II and endosulfan sulfate.

[e] The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

[f] Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8(b) with "NS". Where such contaminants appear in Table 375-6.8(a), the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.

FIGURES





New York
Quadrangle

LATITUDE: N40° 47' 06"
LONGITUDE: W73° 56' 41"

N

SOURCE: DeLORME 3-D TOPOQUAD PROGRAM

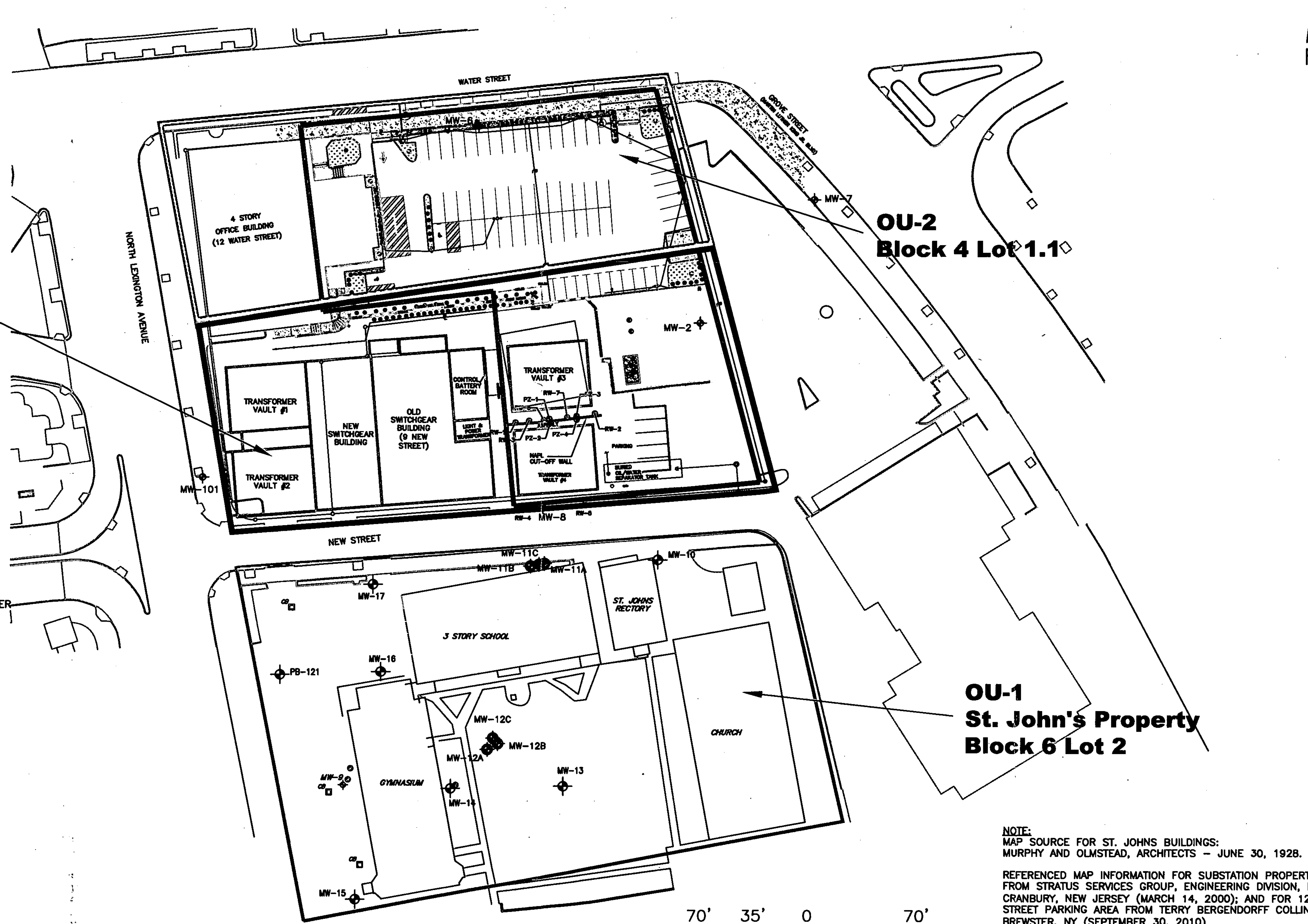
FIGURE 1

CON EDISON
WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

SITE LOCATION MAP

PARSONS
301 PLAINFIELD ROAD, SUITE 350 SYRACUSE NY 13212

P:\CON ED\White Plains, NY\OU1 - St Johns\SMP\Figures\SITEMAP.PPT



LEGEND:

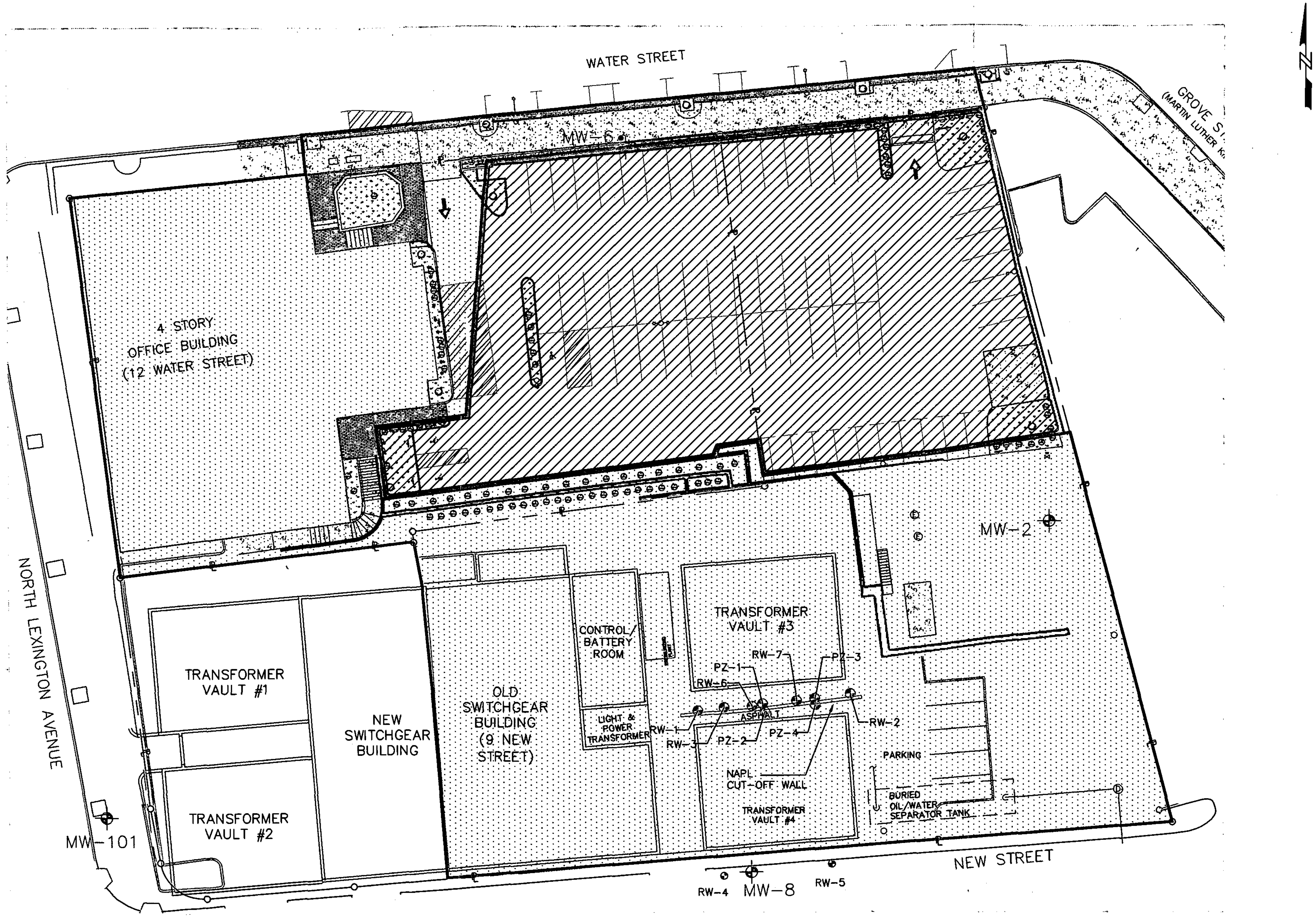
- CB — CATCH BASIN
- RECOVERY WELL
- PIEZOMETERS
- MONITORING WELL
- MONITORING WELL CLUSTER
- BORING
- PARIKING METER
- LIGHT POLE
- STREET LAMP
- IN-GROUND LIGHT
- BOLLARD LIGHT POLE
- RETAINING WALL
- PL — PROPERTY LINE
- CONCRETE
- BRICK
- PLANTER AREAS
- CHAIN LINK FENCE
- METAL HANDRAIL
- OPERABLE UNIT 2 (OU-2)
- OU-1 ELECTRIC DISTRIBUTION SUBSTATION PROPERTY
- APPROXIMATE BOUNDARY OF FORMER MGP SITE
- OU-1 ST. JOHN'S CHURCH PROPERTY
- IRM EXCAVATION AREA

NOTE:
MAP SOURCE FOR ST. JOHNS BUILDINGS:
MURPHY AND OLMSTEAD, ARCHITECTS – JUNE 30, 1928.

REFERENCED MAP INFORMATION FOR SUBSTATION PROPERTY FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY (MARCH 14, 2000); AND FOR 12 WATER STREET PARKING AREA FROM TERRY BERGENDORFF COLLINS, BREWSTER, NY (SEPTEMBER 30, 2010)

PARSONS 301 PLAINFIELD ROAD SUITE 350 SYRACUSE, N.Y. 13212 PHONE: (315) 451-9560 FAX: (315) 451-9570	Con Edison	WHITE PLAINS FORMER MGP SITE WHITE PLAINS, NEW YORK	FIGURE NO.
		SITE BOUNDARIES	2A

FILE NAME: \\SOMERSETFS01\PROJECTS\PROJECTS\CONEDISON\WHITE PLAINS, NY\OU-2 CONSTRUCTION\47 - SMP\SMP\FIGURES\DWGS\FIGURE 2A - FINAL_ASBUILT_9.30.10.DWG
PLOT DATE: 1/7/2011 1:59 PM PLOTTED BY: MCFARLANE, TANESHA



LEGEND:

- RECOVERY WELL
- PIEZOMETERS
- MONITORING WELL
- MONITORING WELL CLUSTER
- PARKING METER
- LIGHT POLE
- STREET LAMP
- IN-GROUND LIGHT
- BOLLARD LIGHT POLE
- RETAINING WALL
- PROPERTY LINE
- CONCRETE
- BRICK
- PLANTER AREAS
- CHAIN LINK FENCE
- METAL HANDRAIL
- SMP NOTIFICATION AT 3.5 FEET BELOW GRADE
- SMP NOTIFICATION AT 5 FEET BELOW GRADE

NOTE:

REFERENCED MAP INFORMATION FOR SUBSTATION PROPERTY DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY (MARCH 14, 2000); AND FOR 12 WATER STREET PARKING AREA FROM TERRY BERGENDORFF COLLINS, BREWESTER, NY (SEPTEMBER 30, 2010).

40 20 0 40 80

SCALE: 1"=40'

PARSONS

301 PLAINFIELD ROAD
SUITE 350
SYRACUSE, N.Y. 13212
PHONE: (315) 451-9560
FAX: (315) 451-9570

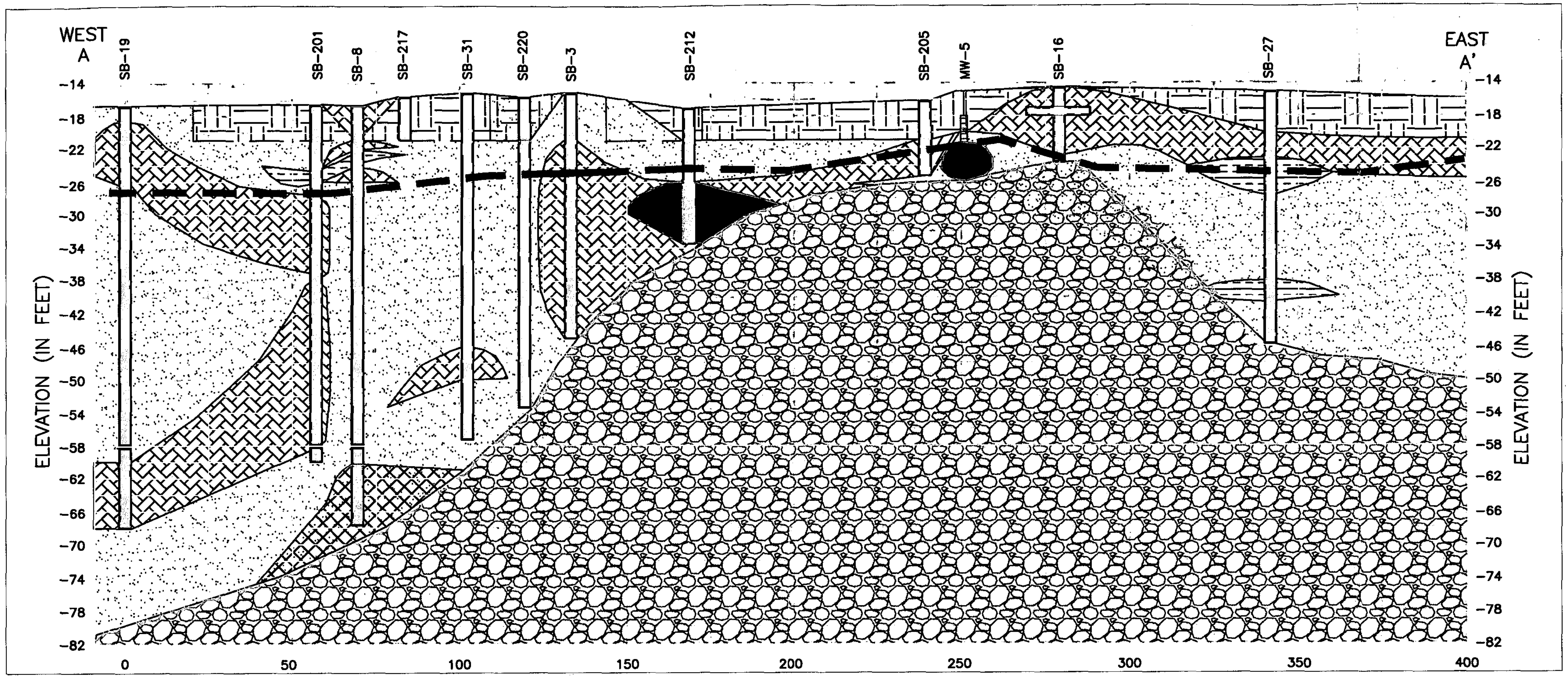
WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

SMP NOTIFICATION AREAS

FIGURE NO.

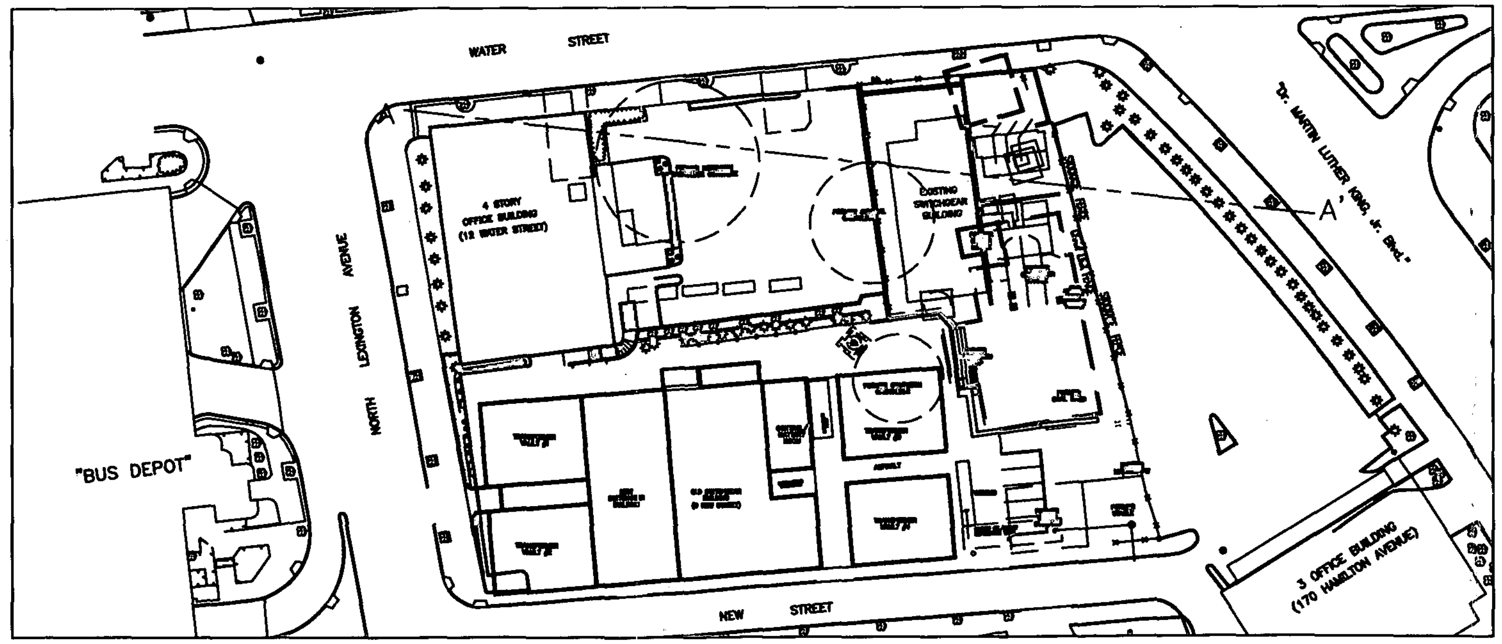
2B

FILE NAME: P:\CONED\446107 - WHITE PLAINS\CAD\2010 RECORD DWGS\FIGURES\FIGURE 2-B.DWG
PLOT DATE: 1/7/2011 10:46 AM PLOTTED BY: RUSSO, JILL



LEGEND:

WELL SCREEN FOR MONITORING WELL	FILL
SOIL BORING	SAND
NAPL ENCOUNTERED	TILL/BEDROCK (SEE NOTE 2)
FORMER GASHOLDERS	INORGANIC SILTS
GROUNDWATER TABLE	BRICK
	SAND/SILT
	LOOSE COBBLES/GRAVEL



KEY MAP
SHOWING CROSS-SECTION LINE A-A'

16 8 0 16 32
VERTICAL SCALE: 1"=16'

40 20 0 40 80
HORIZONTAL SCALE: 1"=40'

NOTE:

1. ALL ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL.

2. DUE TO USE OF DIRECT PUSH DRILLING AND POOR RECOVERIES IN BOTTOM SPOONS, REFUSAL ASSUMED TO BE EITHER GLACIAL TILL (A DENSE HETEROGENEOUS MIXTURE OF SILT, SAND, GRAVEL, COBBLES) OR BEDROCK.

FILE NAME: P:\CONEDISON\WHITE PLAINS, NY\OU-2 REMEDIATION\SMP\FIGURES\DWGS\FIGURE 3 - CROSS SECTION A-A'.DWG
PLOT DATE: 1/7/2010 4:26 PM PLOTTED BY: MCFARLANE, TANESHA

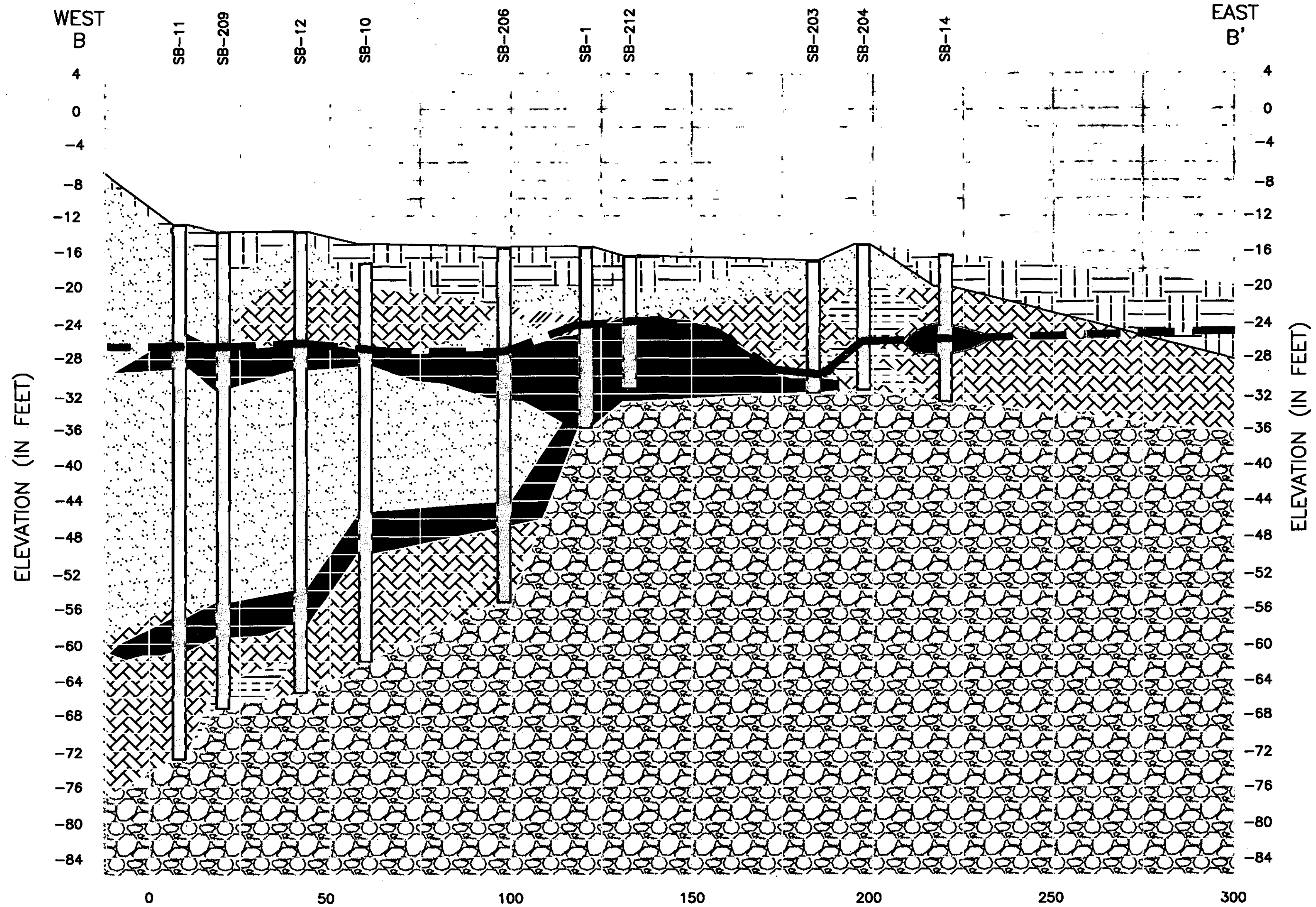
PARSONS
OFFICES IN PRINCIPAL CITIES
290 ELWOOD DAVIS ROAD, SUITE 312
LIVERPOOL, N.Y. 13088
PHONE: (315) 451-9560
FAX: (315) 451-9570

Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

GEOLOGIC CROSS-SECTION A-A'

FIGURE NO.
3



LEGEND:

- SOIL BORING
- NAPL ENCOUNTERED
- FORMER GASHOLDERS
- GROUNDWATER TABLE
- FILL
- SAND
- TILL/BEDROCK (SEE NOTE 2)
- INORGANIC SILTS
- SAND/SILT
- PEAT
- LOOSE COBBLES/GRAVEL

NOTE:

1. ALL ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL.

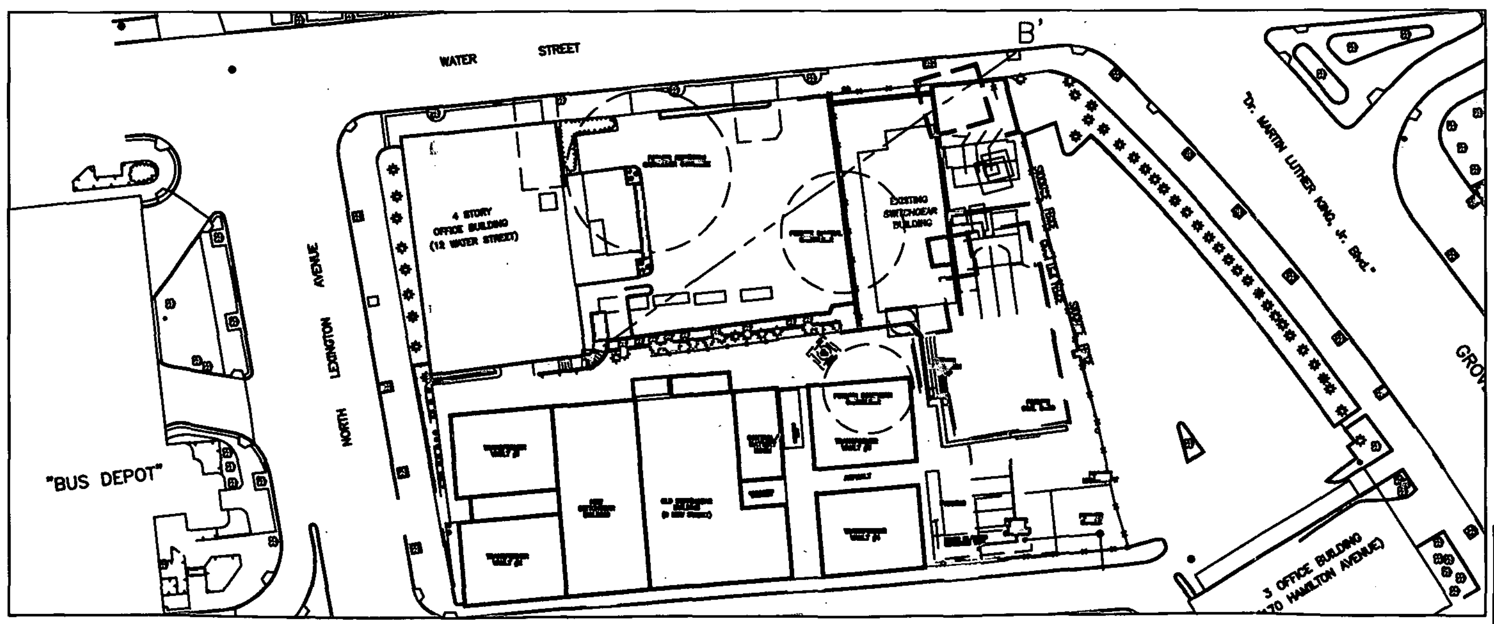
2. DUE TO USE OF DIRECT PUSH DRILLING AND POOR RECOVERIES IN BOTTOM SPOONS, REFUSAL ASSUMED TO BE EITHER GLACIAL TILL (A DENSE HETEROGENEOUS MIXTURE OF SILT, SAND, GRAVEL, COBBLES) OR BEDROCK.

16 8 0 16 32

VERTICAL SCALE: 1"=16'

40 20 0 40 80

HORIZONTAL SCALE: 1"=40'



KEY MAP
SHOWING CROSS-SECTION LINE B-B'

FILE NAME: P:\CONEDISON\WHITE PLAINS, NY\OU-2 REMEDIATION\SMP\FIGURES\DWGS\FIGURE 4 - CROSS SECTION B-B'.DWG
PLOT DATE: 1/7/2010 4:27 PM PLOTTED BY: MCFARLANE, TANESHA

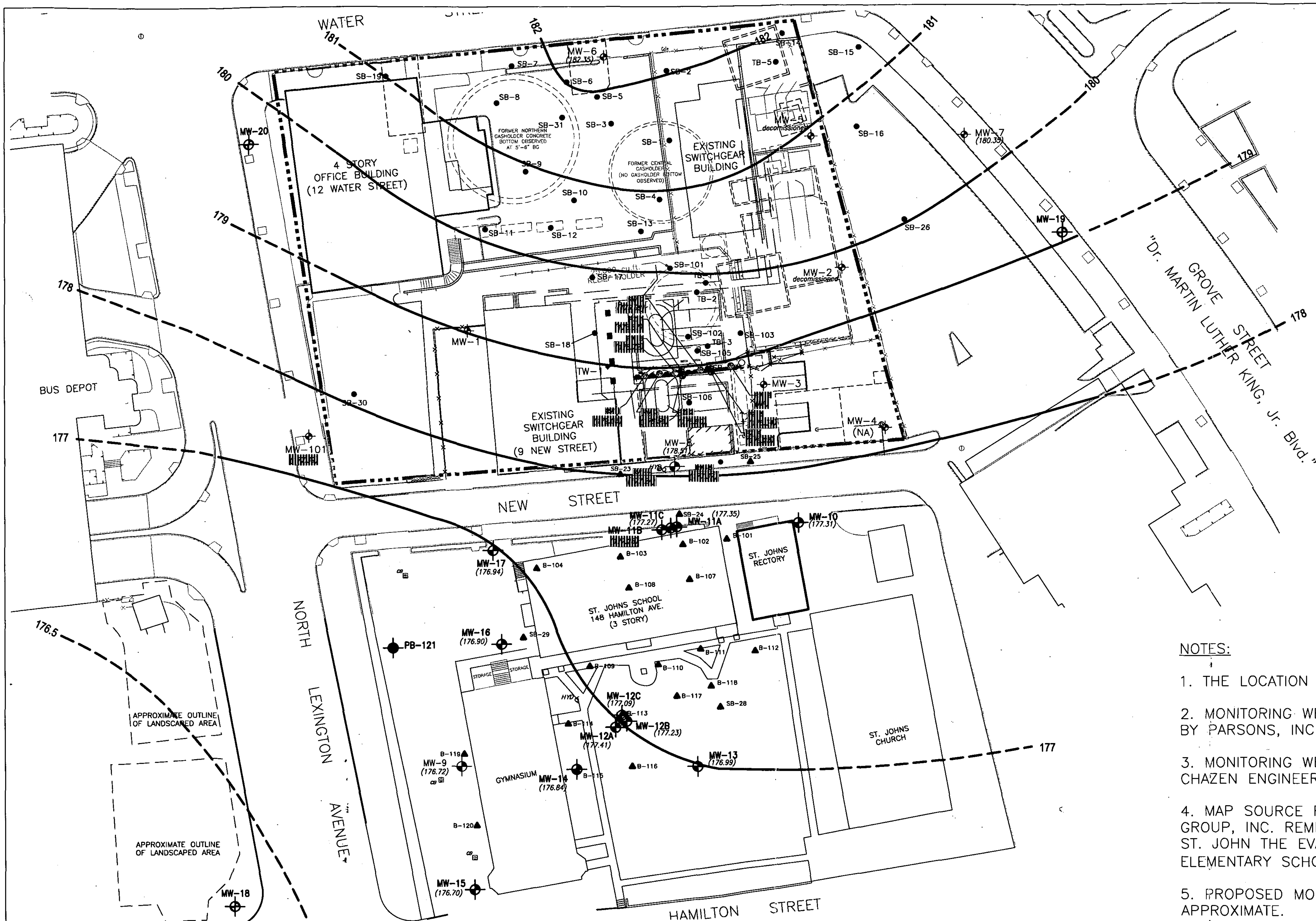
PARSONS
OFFICES IN PRINCIPAL CITIES
290 ELWOOD DAVIS ROAD, SUITE 312
LIVERPOOL, N.Y. 13088
PHONE: (315) 451-9560
FAX: (315) 451-9570

Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

GEOLOGIC CROSS-SECTION B-B'

FIGURE NO.
4



LEGEND:

(line)	GROUNDWATER ELEVATION CONTOUR
▲ B-120	SOIL BORING (PRE 2009)
(symbol)	MONITORING WELL (2009)
(symbol)	PREVIOUSLY INSTALLED MONITORING WELL
(symbol)	SOIL BORING (2009)
⊕	RECOVERY WELL
(NA)	NO LONGER ACCESSIBLE
(177.09)	GROUNDWATER ELEVATION
(symbol)	PROPOSED MONITORING WELL

NOTES:

1. THE LOCATION OF PB-121 IS APPROXIMATE.
2. MONITORING WELL GAUGING WAS PERFORMED BY PARSONS, INC. ON SEPTEMBER 22, 2010.
3. MONITORING WELLS WERE FIELD SURVEYED BY CHAZEN ENGINEERING ON NOVEMBER 30, 2009.
4. MAP SOURCE FROM FIG 5-2 OF THE RETEC GROUP, INC. REMEDIAL INVESTIGATION REPORT, ST. JOHN THE EVANGELIST R.C. CHURCH AND ELEMENTARY SCHOOL (NOVEMBER 2005)
5. PROPOSED MONITORING WELL LOCATIONS ARE APPROXIMATE.

60 30 0 60 120

SCALE: 1"=60'

PARSONS
OFFICES IN PRINCIPAL CITIES
301 PLAINFIELD ROAD, SUITE 350
SYRACUSE, N.Y. 13212
PHONE: (315) 451-9560
FAX: (315) 451-9570

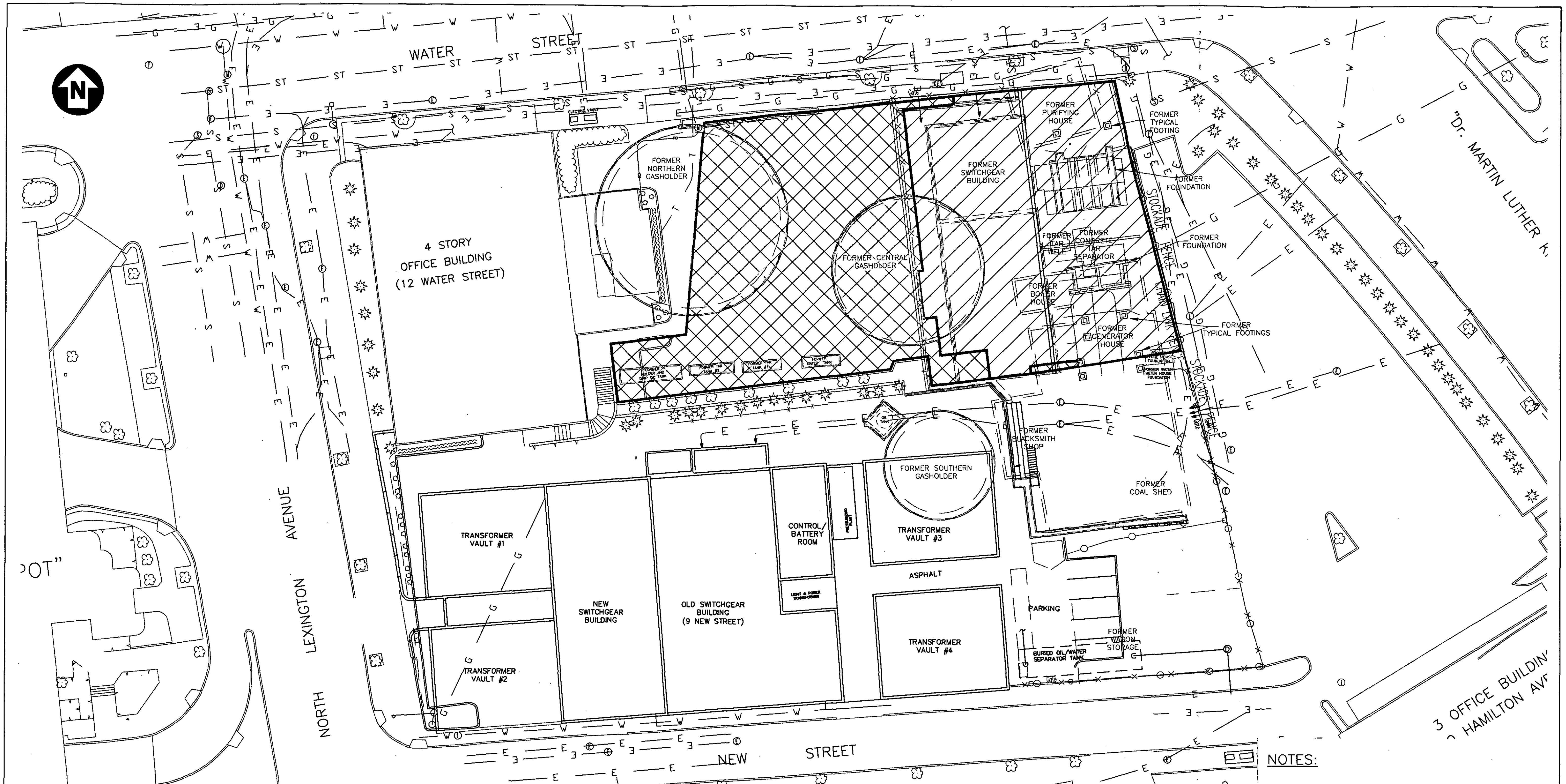
Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

GROUNDWATER ELEVATION CONTOUR MAP

FIGURE NO. 5

FILE NAME: \\SOMERSETFS01\PROJECTS\PROJECTS\CONEDISON\WHITE PLAINS, NY\OU-2 CONSTRUCTION\47 - SMP\SMP\FIGURES\DWGS\FIGURE 5 - 442189SK001 (GW 9-10).DWG
PLOT DATE: 11/12/2010 1:53 PM PLOTTED BY: MCFARLANE, TANESHA



Legend

(cross-hatched)	AUGER BASED ISS WITH JET GROUTING REMEDY AREA
(diagonal hatched)	EXCAVATOR BASED ISS WITH JET GROUTING REMEDY AREA
(line)	UTILITY (APPROXIMATE)
(box)	FORMER BELOW GRADE STRUCTURES

20 0 20 40

SCALE: 1"=40'

NOTES:

1. LOCATIONS OF ALL BELOW GRADE STRUCTURE LOCATIONS ARE APPROXIMATE.

2. ORIGINAL BASE MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

PARSONS
290 ELWOOD DAVIS ROAD, SUITE 312
LIVERPOOL, N.Y. 13088
PHONE: (315) 451-9560
FAX: (315) 451-9570

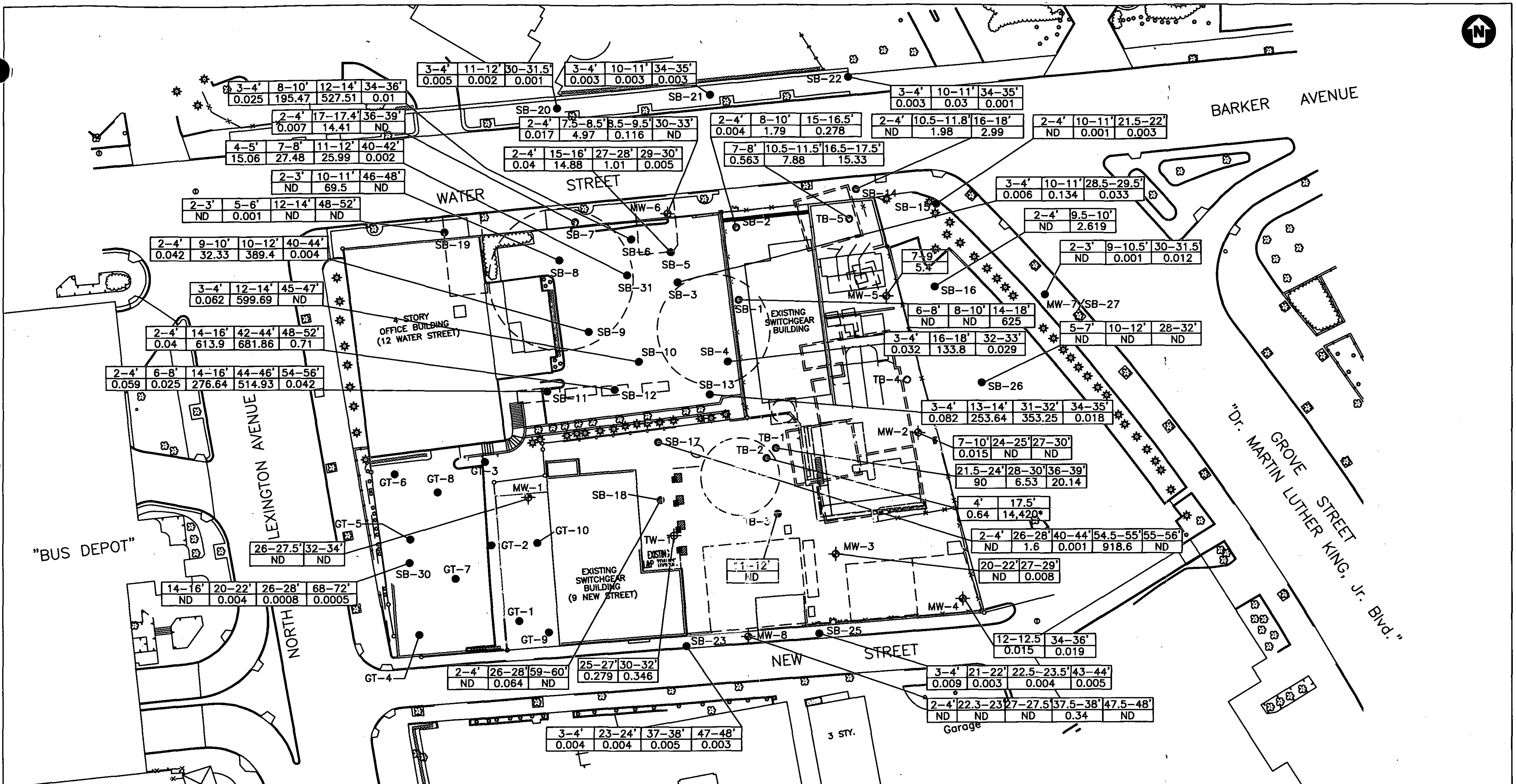
Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

REMEDIAL AREA AND FORMER BELOW GRADE STRUCTURES

FIGURE NO. 6

FILE NAME: \\SOMERSETFS01\PROJECTS\PROJECTS\CONEDISON\WHITE PLAINS, NY\OU-2 CONSTRUCTION\47 - SMP\SMP\FIGURES\DWGS\FIGURE 6 - 442189G019.DWG
PLOT DATE: 11/11/2010 3:08 PM PLOTTED BY: MCFARLANE, TANESHA



Legend

SB-1 ○ SOIL BORING

TB-1 ○ TEST BORING

GT-1 ○ GEOTECHNICAL BORING (CONDUCTED IN 1999)

MW-3 MONITORING WELL

TW-1 TEMPORARY WELL

■ DRY WELL

FORMER MGP STRUCTURES

(NAPL) NONAQUEOUS PHASE LIQUIDS

11-12' / 0.011 — SAMPLE DEPTH IN FEET / TOTAL BTEX CONCENTRATION IN SOIL (mg/kg)

ND NOT DETECTED

* FROM FINGERPRINT RESULTS

276.64 SAMPLES WITH TOTAL BTEX CONCENTRATIONS > 10 mg/kg

55 27.5 0 55 110

SCALE: 1"=55'

ORIGINAL BASE MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

PARSONS
301 PLAINFIELD ROAD ROAD, SUITE 350
SYRACUSE, N.Y. 13212
PHONE: (315) 451-9560
FAX: (315) 451-9570

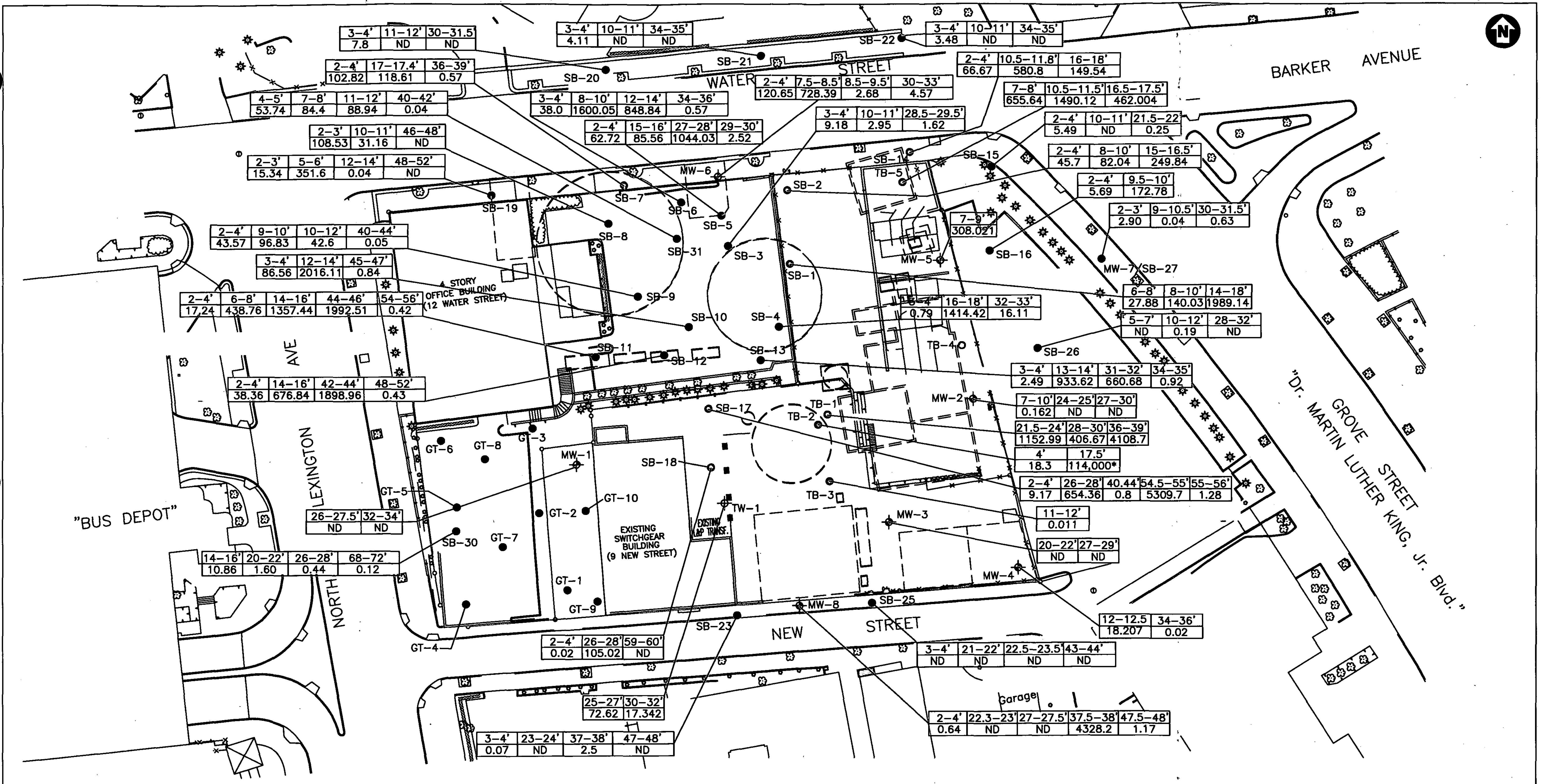
Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

SITE INVESTIGATION SOIL BTEX CONTAMINATION SUMMARY

FIGURE NO. 7A

FILE NAME: P:\CONEDISON\WHITE PLAINS, NY\OU-2 REMEDIATION\SMP\FIGURES\DWGS\FIGURE 7A - 36109G15A.DWG
PLOT DATE: 12/9/2009 1:42 PM PLOTTED BY: MCFARLANE, TANESHA



Legend

SB-1 ○ SOIL BORING

TB-1 ○ TEST BORING

GT-1 ○ GEOTECHNICAL BORING (CONDUCTED IN 1999)

MW-3 ⊕ MONITORING WELL

TW-1 ⊕ TEMPORARY WELL

■ DRY WELL

FORMER MGP STRUCTURES

(NAPL) NONAQUEOUS PHASE LIQUIDS

11-12' / 0.011	SAMPLE DEPTH IN FEET / TOTAL PAH CONCENTRATION IN SOIL (mg/kg)
ND	NOT DETECTED
*	FROM FINGERPRINT RESULTS
678.84	SAMPLES WITH TOTAL PAH CONCENTRATIONS >500 mg/kg

55 27.5 0 55 110

SCALE: 1"=55'

ORIGINAL BASE MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

PARSONS

301 PLAINFIELD ROAD, SUITE 350
SYRACUSE, N.Y. 13212
PHONE: (315) 451-9560
FAX: (315) 451-9570

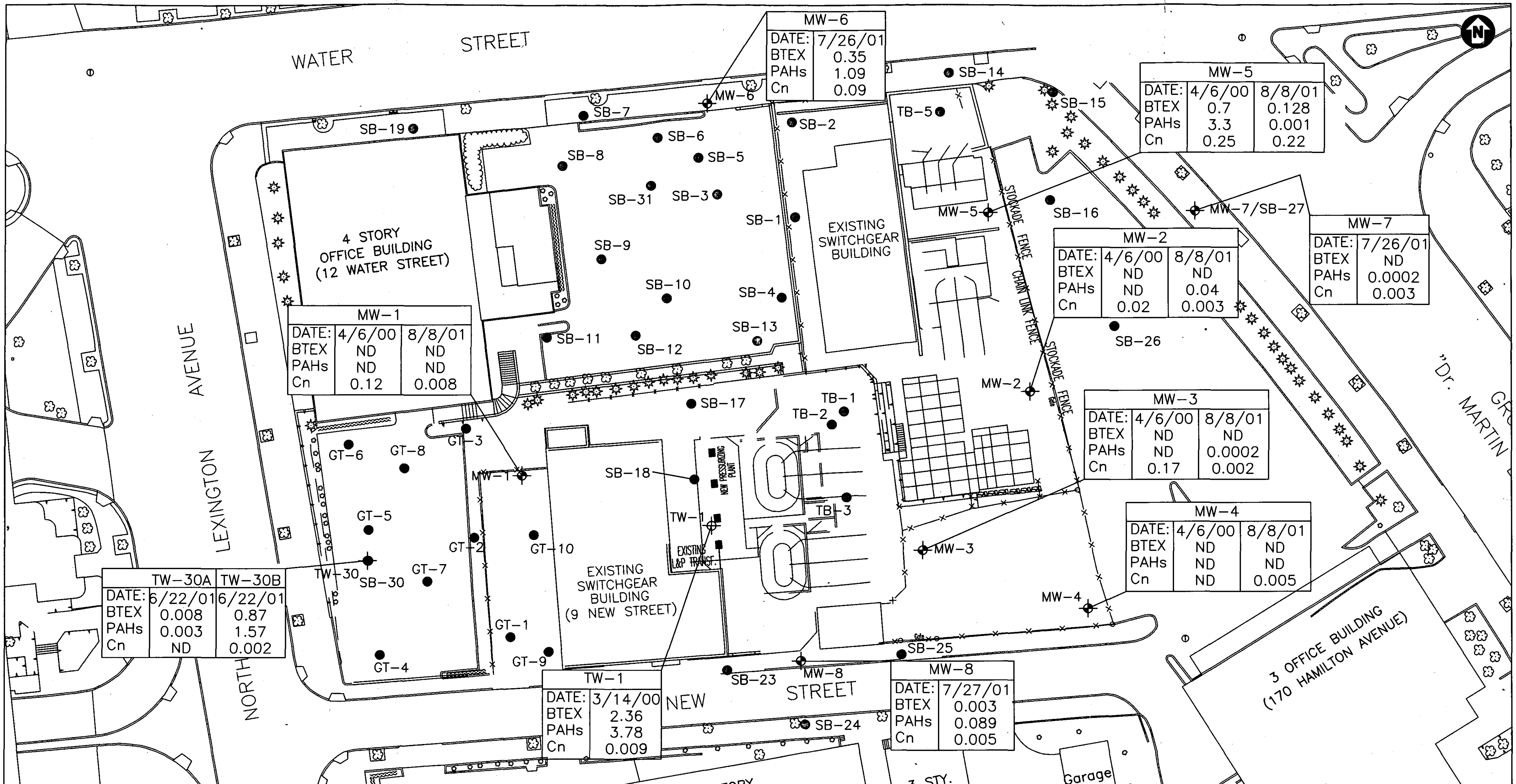
Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

SITE INVESTIGATION SOIL PAH CONTAMINATION SUMMARY

FIGURE NO. 7B

No XREFs
P:\CONEDISON\WHITE PLAINS, NY\OU1 – ST JOHNS\SMP\FIGURES\FIGURE 8C – 36109g16a.dwg



Legend

- SB-1 SOIL BORING
- TB-1 TEST BORING
- GT-1 GEOTECHNICAL BORING (CONDUCTED IN 1999)
- MW-3 MONITORING WELL
- TW-1 TEMPORARY WELL
- DRY WELL
- FORMER MGP STRUCTURES

MW-6		
DATE:	7/26/01	DATE SAMPLED
BTEX	0.35	TOTAL BTEX CONCENTRATION IN mg/L
PAHs	1.09	TOTAL PAH CONCENTRATION IN mg/L
Cn	0.09	TOTAL Cn CONCENTRATION IN mg/L

ND NOT DETECTED

60 30 0 60 120
SCALE: 1"=60'

ORIGINAL BASE MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

PARSONS
301 PLAINFIELD ROAD, SUITE 350
SYRACUSE, N.Y. 13212
PHONE: (315) 451-9560
FAX: (315) 451-9570

Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

SITE INVESTIGATION GROUNDWATER CONTAMINATION SUMMARY

FIGURE NO. 8

FILE NAME: P:\CONEDISON\WHITE PLAINS, NY\OU-2 REMEDIATION\SMP\FIGURES\DWGS\FIGURE 8 - 36109G19A.DWG
PLOT DATE: 12/21/2009 10:48 AM PLOTTED BY: MCFARLANE, TANESHA

APPENDIX A

APPENDIX A
EXCAVATION WORK PLAN

APPENDIX A – EXCAVATION WORK PLAN

This Appendix contains the Excavation Work Plan that applies to the Con Edison electric distribution substation property and 12 Water Street property portions of the Site. The Excavation Work Plan applicable to the Saint John the Evangelist Roman Catholic Church property is contained in Appendix G to this SMP.

A-1 NOTIFICATION

At least 15 days prior to the start of any activity that is reasonably anticipated to encounter remaining contamination, the owner of the affected portion of the Site or its representative will notify the NYSDEC and Con Edison as the Remedial Party under the VCA. As depicted on Figure 2B, the following activities will require notification:

- Excavations greater than five feet in depth within the southern section of the Con Edison electric distribution substation property portion of the Site, or
- Intrusive work that encounters the ISS material which is generally 3.5 feet bgs within the OU-2 area of the Site, or
- Intrusive work that is greater than five feet in depth within the non-ISS areas of the OU-2 area of the Site, or
- Intrusive work that is greater than five feet in depth within the sidewalk along the southern side of Water Street adjacent to the OU-2 area of the Site.

As per the NYSDEC-approved Operation, Maintenance, and Monitoring Plan (Parsons, 2004), the southwestern portion of the electric distribution substation portion of the Site is excluded from the provisions of this SMP.

Currently, this notification will be made to:

William S. Ottaway, P.E.
Environmental Engineer 2
MGP Remediation Section
Division of Environmental Remediation
625 Broadway, Albany NY 12233-7014

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for Site re-grading, intrusive elements or utilities to be installed below the cover, or any work that may impact an engineering control,
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work,
- A summary of the applicable components of this EWP,
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120,
- A copy of the contractor's health and safety plan, in electronic format, if it differs from the HASP provided in Appendix C of this document,
- Identification of disposal facilities for potential waste streams,
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

The proposed methods and equipment used to disturb the ISS formation within the OU-2 area of the Site will need to be approved by the NYSDEC.

A-2 SOIL SCREENING METHODS

If implementation of the Excavation Plan is required, visual, olfactory and instrument-based soil screening will be performed by a qualified environmental professional during all excavations into material containing remaining contamination. This would include: excavations greater than five feet in depth within the electric distribution substation portion of the Site; excavations greater than 3.5 feet in depth within the ISS portion of the Site; excavations greater than five feet in depth within the non-ISS OU-2 portions of the Site, or excavations greater than five feet in depth within the adjacent Water Street sidewalk area of the Site. Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after the NYSDEC's approval of this SMP

Soils will be segregated based on previous environmental data and screening results into material that requires off-Site disposal, material that requires testing, material that can be returned to the subsurface of the Site, and material that can be used as cover soil at the Site.

A-3 STOCKPILE METHODS

Soil stockpiles will be maintained on tarps and/or polyethylene sheeting. Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points. Stormwater will be diverted away from soil stockpiles using hay bales or similar methods. Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC.

A-4 MATERIALS EXCAVATION AND LOAD OUT

A qualified environmental professional or person under the supervision of such a professional will oversee all invasive work and the excavation and load-out of all excavated material. This would include: excavations greater than five feet in depth within the southern section of the Con Edison electric distribution substation property portion of the Site; excavations greater than 3.5 feet in depth within the ISS portion of the Site; excavations greater than five feet in depth within the non-ISS OU-2 portions of the Site, or excavations greater than five feet in depth within the adjacent Water Street sidewalk area of the Site.

Con Edison, as the owner of the electric distribution substation property portion of the Site and the remedial party under the VCA for the 12 Water Street property portion of the Site, and Con Edison's contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of subsurface utilities and easements on the Site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by subsurface utilities or easements on the Site.

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck decontamination pad will be operated on-Site. The qualified environmental professional will be responsible for ensuring that all outbound trucks associated with the excavation of remaining contamination are washed at the truck decontamination pad before leaving the Site.

Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-Site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the Site are clean of dirt and other materials derived from the Site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

A-5 MATERIALS TRANSPORT OFF-SITE

All off-Site transport of materials removed from depths greater than five feet within the electric distribution substation portion of the Site, or depths greater than 3.5 feet within the ISS portion of the Site, or depths greater than five feet within the non-ISS OU-2 portions of the Site, or depths greater than five feet within the adjacent Water Street sidewalk area of the Site will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks including truck tires and potentially impacted truck surfaces will be washed prior to leaving the Site. Truck wash waters will be collected and disposed of off-Site in an appropriate manner.

Truck transport routes selection will be based on the following factors: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) minimize off-Site queuing of trucks entering the Site; (d) limiting total distance to major highways; (e) promoting safety in access to highways.

Trucks will be prohibited from stopping and idling in the neighborhood outside the Site. Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development.

Due to limited available space at the Site, some off-Site queuing of trucks may be necessary. The number and duration of trucks lined up outside the Site entrance will be minimized through efficient scheduling and staging at a remote location.

A-6 MATERIALS DISPOSAL OFF-SITE

All soil/fill/solid waste excavated and removed from depths greater than five feet within the southern section of the electric distribution substation property portion of the Site, or depths greater than 3.5 feet within the ISS portion of the Site, or depths greater than five feet within the non-ISS OU-2 portions of the Site, or depths greater than five feet within the adjacent Water Street sidewalk area of the Site, will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this Site is proposed for unregulated off-Site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-Site management of materials from this Site will not occur without formal NYSDEC approval.

Off-Site disposal locations for excavated materials will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, (i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C&D recycling facility, etc). Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-Site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

A-7 MATERIALS REUSE ON-SITE

Within the southern section of electric distribution substation property portion of the Site, soil and fill excavated may be reused as backfill material on the Site provided the soil or fill contains no visual or olfactory evidence of contamination. Soil and fill excavated at a depth less than 3.5 feet within the ISS portion of the Site may also be reused as backfill material on the Site provided the soil or fill contains no visual or olfactory evidence of contamination. The ISS material within the OU-2 portion of the Site will generally be encountered at depths below 3.5 feet bgs. Soil and fill excavated within the non-ISS portions of the Site or within the adjacent Water Street sidewalk area north of the Site may be reused as backfill material on the Site provided the soil or fill contains no visual or olfactory evidence of contamination.

The use of excavated ISS material on-Site as backfill is prohibited unless approval is granted by the NYSDEC. Excavated material not being re-used on-Site and destined for off-Site disposal will be sampled and analyzed for waste characterization purposes prior to off-site transportation and treatment/disposal in accordance with the specific requirements of the receiving facility.

Any demolition material proposed for reuse on-Site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-Site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the Site will not be reused on-Site.

A-8 FLUIDS MANAGEMENT

All liquids to be removed from the Site, including excavation dewatering and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the Site, but will be managed off-Site.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a State Pollution Discharge Elimination System (SPDES) permit or transported and disposed off-Site.

A-9 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the Site cover system will be restored in a manner that complies with the RDR. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the Site Management Plan.

A-10 BACKFILL FROM OFF-SITE SOURCES

Backfill materials utilized at the Site will be obtained from a NYSDOT approved source. The following material may be imported and used as backfill without chemical testing:

- Rock or stone, consisting of virgin material from a permitted mine or quarry; or
- Granular fill material (less than 10% passing #200 sieve) that is virgin material from a NYSDOT approved source.

Should the backfill material not meet one of the above requirements, the material will be tested via the collection of one composite sample for every 500 cubic yards for each source area and analyzed by a NYSDOH-certified Environmental Laboratory Accreditation Program ("**ELAP**")-approved laboratory. The material will be used as backfill only if the analytical results do not exceed the Soil Cleanup Objectives found in NYSDEC Environmental Programs Subpart 375.

All materials proposed for import onto the Site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the Site.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the Site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed in Table 5. Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but that do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC. Solid waste will not be imported onto the Site.

Trucks entering the Site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

A-11 STORMWATER POLLUTION PREVENTION

A Stormwater Pollution Prevention Plan will be developed for any future Site development activities affecting an area greater than one acre and will conform to the requirements of the NYSDEC Division of Water guidelines and NYS regulations. As part of the Stormwater Pollution Prevention Plan the following measures will be implemented:

- Barriers and checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

- Accumulated sediments will be removed as required to keep the barriers and checks functional.

- All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.
- Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.
- Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters
- Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

A-12 CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found on-Site during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for full a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the Site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the periodic reports prepared pursuant to Section 5 of this SMP.

A-13 COMMUNITY AIR MONITORING PLAN

During the performance of on-Site intrusive work at depths greater than five feet bgs within the southern section of the electric distribution substation property portion of the Site, at depths greater than 3.5 feet within the ISS portion of the OU-2 area of the Site, or at depths greater than five feet bgs within the Water Street sidewalk area along the OU-2 area of the Site, community air monitoring will be conducted in compliance with NYSDOH Generic Community Air Monitoring Plan ("**CAMP**"). Real-time air monitoring for volatile compounds and particulates at the perimeter of the hot zone will be performed as described below.

<u>Organic Vapor Monitoring</u>

Periodic monitoring for VOCs will be conducted on Site during certain non-intrusive activities, such as the collection of groundwater samples. Periodic monitoring will include obtaining measurements upon arrival at a groundwater sampling location, while opening a monitoring well cap, when bailing and purging a well, and upon leaving the location. In some instances, depending on the proximity of exposed individuals, continuous monitoring may be conducted during these activities.

Continuous monitoring for VOCs will be conducted during all on-Site ground intrusive activities conducted at depths greater than five feet bgs within the electric distribution substation portion of the Site or at depths greater than 3.5 feet within the OU-2 portion of the Site. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background concentrations. VOCs will be monitored continuously at the downwind perimeter of the hot zone. Monitoring will be conducted with a PID equipped with a 10.6 eV lamp capable of calculating 15-minute running average concentrations. The following actions will be taken based on organic vapor levels measured:

- If total organic vapor levels exceed 5 ppm above background levels or concentrations during the 15-minute average at the perimeter, work activities will be temporarily halted and monitoring continued. If levels readily decrease (per instantaneous readings) below 5 ppm above background, work activities will resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the hot zone persist at levels in excess of 5 ppm above background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will resume provided that the total organic vapor level 200 feet downwind of the hot zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less – but in no case less than 20 feet, is below 5 ppm above background for the 15-minute average.

- If the total organic vapor level is above 25 ppm at the perimeter of the hot zone, activities will be shutdown.

All 15-minute readings will be recorded and available for NYSDEC and NYSDOH personnel to review. Instantaneous readings, if any, will also be recorded.

Particulate Monitoring

During on-Site ground intrusive activities at depths greater than five feet bgs within the electric distribution substation portion of the Site or at depths greater than 3.5 feet within the OU-2 portion of the Site, particulate concentrations will be monitored continuously at the downwind perimeter of the hot zone with a portable real-time particulate monitor capable of measuring particulate matter less than 10 micrometers in size and capable of integrating over a period of 15 minutes (or less). The equipment will include an audible alarm to indicate exceedence of the action level. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background concentrations. The following actions will be taken based on particulate concentrations measured:

- If the measured downwind particulate level is 100 micrograms per cubic meter (μg/m3) or more above background for the 15-minute period or if dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression provided that the downwind particulate level does not exceed 150 μg/m3 above background and no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, the downwind particulate level is greater than 150 μg/m3 above background, work will be stopped and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind particulate level to within 150 μg/m3 of the background (upwind) level and in preventing visible dust migration. All readings will be recorded and be available for NYSDEC and NYSDOH personnel to review

The HASP, which is provided in Appendix C of this SMP, includes the monitoring requirements outlined in NYSDOH's Generic CAMP. A project-specific CAMP will be developed prior to the start of Site work. Due to the presence of a school adjacent to the Site, a fixed monitoring station should be located at that Site perimeter, regardless of wind direction, as discussed in the CAMP.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

A-14 ODOR CONTROL PLAN

An odor control plan will be developed capable of controlling emissions of nuisance odors off-Site and on-Site. Specific odor control methods to be used on a routine basis will include foam suppressants or misting. If nuisance odors are identified at the Site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner's and/or its contractor, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on-Site and off-Site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; (e) use of chemical odorants in spray or misting systems; and (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work and cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

A-15 DUST CONTROL PLAN

A dust suppression plan that addresses dust management during invasive on-Site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-Site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of any section of the Site encompassing an area of one acre or more will be done in stages to limit the area of exposed, un-vegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-Site roads will be limited in total area to minimize the area required for water truck sprinkling.

A-16 OTHER NUISANCES

A plan for rodent control will be developed and utilized by the contractor prior to and during Site clearing and Site grubbing, and during all remedial work.

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances. Noise levels will also conform to the latest Occupational Safety and Health Administration (**OSHA**) standards noise levels which interfere with the work of the Owner or others will not be permitted. Operation of heavy equipment will be restricted to the hours set forth in local regulations unless a variance or permit is obtained.

APPENDIX B

SITE INVESTIGATION REPORT
WHITE PLAINS EORMER MGP SITE
White Plains, New York

VOLUME I – TEXT, TABLES, AND FIGURES

PREPARED BY:

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Liverpool, New York 13088

FEBRUARY 2004

SITE INVESTIGATION REPORT
WHITE PLAINS FORMER MGP SITE
White Plains, New York

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FEBRUARY 2004

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SECTION 1

INTRODUCTION

1.1 PROJECT BACKGROUND

Consolidated Edison Company of New York, Inc. ("Con Edison") owns and operates an electric distribution substation (Site) in the City of White Plains, Westchester County, New York (Figures 1-1 and 1-2). The substation provides electric service to approximately 23,000 commercial and residential consumers within the White Plains area. Con Edison is planning to modernize and upgrade its facilities at the White Plains substation to ensure continued reliability of the substation. The White Plains substation is one of Con Edison's oldest active electric substations, dating back to 1925. The first phase of the planned improvements include the replacement of existing substation equipment, the expansion of the substation's existing control room and electric equipment building, and construction of aboveground vault enclosures around the new transformers that will be installed to replace the substation's older outdoor transformers. In addition, the existing Site drainage will be improved and an oil/water separator will be installed to control and treat storm water runoff from areas with oil-filled equipment. During later phases of the project, older outdoor equipment that has been replaced by new equipment will be retired and removed from the substation Site. The substation reconstruction plan is shown on Figure 1-3.

As of January 2003, Phase 1 construction activities were approximately 85 percent complete. The two new transformers, replacing the substation's older outdoor transformers, have been installed and the new building enclosure for the transformers has been completed. Expansion of the substation's existing control room and electric equipment building has also been completed. The foundation for the new pressurizing plant has been completed and the plant is expected to be delivered by the end of February 2003.

Historical information indicates that the substation and portions of an adjoining commercial office building property located west of the substation Site (12 Water Street) were once the location of a manufactured gas plant (MGP). In anticipation of the construction activities associated with the substation improvement/modernization project, a Preliminary Site Assessment (PSA) was conducted to identify potential subsurface conditions that might pose a risk to the health and safety of Site workers and the public during those activities. Additional investigations were also conducted to assess potential impacts of the former MGP on adjacent properties surrounding the substation.

Con Edison submitted a Voluntary Cleanup Program application for the Site to the New York State Department of Environmental Conservation (NYSDEC) on July 11, 2000. The Preliminary Site Assessment Report and Interim Remedial Measures Work

Plan (PSA/IRM Report) was submitted with the application. Con Edison received a letter from the NYSDEC on July 27, 2001 stating that they had no objection to the commencement of Phase I construction activities in accordance with the IRM Work Plan. On September 23, 2002, Con Edison entered into a Voluntary Cleanup Agreement with the NYSDEC for the Site.

1.2 PROJECT OBJECTIVES

The objectives of the Site investigation activities were to:

1. Determine whether potential MGP byproducts and/or other chemical constituents are present in Site soils and groundwater or in the soil or groundwater of surrounding properties;

2. Identify Site conditions which could pose a risk to the health and safety of Site construction workers and public during construction;

3. Identify worker protection procedures to be implemented during construction, in the event impacted soil and groundwater are present;

4. Identify subsurface conditions that may require mitigative measures during construction; and

5. Identify any special soil handling, transportation, and disposal requirements.

This report presents results of the preliminary Site assessment and subsequent Site investigations performed at and around the Site.

1.3 SITE DESCRIPTION

The White Plains Substation is an active electric distribution substation located at 9 New Street in the downtown core area of the City of White Plains, Westchester County, New York (Figure 1-1). The perimeter of the Site is secured by a chain link fence. The Site encompasses approximately 1.2 acres of land and includes a two-story brick switchgear/control room building, and a substantial amount of aboveground outdoor electric equipment (e.g., transformers, circuit breakers, switching gear, buss work, etc.), and extensive underground electric cables and feeders related to Con Edison's power distribution system (Figure 1-2). Surface materials consist of soil, pavement, bluestone, and concrete. The Site is bordered by Water Street on the north; by an office building property (12 Water Street) with two off-street parking lots on the west; by New Street on the south; and by the off-street parking lot of a commercial office building property (170 Hamilton Avenue) on the east. With the exception of St. John's R.C. Church and St. John's Elementary School, which are located on the south side of New Street directly across from the substation Site, the surrounding area is predominately commercial, consisting of a car dealership, office buildings, and a bus depot.

1.4 SITE HISTORY

Historical information relating to past uses of the Site was compiled by Jacques Whitford Company, Inc. during a Phase 1 Environmental Site Assessment (ESA) (JWC, 1999). Historical Atlases of Westchester County (1861, 1893, 1901, and 1930), City Directory Abstracts (1937, 1942, 1948, 1952, 1958, and 1965), and historical aerial photographs (1954, 1961, 1964, 1974, 1975, 1979, 1989, and 1994) were reviewed. Sanborn Fire Insurance maps of the Site (1885, 1889, 1894, 1900, 1905, 1911, 1930, 1950, 1987, 1989, 1990, 1992, 1993, 1994) were also examined. Detailed Site information was also obtained from a Westchester Lighting Company Property Plan, dated June 1, 1911. Copies of the Sanborn Maps and detailed property plan are provided in Appendix A.

Beginning in the mid-1800s, a manufactured gas plant (MGP) was operated on the eastern portion of the property located between Lexington Avenue on the west, Spring Street on the east, New Street on the south and Gas Street on the north. The Site is labeled as "Gasworks" on the 1861 map from the Historical Atlases of Westchester County. The MGP contained two buildings and a small gasometer (gasholder).

The 1889 Sanborn map indicates the MGP was operated by the White Plains Gas Light Company. The structures depicted as being present on the Site indicate that gas was produced from coal and naphtha. The MGP contained a retort house, a coal house, a meter room, four purifiers, a 24,000 cubic foot (cf) gasholder, a tar well, and a iron naphtha tank. The western and southern portions of the Site contained residential dwellings. A small stream flows to the north along the east side of Spring Street. At the northeast corner of the Site, the stream bends to the west and flows westward along the northern side of Gas Street.

The same structures appear to be present on an 1893 map from the Historical Atlases of Westchester County. Structures on the 1894 Sanborn map is similar to the 1889 map. The White Plains Lighting Company is now shown as owner of the MGP. Changes on the map include the addition of a White Plains Steam Laundry building in the northern portion of the property and the re-naming of Gas Street to Water Street.

The 1900 Sanborn map indicates expansion and a process change at the plant from coal gas to a carbureted water gas. The retort house has been converted to a boiler house and generator house. A new 50,000 cf one-lift gasholder is present north of the existing gasholder in the vicinity of the former White Plains Steam Laundry. A new purifying house is also present in the northeast corner of the Site. Residential dwellings are still present in the southern and western portions of the property. The 1901 Historical Atlas map is similar to the 1900 Sanborn map.

The 1905 Sanborn map indicates further expansion and change of the MGP. A third 150,000 cf two-lift gasholder is present west of the second gasholder. The smaller southern 24,000 cf gasholder has been converted to a 10,000 gallon oil tank. An electric substation is also located adjacent to the boiler house building.

The 1911 Sanborn map and the June 1, 1911 property plan indicates that ownership of the Site had changed to the Westchester Lighting Company. The MGP contains various structures including two relief holders, a storage holder, a generator house, a purifying house, various storage sheds, a stable, a substation, several oil and tar tanks, a tar separator, and a tar well. Figure 1-4 shows the historical layout of the Site circa 1911. Several buildings have also been added to the western portion of the property.

Operations at the MGP reportedly ceased in May 1930. The gasholders and oil tanks are no longer present on the 1930 Sanborn map. The purifier house, boiler house and generator house are shown as vacant or used for storage. A two-story building (the current substation building) and transformers are present in the southern portion of the Site where dwellings were previously located. The substation building was reportedly constructed in 1925 adjacent to the substation on the MGP. A large building (the current 12 Water Street building) is also present in the northwest portion of the Site. The stream located east and north of the Site is also filled in, its former location shown in dashed lines.

All of the former MGP buildings with the exception of a storage building (the former purifying house) located in the northeast corner of the Site are no longer shown on the 1950 Sanborn map. A parking lot is also present adjacent to the large building in the northwest portion of the Site. The remainder of the Site is similar to the 1930 Sanborn map.

In February 1951, Westchester Lighting Company merged with Con Edison. The 1954 and later aerial photographs and Sanborn Maps indicate that the Site consisted of a Con Edison substation.

1.5 PREVIOUS INVESTIGATIONS

1997 Drywell Investigation

In March and April 1997, Environmental Concepts, Inc. (ECI) conducted a subsurface soil investigation adjacent to four separate transformer banks and dry wells located on the eastern side of the two-story substation building (ECI, 1997). The purpose of the investigation was to determine the extent of any impacts that may have resulted from a December 1995 oil spill from transformer bank number four. The transformer banks in that area are located on concrete platforms with concrete curbing surrounding each transformer. Each transformer bank drains, via gravity flow, to four individual dry wells. The Site assessment included:

- Collecting standing water (where present) and sediment/soil samples from the dry wells;
- Collecting standing water and sediment samples from the yard drain;

- Collecting sediment/sludge samples from two of the three remaining underground pipes which drain from the transformer containment vaults into the dry wells;
- Drilling two shallow soil borings (depths of 5-7 feet) adjacent to the stone/block leach walls of each of the four dry wells and collecting soil samples at two foot intervals; and
- Analyzing soil, sediment, and water samples for semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH).

Additionally, the sediments and debris observed within the dry wells were reportedly removed and properly disposed.

2001-2002 Closure of the Four Dry Wells

Con Edison held discussions with United States Environmental Protection Agency (USEPA) Region II officials concerning the existence of the four dry wells and Con Edison's intent to remove them. On October 3, 2001, Con Edison submitted a Dry Well Closure Plan to the USEPA for approval (Parsons, 2001). The Dry Well Closure Plan was approved by the USEPA on October 30, 2001. Between February 20, 2002 and March 4, 2002, the four dry wells were closed in accordance with the USEPA-approved plan. A closure report was prepared to document the closure activities, confirmatory sampling, air monitoring, soil disposal, and site restoration activities (Parsons, 2002). The closure report was submitted to the USEPA in May 2002.

SECTION 2

FIELD INVESTIGATION PROGRAM

Field investigation activities at the Site were performed by Jacques Whitford Company, Inc. (JWC). The field investigation was conducted in several phases over the periods of March and April 2000, August and December 2000, and April and August 2001. All field activities were conducted in accordance with the *December 1999 Work Plan for the Site Investigation at the White Plains Substation* (Parsons, 1999), the *August 2000 Work Plan for Additional Site Investigation at the White Plains MGP Site* (Parsons, 2000), and subsequent modifications based on several Site meetings with Con Edison and NYSDEC. This section describes the field investigation activities that were conducted at the Site.

2.1 UNDERGROUND UTILITY CLEARANCE

Prior to the start of any intrusive activities at the Site, Con Edison conducted a review of historic Site plans to identify potential subsurface utilities. Con Edison then completed a magnetometer survey in the areas of the proposed drilling locations to confirm the locations of both mapped and unmapped utilities. Test pits were hand-excavated at each location with a hand auger or shovel to depths ranging from 5 to 8 feet below the ground surface. Following excavation, a 4-inch PVC pipe or 10-inch diameter cardboard (sonotube) tube was placed within each test pit to serve as a temporary casing for future drilling activities at that location. The exterior and interior of the PVC pipe or sonotube was then backfilled with clean fill material to prevent potential accidents in the vicinity of test pits and associated casings.

The soils within each test pit were characterized by a JWC geologist for physical properties (grain size, color, moisture content, consistency, classification) and contaminant properties (visual, olfactory, headspace readings). Upon collection, a representative portion of each sample was placed in a zip-lock plastic bag and screened for the presence of volatile organic vapors with a photoionization detector (PID). A PID was also used to monitor the breathing zone during excavation of each test pit. Borehole logs for each of the test pit/drilling locations are provided in Appendix B.

In general, one sample was selected from each test pit for laboratory analysis based on visual observations and PID readings to characterize the shallow subsurface soils. Selected samples were analyzed for volatile organic compounds (VOCs) by EPA Method 8260, semivolatile organic compounds (SVOCs) by EPA Method 8270B, cyanide by EPA Method 9013/9010A, polychlorinated biphenyls (PCBs) by EPA Method 8082, and Target Analyte List (TAL) metals by the EPA Method 6000/7000 Series.

- Collecting sediment/sludge samples from two of the three remaining underground pipes which drain from the transformer containment vaults into the dry wells;
- Drilling two shallow soil borings (depths of 5-7 feet) adjacent to the stone/block leach walls of each of the four dry wells and collecting soil samples at two foot intervals; and
- Analyzing soil, sediment, and water samples for semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH).

Additionally, the sediments and debris observed within the dry wells were reportedly removed and properly disposed.

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2.2 SOIL BORINGS AND SOIL SAMPLING

A total of 36 soil borings were completed within and adjacent to the substation property to characterize the subsurface conditions, to collect soil samples for laboratory analysis, and to evaluate whether there were any MGP residuals present that could pose a risk to the health and safety of Site workers and the public during construction activities. Physical access to optimum drilling locations across the Site was limited by the presence of buildings, a substantial amount of aboveground outdoor electric equipment (i.e., transformers, circuit breakers, switching gear, buss work, etc.), and extensive underground electric cables and feeders. In addition, planned boring, TB-4, could not be completed due to the presence of energized (high voltage) equipment within 15 feet of the boring location. Soil boring locations are shown on Figure 2-1. Relevant information for each soil boring is summarized on Table 2-1.

To evaluate the potential presence of a historical buried stream channel located along Grove street, five supplemental soil borings were attempted along a transect oriented perpendicular to the former stream channel. The soil borings were located approximately five feet apart and extended from the parking lot on the 170 Hamilton Avenue property to the sidewalk along the west side of Grove Street. Concrete was encountered at a depth of six feet below grade in the utility clearance test pits conducted at these locations. Due to concern regarding safety and the likely presence of utilities in the vicinity of these test pits, the borings were not conducted.

Soil borings were advanced to depths of between 10 feet and 75 feet below the ground surface using a variety of drilling methods and equipment due to varying access conditions, overhead utilities, and underground utilities at each location. Hand augers were used to complete borings TB-2A and TB-3, which are located adjacent to transformers. A second boring, TB-2A, was conducted directly adjacent to boring TB-2 to collect additional soil samples from within the former holder and to install a temporary well.

A Dingo® rig was used to complete borings SB-1, TB-1, TB-2, and TB-5 where physical access was limited. The Dingo® is a limited access, direct-push probe drill rig with dimensions of 36" wide by 60" high by 96" long with the rods not extended. It is similar to a "Mule"® or ATV-mounted "Geoprobe" rig, except that it has smaller dimensions. It is a stand-alone rig, so anchoring was not required. Soil samples were collected using 2-foot or 4-foot long, 2-inch diameter macro-core samplers internally lined with acetate liners. The depth of each borehole was generally limited to the physical limits of the drilling equipment. Prior to drilling in the area of TB-1 and TB-2, Con Edison de-energized the transformer and associated equipment to ensure safe working conditions.

The majority of the soil borings were advanced with a Hurricane® drilling rig using direct push probe (DPP) techniques. The Hurricane® rig is mounted on an F-350 type truck and is equipped with 4.25-inch inner diameter (ID) hollow stem augers (HSAs), as well as 2-inch diameter direct-push probes. Soil samples were collected continuously to the bottom of each boring using a 4-foot long, 2-inch diameter macro-core sampler with an internal acetate liner. Boring SB-27 was advanced with 4.25-inch ID hollow stem augers and standard penetration sampling techniques. Split-spoon samples were collected continuously to the bottom of the boring.

Each soil sample was characterized according to its physical properties (percent recovery, grain size, color, moisture content, consistency, classification) and contaminant properties (visual, olfactory, headspace readings). A representative portion of each soil sample was placed in labeled, sealed, plastic bag for headspace screening. The headspace from each sample was screened in the field for total VOCs with a PID. The remaining portions of each sample were placed in labeled containers in a cooler with ice. Visual observations and field screening results are summarized on the boring logs presented in Appendix B.

After completion of each soil boring and headspace screening, appropriate samples were selected for laboratory analysis. The samples were selected based on their PID headspace readings and visual impacts. Samples were generally selected from zones with the strongest visible impacts, both above and below the water table. A sample was also collected near the bottom of the boring below any impacted zones. If evidence of hydrocarbon impacts was not observed in the vadose zone, the soil sample immediately above the water table was submitted for laboratory analysis. If evidence of hydrocarbon impacts was not observed in the saturated zone, the soil sample immediately below the water table and/or at the bottom of the borehole was submitted for laboratory analysis.

A total of 148 soil samples were submitted to Environmental Testing Labs (ETL) of Farmingdale, New York for analysis of VOCs by EPA Method 8260, SVOCs by EPA Method 8270B, cyanide by EPA Method 9013/9010A, PCBs by EPA Method 8082, and TAL metals by the EPA Method 6000/7000 Series. A total of 16 soil samples were also submitted to Meta Environmental for gas chromatograph/flame ionization detector (GC/FID) fingerprint analysis by Modified EPA Method 8015/8100. A sample of tar paper-like material from boring TB-2A was submitted to ATC Associates, Inc. for analysis of asbestos content. A summary of the samples collected, the analytical parameters, and sampling rationale is presented in Table 2-2.

At each drilling location, the rig was positioned on plastic sheeting as a spill countermeasure in the event that any fluids leaked from the rig (e.g.. engine oil, transmission fluid, etc.). The drill rig was also grounded to the facility's grounding system. After completion, the soil borings were tremie grouted with a bentonite/cement slurry. Direct push sampling equipment, split-spoon samplers, and hand auger samplers were decontaminated at the start of each work day and after the collection of each sample by scrubbing with a brush using a Simple Green®/potable water solution, followed by a potable water rinse, and finally by a distilled water rinse. HSAs were decontaminated between drilling locations by steam cleaning with a Simple Green®/potable water mixture. Decontamination of drilling equipment was conducted over a plastic lined decontamination pad that captured the decontamination fluids. The decontamination fluids were transferred to 55-gallon drums for subsequent disposal by Con Edison.

2.3 GEOTECHNICAL BORINGS

A total of ten geotechnical borings (GT-1 to GT-10) were conducted in the western portion of the Site on the upper parking lot of the 12 Water Street property where the switchgear and transformer enclosure additions to the substation's existing two-story building will be constructed. The geotechnical borings were conducted by drive and wash methods to depths of 79 to 89 feet below the ground surface. Soil samples were collected at five-foot intervals from the ground surface to the bottom of the boring. Locations of the geotechnical borings are shown on Figure 2-1, and geotechnical boring logs are provided in Appendix B.

A total of ten soil samples were collected from the geotechnical borings for analyses of PCBs, total petroleum hydrocarbons (TPH), and Toxicity Characteristic Leachate Procedure (TCLP) VOCs, SVOCs, and metals.

2.4 RADIOLOGICAL INVESTIGATION BORINGS

A total of 38 soil borings were conducted in the upper and lower parking lots of the 12 Water Street property as part of a radiological investigation conducted for Con Edison by Cabrera Services, Inc. (Cabrera) in accordance with the May *2001 Scoping Survey Plan for the Former NDA Site, White Plains, NY* (Cabrera, 2001). The borings were advanced with a Hurricane® drilling rig using two-inch diameter direct push probes. Soil samples were collected continuously to the bottom of each boring using a 4-foot long, 2-inch diameter macro-core sampler with an internal acetate liner. Results of the radiological investigation are presented in the June 22, 2001 *Final Report for the Scoping Survey of the Former NDA Site* (Cabrera, 2001).

2.5 MONITORING WELL INSTALLATION AND DEVELOPMENT

Permanent monitoring wells were installed at eight boring locations (MW-1 through MW-8) within and around the perimeter of the Site (Figure 2-1). Monitoring well borings were advanced to depths of 11 to 57 feet below the ground surface with 4.25-inch HSA drilling techniques. The monitoring wells were constructed with two-inch, inner diameter (ID), schedule 40 PVC casing and 7 to 20 feet of 10-slot screen. The screens were placed across the observed water table to monitor for light non-aqueous phase liquids (LNAPL). A two-foot sump was installed in monitoring wells MW-6 and MW-8. Bedrock or a major confining layer was not encountered in the other borings therefore no sump was installed.

Temporary, small-diameter wells were installed at six boring locations, TW-1, SB-1, SB-30 (TW-30), TB-1, TB-2A, and TB-5. Temporary wells were constructed with 3/4-inch or 1-inch schedule 40 PVC casing and 7 to 20 feet of 10-slot screen. The temporary wells were abandoned after sampling by removing the casing and screen and tremie-grouting with a bentonite/cement slurry. Monitoring well and temporary well construction logs are included in the boring logs presented in Appendix B and summarized in Table 2-1.

The monitoring wells were developed using a submersible pump and dedicated polyethylene tubing. The wells were surged during development by vigorously moving the pump up and down through the water column while pumping. Approximately 25 to 30 gallons of water were removed from each well during the development activities. The pH, temperature, conductivity and turbidity were measured at various times during the development of each well and recorded in the field book. Each well was developed until it became relatively clear and free of sediment (turbidity of 50 NTU or less) or until the pH, temperature and conductivity stabilized. The pump was decontaminated prior to use and between locations by scrubbing with a brush using a Simple Green®/potable water solution, followed by a potable water rinse, and finally by a distilled water rinse.

2.6 GROUNDWATER LEVEL MEASUREMENTS AND NAPL GAUGING

Groundwater level measurements and NAPL gauging was conducted in the monitoring wells and temporary wells on various dates between March 22, 2000 and August 11, 2001. An optical interface probe was used to identify the presence of potential LNAPL or DNAPL in the monitoring wells. Due to the small diameter of the temporary wells, an optical interface probe could not be utilized to gauge these. Instead, petroleum-finding paste was used to try and estimate the potential thickness of any NAPL. This methodology, however, did not provide conclusive data. Water levels were measured in each well from the top of the PVC risers with an electronic water level indicator.

2.7 GROUNDWATER AND NAPL SAMPLING AND ANALYSIS

Two rounds of groundwater samples were collected from monitoring wells at the Site. The first round of groundwater samples was collected from phase 1 monitoring wells MW-1 through MW-5 on April 6, 2000 and from temporary well TW-1 on March 14, 2000. The second round of groundwater samples was collected from monitoring wells MW-1 through MW-8 and temporary well SB-30 between July 26 and August 11 of 2001. Temporary wells SB1, TB-1, TB-2A and TB5 were not sampled due to the presence of sheen or measurable NAPL detected during the well gauging.

Prior to sampling, the well caps were removed and the headspace within each well was measured with a PID. An oil/water level interface probe and/or a water levels meter was used to measure the depths to the water table. The volume of standing water in each well was then calculated. Each well was purged by removing a minimum of three times the volume of standing water to allow for collection of a representative sample. Purging was conducted with either a dedicated Waterra™ pump and polyethylene tubing or a peristaltic pump and dedicated polyethylene tubing fitted with a Wattera™ foot valve. Field parameters including pH, specific conductance, temperature, dissolved oxygen and redox potential were measured during the purging. Water from the well purging process was containerized in labeled 55-gallon DOT drums for subsequent disposal by Con Edison.

Groundwater samples were collected using dedicated polyethylene bailers. The samples collected for total TAL metals were collected using the dedicated Waterra® tubing and pumps. Groundwater samples from the temporary wells were collected using disposable micro-bailers. Upon collection, the samples were transferred directly into the appropriate laboratory-supplied bottles, preserved using EPA and NYSDEC protocols, labeled, logged on a chain-of-custody form, and placed in a cooler with ice. Groundwater samples from the first round of sampling were delivered to Con Edison's Chem Lab Group for subsequent analyses by Eco Test Laboratories, Inc. for VOCs by EPA Method 8260, SVOC base/neutral extractables by EPA Method 8270B, cyanide by EPA Method 335.3, PCBs by EPA Method 608, and TAL metals by the EPA Method 200 Series. Groundwater samples from the second round of sampling were delivered to Con Edison's Chem Lab Group for subsequent analyses by Environmental Testing Labs for VOCs by EPA Method 8260, SVOCs by EPA Method 8270B, cyanide by EPA Method 9013/9010A, PCBs by EPA Method 8082, and TAL metals by the EPA Method 6000/7000 Series.

Samples from SB-1, TB-1, and TB-5 that contained a sheen or floating globules of NAPL were submitted to Meta Environmental for GC/FID fingerprint analysis.

2.8 SURVEY

The locations and elevations of all borings and monitoring wells were surveyed after completion by JWC using traditional surveying techniques. The survey data was used to accurately depict the sampling locations on a Site map. Elevation measurements were tied to a datum [at 204.65 ft above mean sea level (ft MSL)] that is permanently marked on the substation. Surveyed elevations are provided on the boring logs in Appendix B.

2.9 INVESTIGATION-DERIVED WASTE

Decontamination fluids, purge water, drilling fluids, drill/sampling cuttings, acetate liners, and plastic sheeting were containerized in separate 55 gallon DOT approved drums and stored on-Site in secure areas. At the conclusion of the field activities, soil cuttings and containerized fluids were sampled and submitted to ETL for analysis of TCLP benzene, PCBs, and ignitability. Wherever possible, the analytical results for the samples collected from the borings and monitoring wells were also used to characterize the waste. Upon receipt of the analytical results, the drums were transported to a Con Edison-approved licensed disposal facility.

2.10 QUALITY ASSURANCE/QUALITY CONTROL

Quality assurance/quality control samples were collected in accordance with the December 1999 Work Plan and the August 2000 Work Plan for Additional Site

Investigation. A summary of the QA/QC samples collected is provided in Table 2-3. The following types of QA/QC samples were collected.

- Blind Duplicates – Blind duplicate samples were collected to evaluate the representativeness of the sampling methods. The blind duplicate samples were labeled in such a manner that the laboratory was not able to determine that they were duplicate samples.
- Field Blanks - Field Blanks were collected to evaluate the effectiveness of the decontamination procedures for the sampling equipment.
- Trip Blanks - Trip blanks consist a 40-ml VOA vial containing distilled, deionized water that accompany the other water sample bottles into the field and back to the laboratory. Trip Blanks were collected and analyzed for TCL volatile organic compounds to access any contamination from sampling and transport, and internal laboratory procedures.
- Matrix Spike/Matrix Spike Duplicates (MS/MSD) - MS/MSD samples were collected to assess the effect of the sample matrix on the recovery of target compounds or target analytes.

Analytical data received from the laboratory were evaluated to identify any potential deviations from specified protocols. The compliance screening consisted of an assessment of whether or not holding times were met and a review of laboratory Quality Control (QC) blank results in accordance with United States Environmental Protection Agency (USEPA) Region II Standard Operating Procedures (SOPs) for Organic and Inorganic Data Review (USEPA, 1992a and 1992b).

2.11 SOIL GAS SAMPLING

A total of six soil gas samples were collected at the site by Clayton Group Services, Inc. (Clayton) on May 28, 2002 and June 4, 2002. Samples were collected along the eastern side of the switch gear building (Figure 2-1). The objective of the soil gas sampling was to assess the potential presence of VOCs in soils in the vicinity of the building.

Soil gas samples were collected from depths of 2 to 11 feet below the ground surface by advancing a one-inch, hollow metal probing rod to the desired sampling depth. Upon reaching the sampling depth, the rod was pulled up approximately 2-3 inches to open the vapor screen point at the leading edge. The soil gas sample was collected through a ¼-inch polyethylene tubing placed in the center of the rods and captured into a stainless steel "Summa" canister. Prior to collecting the sample, a hand pump was used to evacuate the tubing of ambient air and to fill the tubing with soil gas. The samples were submitted to Performance Analytical Inc. of Simi Valley, CA for analysis of VOCs, naphthalene, 2-methylnaphthalene and 10 tentatively identified compounds (TICs) by EPA Method TO-15.

2.12 AIR SAMPLING

Two air samples (instantaneous grab samples) were collected by Clayton on May 28, 2002. The purpose of the samples was to assess the potential for the release of residual VOCs from subsurface soils in the vicinity of former MGP structures. One sample was collected outside at the northeast corner of the 2-story switch gear building and one sample was collected in the center of the basement inside the building. The air samples were collected using evacuated Summa canisters. The samples were submitted to Performance Analytical Inc. of Simi Valley, CA for analysis of VOCs and 15 TICs using EPA Method TO-15.

2.13 INDOOR AIR ASSESSMENT AT ST. JOHN'S SCHOOL

On February 21, 2003, Con Edison conducted an indoor air assessment at the St. John's School to determine whether there was any evidence of MGP-related subsurface vapor intrusion into the school building and the adjacent rectory and gymnasium buildings. The assessment was conducted in accordance with the NYSDEC and NYSDOH-approved "Work Plan for Evaluation of Subsurface Vapor Intrusion" (RETEC, June 2002). A total of thirteen air samples were collected from the basement and first floors of the buildings. Four ambient air samples were collected outside the buildings. Five soil gas samples were also collected from within and outside the buildings. The samples were analyzed for VOCs using EPA Method TO-15 by Air Toxics laboratory, Inc. In addition to standard VOCs, the analyte list included hydrocarbons expected to be often associated with either MGP tars or petroleum sources.

The sampling activities and results are described in the "Report on Evaluation for Subsurface Vapor Intrusion" (RETEC, August 2003), which was submitted to the NYSDEC and NYSDOH for review. Evaluation of the data obtained during the assessment indicated no discernable impacts from the former MGP on the indoor air in the school, rectory and gymnasium buildings. The August 13, 2003 letter from the NYSDOH and the September 23, 2003 letter from the NYSDEC, copies of which are included in Appendix C of this report, describe the Departments' evaluation of the data.

2.14 INVESTIGATION OF SOUTHERN RELIEF GASHOLDER

The former southernmost relief gasholder is currently located beneath transformer #5. Available substation drawings indicate the gasholder is approximately 45 feet in diameter. The walls of the gasholder are constructed of steel lined with brick on either side and are approximately 3-foot thick. The concrete bottom of the gasholder is approximately 18 feet bgs. Substation drawings indicate a number of support columns and a beam were installed within the former gasholder during installation of the transformer #5 foundation. Access to the gasholder is extremely limited by the new pressurizing plant located approximately 7 feet to the west of the gasholder, and by a retaining wall and 10-foot drop-off located approximately 15 feet to the north and east of the gasholder.

Due to the limited access and the presence of active aboveground and belowground electrical equipment present in this area, very few subsurface drilling locations could be installed during the site investigation in the areas of transformers #5 and #6. Therefore, limited data could be obtained to assess the extent of impacts associated with the former southernmost relief gasholder.

The de-energizing of the aboveground and belowground electrical equipment in early 2003 in anticipation of the replacement of transformers #5 and #6 facilitated more extensive access to this area than was allowed during previous investigation activities. To supplement the previous investigation data, additional investigation activities were conducted in May 2003. Seven additional soil borings (SB-101 through SB-107) were installed in the vicinity of the former gasholder (Figure 2-1). The additional soil borings were installed using direct-push drilling methods (Geoprobe). Continuous soil samples were collected for visual characterization and headspace screening with a photoionization detector (PID). Detailed soil boring logs for the May 2003 soil borings are provided in Appendix B. In addition to visual characterization and PID screening, select soil samples were also collected during the May 2003 investigation and submitted for laboratory analysis for VOCs, SVOCs, metals, PCBs, cyanide, and TPH. The analytical results for these samples are summarized discussed in Section 4.1.5.

SECTION 3

PHYSICAL CHARACTERISTICS OF THE SITE

3.1 TOPOGRAPHY

The substation is constructed on two levels with a vertical retaining wall between the northern and southern portions of the facility. The southern portion of the substation is at an elevation of 200 to 205 feet above mean sea level (MSL) and the northern portion of the substation is at an elevation of approximately 190 feet above MSL.

3.2 CLIMATE

Despite the close proximity to the Atlantic Ocean, Westchester County is characterized by a continental climate. The climate is also humid and primarily affected by major circulation patterns that carry moisture towards the northeastern United States. The maritime influence plays a secondary but important role in the climate. The Atlantic Ocean moderates the winter temperatures and adds considerable moisture to the atmosphere. The winters are short but moderately cold with an average temperature of 27 degrees F. Summers are warm and include occasional periods of uncomfortably hot and humid weather. The average temperature during the summer is 70 degrees F with an average daily maximum of 82 degrees. The average total annual precipitation ranges from 44 to 48 inches of rain, about 50 percent of which usually falls in April through September. The average seasonal snowfall ranges from 35 to 45 inches (USDA, 1994).

3.3 GEOLOGY

3.3.1 Regional Geology

Westchester County is located in the southeastern corner of New York State and lies within the Manhattan and Reading Prongs of the New England Uplands physiographic province. The New England Uplands physiographic province is mature and geologically complex with moderate relief Elevations within the county range from sea level along Long Island Sound and the Hudson River to nearly 900 feet above sea level in the northern parts of the county. The regional geology is characterized by glacial deposits which overlay a heavily metamorphosed complex of Precambrian and Paleozoic sedimentary and igneous rocks. The hills are generally underlain by the Fordham Gneiss and the Manhattan Schist which are highly resistant to erosion. The Inwood marble underlies many of the valleys which are now occupied by small rivers.

3.3.2 Site Geology

The stratigraphy of the Site can divided into four geologic units: fill, fine to medium sand, glacial till, and bedrock. The subsurface stratigraphy is illustrated on geologic cross-sections A-A', B-B', and C-C' (Figures 3-1, 3-2, and 3-3). Locations of the geologic cross-sections are shown on Figure 2-1.

The fill ranges in thickness from 3.5 to 9 feet and consists of fine to coarse sand, with varying amounts of gravel, silt, brick, cobbles, cinders, metal and concrete debris, and concrete foundations and slabs. The fill is underlain by up to 77 feet of sand. The upper portion of the sand unit consists predominantly of fine to medium sand with a few discontinuous lenses of fine to coarse sand, fine gravel, and thin discontinuous lenses of clayey silt. The lower portion of the sand unit consists of poorly graded sands. The sand unit ranges in thickness from 2 feet in MW-5 (below 6 feet of fill) at the northeastern side of the Site to over 77 feet in GT-1 located near the southeastern end of the property. The sand unit is underlain by up to 15 feet of glacial till. The glacial till consists of poorly graded sand and gravel with boulders.

The glacial till is underlain by bedrock consisting of the Manhattan Schist. The depth to bedrock is highly variable and ranges from 8 feet in the northeast corner of the Site to 84 feet in the southwestern corner of the Site.

3.4 HYDROGEOLOGY

3.4.1 Regional Hydrogeology

Groundwater in the region is found in unconsolidated glacial deposits and in gneissic bedrock. Regional groundwater flow is to the west towards the Hudson River or to the east towards Long Island Sound.

3.4.2 Site Hydrogeology

The groundwater table at the Site occurs in sand and silt deposits overlying the glacial till. Depths to groundwater in the northern and topographically lower portion of the Site range from 5.22 feet to 11.82 feet below the ground surface. Depths to groundwater in the southern and topographically higher portion of the Site range from 22.44 feet to 28.37 feet below the ground surface. Groundwater appears to be perched within the foundation of the southernmost relief holder. Groundwater in TB-2 (within the holder) was observed at a depth of 10 feet while groundwater in TB-1 (outside the holder) was observed at a depth of 22 feet below the ground surface. Water level measurements and groundwater elevations are summarized on Table 3-1.

Groundwater elevation contours, based on water level measurements on July 26, 2001 are presented on Figure 3-4. Groundwater elevations ranged from 183.9 feet above mean sea level (AMSL) in MW-5 located at the northeast corner of the Site to 175.99 feet (AMSL) in temporary well SB-30 located at the southwestern corner of the Site. Local groundwater flow is generally toward the south and west (Figure 3-4). This appears to correspond with the increasing overburden thickness and increasing depth to bedrock towards the south and west. Measured groundwater elevations suggest that the Site is within the Hudson River drainage basin.

Groundwater at the Site is not used as a drinking water source. The entire City of White Plains is on a public water supply. According to the City of White Plains Water Department, 95 percent of the City's water is purchased from the New York City Water Board and is drawn from the Kensico Reservoir. Less than 5 percent of the City's water supply comes from three public water supply wells all located approximately 1.5 miles up gradient of the Site.

SECTION 4

NATURE AND EXTENT OF IMPACTS

4.1 IMPACT ASSESSMENT

4.1.1 Soils

A total of 36 soil borings were completed within and adjacent to the substation property. Soil samples were continuously collected from the ground surface to the bottom of the borings and were visually described for physical properties and evidence of impacts. A total of 148 soil samples were selected for laboratory analyses. Observations related to the presence of NAPL and staining as well as analytical results are discussed below.

Visual Results

Visible NAPL or tar-like material was observed in soils at depths ranging between seven feet and 55 feet below the ground surface. The NAPL was described as auburn to black colored oily residue or droplets on the acetate sleeve, oily stained soil, or "tar like" material. In general, the NAPL was associated with elevated PID readings, "tar-like" or "petroleum-like" odors and visible sheen. Figure 4-1 depicts the observed distribution and depths of visible NAPL in Site soils.

Visible NAPL or tar-like material at depths of less than 20 feet below the ground surface (bgs) was found in the northern half of the Site in the following areas:

- The northeastern corner of the Site in the vicinity of the former purifying house and the former tar well and tar separator. NAPL in this area was observed in soils at depths between 7 feet and 17.5 feet bgs.
- Along the northern boundary of the Site in the vicinity of potential former piping from the large gasholder. NAPL in this area was observed in soils at depths between 7.5 feet and 17.4 feet bgs.
- Within the former central gasholder and in the vicinity of the former above ground oil and tar tanks. NAPL in this area was observed in soils at depths between 8 feet and 20 feet bgs.
- Within the southern former smaller gasholder. NAPL in this area was observed in soils at depths between 17.5 feet and 18 feet bgs.

With the exception of borings SB-1 and TB-5, intervals containing visible NAPL in each boring generally ranged between 0.4 feet to 4 feet in thickness. NAPL was also commonly observed at varying depth intervals within each boring. For example, NAPL was observed at a depth of 17 to 17.4 feet in boring SB-7 and at a depth of 7.5 to 8.5 feet in adjacent boring MW-6.

Visible NAPL at depths of greater than 20 feet was found primarily in the central and southern portions of the Site in the following areas:

- A small area in the vicinity of boring SB-5 which is located north of the central gasholder. NAPL in this area was observed in soils at depths between 27 feet and 28 feet bgs. No NAPL was observed in soils above this zone.
- North of the existing switchgear building in the vicinity of the former above ground oil and tar tanks and extending southeast towards the southernmost former gasholder. NAPL in this area was observed in soils at varying depths between 28 feet and 55 feet bgs.
- In a narrow area at the southern boundary of the Site that extends southward onto the St. John's School property. NAPL in this area was observed in soils at depths between 35 feet and 39 feet bgs. No NAPL was observed in soils above this zone.

For the most part, at depths of greater than 20 feet, soils containing visible NAPL are present in vertically isolated intervals. The intervals vary in thickness from 0.5 feet to 4 feet in thickness. For example, NAPL was observed in borings MW-8 and SB-24 at depths of 35 to 39 feet. Soils above this interval were relatively unimpacted. In boring SB-12, NAPL was observed at depths of 12 to 15 feet and 40 to 44 feet. Soils between these two zones were relatively unimpacted.

Fingerprint Results

Sixteen soil samples were submitted to META Environmental for GC/FID hydrocarbon fingerprinting analyses. The hydrocarbon fingerprinting reports are provided in Appendix D and summarized on Table 4-1. The relative abundance of PAHs and the ratio of fluoranthene to pyrene with a relatively low amount of dibenzofuran suggest that the samples contain a MGP tar. Several samples also contained a mid-weight petroleum distillate or mineral oil. The samples exhibited various amounts of weathering. Total monoaromatic hydrocarbon (MAH) concentrations ranged from 0.28 mg/kg to 14,800 mg/kg. Total PAH concentrations ranged from 3.52 mg/kg to 114,000 mg/kg.

Analytical Results

Soil sample analytical results were compared with the New York State Department of Environmental Conservation (NYSDEC) Technical Administrative Guidance Memorandum HWR-94-4046 (TAGM 4046) Soil Cleanup Objectives (NYSDEC, 1994). Soil samples that were analyzed for metals were also compared with the Eastern U.S.

Background Concentrations. Soil sample analytical results are presented on Table 4-2 and discussed below.

VOCs

Up to 28 VOCs were detected in the subsurface soil samples. The VOCs consisted primarily of BTEX (benzene, toluene, ethylbenzene, and xylene [meta, para, and ortho-xylene]). BTEX is commonly found in petroleum products and also at former MGP sites. Total BTEX concentrations in Site soils ranged from not detected to 14,420 milligrams per kilogram (mg/kg). The highest concentrations were generally associated with areas where visible NAPL was observed. Figure 4-2 shows the distribution of total BTEX concentrations in soil samples.

Six of the VOCs-- acetone, methylene chloride, benzene, toluene, ethylbenzene, and xylene were detected at concentrations above the NYSDEC TAGM 4046 Soil Cleanup Objectives. Acetone and methylene chloride are common laboratory contaminants and were also found in the trip blank and field blank samples. Benzene and toluene were detected in seven samples at concentrations above the Soil Cleanup Objectives. Ethylbenzene was detected in 21 samples and xylene was detected in 27 samples at concentrations above the Soil Cleanup Objectives. Total BTEX concentrations exceeding 10 mg/kg were detected in soils at depths ranging from four to 55 feet below the ground surface.

At depths of less than 20 feet, total BTEX concentrations exceeding 10 mg/kg were detected in the following areas:

- The lower parking lot on the northern portion of the 12 Water Street property where two former gasholders and former above ground oil and tar tanks were located. Total BTEX concentrations exceeded 10 mg/kg in samples at depths ranging from 4 feet to 18 feet bgs. Samples with total BTEX concentrations greater than 10 mg/kg were primarily located at depths of 8 feet to 18 feet. With the exception of boring SB-31, total BTEX concentrations in samples above 8 feet were low.
- In boring TB-5 located in the northeast corner of the Site in the vicinity of the former purifying house. Total BTEX concentrations exceeded 10 mg/kg in the sample from a depth of 16.5 feet to 17.5 feet bgs. Concentrations in samples from above this interval were below 10 mg/kg.
- In boring TB-2 located within the smaller southern former gasholder. Total BTEX concentrations exceeded 10 mg/kg in the 17.5 feet sample. Visible NAPL was observed in this boring at a depth of 17.5 feet to 18 feet.

These areas are generally coincident with the areas where the former MGP structures were located and where visible NAPL was observed in the soil samples (Figure 4-2).

At depths greater than 20 feet, total BTEX concentrations exceeding 10 mg/kg were detected in the following areas:

- North and east of the existing switchgear building in the vicinity of the former above ground oil and tar tanks and the southern former gasholder. Total BTEX concentrations exceeded 10 mg/kg in samples at depths ranging from 21.5 feet to 55 feet bgs. The depth intervals where total BTEX concentrations exceeded 10 mg/kg varied between wells.
- In boring SB-24 located on the sidewalk in front of the St. Johns School. Total BTEX concentrations exceeded 10 mg/kg in the sample from 36 feet to 38 feet bgs. Samples above this interval contained low concentrations of BTEX.

These areas are also generally coincident with the areas where former MGP structures were located and where visible NAPL was observed in the soil samples (Figure 4-2).

SVOCs

Up to 27 semivolatile organic compounds (SVOCs) were detected in the soil samples. The SVOCs detected consisted primarily of polycyclic aromatic hydrocarbons (PAHs). PAHs are present in fuel oils and in MGP residuals. PAHs can also be present in fill material containing coal, ash, cinders, and slag. Seven of the PAHs detected are probable carcinogenic compounds and ten are non-carcinogenic compounds. Total PAH concentrations in Site soils ranged from not detected to 114,000 mg/kg. Similar to the pattern observed with VOCs, the highest concentrations of PAHs were generally associated with areas where visible NAPL was observed. Figure 4-3 shows the distribution of total PAH concentrations in soil samples.

Phenol in one sample, dibenzofuran in eight samples, non-carcinogenic PAHs in 36 samples, and probable carcinogenic PAHs in 74 samples were detected at concentrations above the NYSDEC TAGM 4046 Soil Cleanup Objectives. Total PAH concentrations exceeding 500 mg/kg were detected in samples at depths ranging from 7.5 feet to 55 feet below the ground surface.

At depths of less than 20 feet, total PAHs were detected at concentrations exceeding 500 mg/kg in the following areas:

- The northeastern corner of the Site in the vicinity of the former purifying house. Total PAH concentrations exceeded 500 mg/kg in samples at depths ranging from 7 feet to 11.8 feet bgs.
- Along the northern boundary of the Site in the vicinity of possible former piping from the large former gasholder. Total PAH concentrations exceeded 500 mg/kg in samples at depths ranging from 7.5 feet to 14 feet bgs. Samples above this interval exhibited total PAH concentrations of less than 120 mg/kg.

- Within the former central and southern gasholder and in the vicinity of the former above ground oil and tar tanks. Total PAH concentrations exceeded 500 mg/kg in samples at depths ranging from 12 feet to 18 feet bgs.

These areas are generally coincident with the areas where visible NAPL was observed in the soil samples and where total BTEX concentrations exceeded 10 mg/kg (Figure 4-3).

At depths greater than 20 feet, total PAHs were detected at concentrations exceeding 500 mg/kg in the following areas:

- North of the existing switchgear building in the vicinity of the former above ground oil and tar tanks and extending southeast towards the small southern former gasholder. Total PAH concentrations exceeded 500 mg/kg in samples at depths ranging from 21.5 feet to 55 feet bgs. The depth intervals where total PAH concentrations exceeded 10 mg/kg varied between wells and were generally vertically isolated, similar to what was observed with the visible NAPL and total BTEX concentrations.
- In a narrow area at the southern boundary of the Site that extends southward onto the St. Johns School property. Total PAH concentrations exceeded 500 mg/kg in samples at depths ranging from 36 feet to 38 feet bgs. PAHs were not detected or detected at very low concentrations in soil samples from above this interval.

These areas are also generally coincident with the location of the former MGP structures and areas where visible NAPL was observed in the soil samples (Figure 4-3).

Low concentrations of PAHs (0.95 mg/kg to 18.48 mg/kg) were also detected in shallow borings conducted adjacent to the four dry wells during a previous investigation in 1997. In the area around the dry wells, PAHs were detected only in soil samples from the 0 to 6-inch depth interval. No PAHs were detected in the deeper samples collected from 2, 4 and 5 feet bgs.

PCBs

PCBs were detected at low concentrations (0.1 mg/kg to 0.27 mg/kg) in three shallow soil samples from borings SB-12 (2'-4'), SB-16 (2'-4') and SB-17 (2'-4'). Low concentrations of PCBs (0.05 mg/kg to 0.12 mg/kg) were also detected in one shallow boring conducted adjacent to the four dry wells. The PCB concentrations were all below the NYSDEC Soil Cleanup Objective of 1 mg/kg. PCBs were not detected in any of the other soil samples across the Site.

Metals and Cyanide

A total of 23 metals were detected in the soil samples collected from across the Site. Thirteen of the metals were detected at concentrations above the Eastern U.S.

Background Concentrations. Chromium, iron, magnesium, and zinc were the most commonly detected metals exceeding the Eastern U.S. Background Concentrations. Arsenic, calcium, barium and selenium were the least common to exceed the Eastern U.S. Background Concentrations. There did not appear to be any pattern to the distribution of elevated metals concentrations.

Cyanide was detected in 66 soil samples at concentrations ranging from 0.045 mg/kg to 9.53 mg/kg. Cyanide concentrations were generally below 1 mg/kg. Cyanide was detected at concentrations of 2 mg/kg to 3.2 mg/kg in seven samples (SB-5, SB-7, SB-8, SB-10, SB-12, SB-14 and SB-16). With the exception of one sample, all were from depths of between 2 to 4 feet. The highest cyanide concentration (9.53 mg/kg) was detected in boring TB-5 located in the former purifier house area.

TPH

TPH was detected in all of the shallow soil samples collected from 1 to 5 feet at geotechnical borings conducted in the western portion of the Site and the southern parking lot area of the 12 Water Street property, where the switchgear and transformer enclosure additions will be built as part of Phase I of the substation improvement/modernization project. TPH concentrations ranged from 18.2 mg/kg to 5,200 mg/kg. TPH concentrations are summarized on Table 4-3.

TCLP Results

TCLP results for soil samples collected from the geotechnical borings are summarized in Table 4-3 and provided in Appendix E. No TLCP VOCs or SVOCs were detected in the geotechnical boring soil samples. All TCLP metals concentrations were below the regulatory criteria for toxicity characteristic hazardous waste.

A sample of tarry material from a depth of 17.5 feet in boring TB-2 (within the foundation of the southernmost former relief holder) was also submitted for analysis of TCLP VOCs, SVOCs, and metals. Analytical results are provided in Appendix E. The concentration of benzene in this sample (5.18 mg/L) exceeded the regulatory level of 0.5 mg/L, indicating that this material would be regulated as a toxicity characteristic hazardous waste under the New York State hazardous waste program if it were excavated and removed from the substation Site.

Asbestos

Analytical results for sample TB-2A, collected from a tar paper-like material at a depth of approximately 6 feet below grade, are provided in Appendix F. The results indicate that the sample contains less than one percent asbestos, indicating it is not a regulated asbestos containing material.

4.1.2 Groundwater

Groundwater samples were collected from the monitoring wells to characterize groundwater quality. In wells where no visual evidence of NAPL was observed during well gauging, the groundwater samples were analyzed for VOCs, SVOCs, PCBs, TAL metals, and cyanide. In wells where NAPL or significant sheen was observed, samples were submitted for hydrocarbon fingerprint analyses.

Visual Results

The monitoring wells and temporary wells were monitored for NAPL over a period of 17 months. NAPL monitoring results are summarized on Table 3-1. Small amounts of NAPL were observed in the following wells:

- MW-5 and TB-5 located in the northeastern corner of the Site in the vicinity of the former purifying house and the former tar well and tar separator.
- SB-1 located within the central former gasholder.
- TB-1, TB-2A and TW-1 located within and in the vicinity of the southern small former gasholder.

The NAPL consisted of either a sheen, a thin layer of LNAPL ranging from 0.01 feet to 0.18 feet in thickness, or floating globules of a brownish oily material which exhibited a tar-like odor.

Fingerprint Results

Groundwater samples from temporary wells SB-1, TB-1, and TB-5 that contained a sheen or floating globules of NAPL were submitted to META Environmental for GC/FID hydrocarbon fingerprinting analyses. The hydrocarbon fingerprinting results are provided in Appendix D and summarized on Table 4-1. The fingerprint results indicate that the samples contained predominantly tar with some heavy weight petroleum product. The relatively high abundance of MAHs and light PAHs suggest that the samples contain a water soluble fraction of tar. The presence of tar and petroleum of these types is common for carbureted water gas plants. Total MAH concentrations ranged from 570 µg/L to 931 µg/L. Total PAH concentrations ranged from 8,091 µg/L to 14,500 µg/L.

Analytical Results

Groundwater analytical results were compared to NYSDEC Class GA (Drinking Water) Groundwater Quality Standards and Guidance Values (NYSDEC, 1998). Analytical results are presented in Table 4-4 and illustrated on Figure 4-4.

VOCs

Fourteen VOCs were detected in the groundwater samples from the monitoring wells and temporary wells. The VOCs consisted primarily of BTEX and BTEX-related compounds. Acetone and chloroform were detected in several samples at low concentrations (below 10 µg/L) and are common laboratory contaminants. Tetrachloroethene was detected in a sample and a duplicate sample from MW-8 at low concentrations of 0.76 µg/L to 1.0 µg/L. BTEX was detected in samples from five monitoring wells, MW-5, MW-6, MW-8, TW-1 and SB-30. BTEX was not detected in samples from monitoring wells MW-1 through MW-4. Total BTEX concentrations ranged from 3.4 µg/L to 2,361 µg/L. The highest BTEX concentration was detected in TW-1 located downgradient of the former small southern relief holder. The sample from TW-1 had a visible sheen.

BTEX and seven BTEX-related compounds were detected at concentrations above the NYSDEC Class GA Groundwater Quality Standards or Guidance Values. BTEX concentrations exceeded the NYSDEC Class GA Groundwater Quality Standards or Guidance Values in monitoring wells MW-5 and MW-6 and temporary wells TW-1 and TW-30.

SVOCs

SVOCs, consisting primarily of PAHs, were detected in groundwater samples. Other SVOCs included phthalate compounds, carbazole, dibenzofuran, and 2,4-dimethylphenol. The phthalate compounds were also detected in the field blank sample and may be attributable to laboratory contamination. Total PAH concentrations ranged from 0.21 µg/L to 3,789 µg/L. The highest PAH concentrations were detected in temporary well TW-1 and monitoring well MW-5. These wells are located in the vicinity of the former relief holder and the former tar well/tar separator areas, respectively. No PAHs were detected in samples from monitoring wells MW-1 and MW-4.

Thirteen PAHs, including seven non-carcinogenic PAHs and six probable carcinogenic PAHs, were detected in the groundwater samples at concentrations above the NYSDEC Class GA Groundwater Quality Standards or Guidance Values. PAHs at concentrations exceeding the NYSDEC Class GA Groundwater Quality Standards or Guidance Values were detected in monitoring wells MW-2, MW-5, MW-6, MW-8 and temporary wells TW-1 and TW-30.

PCBs

PCBs were not detected in any of the groundwater samples collected at the Site.

Metals and Cyanide

A total of 21 metals were detected in groundwater samples collected from the Site. Twelve of the metals were detected at concentrations above the NYSDEC Class GA

Groundwater Quality Standards or Guidance Values. Aluminum concentrations exceeded the groundwater standards in all wells, while iron exceeded the groundwater standards in all but one well. No discernable pattern in metals concentrations was identified.

Total cyanide was detected in groundwater samples from all of the monitoring wells at concentrations ranging from 0.002 mg/L to 0.25 mg/L. Only the cyanide concentrations in monitoring well MW-5 exceeded the NYSDEC Class GA Groundwater Quality Standard of 0.2 mg/L. This well is located in the vicinity of the former tar well and tar separator.

4.1.3 Soil Gas

Six soil gas samples were collected at the site to assess the potential presence of VOCs in soils in the vicinity of the switchgear building. The samples were analyzed for VOCs, naphthalene, 2-methylnaphthalene and 10 tentatively identified compounds (TICs). Analytical results are summarized on Table 4-5 and are discussed below.

Low concentrations of 15 VOCs were detected in the soil gas samples collected from the six locations beneath and along the eastern side of the switchgear building. The VOCs consisted of chlorinated compounds, 2-butanone, acetone, carbon disulfide, xylene, methyl ter-butyl ether (MTBE), and toluene. Concentrations of all of the VOCs, except acetone and toluene, were generally below 1 part per billion by volume (ppbv). Acetone concentrations ranged from non-detect to 5.7 ppbv and toluene concentrations ranged from non-detect to 1.5 ppbv.

Low concentrations of chlorinated solvents (trichloroethene, tetrachloroethene, 1,1,1-trichloroethane, 1,1-dichloroethene) were detected in two samples along the eastern side of the switchgear building (SG-X2A and SG-X2B) and in the sample beneath the basement floor in the switchgear building (SB-Basement 1). Other chlorinated compounds detected include bromodichloromethane, trichlorofluoroethane, and trichlorofluoromethane. Chlorinated solvents were not detected in any of the soil or groundwater samples collected in this area. Chlorinated compounds are not related to MGP operations.

Low concentrations of toluene (0.75 ppbv to 1.5 ppbv) were detected in all of the samples collected along the eastern side of the switchgear building. Xylene was detected in two samples at concentrations of 0.37 ppbv to 0.43 ppbv. Naphthalene and 2-methylnaphthalene were not detected in any of the soil gas samples. Toluene and xylene concentrations may be related to MGP-impacts. However, the presence of MTBE in sample SG-X2A suggests they may also be related to gasoline impacts. BTEX compounds, naphthalene and 2-methylnaphthalene were detected in the soil and groundwater samples from this area.

4.1.4 Air

Two instantaneous air samples were collected at the site, one located outside at the northeast corner of the switchgear building and one in the center of the basement of the switchgear building. The samples were analyzed for VOCs and 15 TICs. Analytical results are summarized on Table 4-6 and are discussed below.

Low part per billion concentrations of up to 11 VOCs and 18 TICs were detected in the two samples. VOCs consisted of BTEX, several chlorinated compounds, ethanol, acetone, MTBE, vinyl acetate, and n-hexane. No significant differences were observed between the indoor air sample collected in the building's basement and the ambient air sample collected outside of the building.

4.1.5 Southern Relief Gasholder Investigation Results

The location, depths, and visual observations of the soil borings installed within and in the vicinity of the former southernmost relief gasholder during the PSA and May 2003 investigations are summarized on Table 4-7. The investigation results indicate NAPL may be present within the southernmost relief gasholder at depths ranging from 9.5 feet bgs to the bottom of the gasholder (18 feet bgs). Figure 4-5 illustrates the distribution of NAPL observed in the vicinity of the southern gasholder. NAPL encountered in borings immediately outside and in the vicinity of the gasholder is present at depths greater than 27 feet bgs, significantly deeper than the bottom of the gasholder and below the groundwater table which was encountered between 23 and 27 feet bgs.

The analytical results for the soil samples collected during the May 2003 investigation are summarized in Table 4-8. Results indicate elevated concentrations of BTEX and PAHs at soil boring locations SB-101, SB-103, and SB-105 at depths greater than 23 feet bgs.

4.2 SITE CONCEPTUAL MODEL

Information collected during the initial and supplemental investigation programs as well as consideration of current and future Site uses, and potential exposure routes and potential receptors were used to develop a conceptual model for the Site (Figure 4-6). The conceptual model provides a framework for evaluating potential risks to human health and the environment and for evaluating a potential Site remedial strategy. Physical access to optimum drilling and sampling locations across the Site was limited by the presence of buildings, a substantial amount of aboveground outdoor electric equipment and extensive underground electric cables and feeders.

Soils at the Site consist of up to 9 feet of fill, underlain by up to 77 feet of fine to medium sand, which is underlain by up to 15 feet of glacial till. Mica schist bedrock at the Site ranges in depth from 8 feet in the northeast corner of the Site to 84 feet in the southwestern corner of the Site. Groundwater generally flows towards the west and south and was found at depths of 7 to 28 feet below the ground surface. Groundwater was shallowest in the northeastern portion of the Site, which is at a lower elevation than the southern portion of the Site.

Soils in the vicinity of the former MGP structures have been impacted by MGP residuals. NAPL, consisting of oily or tar-like material, was encountered at various depths in borings conducted within and in the vicinity of the former gasholders, within the former purifying house area, in the vicinity of the former above ground oil and tar tanks, and near the former tar well and tar separator. NAPL at depths of less than 20 feet was generally present in close proximity to these former structures. With the exception of borings SB-1 and TB-5, intervals containing visible NAPL in each boring generally ranged between 0.4 feet to 4 feet in thickness. NAPL at depths of greater than 20 feet occurred in vertically isolated intervals within the borings ranging from 0.4 feet to 4 feet in thickness. With the exception of a small area at the southern border of the Site, most NAPL at depths of greater than 20 feet was also found in the vicinity of the former MGP structures. Fingerprinting analysis indicates that the soils contain an MGP tar with various amounts of weathering. VOCs, PAHs and metals were detected in the soil samples at concentrations exceeding the NYSDEC Soil Cleanup Objectives. The highest concentrations were detected in the vicinity of the former MGP structures. One sample of tarry material from the southernmost relief holder also exceeded the maximum concentration of benzene for toxicity characteristic hazardous waste under the New York State hazardous waste program. Soils in the southeastern and western portions of the Site have not been impacted by MGP residuals, as shown by the non detect to low VOC and SVOC concentrations. TPH was detected in shallow soils in the western portion of the Site.

Groundwater in the vicinity of the former MGP structures has also been impacted by MGP residuals. Minor amounts of NAPL, consisting of either a sheen, a thin layer of LNAPL (0.01 feet to 0.18 feet in thickness), or floating globules of a brownish oily material were encountered in several wells. Fingerprinting results indicate that the samples contained predominantly tar with some heavy weight petroleum product which is common for carbureted water gas plants. VOCs and SVOCs were detected in the groundwater samples. The highest concentrations were detected in wells MW-5, MW-6 and TW-1 located in the vicinity of the former MGP structures.

Much of the Site is covered with asphalt or buildings. The current and intended future use of the Site and the southwestern portion of the adjoining 12 Water Street property is an electrical substation. The current and apparently intended future use of the remaining portion of the 12 Water Street property is as a commercial office building. Groundwater at the Site is not used as a drinking water source. The entire City of White Plains is on a public water supply. According to the City of White Plains Water Department, 95 percent of the City's water is purchased from the New York City Water Board and is drawn from the Kensico Reservoir. Less than 5 percent of the City's water supply comes from three public water supply wells all located approximately 1.5 miles upgradient of the Site.

SECTION 5

REFERENCES

Cabrera. 2001a. Scoping Survey Plan for the Former NDA Site, White Plains, New York. Prepared by Cabrera for Consolidated Edison Company of New York. May 2001.

Cabrera. 2001b. Final Report for the Scoping Survey of the Former NDA Site, White Plains, New York. Prepared by Cabrera for Consolidated Edison Company of New York. June 2001.

ECI. 1997. Subsurface Investigation at White Plains Substation. Prepared by Environmental Concepts, Inc. for Consolidated Edison Company of New York. November 1997.

NYSDEC. 1994. Determination of Soil Cleanup Objectives and Cleanup Levels. New York State Department of Environmental Conservation Division Technical Administrative Guidance Memorandum HWR-94-4046. January 1994.

NYSDEC. 1998. Ambient Water Quality Standards and Guidance Values. New York State Department of Environmental Conservation Division of Water Technical and Operational Guidance Series (1.1.1). October 1998.

Parsons. 1999. Work Plan for Site Investigation at the White Plains Substation. Prepared by Parsons Engineering Science, Inc. for Consolidated Edison Company of New York. December 1999.

Parsons. 2000. Work Plan for Additional Site Investigation at the White Plains MGP Site. Prepared by Parsons Engineering Science, Inc. for Consolidated Edison Company of New York. August 2000.

Parsons. 2001. Dry Well Closure Plan, White Plains Substation. Prepared by Parsons Engineering Science, Inc. for Consolidated Edison Company of New York. June 2001.

Parsons. 2002. Dry Well Closure Report, White Plains Substation. Prepared by Parsons Engineering Science, Inc. for Consolidated Edison Company of New York. May 2002.

JWC. 1999. Draft Phase I Environmental Site Assessment Report Block 4, Lot 1, New Street and North Lexington Avenue, White Plains, New York. Prepared by Jacques Whitford Company, Inc. for Consolidated Edison Company of New York.

TABLES

TABLE 2-1
SUMMARY OF SOIL BORING AND MONITORING WELL INSTALLATION
WHITE PLAINS FORMER MGP SITE

Location	Completion Date	Drilling Equipment Type	Sampling Equipment Type	Total Depth of SB (feet BG)	SB Grouted? (if yes, interval) (feet BG)	TW Installed (if yes, depth) (feet BG)	TW Screen Interval (feet BG)	Total Depth of MW (feet BG)	MW Screen Interval (feet BG)	Elevation (ft MSL)		DTW (install) (feet BG)
										TOC	Grade	
SB - 1	3/16/00	Dingo	DP Macro	20	--	20	0-20	--	--	189.10	189.41	8
SB - 2	8/14/2000	Hurricane	DP Macro	16.5	0 - 16.5	--	--	--	--	--	--	7
SB - 3	6/4/2001	Hurricane	DP Macro	29.5	0 - 29.5	--	--	--	--	--	189.63	11
SB - 4	6/19/2001	Hurricane	DP Macro	33.5	0 - 33.5	--	--	--	--	--	190.58	13
SB - 5	5/29/2001	Hurricane	DP Macro	30.5	0 - 30.5	--	--	--	--	--	189.20	10
SB - 6	6/19/2001	Hurricane	DP Macro	36	0 - 36	--	--	--	--	--	188.95	10
SB - 7	8/16/2000	Hurricane	DP Macro	39	0 - 39	--	--	--	--	--	188.32	5
SB - 8	5/21/2001	Hurricane	DP Macro	52	0 - 52	--	--	--	--	--	188.82	4.8
SB - 9	5/30/2001	Hurricane	DP Macro	43.5	0 - 43.5	--	--	--	--	--	189.78	11
SB - 10	6/26/2001	Hurricane	DP Macro	47	0 - 47	--	--	--	--	--	190.21	12
SB - 11	6/1/2001	Hurricane	DP Macro	60	0 - 60	--	--	--	--	--	191.08	12
SB - 12	6/18/2001	Hurricane	DP Macro	52	0 - 52	--	--	--	--	--	190.72	12
SB - 13	6/4/2001	Hurricane	DP Macro	35	0 - 35	--	--	--	--	--	196.42	12
SB - 14	8/16/2000	Hurricane	DP Macro	18	0 - 18	--	--	--	--	--	190.31	9
SB - 15	4/23/2001	Hurricane	DP Macro	22	0 - 22	--	--	--	--	--	--	10
SB - 16	4/23/2001	Hurricane	DP Macro	10	0 - 10	--	--	--	--	--	189.86	9 - 10
SB - 17	8/10/2000	Hurricane	DP Macro	56	0 - 56	--	--	--	--	--	--	26
SB - 18	8/11/2000	Hurricane	DP Macro	60	0 - 60	--	--	--	--	--	--	26
SB - 19	6/21/2001	Hurricane	DP Macro	52	0 - 52	--	--	--	--	--	188.21	12
SB - 20	4/24/2001	Hurricane	DP Macro	31.5	0 -31.5	--	--	--	--	--	188.38	11
SB - 21	4/24/2001	Hurricane	DP Macro	35	0 -35	--	--	--	--	--	189.09	10
SB - 22	4/23/2001	Hurricane	DP Macro	35	0 - 35	--	--	--	--	--	189.82	11
SB - 23	4/20/2001	Hurricane	DP Macro	60	0 - 60	--	--	--	--	--	203.23	24
SB - 24	4/19/2001	Hurricane	DP Macro	66	0 - 66	--	--	--	--	--	202.49	22.5
SB - 25	4/20/2001	Hurricane	DP Macro	49	0 - 49	--	--	--	--	--	200.77	22
SB - 26	6/22/2001	Hurricane	DP Macro	32	0 - 32	--	--	--	--	--	190.56	10
SB - 27	6/22/2001	HSA	--	31.5	0-31.5	--	--	--	--		190.27	10.9
SB - 28	5/24/2001	Hurricane	DP Macro	75	0 - 75	--	--	--	--	--	206.68	28
SB - 29	6/26/2001	Hurricane	DP Macro	72	0 - 72	--	--	--	--	--	207.45	28
SB - 30	6/20/2001	Hurricane	DP Macro	72	0 - 72	--	--	--	--	--	206.78	27
SB - 31	5/31/2001	Hurricane	DP Macro	42	0 - 42	--	--	--	--	--	189.48	11
TB-1	3/17/2000	Dingo	DP Macro	39	30-39	30	20-30	--	--	201.48	201.55	24
TB-2	3/17/2000	Dingo	DP Macro	18.5	0-18.5	--	--	--	--	--	201.74	8
TB-2A	4/11/2000	Hand Auger	Hand Auger	11.5	--	11.5	4.5-11.5	--	--	201.74	201.74	8
TB-3	3/22/2000	Hand Auger	Hand Auger	12	--	--	--	--	--	--	202.48	--
TB-4	--	--	--	--	--	--	--	--	--	--	--	--
TB-5	3/16/00	Dingo	DP Macro	17.5	--	16.5	0-16.5	--	--	189.50	189.54	7
MW-1	3/22/2000	HSA	Spilt Spoon	34	--	--	--	34	24-34	206.35	206.51	27
MW-2	3/15/2000	Hurricane	DP Macro	30	19-30	--	--	17	7-17	190.54	190.72	10
MW-3	3/21/2000	HSA	Spilt Spoon	30	--	--	--	30	20-30	201.58	202.03	23
MW-4	3/14-15/00	Hurricane	DP Macro	38	23-38	--	--	23	13-23	194.92	195.09	14
MW-5	3/15/2000	Hurricane	DP Macro	11	--	--	--	11	4-11	189.12	189.56	7
MW-6	8/16/2000	Hurricane	DP Macro	33	Plug: 15-19	--	--	17	5-15	187.82	188.53	4.25
MW-7	6/22/2001	HSA	*Split Spoon*	31.5	*Sand: 17-31.5*	--	--	17	7-17	189.51	190.27	10.9
MW-8	8/30/2000	Hurricane	DP Macro	57	Plug: 40-44	--	--	42	20-40	202.08	202.37	26
TW-1	3/13-14/00	Hurricane	DP Macro	46	0-48	35	25-35	--	--	--	203.88	27

Notes:

1) Elevations tied to on-site datum of 204.65 ft above mean sea level (ft MSL), which is permanently marked on the substation.

TOC = measured from top of casing
BG = measured from grade
SB = soil borehole
TW = temporary micro-well (3/4 or 1" diameter PVC)
MW = monitoring well (2" PVC)
NM = not measured

ppm = parts per million
PID = photoionization detector (calibrated each day to 100 ppm isobutylene standard gas)
HSA = conventional hollow stem auger rig
Hurricane = dual direct push/HSA Hurricane-type rig
Dingo = limited-access direct push Dingo-type rig
Split Spoon = 2-inch stainless steel split spoon sampler
DP Macro = 2-inch direct push macro-core sampler with internal acetate liner
WL = Water Level

TABLE 2-2
SOIL SAMPLE SUMMARY
WHITE PLAINS FORMER MGP SITE

Location	Interval (feet BG)	Date	Time	Field Sample ID	Matrix (Soil or Water)	VOCs	SVOCs	PCBs	Cyanide	TAL Metals	Fingerprint	Basis for Sample Collection
SB-1	6-8	3/16/2000	0900	SB-1 (6-8)	Soil	x	x	x	x	x		Sample immediately above water table. No evidence of hydrocarbon impact.
	8-10	3/16/2000	0845	SB-1 (8-10)	Soil	x	x	x	x	x	x	Sample immediately below water table. Sample exhibited greatest visual contamination (tar-like material) at borehole location.
	14-18	3/16/2000	0930	SB-1 (14-18)	Soil	x	x	x	x	x		Sample below water table with highest field screening result (PID-450 ppm).
SB-2	2 - 4	8/8/2000	1345	SB-2 (2-4')	Soil	x	x	x	x	x		Sample from the test pit.
	8 - 10	8/14/2000	830	SB-2 (8-10')	Soil	x	x	x	x	x	x	Sample immediately below water table. Evidence of hydrocarbon impact.
	15 - 16.5	8/14/2000	930	SB-2 (15-16.5')	Soil	x	x	x	x	x	x	Sample collected from bottom of borehole (refusal @ 16.5'). Heavy evidence of hydrocarbon impact. Highest PID reading.
SB-3	3 - 4	6/4/2001	1420	SB-3 (3-4)	Soil	x	x	x	x	x		Shallow sample close to surface.
	10 - 11	6/4/2001	1425	SB-3 (10-11)	Soil	x	x	x	x	x		Highest field screening result (PID-59 ppm) above water table.
	28 - 29	6/4/2001	1435	SB-3 (28-29)	Soil	x	x	x	x	x		Duplicate sample of SB-3 (28.5 - 29.5').
	28.5 - 29.5	6/4/2001	1430	SB-3 (28.5-29.5)	Soil	x	x	x	x	x		Highest field screening result (PID-65 ppm) below water table. Bottom of boring.
SB-4	3 - 4	6/19/2001	1505	SB-4 (3-4)	Soil	x	x	x	x	x		Shallow sample close to surface.
	16 - 18	6/19/2001	1515	SB-4 (16-18)	Soil	x	x	x	x	x		Highest field screening result (PID-367 ppm) below water table.
	32 - 33	6/19/2001	1510	SB-4 (32-33)	Soil	x	x	x	x	x		Bottom of boring.
SB-5	2 - 4	5/29/2001	1625	SB-5 (2-4)	Soil	x	x	x	x	x		Shallow sample close to surface.
	15 - 16	5/29/2001	1618	SB-5 (15-16)	Soil	x	x	x	x	x		Highest field screening result (PID-232 ppm) below water table.
	27 - 28	5/29/2001	1630	SB-5 (27-28)	Soil	x	x	x	x	x		Greatest visual impact (NAPL) below water table.
	29 - 30	5/29/2001	1615	SB-5 (29-30)	Soil	x	x	x	x	x		Bottom of boring.
SB-6	3 - 4	6/19/2001	1240	SB-6 (3-4)	Soil	x	x	x	x	x		Shallow sample close to surface.
	8 - 10	6/19/2001	1250	SB-6 (8-10)	Soil	x	x	x	x	x		Highest field screening result (PID-532 ppm) above water table.
	12 - 14	6/19/2001	1255	SB-6 (12-14)	Soil	x	x	x	x	x		Highest field screening result (PID-344 ppm) below water table. Greatest visual impact (NAPL)
	34 - 36	6/19/2001	1245	SB-6 (34-36)	Soil	x	x	x	x	x		Bottom of boring.
SB-7	2-4	8/16/2000	0855	SB-7 (2-4)	Soil	x	x	x	x	x		Sample from the test pit.
	17-17.4	8/16/2000	1100	SB-7 (17-17.4)	Soil	x	x	x	x	x	x	Sample from below water table. Narrow interval with highest field screening result and visual evidence of impact.
	36-39	8/16/2000	1110	SB-7 (36-39)	Soil	x	x	x	x	x		Sample collected from bottom of borehole (refusal @ 39').
SB-8	2 - 3	5/21/2001	1530	SB-8 (2-3)	Soil	x	x	x	x	x		Shallow sample close to surface.
	10 - 11	5/21/2001	1520	SB-8 (10-11)	Soil	x	x	x	x	x		Highest field screening result (PID-1528 ppm) below water table.
	46 - 48	5/21/2001	1505	SB-8 (46-48)	Soil	x	x	x	x	x		Bottom of boring.
SB-9	2 - 4	5/30/2001	1455	SB-9 (2-4)	Soil	x	x	x	x	x		Shallow sample close to surface.
	9 - 10	5/30/2001	1500	SB-9 (9-10)	Soil	x	x	x	x	x		Highest field screening result (PID-689 ppm) above water table.
	10 - 12	5/30/2001	1502	SB-9 (10-12)	Soil	x	x	x	x	x		Highest field screening result (PID-545 ppm) below water table.
	40 - 44	5/30/2001	1505	SB-9 (40-44)	Soil	x	x	x	x	x		Bottom of boring.
SB-10	3 - 4	6/26/2001	1145	SB-10 (3-4)	Soil	x	x	x	x	x		Shallow sample close to surface.
	12 - 14	6/26/2001	1148	SB-10 (12-14)	Soil	x	x	x	x	x		Highest field screening result (PID-284 ppm) below water table. Greatest visual impact (NAPL).
	45 - 47	6/26/2001	1152	SB-10 (45-47)	Soil	x	x	x	x	x		Bottom of boring.
SB-11	2 - 4	6/1/2001	1545	SB-11 (2-4)	Soil	x	x	x	x	x		Shallow sample close to surface. MS/MSD sample.
	6 - 8	6/1/2001	1550	SB-11 (6-8)	Soil	x	x	x	x	x		Duplicate sample.
	14 - 16	6/1/2001	1600	SB-11 (14-16)	Soil	x	x	x	x	x		High field screening result (PID-594 ppm) below water table. Visual impact (NAPL).
	44 - 46	6/1/2001	1605	SB-11 (44-46)	Soil	x	x	x	x	x	x	Highest field screening result (PID-1110 ppm) below water table. Greatest visual impact (NAPL).
	54 - 56	6/1/2001	1555	SB-11 (54-56)	Soil	x	x	x	x	x		Bottom of boring.
SB-12	2 - 4	6/18/2001	1530	SB-12 (2-4)	Soil	x	x	x	x	x		Shallow sample close to surface.
	14 - 16	6/18/2001	1605	SB-12 (14-16)	Soil	x	x	x	x	x		Highest field screening result (PID-327 ppm) below water table. Greatest visual impact (NAPL).
	42 - 44	6/18/2001	1550	SB-12 (42-44)	Soil	x	x	x	x	x		High field screening result (PID-185 ppm) below water table. Visual impact (NAPL).
	48 - 52	6/18/2001	1540	SB-12 (48-52)	Soil	x	x	x	x	x		Bottom of boring.
SB-13	3 - 4	6/4/2001	1210	SB-13 (3-4)	Soil	x	x	x	x	x		Shallow sample close to surface.
	13 -14	6/4/2001	1215	SB-13 (13-14)	Soil	x	x	x	x	x		High field screening result (PID-270 ppm) below water table. Visual impact (NAPL).
	31 - 32	6/4/2001	1220	SB-13 (31-32)	Soil	x	x	x	x	x		Highest field screening result (PID-362 ppm) below water table. Greatest visual impact (NAPL).
	34 - 35	6/4/2001	1225	SB-13 (34-35)	Soil	x	x	x	x	x		Bottom of boring.
SB-14	2.5-4	8/16/2000	1056	SB-14 (2.5-4)	Soil	x	x	x	x	x		Sample from the test pit.
	10.5-11.8	8/16/2000	1340	SB-14 (10.5-11.5)	Soil	x	x	x	x	x	x	Sample from below water table. Narrow interval with highest field screening result and visual evidence of impact.
	16-18	8/16/2000	1344	SB-14 (16-18)	Soil	x	x	x	x	x		Sample collected from bottom of borehole (refusal @ 18').

TABLE 2-2
SOIL SAMPLE SUMMARY
WHITE PLAINS FORMER MGP SITE

Location	Interval (feet BG)	Date	Time	Field Sample ID	Matrix (Soil or Water)	VOCs	SVOCs	PCBs	Cyanide	TAL Metals	Fingerprint	Basis for Sample Collection
SB-15	2 - 4	4/24/2001	825	SB-15 (2-4)	Soil	x	x	x	x	x		Shallow sample close to surface.
	10 - 11	4/23/2001	1040	SB-15 (10-11)	Soil	x	x	x	x	x		Sample immediately below water table. Staining.
	21.5 - 22	4/23/2001	1045	SB-15 (21.5-22)	Soil	x	x	x	x	x		Highest field screening result (PID-13 ppm) below water table. Bottom of boring.
SB-16	2 - 4	4/24/2001	810	SB-16 (2-4)	Soil	x	x	x	x	x		Shallow sample close to surface.
	9.5 - 10	4/23/2001	900	SB-16 (9.5-10)	Soil	x	x	x	x	x		Highest field screening result (PID-2.6 ppm) above water table. Staining. Bottom of boring.
SB-17	2 - 4	8/8/2000	1135	SB-17 (2-4')	Soil	x	x	x	x	x		Sample from the test pit.
	26 - 28	8/10/2000	1000	SB-17 (26-28')	Soil	x	x	x	x	x	x	Sample immediately below water table. Evidence of hydrocarbon impact.
	40 - 44	8/10/2000	1230	SB-17 (40-44')	Soil	x	x	x	x	x		Sample with lowest PID reading between impacted zones.
	54.5 - 55	8/10/2000	1330	SB-17 (54.5-55')	Soil	x	x	x	x	x	x	Sample collected from just above silt layer. Heavy evidence of hydrocarbon impact. Highest PID reading.
	55 - 56	8/10/2000	1345	SB-17 (55-56')	Soil	x	x	x	x	x		Sample below most impacted zone (Silt). Low PID, no staining or odor.
SB-18	2 - 4	8/8/2000	1045	SB-18 (2-4')	Soil	x	x	x	x	x		Sample from the test pit.
	26 - 28	8/11/2000	1000	SB-18 (26-28')	Soil	x	x	x	x	x	x	Sample immediately below water table. Evidence of hydrocarbon impact.
	59 - 60	8/11/2000	1200	SB-18 (59-60')	Soil	x	x	x	x	x		Sample collected from bottom of borehole. No evidence of hydrocarbon impact. PID reading 0.0ppm.
SB-19	2-3	6/21/2001		SB-19 (TP WS) (2-3)	Soil	x	x	x	x	x		Sample from the test pit.
	5 - 6	6/21/2001	1315	SB-19 (5-6)	Soil	x	x	x	x	x		Shallow sample close to surface.
	12 - 14	6/21/2001	1317	SB-19 (12-14)	Soil	x	x	x	x	x		Sample immediately below water table.
	48 - 52	6/21/2001	1320	SB-19 (48-52)	Soil	x	x	x	x	x		Bottom of boring.
SB-20	3 - 4	4/19/2001	1330	SB-20 (3-4)	Soil	x	x	x	x	x		Shallow sample close to surface.
	11 -12	4/24/2001	1107	SB-20 (11-12)	Soil	x	x	x	x	x		Sample immediately below water table.
	30 -31.5	4/24/2001	1105	SB-20 (30-31.5)	Soil	x	x	x	x	x		Bottom of boring.
SB-21	3 - 4	4/19/2001	1340	SB-21 (3-4)	Soil	x	x	x	x	x		Shallow sample close to surface.
	10 - 11	4/24/2001	1320	SB-21 (10-11)	Soil	x	x	x	x	x		Sample immediately below water table. MS/MSD and duplicate samples.
	34 - 35	4/24/2001	1330	SB-21 (34-35)	Soil	x	x	x	x	x		Bottom of boring.
SB-22	3 - 4	4/19/2001	1355	SB-22 (3-4)	Soil	x	x	x	x	x		Shallow sample close to surface.
	10 - 11	4/23/2001	1250	SB-22 (11-12)	Soil	x	x	x	x	x		Sample immediately below water table.
	34 - 35	4/23/2001	1255	SB-22 (34-35)	Soil	x	x	x	x	x		Bottom of boring.
SB-23	3 - 4	4/20/2001	1245	SB-23 (3-4)	Soil	x	x	x	x	x		Shallow sample close to surface.
	23 - 24	4/20/2001	1255	SB-23 (23-24)	Soil	x	x	x	x	x		Sample immediately above water table.
	37 - 38	4/20/2001	1315	SB-23 (37-38)	Soil	x	x	x	x	x		Highest field screening result (PID-20 ppm) below water table.
	47 - 48	4/20/2001	1325	SB-23 (47-48)	Soil	x	x	x	x	x		Close to bottom of boring. Sample collected in duplicate.
SB-24	2 - 3	4/19/2001	1230	SB-24 (2-3)	Soil	x	x	x	x	x		Shallow sample close to surface. MS/MSD sample.
	21 - 22	4/19/2001	1235	SB-24 (21-22)	Soil	x	x	x	x	x		Sample immediately above water table.
	36 - 38	4/19/2001	1240	SB-24 (36-38)	Soil	x	x	x	x	x	x	Highest field screening result (PID-590 ppm) below water table. Greatest visible impact (NAPL).
	51 - 52	4/19/2001	1245	SB-24 (51-52)	Soil	x	x	x	x	x		Available sample closest to bottom of boring.
SB-25	3 - 4	4/20/2001	950	SB-25 (3-4)	Soil	x	x	x	x	x		Shallow sample close to surface.
	21 -22	4/20/2001	955	SB-25 (21-22)	Soil	x	x	x	x	x		Sample immediately above water table.
	22.5 - 23.5	4/20/2001	1010	SB-25 (22.5-23.5)	Soil	x	x	x	x	x		Sample immediately below water table.
	43 - 44	4/20/2001	1020	SB-25 (43-44)	Soil	x	x	x	x	x		Available sample closest to bottom of boring.
SB-26	5 - 7	6/22/2001	1150	SB-26 (5-7)	Soil	x	x	x	x	x		Shallow sample close to surface.
	10 - 12	6/22/2001	1152	SB-26 (10-12)	Soil	x	x	x	x	x		Sample immediately below water table.
	28 - 32	6/22/2001	1155	SB-26 (28-32)	Soil	x	x	x	x	x		Bottom of boring.
SB-27	2-3	6/21/2001	11:23	SB-27 (2-3')	Soil	x	x	x	x	x		Shallow sample close to surface.
	9-10.5	6/22/2001	1145	SB-MW-27(9-9.5)	Soil	x	x	x	x	x	x	Sample immediately above water table. No evidence of hydrocarbon impact.
	11-12	6/22/2001	1155	SB-MW-27(11-12)	Soil	x	x	x	x	x	x	Sample immediately below water table. No evidence of hydrocarbon impact.
	30-31.5	6/22/2001	1205	SB-MW-27(30-31.5)	Soil	x	x	x	x	x	x	Sample at bottom of water table below water table.
SB-28	2 - 4	5/24/2001	1620	SB-28 (2-4)	Soil	x	x	x	x	x		Shallow sample close to surface.
	10 - 11	5/24/2001	1635	SB-28 (10-11)	Soil	x	x	x	x	x		Highest field screening result (PID-4.5 ppm) above water table.
	27 - 28	5/24/2001	1640	SB-28 (27-28)	Soil	x	x	x	x	x		Sample immediately above water table.
	50 - 52	5/24/2001	1705	SB-28 (50-52)	Soil	x	x	x	x	x		Sample below water table. MS/MSD sample.
	68 -75	5/24/2001	1645	SB-28 (68-75)	Soil	x	x	x	x	x		Bottom of boring.
	75 -77	5/24/2001	1715	SB-28 (75-77)	Soil	x	x	x	x	x		Duplicate sample.

TABLE 2-2
SOIL SAMPLE SUMMARY
WHITE PLAINS FORMER MGP SITE

Location	Interval (feet BG)	Date	Time	Field Sample ID	Matrix (Soil or Water)	VOCs	SVOCs	PCBs	Cyanide	TAL Metals	Fingerprint	Basis for Sample Collection
SB-29	3 - 4	6/26/2001	1950	SB-29 (3-4)	Soil	x	x	x	x	x		Shallow sample close to surface. MS/MSD sample.
	28 - 30	6/26/2001	2000	SB-29 (28-30)	Soil	x	x	x	x	x		Sample immediately below water table.
	38 - 40	6/26/2001	2000	SB-29 (38-40)	Soil	x	x	x	x	x		Duplicate sample.
	56 - 58	6/26/2001	2003	SB-29 (56-58)	Soil	x	x	x	x	x		Highest field screening result (PID-11.8 ppm) below water table.
	68 - 72	6/26/2001	2010	SB-29 (68-72)	Soil	x	x	x	x	x		Bottom of boring.
SB-30	14 - 16	6/20/2001	1710	SB-30 (14-16)	Soil	x	x	x	x	x		Sample above water table.
	20 - 22	6/20/2001	1712	SB-30 (20-22)	Soil	x	x	x	x	x		Duplicate sample.
	26 - 28	6/20/2001	1720	SB-30 (26-28)	Soil	x	x	x	x	x		Sample at soil/water interface. MS/MSD sample.
	68 - 72	6/20/2001	1735	SB-30 (68-72)	Soil	x	x	x	x	x		Highest field screening result (PID-17.1 ppm) below water table. Bottom of boring.
SB-31	4 - 5	5/31/2001	1255	SB-31 (4-5)	Soil	x	x	x	x	x		Shallow sample close to surface.
	7 - 8	5/31/2001	1257	SB-31 (7-8)	Soil	x	x	x	x	x		Highest field screening result (PID-633 ppm) above water table.
	11 - 12	5/31/2001	1300	SB-31 (11-12)	Soil	x	x	x	x	x		Highest field screening result (PID-499 ppm) below water table. Sample immediately below water table.
	40 - 42	5/31/2001	1303	SB-31 (40-42)	Soil	x	x	x	x	x		Bottom of boring.
TB-1	21.5-24	3/17/1999	1215	TB-1 (21.5-24)	Soil	x	x	x	x	x		Sample with highest field screening result (180 ppm) above water table.
	28-30	3/17/2000	1230	TB-1 (28-30)	Soil	x	x	x	x	x	x	Sample below water table with sheen and high field screening result (29 ppm)
	36-39	3/17/2000	1300	TB-1 (36-39)	Soil	x	x	x	x	x	x	Sample below water table at bottom of borehole. Sample indicated tar-like material and highest field screening result (56 ppm).
TB-2	4	3/9/2000	800	TB-2 (4)	Soil	x	x	x	x	x		Sample collected above water table (during test pit activities) with highest field screening result (19 ppm).
	17.5-18	3/17/2000	1400	TB-2 (17.5)	Soil						x	Sample collected (tar-like material) at bottom of borehole (below water table). Sufficient sample volume only for fingerprint analysis.
TB-2A	10-10.5	4/11/2000	1310	TB-2A	Soil	x	x	x	x	x		Sample collected with hand auger adjacent to TB-2 borehole location to collect supplemental soil sample below water table.
TB-3	11-12	3/22/2000		TB-3 (11-12)	Soil	x	x	x	x	x		No evidence of hydrocarbon impact in SB. Sample collected at bottom of borehole.
TB-4	--	--	--	--	--	--	--	--	--	--	--	Not completed.
TB-5	7-8	3/16/2000	1445	TB-5 (7-8)	Soil	x	x	x	x	x		First available sample in borehole below fill from test pit activities (sample is from below water table). Staining with tar-like material is evident.
	10.5-11.5	3/16/2000	1415	TB-5 (10.5-11.5)	Soil	x	x	x	x	x	x	Sample below water table with highest field screening result (PID-190 ppm).
	16-17.5	3/16/2000	1430	TB-5 (16-17.5)	Soil	x	x	x	x	x		Sample at bottom of borehole.
MW-1	26-27.5	3/21/2000	1115	MW-1 (26-27.5)	Soil	x	x	x	x	x		Sample immediately above water table. No evidence of hydrocarbon impact.
	32-34	3/21/2000	1145	MW-1 (32-34)	Soil	x	x	x	x	x		Sample collected towards bottom of borehole (below water table) prior to change in lithology.
MW-2	7-10	3/15/2000	1200	MW-2 (7-10)	Soil	x	x	x	x	x		No evidence of hydrocarbon impact. Sample collected immediately above water table.
	24-25	3/15/2000	1215	MW-2 (24-25)	Soil	x	x	x	x	x		Sample collected towards bottom of borehole (below water table) prior to change in lithology.
	27-30	3/15/2000	1230	MW-2 (27-30)	Soil	x	x	x	x	x		Sample collected at bottom of borehole (below water table).
MW-3	20-22	3/21/2000	0930	MW-3 (20-22)	Soil	x	x	x	x	x		Sample immediately above water table. No evidence of hydrocarbon impact.
	27-29	3/21/2000	1000	MW-3 (27-29)	Soil	x	x	x	x	x		Sample collected towards bottom of borehole (below water table) prior to change in lithology.
MW-4	10-12.5	3/14/2000	1300	MW-4 (12)	Soil			x	x	x		Sample above 12.5 interval collected for PCBs, CN & metals (above water table).
	12.5-12.8	3/14/2000	1200	MW-4 (12.5)	Soil	x	x					Narrow interval with highest field screening result (PID-50 ppm). Sufficient sample volume only for VOCs & SVOCs.
	34-36	3/14/2000	1400	MW-4 (34-36)	Soil	x	x	x	x	x		Sample below the water table near the bottom of the boring.
MW-5	7-10	3/15/2000	0830	MW-5 (7-10)	Soil	x	x	x	x	x	x	Sample collected at interval with highest visual contamination (below water table). Sample above water table not collected (fill from test pit activities)
MW-6	2-4	8/16/2000	1510	MW-6 (2-4)	Soil	x	x		x	x	x	Shallow sample collected from test pit
	7.5-8.5	8/16/2000	1520	MW-6 (7.5-8.5)	Soil	x	x		x	x	x	Sample collected directly above the water table.
	7.5-8.5	8/31/2000	0830	MW-6 (7.5-8.5)Dup	Soil	x	x	x	x	x	x	Duplicate sample.
	8.5-9.5	8/31/2000	0830	MW-6 (8.5-9.5)	Soil	x	x	x	x	x	x	MS/MSD sample.
	30-33	8/16/2000	1530	MW-6 (30-33)	Soil	x	x		x	x		Sample collected at bottom of borehole (below water table).
MW-7	--	6/22/2001	--	--	--							See SB-27 for sampling Information.
MW-8	2-4	8/16/2000		MW-8 (2-4)	Soil	x	x	x	x	x		Shallow sample collected from test pit
	22.3-23	8/30/2000	1220	MW-8 (22.3-23)	Soil	x	x	x	x	x		Sample immediately above water table. No evidence of hydrocarbon impact.
	27-27.5	8/30/2000	1232	MW-8 (27-27.5)	Soil	x	x	x	x	x		Sample immediately below water table. No evidence of hydrocarbon impact.
	36.5-37	8/30/2000	1535	MW-8 (36.5-37)	Soil						x	Narrow interval with high field screening result and visual evidence of impact. Sample for fingerprint analysis only.
	37.5-38	8/30/2000	1315	MW-8 (37.5-38)	Soil	x	x	x	x	x		Narrow interval with highest field screening result (PID-425 ppm).
	47.5-48	8/30/2000	1455	MW-8 (47.5-48)	Soil	x	x	x	x	x		Sample at bottom of water table below water table.
TW-1	25-27	3/13/2000	1400	TW-1 (25-27)	Soil	x	x	x	x	x		Highest field screening result (PID-124 ppm) above water table

TABLE 2-2
SOIL SAMPLE SUMMARY
WHITE PLAINS FORMER MGP SITE

Location	Interval (feet BG)	Date	Time	Field Sample ID	Matrix (Soil or Water)	VOCs	SVOCs	PCBs	Cyanide	TAL Metals	Fingerprint	Basis for Sample Collection
	30-32	3/13/2000	1400	TW-1 (30-32)	Soil	x	x	x	x	x		Highest field screening result (PID-39 ppm) below water table

TABLE 2-2
SOIL SAMPLE SUMMARY
WHITE PLAINS FORMER MGP SITE

Location	Interval (feet BG)	Date	Time	Field Sample ID	Matrix (Soil or Water)	VOCs	SVOCs	PCBs	Cyanide	TAL Metals	Fingerprint	Basis for Sample Collection
MW-1	24-34	4/6/2000		MW-1	Gwater	x	x	x	x	x		
MW-1	24-34	8/8/2001		MW-1	Gwater	x	x	x	x	x		
MW-2	7-17	4/6/2000		MW-2	Gwater	x	x	x	x	x		
MW-2	7-17	8/8/2001		MW-2	Gwater	x	x	x	x	x		
MW-3	20-30	4/6/2000		MW-3	Gwater	x	x	x	x	x		
MW-3	20-30	4/6/2000		MW-3 dup	Gwater	x	x	x	x	x		
MW-3	20-30	8/8/2001		MW-3	Gwater	x	x	x	x	x		
MW-4	13-23	4/6/2000		MW-4	Gwater	x	x	x	x	x		
MW-4	13-23	8/9/2001		MW-4	Gwater	x	x	x	x	x		
MW-5	4-11	4/6/2000		MW-5	Gwater	x	x	x	x	x		
MW-5	4-11	8/9/2001		MW-5	Gwater	x	x	x	x	x		
MW-6	5-15	7/26/2001		MW-6	Gwater	x	x	x	x	x		
MW-7	7-17	7/26/2001		MW-7	Gwater	x	x	x	x	x		
MW-8	20-40	7/27/2001		MW-8	Gwater	x	x	x	x	x		
MW-8	20-40	7/27/2001		MW-8 dup	Gwater	x	x	x	x	x		
TW-1	25-35	3/14/2000		TW-1	Gwater	x	x	x	x	x		Temporary well groundwater sample
SB-30	24 -34	6/22/2001	943	TW-30A	Water	x	x	x	x	x		Sample of groundwater from the water table
SB-30	68 - 72	6/22/2001	1300	TW-30B	Water	x	x	x	x	x		Sample of groundwater from above the bedrock (in apparent impacted groundwater).
SG-X1A	5	5/28/2002		SG-X1A	Soil Gas	x						
SG-X1B	5	5/28/2002		SG-X1B	Soil Gas	x						
SG-X2A	11	5/28/2002		SG-X2A	Soil Gas	x						
SG-X2B	8	5/28/2002		SG-X2B	Soil Gas	x						
SG-3	5	5/28/2002		SG-3	Soil Gas	x						
SG-Basement-1	2	6/4/2002		SG-Basement-1	Soil Gas	x						

Notes:

SB = soil borehole
TB = test boring
ppm = parts per million
PID = photoionization detector (calibrated each day to 100 ppm isobutylene standard gas)
BG = below grade

Table 2-3
Summary of QA/QC Samples

Type of QA/QC	Sample ID
Soil	
Blind duplicate	SB-3 (28'-29')
Blind duplicate	SB-21 (10'-11')
Blind duplicate	SB-23 (47'-48')
Blind Duplicate	MW-6 (8.5'-9.5')
Field Blank	FB (8/30/00)
Field Blank	FB (4/24/01)
Field Blank	FB (6/1/01)
Field Blank	FB (6/4/01)
Field Blank	FB (6/20/01)
Field Blank	FB (6/26/01)
Trip Blank	FB (8/30/00)
Trip Blank	FB (8/31/00)
Trip Blank	FB (4/24/01)
Trip Blank	FB (6/4/01)
MS/MSD	SB-11 (2'-4')
MS/MSD	SB-21 (10'-11')
MS/MSD	SB-24 (2'-3')
MS/MSD	SB-28 (50'-52')
MS/MSD	SB-29 (3'-4')
MS/MSD	SB-30 (26'-28')
MS/MSD	MW-6 (8.5'-9.5')

Table 2-3 (cont)
Summary of QA/QC Samples

Type of QA/QC	Sample ID
Groundwater	
Blind duplicate	MW-3 (4/6/00)
Blind duplicate	MW-8 (7/27/01)
Field Blank	TB (7/27/01)
Trip Blank	TB (4/6/00)
Trip Blank	TB (6/22/01)
Trip Blank	TB (7/27/01)
Trip Blank	TB (8/9/01)
MS/MSD	MW-1 (4/6/00)
MS/MSD	MW-1 (8/8/01)
MS/MSD	MW-8 (7/27/01)

TABLE 3-1
SUMMARY OF WATER LEVEL AND
NAPL GAUGING DATA
WHITE PLAINS FORMER MGP SITE

Location	Elevation TOC (ft MSL)	DTW 3/22/2000 (feet TOC)	NAPL Thickness (feet)	GW Elevation (ft MSL)	DTW 4/6/00 (ft TOC)	NAPL Thickness (feet)	GW Elevation (ft MSL)	DTW 4/26/00 (ft TOC)	NAPL Thickness (feet)	GW Elevation (ft MSL)
MW-1	206.35	27.71	0	178.64	27.74	0	178.61	NM	NM	NM
MW-2	190.54	11.24	0	179.30	11.26	0	179.28	NM	NM	NM
MW-3	201.58	22.6	0	178.98	22.56	0	179.02	NM	NM	NM
MW-4	194.92	15.61	0	179.31	15.64	0	179.28	NM	NM	NM
MW-5	189.12	6.81	0	182.31	7.13	0	181.99	NM	NM	NM
MW-6	187.82	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	189.51	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-8	202.08	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-1	189.10	NM	NM	NM	8.56	Globules	180.54	NM	NM	NM
TW-30 (2)	206.78	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-1	203.88	--	--	--	27	Sheen	176.88	--	--	--
TB-1	201.48	NM	NM	NM	22.48	NM	179.00	NM	NM	NM
TB-2A	201.74	NM	NM	NM	NM	NM	NM	10.40	0	191.34
TB-5	189.50	NM	NM	NM	6.79	Globules	182.71	NM	NM	NM

TABLE 3-1
SUMMARY OF WATER LEVEL AND
NAPL GAUGING DATA
WHITE PLAINS FORMER MGP SITE

Location	Elevation TOC (ft MSL)	DTW 12/1/00 (ft TOC)	NAPL Thickness (feet)	GW Elevation (ft MSL)	DTW 7/16/01 (ft TOC)	NAPL Thickness (feet)	GW Elevation (ft MSL)	DTW 7/26/01 (ft TOC)	NAPL Thickness (feet)	GW Elevation (ft MSL)
MW-1	206.35	28.37	0	177.98	NM	NM	NM	27.80	0	178.55
MW-2	190.54	11.82	0	178.72	NM	NM	NM	10.39	0	180.15
MW-3	201.58	23.11	0	178.47	NM	NM	NM	22.44	0	179.14
MW-4	194.92	16.17	0	178.75	NM	NM	NM	15.57	0	179.35
MW-5	189.12	7.89	0.01	181.23	NM	NM	NM	5.22	0	183.90
MW-6	187.82	9.41	0	178.41	NM	NM	NM	8.75	0	179.07
MW-7	189.51	NA	NA	NA	8.53	0	180.98	8.31	0	181.20
MW-8	202.08	23.65	0	178.43	NM	NM	NM	23.10	0	178.98
SB-1	189.10	8.61	0.03	180.49	NM	NM	NM	9.00	0	180.10
TW-30 (2)	206.78	NA	NA	NA	NM	NM	NM	26.39	0	175.69
TW-1	203.88	--	--	--	--	--	--	--	--	--
TB-1	201.48	23.1	0.18	178.38	NM	NM	NM	22.28	Globules	179.20
TB-2A	201.74	11.96	0.01	189.78	NM	NM	NM	11.25	Globules	190.49
TB-5	189.50	8.6	0.08	180.90	NM	NM	NM	7.38	0	182.12

TABLE 3-1
SUMMARY OF WATER LEVEL AND NAPL GAUGING DATA
WHITE PLAINS FORMER MGP SITE

Location	**Elevation TOC** (ft MSL)	**DTW 8/1/01** (ft TOC)	**NAPL Thickness** (feet)	**GW Elevation** (ft MSL)	**DTW 8/3/01** (ft TOC)	**NAPL Thickness** (feet)	**GW Elevation** (ft MSL)	**DTW 8/8/01** (ft TOC)	**NAPL Thickness** (feet)	**GW Elevation** (ft MSL)
MW-1	206.35	27.85	0	178.50	NM	NM	NM	27.88	0	178.47
MW-2	190.54	NM	0	NM	11.24	0	179.3	10.82	0	179.72
MW-3	201.58	22.60	0	178.98	NM	NM	NM	22.55	0	179.03
MW-4	194.92	15.65	0	179.27	NM	NM	NM	16.66	0	178.26
MW-5	189.12	NM	NM	NM	7.19	0	181.93	7.23	0	181.89
MW-6	187.82	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW-7	189.51	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW-8	202.08	NM	NM	NM	NM	NM	NM	NM	NM	NM
SB-1	189.10	NM	NM	NM	10.40	Sheen	178.70	10.47	0	178.63
TW-30 (2)	206.78	NM	NM	NM	NM	NM	NM	NM	NM	NM
TW-1	203.88	--	--	--	--	--	--	--	--	--
TB-1	201.48	NM	NM	NM	dry	Globules	dry	22.47	Globules	179.01
TB-2A	201.74	NM	NM	NM	NM	Globules	NM	12.00	Globules	189.74
TB-5	189.50	NM	NM	NM	15.89	Sheen	173.61	8.66	0	180.84

TABLE 3-1
SUMMARY OF WATER LEVEL AND NAPL GAUGING DATA
WHITE PLAINS FORMER MGP SITE

Location	Elevation TOC (ft MSL)	DTW 8/11/01 (ft TOC)	NAPL Thickness (feet)	GW Elevation (ft MSL)
MW-1	206.35	27.91	0	178.44
MW-2	190.54	NM	NM	NM
MW-3	201.58	NM	NM	NM
MW-4	194.92	NM	NM	NM
MW-5	189.12	NM	NM	NM
MW-6	187.82	NM	NM	NM
MW-7	189.51	NM	NM	NM
MW-8	202.08	NM	NM	NM
SB-1	189.10	NM	NM	NM
TW-30 (2)	206.78	NM	NM	NM
TW-1	203.88	--	--	--
TB-1	201.48	NM	NM	NM
TB-2A	201.74	NM	NM	NM
TB-5	189.50	NM	NM	NM

Notes:

1 = Elevations tied to on-site datum of 204.65 ft above mean sea level (AMSL), which is permanently marked on the substation.
2 = Water elevation for temporary well TW-30 was measured on June 22, 2001 prior to sampling and prior to removal of the temporary well.
TOC = Measured from top of casing
NM = Not measured
NA = Not available - well not installed at the time of gauging activities
NAPL = non-aqueous phase liquid
DTW = Depth to water

TABLE 4-1
SUMMARY OF HYDROCARBON FINGERPRINT RESULTS

Sample Number	Total MAHs (mg/kg)	Total PAHs (mg/kg)	Comments
Soils			
MW-5 (7'-10')	13.5	515	MGP Tar, intermediate weathering
SB-1 (8'-10')	16.2	990	MGP Tar, least weathered
TB-5 (10.5'-11.5')	6.83	206	MGP Tar, intermediate weathering
TB-1 (28'-30')	0.28	17.2	MGP Tar, most weathered
TB-1 (36'-39')	95.1	9,650	MGP Tar, most weathered
TB-2 (17.5')	14,800	114,000	MGP Tar, intermediate weathering
SB-7 (17'-17.4')	35	474	MGP Tar, less weathered
SB-14 (10.5'-11.5')	4.04	323	MGP Tar, weathered
MW-6 (7.5'-8.5')	4.08	587	MGP Tar and mid-weight petroleum distillate, weathered
SB-2 (8'-10')	3.54	168	MGP Tar and mid-weight petroleum distillate, weathered
SB-2 (15'-16.5')	4.45	244	MGP Tar, weathered
SB-NYSDEC (1) 26'-28'	98.6	1,560	MGP Tar and mid-weight petroleum distillate, weathered
SB-NYSDEC (2) 26'-28'	1.67	76.1	Different pyrogenic source, highly weathered
08387-001	43.8	12,300	MGP Tar
08463-001	2.37	14.9	MGP Tar and pyrogenic substance
08463-002	2.07	3.52	MGP Tar and pyrogenic substance

TABLE 4-1 (cont)
SUMMARY OF HYDROCARBON FINGERPRINT RESULTS

Sample Number	Total MAHs (mg/kg)	Total PAHs (mg/kg)	Comments
Aqueous			
TB-1	866	9,410	Carbureted water gas tar
TB-5	570	8,090	Carbureted water gas tar
SB-1	931	14,500	Carbureted water gas tar

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-02567-001**		**00-02567-002**		**00-02567-003**		**00-02254-001**		**00-02750-001**	
	Sample Location:	**Soil Cleanup**		**TB-1**		**TB-1**		**TB-1**		**TB-2**		**TB-3**	
	Depth:	Objectives /		**21.5'-24'**		**28'-30'**		**36'-39'**		**4'**		**11'-12'**	
	Laboratory ID:	**Eastern USA**		**J4469-1**		**J4469-2**		**J4469-3**		**0800**		**J4480-1**	
	Sampling Date:	**Background**		**3/17/00**		**3/17/00**		**3/17/00**		**3/9/00**		**3/22/00**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		No		**No**	
Cas #:	**Analyte:**		**Units:**										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	42.7	U	45.4	U	44.6	U	40	U	42.7	U
11104-28-2	PCB 1221	1000	µg/kg	182	U	193	U	190	U	40	U	182	U
11141-16-5	PCB 1232	1000	µg/kg	96.4	U	102	U	101	U	40	U	96.4	U
53469-21-9	PCB 1242	1000	µg/kg	40.3	U	42.8	U	42.1	U	40	U	40.3	U
12672-29-6	PCB 1248	1000	µg/kg	91.4	U	97.1	U	95.5	U	40	U	91.4	U
11097-69-1	PCB 1254	1000	µg/kg	21.2	U	22.6	U	22.2	U	40	U	21.2	U
11096-82-5	PCB 1260	1000	µg/kg	60.6	U	64.3	U	63.2	U	40	U	60.6	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	537	U	57.0	U	563	U	5	U	0.88	U
74-83-9	Bromomethane	NA *	µg/kg	523	U	55.5	U	548	U	5	U	0.89	U
75-01-4	Vinyl Chloride	200	µg/kg	580	U	61.5	U	607	U	5	U	1.06	U
75-00-3	Chloroethane	1900	µg/kg	354	U	37.5	U	370	U	5	U	0.94	U
75-09-2	Methylene Chloride	100	µg/kg	424	U	45.0	U	444	U	5	U	1.10	U
67-64-1	Acetone	200	µg/kg	1840	U	195	U	1930	U	63		2.62	U
75-15-0	Carbon disulfide	2700	µg/kg	297	U	31.5	U	311	U	NR		0.81	U
75-35-4	1,1-Dichloroethene	400	µg/kg	679	U	72.0	U	711	U	5	U	0.75	U
75-34-3	1,1-Dichloroethane	200	µg/kg	255	U	27.0	U	267	U	5	U	0.67	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	396	U	42.0	U	415	U	5	U	0.38	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	481	U	51.0	U	504	U	5	U	0.81	U
67-66-3	Chloroform	300	µg/kg	368	U	39.0	U	385	U	5	U	0.76	U
107-06-2	1,2-Dichloroethane	100	µg/kg	269	U	28.5	U	281	U	5	U	0.52	U
78-93-3	2-Butanone	300	µg/kg	1160	U	123	U	1210	U	50	U	1.05	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	438	U	46.5	U	459	U	5	U	0.80	U
56-23-5	Carbon Tetrachloride	600	µg/kg	481	U	51.0	U	504	U	5	U	0.85	U
75-27-4	Bromodichloromethane	NA *	µg/kg	368	U	39.0	U	385	U	5	U	0.75	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	170	U	18.0	U	178	U	5	U	0.72	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	269	U	28.5	U	281	U	5	U	0.71	U
79-01-6	Trichloroethene	700	µg/kg	382	U	40.5	U	400	U	5	U	0.85	U
124-48-1	Dibromochloromethane	NA *	µg/kg	255	U	27.0	U	267	U	5	U	0.62	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	523	U	55.5	U	548	U	5	U	0.66	U
71-43-2	Benzene	60	µg/kg	198	U	21.0	U	207	U	5	U	0.15	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	226	U	24.0	U	237	U	5	U	0.63	U
75-25-2	Bromoform	NA *	µg/kg	283	U	30.0	U	296	U	5	U	0.38	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	636	U	67.5	U	666	U	50	U	1.94	U
591-78-6	2-Hexanone	NA *	µg/kg	693	U	73.5	U	726	U	NR		1.58	U
127-18-4	Tetrachloroethene	1400	µg/kg	396	U	42.0	U	415	U	5	U	0.71	U
108-88-3	Toluene	1500	µg/kg	226	U	24.0	U	237	U	5	U	0.19	U
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	198	U	21.0	U	207	U	5	U	0.67	U
108-90-7	Chlorobenzene	1700	µg/kg	297	U	31.5	U	311	U	5	U	0.31	U
100-41-4	Ethylbenzene	5500	µg/kg	**64800**		3570		4490		5	U	0.10	U
100-42-5	Styrene	NA *	µg/kg	396	U	42.0	U	415	U	5	U	0.81	U
108-38-3	m,p-xylene	1200	µg/kg	**15100**		**1950**		**10900**		10	U	0.18	U
95-47-6	o-xylene	1200	µg/kg	**10100**		1010		**4750**		5	U	0.14	U
	Total BTEX		**µg/kg**	**90000**		**6530**		**20140**		**0**		**0**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	3670	U	235	U	3790	U	NR		21.3	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	3530	U	304	U	3650	U	300	U	26.7	U
95-57-8	2-Chlorophenol	800	µg/kg	3600	U	286	U	3730	U	NR		22.0	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	3850	U	312	U	3980	U	300	U	26.7	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	3740	U	296	U	3870	U	300	U	27.3	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	3780	U	334	U	3910	U	300	U	27.6	U
95-48-7	2-Methylphenol	100	µg/kg	3120	U	299	U	3230	U	NR		21.9	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	4080	U	316	U	4220	U	300	U	15.9	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	3020	U	300	U	3130	U	NR		17.9	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	3670	U	276	U	3800	U	300	U	22.3	U
67-72-1	Hexachloroethane	NA *	µg/kg	3870	U	266	U	4010	U	300	U	27.7	U
98-95-3	Nitrobenzene	200	µg/kg	4240	U	330	U	4390	U	300	U	30.6	U
78-59-1	Isophorone	4400	µg/kg	3880	U	269	U	4010	U	300	U	20.6	U
88-75-5	2-Nitrophenol	330	µg/kg	2950	U	251	U	3050	U	NR		23.5	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	1780	U	234	U	1840	U	NR		13.2	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	3560	U	308	U	3680	U	300	U	24.2	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	3090	U	277	U	3190	U	NR		22.6	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	3740	U	338	U	3870	U	300	U	25.0	U
106-47-8	4-Chloroaniline	220	µg/kg	3890	U	167	U	4020	U	NR		27.7	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	3740	U	316	U	3870	U	300	U	25.4	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	3020	U	325	U	3120	U	NR		17.3	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	3130	U	140	U	3240	U	300	U	41.3	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-02567-001**		**00-02567-002**		**00-02567-003**		**00-02254-001**		**00-02750-001**	
	Sample Location:	**Soil Cleanup**		TB-1		TB-1		TB-1		TB-2		TB-3	
	Depth:	**Objectives /**		**21.5'-24'**		**28'-30'**		**36'-39'**		**4'**		**11'-12'**	
	Laboratory ID:	**Eastern USA**		**J4469-1**		**J4469-2**		**J4469-3**		**0800**		**J4480-1**	
	Sampling Date:	**Background**		**3/17/00**		**3/17/00**		**3/17/00**		**3/9/00**		**3/22/00**	
	Matrix:	**Concentrations**		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	**Analyte:**		**Units:**										
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	2980	U	278	U	3080	U	NR		27.7	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	2870	U	248	U	2970	U	NR		25.7	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	3430	U	323	U	3550	U	300	U	25.7	U
88-74-4	2-Nitroaniline	430	µg/kg	2700	U	243	U	2790	U	NR		18.0	U
131-11-3	Dimethylphthalate	2000	µg/kg	3290	U	323	U	3400	U	300	U	23.0	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	3030	U	240	U	3140	U	300	U	19.0	U
99-09-2	3-Nitroaniline	500	µg/kg	2900	U	154	U	3000	U	NR		16.2	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	3450	U	229	U	3570	U	NR		22.7	U
100-02-7	4-Nitrophenol	100	µg/kg	2240	U	514	U	2320	U	NR		30.8	U
132-64-9	Dibenzofuran	6200	µg/kg	6280		1540		102000		NR		24.5	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	2880	U	219	U	2980	U	300	U	14.1	U
84-66-2	Diethylphthalate	7100	µg/kg	2110	U	212	U	2180	U	300	U	18.1	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	3340	U	382	U	3460	U	300	U	25.1	U
100-01-6	4-Nitroaniline	NA *	µg/kg	2530	U	178	U	2620	U	NR		24.1	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	3190	U	301	U	3300	U	NR		24.8	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	3010	U	316	U	3120	U	300	U	22.2	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	3050	U	288	U	3150	U	300	U	23.6	U
118-74-1	Hexachlorobenzene	410	µg/kg	3350	U	283	U	3460	U	300	U	21.5	U
87-86-5	Pentachlorophenol	1000	µg/kg	2270	U	192	U	2350	U	NR		15.9	U
86-74-8	Carbazole	NA *	µg/kg	4770	J	674		68000		NR		75.3	B
84-74-2	Di-n-butylphthalate	8100	µg/kg	7360	U	126	JB	7620	U	300	U	73.5	U
85-68-7	Butylbenzylphthalate	50000	µg/kg	2250	U	188	U	2330	U	300	U	19.5	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	7290	U	326	U	7540	U	3000	U	45.8	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	13000	U	327	JB	2490	J	300	U	19.2	JB
117-84-0	Di-n-octylphthalate	50000	µg/kg	2020	U	243	U	2090	U	300	U	20.2	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	116000		34700		292000		300	U	25.5	U
208-96-8	Acenaphthylene	41000	µg/kg	13700		4340		69200		300	U	22.1	U
120-12-7	Anthracene	50000*	µg/kg	62000		18200		239000		1700		19.2	U
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	9660		5400		31300		190		14	U
206-44-0	Fluoranthene	50000*	µg/kg	75500		24200		351000		1500		16.1	U
86-73-7	Fluorene	50000*	µg/kg	55600		18700		245000		1400		22.4	U
91-57-6	2-Methylnaphthalene	36400	µg/kg	157000		38500		263000		NR		24.8	U
91-20-3	Naphthalene	13000	µg/kg	215000	B	107000		709000	B	300	U	26.3	U
85-01-8	Phenanthrene	50000*	µg/kg	204000		72200		855000		6800		11.7	J
129-00-0	Pyrene	50000*	µg/kg	102000		30600		376000		2900		16.3	U
	Total Non Carcinogenic PAHs			1010460		353840		3430500		14490		11.7	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	40300		12500		184000		1100		13.9	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	12700		4910		73500		290		18.3	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	17000		7690		94900		290		16.8	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	27800		11200		130000		420		13.6	U
218-01-9	Chrysene	400	µg/kg	34700		11100		155000		1500		17.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	7440		4260		30500		160		13.0	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	2590		1170		10300		300	U	14.0	U
	Total Probable Carcinogenic PAHs			142530		52830		678200		3760		0	
	Total PAHs			**1152990**		406670		**4108700**		**18250**		**11.7**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	3550		3590		2190		4300		9260	
7440-36-0	Antimony	SB / NA	mg/kg	0.51	J	0.84	J	1.18	U	1	U	3.93	
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.68	U	0.72	U	0.71	U	0.63		1.73	
7440-39-3	Barium	300 or SB / 15-600	mg/kg	22.5		24.9		17.2		52		36.8	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.32		0.29		0.15	J	0.12		0.58	
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.77		1.09		0.79		0.5	U	1.48	
7440-70-2	Calcium	SB / 130-35000	mg/kg	1350		1380		20900		720		961	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	8.77		7.96		10.9		9.4		10.8	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	4.20		5.06		4.66		3.5		5.24	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	10.3		6.77		8.54		8.4		7.28	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	7230		11300		7670		6900		12300	
7439-92-1	Lead	SB / 200-500	mg/kg	1.76		1.85		0.99		1.5		5.07	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	3070		2340		11600		3000		2770	
7439-96-5	Manganese	SB / 50-5000	mg/kg	67.0		92.5		86.3		98		296	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.0099	U	0.0018	J	0.0100	U	0.010		0.018	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	6.68		7.21		7.15		8.7		9.03	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	752		702		549		4100		469	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.56	U	0.60	U	0.59	U	0.4	U	0.56	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		00-02567-001		00-02567-002		00-02567-003		00-02254-001		00-02750-001	
	Sample Location:	Soil Cleanup		TB-1		TB-1		TB-1		TB-2		TB-3	
	Depth:	Objectives /		21.5'-24'		28'-30'		36'-39'		4'		11'-12'	
	Laboratory ID:	Eastern USA		J4469-1		J4469-2		J4469-3		0800		J4480-1	
	Sampling Date:	Background		3/17/00		3/17/00		3/17/00		3/9/00		3/22/00	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
7440-22-4	Silver	SB / NA	mg/kg	0.50	J	0.96	U	0.94	U	0.5	U	0.90	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	218		166		619		300		113	U
7440-28-0	Thallium	SB / NA	mg/kg	6.10	U	6.48	U	6.37	U	1	U	6.10	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	11.9		11.8		8.30		18		17.4	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	36.9		27.2		15.8		34		31.3	
57-12-5	Cyanide		mg/kg	1.59		0.0060	U	0.0060	U	2	U	0.0060	U
	% Solids		%	88.4		83.2		84.4		NR		88.5	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		00-02524-006		00-02524-004		00-02524-005		00-02524-001		00-02524-002	
	Sample Location:	Soil Cleanup		TB-5		TB-5		TB-5		SB-1		SB-1	
	Depth:	Objectives /		7'-8'		10.5'-11.5'		16.5'-17.5'		6'-8'		8'-10'	
	Laboratory ID:	Eastern USA		J4466-6		J4466-4		J4466-5		J4466-1		J4466-2	
	Sampling Date:	Background		3/16/2000		3/16/2000		3/16/2000		3/16/2000		3/16/2000	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	46.1	U	49.9	U	40.4	U	45	U	54.1	U
11104-28-2	PCB 1221	1000	µg/kg	196	U	213	U	172	U	192	U	230	U
11141-16-5	PCB 1232	1000	µg/kg	104	U	113	U	91.3	U	102	U	122	U
53469-21-9	PCB 1242	1000	µg/kg	43.6	U	47.1	U	38.2	U	42.5	U	51.1	U
12672-29-6	PCB 1248	1000	µg/kg	98.7	U	107	U	86.6	U	96.3	U	116	U
11097-69-1	PCB 1254	1000	µg/kg	22.9	U	24.8	U	20.1	U	22.4	U	26.9	U
11096-82-5	PCB 1260	1000	µg/kg	65.4	U	70.8	U	57.4	U	63.8	U	76.6	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	2.08	U	62.7	U	1.82	U	0.4	U	68	U
74-83-9	Bromomethane	NA *	µg/kg	2.39	U	61	U	2.08	U	0.46	U	66.2	U
75-01-4	Vinyl Chloride	200	µg/kg	2.08	U	67.7	U	1.82	U	0.4	U	73.4	U
75-00-3	Chloroethane	1900	µg/kg	1.16	U	41.3	U	1.01	U	0.23	U	44.8	U
75-09-2	Methylene Chloride	100	µg/kg	3.3	U	49.5	U	2.88	U	0.64	U	53.7	U
67-64-1	Acetone	200	µg/kg	302		214	U	147		5.16	U	233	U
75-15-0	Carbon disulfide	2700	µg/kg	10.3		34.7	U	10.2		0.32	U	37.6	U
75-35-4	1,1-Dichloroethene	400	µg/kg	1.29	U	79.2	U	1.12	U	0.25	U	85.9	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.98	U	29.7	U	0.85	U	0.19	U	32.2	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	2.51	U	46.2	U	2.19	U	0.49	U	50.1	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	3.06	U	56.1	U	2.67	U	0.6	U	60.9	U
67-66-3	Chloroform	300	µg/kg	1.04	U	42.9	U	0.91	U	0.2	U	46.5	U
107-06-2	1,2-Dichloroethane	100	µg/kg	1.84	U	31.4	U	1.6	U	0.36	U	34	U
78-93-3	2-Butanone	300	µg/kg	15.4	U	135	U	13.4	U	2.99	U	147	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	1.71	U	51.2	U	1.5	U	0.33	U	55.5	U
56-23-5	Carbon Tetrachloride	600	µg/kg	1.65	U	56.1	U	1.44	U	0.32	U	60.9	U
75-27-4	Bromodichloromethane	NA *	µg/kg	1.53	U	42.9	U	1.34	U	0.3	U	46.5	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	1.1	U	19.8	U	0.96	U	0.21	U	21.5	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	1.53	U	31.4	U	1.34	U	0.3	U	34	U
79-01-6	Trichloroethene	700	µg/kg	1.84	U	44.5	U	1.6	U	0.36	U	48.3	U
124-48-1	Dibromochloromethane	NA *	µg/kg	1.77	U	29.7	U	1.55	U	0.35	U	32.2	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	2.88	U	61	U	2.51	U	0.56	U	66.2	U
71-43-2	Benzene	60	µg/kg	1.71	U	23.1	U	16.1		0.33	U	25.1	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	2.51	U	26.4	U	2.19	U	0.49	U	28.6	U
75-25-2	Bromoform	NA *	µg/kg	2.94	U	33	U	2.56	U	0.57	U	35.8	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	9.06	U	74.3	U	7.9	U	1.76	U	80.6	U
591-78-6	2-Hexanone	NA *	µg/kg	9.49	U	80.8	U	8.28	U	1.84	U	87.7	U
127-18-4	Tetrachloroethene	1400	µg/kg	1.71	U	46.2	U	1.5	U	0.33	U	50.1	U
108-88-3	Toluene	1500	µg/kg	2.02	U	26.4	U	34.4		0.39	U	28.6	U
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	3.06	U	23.1	U	2.67	U	0.6	U	25.1	U
108-90-7	Chlorobenzene	1700	µg/kg	1.77	U	34.7	U	1.55	U	0.35	U	37.6	U
100-41-4	Ethylbenzene	5500	µg/kg	278		3020		6000		0.4	U	37.6	U
100-42-5	Styrene	NA *	µg/kg	1.77	U	46.2	U	1.5	U	0.35	U	50.1	U
108-38-3	m,p-xylene	1200	µg/kg	81.8		2460		5590		0.75	U	80.6	U
95-47-6	o-xylene	1200	µg/kg	203		2400		3690		0.33	U	48.3	U
	Total BTEX		**µg/kg**	**562.8**		**7880**		**15330.5**		**0**		**0**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	112	U	124	U	100	U	111	U	53.5	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	141	U	156	U	126	U	139	U	67.3	U
95-57-8	2-Chlorophenol	800	µg/kg	116	U	128	U	104	U	114	U	55.3	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	141	U	156	U	126	U	139	U	67.2	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	144	U	159	U	129	U	142	U	68.6	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	145	U	161	U	130	U	143	U	69.4	U
95-48-7	2-Methylphenol	100	µg/kg	116	U	128	U	103	U	114	U	55.1	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	84.2	U	93.1	U	75.3	U	82.9	U	40.1	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	94.7	U	105	U	84.7	U	93.3	U	45.2	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	118	U	130	U	105	U	116	U	56.1	U
67-72-1	Hexachloroethane	NA *	µg/kg	146	U	162	U	131	U	144	U	69.8	U
98-95-3	Nitrobenzene	200	µg/kg	162	U	179	U	145	U	159	U	77.1	U
78-59-1	Isophorone	4400	µg/kg	109	U	120	U	97.4	U	107	U	51.9	U
88-75-5	2-Nitrophenol	330	µg/kg	124	U	137	U	111	U	122	U	59.2	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	69.7	U	77	U	62.3	U	68.6	U	33.2	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	128	U	141	U	114	U	126	U	60.9	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	119	U	132	U	107	U	117	U	56.8	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	132	U	146	U	118	U	130	U	63	U
106-47-8	4-Chloroaniline	220	µg/kg	146	U	162	U	131	U	144	U	69.8	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	134	U	148	U	120	U	132	U	64	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	91.1	U	101	U	81.5	U	89.8	U	43.5	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	218	U	241	U	195	U	215	U	104	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-02524-006**		**00-02524-004**		**00-02524-005**		**00-02524-001**		**00-02524-002**	
	Sample Location:	**Soil Cleanup**		**TB-5**		**TB-5**		**TB-5**		**SB-1**		**SB-1**	
	Depth:	**Objectives /**		**7'-8'**		**10.5'-11.5'**		**16.5'-17.5'**		**6'-8'**		**8'-10'**	
	Laboratory ID:	**Eastern USA**		**J4466-6**		**J4466-4**		J4466-5		**J4466-1**		**J4466-2**	
	Sampling Date:	**Background**		**3/16/2000**		**3/16/2000**		**3/16/2000**		**3/16/2000**		**3/16/2000**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	146	U	162	U	131	U	144	U	69.8	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	136	U	150	U	121	U	134	U	64.7	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	136	U	150	U	122	U	134	U	64.8	U
88-74-4	2-Nitroaniline	430	µg/kg	94.9	U	105	U	84.9	U	93.5	U	45.3	U
131-11-3	Dimethylphthalate	2000	µg/kg	122	U	134	U	109	U	120	U	58	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	100	U	111	U	89.7	U	98.8	U	47.8	U
99-09-2	3-Nitroaniline	500	µg/kg	85.6	U	94.6	U	76.5	U	84.3	U	40.8	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	120	U	132	U	107	U	118	U	57.1	U
100-02-7	4-Nitrophenol	100	µg/kg	163	U	180	U	146	U	160	U	77.6	U
132-64-9	Dibenzofuran	6200	µg/kg	3210		3710		3510		127	U	631	
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	74.6	U	82.5	U	66.8	U	73.5	U	35.6	U
84-66-2	Diethylphthalate	7100	µg/kg	95.3	U	105	U	85.3	U	46.9	J	45.5	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	133	U	147	U	119	U	131	U	63.3	U
100-01-6	4-Nitroaniline	NA *	µg/kg	127	U	141	U	114	U	125	U	60.7	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	131	U	145	U	117	U	129	U	62.4	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	117	U	129	U	105	U	115	U	55.8	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	125	U	138	U	111	U	123	U	59.4	U
118-74-1	Hexachlorobenzene	410	µg/kg	113	U	125	U	101	U	112	U	54.1	U
87-86-5	Pentachlorophenol	1000	µg/kg	84	U	92.8	U	75.1	U	82.7	U	40	U
86-74-8	Carbazole	NA *	µg/kg	91.9	U	578		1040		90.6	U	176	
84-74-2	Di-n-butylphthalate	8100	µg/kg	388	U	429	U	347	U	382	U	185	U
85-68-7	Butylbenzylphthalate	50000	µg/kg	103	U	114	U	92	U	101	U	49.1	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	242	U	267	U	216	U	238	U	115	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	108	J	810	U	119	J	702	J	350	U
117-84-0	Di-n-octylphthalate	50000	µg/kg	1070	U	118	U	95.6	U	105	U	51	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	66800		74500		38700		99.7	J	19500	
208-96-8	Acenaphthylene	41000	µg/kg	11700		10000		4310		5500		1650	
120-12-7	Anthracene	50000*	µg/kg	53800		43100		16400		947		7580	
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	7810		3730		2280		6630		1040	
206-44-0	Fluoranthene	50000*	µg/kg	67900		40200		21100		317		7640	
86-73-7	Fluorene	50000*	µg/kg	40400		39700		17100		383		7080	
91-57-6	2-Methylnaphthalene	36400	µg/kg	16300		261000		66300		156		13200	
91-20-3	Naphthalene	13000	µg/kg	16000		735000		158000		1080		21100	
85-01-8	Phenanthrene	50000*	µg/kg	148000		132000		63500		139		26600	
129-00-0	Pyrene	50000*	µg/kg	92500		63700		31000		544		14100	
	Total Non Carcinogenic PAHs			521210		1402930		418690		15795.7		119490	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	39900		25500		11600		479		5520	
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	11600		8110		4540		2320		2050	
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	15100		10400		5770		1680		2600	
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	24400		15700		8320		3560		3760	
218-01-9	Chrysene	400	µg/kg	33900		23000		10500		710		5400	
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	6860		3300		1940		2620		917	
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	2670		1180		644		716		300	
	Total Probable Carcinogenic PAHs			134430		87190		43314		12085		20547	
	Total PAHs			**655640**		**1490120**		**462004**		**27880.7**		**140037**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	5550		4350		3790		7140		16800	
7440-36-0	Antimony	SB / NA	mg/kg	0.63	J	1.32	U	0.98	J	0.9	J	2.27	
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.73	U	0.79	U	0.64	U	0.71	U	0.86	U
7440-39-3	Barium	300 or SB / 15-600	mg/kg	22.6		118		68.1		34.4		97	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.38		0.37		0.26		0.42		0.93	
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.84		0.85		1.33		1.07		2.1	
7440-70-2	Calcium	SB / 130-35000	mg/kg	874		1780		2010		1430		2400	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	7.09		10.5		11.4		9.71		24.2	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	5.4		4.07		9.81		5.38		10.1	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	5.59		8.04		30.3		9.78		9.91	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	8350		6780		12900		10500		18800	
7439-92-1	Lead	SB / 200-500	mg/kg	2.12		1.9		1.11		4.06		5.48	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	2280		1970		2450		3160		4660	
7439-96-5	Manganese	SB / 50-5000	mg/kg	67.3		71.1		87.3		115		459	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.028		0.019		0.026		0.013		0.064	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	8.94		6.48		20.6		8.46		15.6	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	378		177		990		730		738	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.38	J	1.57		0.17	J	0.6	U	0.71	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-02524-006**		**00-02524-004**		**00-02524-005**		**00-02524-001**		**00-02524-002**	
	Sample Location:	**Soil Cleanup**		**TB-5**		TB-5		TB-5		**SB-1**		**SB-1**	
	Depth:	**Objectives /**		7'-8'		**10.5'-11.5'**		16.5'-17.5'		**6'-8'**		8'-10'	
	Laboratory ID:	**Eastern USA**		**J4466-6**		J4466-4		J4466-5		**J4466-1**		J4466-2	
	Sampling Date:	**Background**		**3/16/2000**		3/16/2000		3/16/2000		3/16/2000		3/16/2000	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
7440-22-4	Silver	SB / NA	mg/kg	0.46	J	1.06	U	0.14	J	0.56	J	0.4	J
7440-23-5	Sodium	SB / 6000-8000	mg/kg	219		113	J	215		386		811	
7440-28-0	Thallium	SB / NA	mg/kg	6.59	U	7.13	U	5.78	U	6.43	U	7.72	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	11.5		21.7		18.6		15.4		32.6	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	24		32.8		24.9		32.9		66.3	
57-12-5	Cyanide		mg/kg	9.53		0.38		0.41		1.79		1.63	
	% Solids		%	81.7		75.8		93.7		84.1		69.8	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-02524-003**		**00-07683-003**		**00-07887-001**		**00-07887-002**	
	Sample Location:	**Soil Cleanup**		**SB-1**		**SB-2**		**SB-2**		**SB-2**	
	Depth:	**Objectives /**		**14'-18'**		**2'-4'**		**8'-10'**		**15'-16.5'**	
	Laboratory ID:	**Eastern USA**		**J4466-3**		**J7186-3**		**J7197-1**		**J7197-2**	
	Sampling Date:	**Background**		**3/16/2000**		**08/08/2000**		**08/14/2000**		**08/14/2000**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**								
	PCBs										
12674-11-2	PCB 1016	1000	µg/kg	45.4	U	2.22	U	2.67	U	2.26	U
11104-28-2	PCB 1221	1000	µg/kg	193	U	10.4	U	12.6	U	10.7	U
11141-16-5	PCB 1232	1000	µg/kg	102	U	2.31	U	2.79	U	2.36	U
53469-21-9	PCB 1242	1000	µg/kg	42.8	U	1.74	U	2.1	U	1.78	U
12672-29-6	PCB 1248	1000	µg/kg	97.1	U	3.91	U	4.72	U	4	U
11097-69-1	PCB 1254	1000	µg/kg	22.6	U	5.92	U	7.14	U	6.05	U
11096-82-5	PCB 1260	1000	µg/kg	64.3	U	6.8	U	8.2	U	6.95	U
	Volatiles										
74-87-3	Chloromethane	NA *	µg/kg	572	U	0.38	U	59	U	50	U
74-83-9	Bromomethane	NA *	µg/kg	557	U	0.44	U	41	U	34.8	U
75-01-4	Vinyl Chloride	200	µg/kg	617	U	0.38	U	57.4	U	48.7	U
75-00-3	Chloroethane	1900	µg/kg	376	U	0.21	U	54.1	U	45.9	U
75-09-2	Methylene Chloride	100	µg/kg	452	U	7.8	B	32.8	U	27.8	U
67-64-1	Acetone	200	µg/kg	1960	U	4.9	U	310	U	263	U
75-15-0	Carbon disulfide	2700	µg/kg	316	U	0.31	U	24.6	U	20.8	U
75-35-4	1,1-Dichloroethene	400	µg/kg	723	U	0.24	U	34.4	U	29.2	U
75-34-3	1,1-Dichloroethane	200	µg/kg	271	U	0.18	U	23	U	19.5	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	422	U	0.46	U	44.3	U	37.5	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	512	U	0.56	U	31.2	U	26.4	U
67-66-3	Chloroform	300	µg/kg	392	U	0.19	U	21.3	U	18.1	U
107-06-2	1,2-Dichloroethane	100	µg/kg	286	U	0.34	U	26.2	U	22.2	U
78-93-3	2-Butanone	300	µg/kg	1230	U	2.84	U	167	U	142	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	467	U	0.32	U	18	U	15.3	U
56-23-5	Carbon Tetrachloride	600	µg/kg	512	U	0.31	U	29.5	U	25	U
75-27-4	Bromodichloromethane	NA *	µg/kg	392	U	0.21	U	29.5	U	25	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	181	U	0.2	U	26.2	U	22.2	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	286	U	0.28	U	29.5	U	25	U
79-01-6	Trichloroethene	700	µg/kg	407	U	0.34	U	27.9	U	23.6	U
124-48-1	Dibromochloromethane	NA *	µg/kg	271	U	0.33	U	13.1	U	11.1	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	557	U	0.53	U	50.8	U	43.1	U
71-43-2	Benzene	60	µg/kg	211	U	2.1		23	U	19.5	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	241	U	0.46	U	29.5	U	25	U
75-25-2	Bromoform	NA *	µg/kg	301	U	0.54	U	19.7	U	16.7	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	678	U	1.67	U	83.6	U	70.9	U
591-78-6	2-Hexanone	NA *	µg/kg	738	U	1.75	U	146	U	124	U
127-18-4	Tetrachloroethene	1400	µg/kg	422	U	0.32	U	13.1	U	11.1	U
108-88-3	Toluene	1500	µg/kg	241	U	2.1		26.2	U	22.2	U
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	211	U	0.56	U	21.3	U	18.1	U
108-90-7	Chlorobenzene	1700	µg/kg	316	U	0.33	U	11.5	U	9.73	U
100-41-4	Ethylbenzene	5500	µg/kg	**244000**		0.38	U	1160		144	
100-42-5	Styrene	NA *	µg/kg	422	U	0.33	U	13.1	U	11.1	U
108-38-3	m,p-xylene	1200	µg/kg	**243000**		0.71	U	27.9	U	134	
95-47-6	o-xylene	1200	µg/kg	**138000**		0.32	U	632		11.1	U
	Total BTEX		**µg/kg**	**625000**		**4.2**		**1792**		**278**	
	Semi-Volatiles										
108-95-2	Phenol	30	µg/kg	111	U	134	U	78.1	U	66.2	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	140	U	173	U	101	U	85.7	U
95-57-8	2-Chlorophenol	800	µg/kg	115	U	162	U	95	U	80.5	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	139	U	177	U	104	U	87.8	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	142	U	168	U	98.5	U	83.5	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	144	U	190	U	111	U	94.1	U
95-48-7	2-Methylphenol	100	µg/kg	114	U	170	U	99.6	U	84.4	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	83.3	U	180	U	105	U	89	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	93.8	U	170	U	99.7	U	84.5	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	116	U	157	U	91.8	U	77.8	U
67-72-1	Hexachloroethane	NA *	µg/kg	145	U	151	U	88.3	U	74.8	U
98-95-3	Nitrobenzene	200	µg/kg	160	U	188	U	110	U	93	U
78-59-1	Isophorone	4400	µg/kg	108	U	153	U	89.5	U	75.8	U
88-75-5	2-Nitrophenol	330	µg/kg	123	U	142	U	83.3	U	70.6	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	68.9	U	133	U	77.9	U	66	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	126	U	175	U	102	U	86.7	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	118	U	157	U	92.1	U	78	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	131	U	192	U	112	U	95.1	U
106-47-8	4-Chloroaniline	220	µg/kg	145	U	95.2	U	55.7	U	47.2	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	133	U	180	U	105	U	89	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	90.2	U	185	U	108	U	91.6	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	216	U	79.5	U	46.5	U	39.4	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		00-02524-003		00-07683-003		00-07887-001		00-07887-002	
	Sample Location:	Soil Cleanup		SB-1		SB-2		SB-2		SB-2	
	Depth:	Objectives /		14'-18'		2'-4'		8'-10'		15'-16.5'	
	Laboratory ID:	Eastern USA		J4466-3		J7186-3		J7197-1		J7197-2	
	Sampling Date:	Background		3/16/2000		08/08/2000		08/14/2000		08/14/2000	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No	
Cas #:	Analyte:		Units:								
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	145	U	158	U	92.5	U	78.4	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	134	U	141	U	82.4	U	69.8	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	135	U	184	U	107	U	91	U
88-74-4	2-Nitroaniline	430	µg/kg	94	U	138	U	80.7	U	68.4	U
131-11-3	Dimethylphthalate	2000	µg/kg	120	U	183	U	107	U	90.9	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	99.3	U	136	U	79.6	U	67.5	U
99-09-2	3-Nitroaniline	500	µg/kg	84.7	U	87.8	U	51.4	U	43.5	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	119	U	130	U	76.1	U	64.5	U
100-02-7	4-Nitrophenol	100	µg/kg	161	U	292	U	171	U	145	U
132-64-9	Dibenzofuran	6200	µg/kg	3080		189	U	220		1530	
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	73.9	U	125	U	72.8	U	61.7	U
84-66-2	Diethylphthalate	7100	µg/kg	94.4	U	121	U	70.5	U	59.7	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	131	U	217	U	127	U	108	U
100-01-6	4-Nitroaniline	NA *	µg/kg	126	U	101	U	59.2	U	50.2	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	130	U	171	U	100	U	84.7	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	116	U	180	U	105	U	89.1	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	123	U	164	U	95.9	U	81.3	U
118-74-1	Hexachlorobenzene	410	µg/kg	112	U	161	U	94.1	U	79.7	U
87-86-5	Pentachlorophenol	1000	µg/kg	83.1	U	109	U	63.9	U	54.2	U
86-74-8	Carbazole	NA *	µg/kg	931		87.3	J	74.8	U	261	
84-74-2	Di-n-butylphthalate	8100	µg/kg	384	U	484	U	283	U	240	U
85-68-7	Butylbenzylphthalate	50000	µg/kg	102	U	107	U	62.6	U	53.1	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	239	U	185	U	108	U	91.9	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	280	J	107	JB	26.2	J	30.1	J
117-84-0	Di-n-octylphthalate	50000	µg/kg	106	U	138	U	80.7	U	68.4	U
	Non Carcinogenic PAHs										
83-32-9	Acenaphthene	50000*	µg/kg	139000		177	J	9340		22900	
208-96-8	Acenaphthylene	41000	µg/kg	12000		5390		1400		3060	
120-12-7	Anthracene	50000*	µg/kg	63000		1200		5120		10200	
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	10500		4580		959		2150	
206-44-0	Fluoranthene	50000*	µg/kg	82900		1440		6880		18900	
86-73-7	Fluorene	50000*	µg/kg	58500		745		5500		10300	
91-57-6	2-Methylnaphthalene	36400	µg/kg	203000		1160		9310		26900	
91-20-3	Naphthalene	13000	µg/kg	926000		2080		1250		54400	
85-01-8	Phenanthrene	50000*	µg/kg	214000		1010		18900		44300	
129-00-0	Pyrene	50000*	µg/kg	123000		2960		9060		23600	
	Total Non Carcinogenic PAHs			1831900		20742		67719		216710	
	Probable Carcinogenic PAHs										
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	42800		2280		3900		8560	
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	14400		5050		1660		4460	
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	19400		3530		1620		3580	
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	32800		5800		2860		6730	
218-01-9	Chrysene	400	µg/kg	36800		2970		3160		7100	
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	8550		3360		843		1940	
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	2490		1970		287		763	
	Total Probable Carcinogenic PAHs			157240		24960		14330		33133	
	Total PAHs			**1989140**		**45702**		**82049**		**249843**	
	Metals										
7429-90-5	Aluminum	SB / 33000	mg/kg	3280		5540		10800		16400	
7440-36-0	Antimony	SB / NA	mg/kg	0.13	J	0.58	U	5.91		5.11	
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.73	U	2.83		1.44		0.44	
7440-39-3	Barium	300 or SB / 15-600	mg/kg	36.1		39.6		61.2		139	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.25		0.45		0.66		0.75	
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.8		1.36		1.78		3.11	
7440-70-2	Calcium	SB / 130-35000	mg/kg	1700		5740		1810		2450	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	10.4		11		19.4		7.74	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	3.64		5.42		9.04		7.66	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	10.6		20.3		2.08		28.5	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	8050		10800		18000		29700	
7439-92-1	Lead	SB / 200-500	mg/kg	1.94		40.1		3.67		1.38	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	2190		4620		2670		6130	
7439-96-5	Manganese	SB / 50-5000	mg/kg	55.4		131		2840		210	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.011	U	1.54		0.073		0.0098	U
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	6.73		9.27		10.5		19.4	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	652		1530		388		4040	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.25	J	0.2	U	0.24	U	0.21	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-02524-003**		**00-07683-003**		**00-07887-001**		**00-07887-002**	
	Sample Location:	**Soil Cleanup**		**SB-1**		**SB-2**		**SB-2**		**SB-2**	
	Depth:	**Objectives /**		**14'-18'**		**2'-4'**		**8'-10'**		**15'-16.5'**	
	Laboratory ID:	**Eastern USA**		**J4466-3**		**J7186-3**		**J7197-1**		**J7197-2**	
	Sampling Date:	**Background**		**3/16/2000**		**08/08/2000**		**08/14/2000**		**08/14/2000**	
	Matrix:	**Concentrations**		Soil		Soil		Soil		Soil	
	Validated:			No		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**								
7440-22-4	Silver	SB / NA	mg/kg	0.17	J	0.7		0.26		2.45	
7440-23-5	Sodium	SB / 6000-8000	mg/kg	186		461		823		1040	
7440-28-0	Thallium	SB / NA	mg/kg	6.53	U	0.2	U	0.24	U	0.21	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	11		17.2		31.6		78.6	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	19.5		70.9		45.1		60	
57-12-5	Cyanide		mg/kg	0.82		1		1.16		0.28	U
	% Solids		%	83		88.5		76.2		89.7	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04272-005**		**01-04272-006**		**01-04272-007**	
	Sample Location:	**Soil Cleanup**		**SB-3**		**SB-3**		**SB-3**	
	Depth:	**Objectives /**		**3' - 4'**		**10' - 11'**		**28.5' - 29.5'**	
	Laboratory ID:	**Eastern USA**		**K9228-5**		**K9228-6**		**K9228-7**	
	Sampling Date:	**Background**		**06/04/2001**		**06/04/2001**		**06/04/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**						
	PCBs								
12674-11-2	PCB 1016	1000	µg/kg	7.62	U	7.95	U	8.1	U
11104-28-2	PCB 1221	1000	µg/kg	9.28	U	9.69	U	9.87	U
11141-16-5	PCB 1232	1000	µg/kg	6.62	U	6.91	U	7.04	U
53469-21-9	PCB 1242	1000	µg/kg	8.28	U	8.65	U	8.81	U
12672-29-6	PCB 1248	1000	µg/kg	10.3	U	10.8	U	11	U
11097-69-1	PCB 1254	1000	µg/kg	6.19	U	6.46	U	6.58	U
11096-82-5	PCB 1260	1000	µg/kg	6.23	U	6.51	U	6.63	U
	Volatiles								
74-87-3	Chloromethane	NA *	µg/kg	0.39	U	2.03	U	2.07	U
74-83-9	Bromomethane	NA *	µg/kg	0.48	U	2.51	U	2.56	U
75-01-4	Vinyl Chloride	200	µg/kg	0.29	U	1.5	U	1.52	U
75-00-3	Chloroethane	1900	µg/kg	0.25	U	1.32	U	1.34	U
75-09-2	Methylene Chloride	100	µg/kg	2.4	B	8.3	B	9.6	B
67-64-1	Acetone	200	µg/kg	36.8		**408**		80.1	
75-15-0	Carbon disulfide	2700	µg/kg	0.3	U	29.3		1.58	U
75-35-4	1,1-Dichloroethene	400	µg/kg	0.26	U	1.38	U	1.4	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.26	U	1.38	U	1.4	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.31	U	1.61	U	1.64	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.22	U	1.14	U	1.16	U
67-66-3	Chloroform	300	µg/kg	0.28	U	1.44	U	4.9	
107-06-2	1,2-Dichloroethane	100	µg/kg	0.13	U	0.66	U	0.67	U
78-93-3	2-Butanone	300	µg/kg	5.75	U	29.9	U	30.5	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.28	U	1.44	U	1.46	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.24	U	1.26	U	1.28	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.15	U	0.78	U	0.79	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.069	U	0.36	U	0.37	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.14	U	0.72	U	0.73	U
79-01-6	Trichloroethene	700	µg/kg	3.4		0.78	U	0.79	U
124-48-1	Dibromochloromethane	NA *	µg/kg	0.092	U	0.48	U	0.49	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.14	U	0.72	U	0.73	U
71-43-2	Benzene	60	µg/kg	0.28	U	1.44	U	1.46	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.16	U	0.84	U	0.85	U
75-25-2	Bromoform	NA *	µg/kg	0.069	U	0.36	U	0.37	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	5.75	U	29.9	U	30.5	U
591-78-6	2-Hexanone	NA *	µg/kg	5.75	U	29.9	U	30.5	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.1	U	0.54	U	0.55	U
108-88-3	Toluene	1500	µg/kg	0.99		11.4		0.61	U
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.1	U	0.54	U	0.55	U
108-90-7	Chlorobenzene	1700	µg/kg	0.08	U	0.42	U	0.43	U
100-41-4	Ethylbenzene	5500	µg/kg	1.3		19.4		14	
100-42-5	Styrene	NA *	µg/kg	0.16	U	0.84	U	0.85	U
108-38-3	m,p-xylene	1200	µg/kg	3.1		14.2		11.6	
95-47-6	o-xylene	1200	µg/kg	1.1		78.1		8	
	Total BTEX		**µg/kg**	**6.49**		**134.5**		**33.6**	
	Semi-Volatiles								
108-95-2	Phenol	30	µg/kg	21.5	U	22.5	U	22.9	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	27.1	U	28.3	U	28.8	U
95-57-8	2-Chlorophenol	800	µg/kg	22.3	U	23.2	U	23.7	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	27	U	28.2	U	28.7	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	27.6	U	28.8	U	29.4	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	27.9	U	29.1	U	29.7	U
95-48-7	2-Methylphenol	100	µg/kg	22.2	U	23.2	U	23.6	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	16.2	U	16.9	U	17.2	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	16	J	19	U	19.3	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	22.6	U	23.6	U	24	U
67-72-1	Hexachloroethane	NA *	µg/kg	28.1	U	29.3	U	29.9	U
98-95-3	Nitrobenzene	200	µg/kg	31	U	32.4	U	33	U
78-59-1	Isophorone	4400	µg/kg	20.9	U	21.8	U	22.2	U
88-75-5	2-Nitrophenol	330	µg/kg	23.8	U	24.9	U	25.3	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	13.4	U	14	U	14.2	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	24.5	U	25.6	U	26.1	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	22.9	U	23.9	U	24.3	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	25.4	U	26.5	U	27	U
106-47-8	4-Chloroaniline	220	µg/kg	28.1	U	29.3	U	29.8	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	25.7	U	26.9	U	27.4	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	17.5	U	18.3	U	18.6	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	41.8	U	43.7	U	44.5	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-04272-005		01-04272-006		01-04272-007	
	Sample Location:	Soil Cleanup		SB-3		SB-3		SB-3	
	Depth:	Objectives /		3' - 4'		10' - 11'		28.5' - 29.5'	
	Laboratory ID:	Eastern USA		K9228-5		K9228-6		K9228-7	
	Sampling Date:	Background		06/04/2001		06/04/2001		06/04/2001	
	Matrix:	Concentrations		Soil		Soil		Soil	
	Validated:			No		No		No	
Cas #:	Analyte:		Units:						
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	28.1	U	29.3	U	29.9	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	26	U	27.2	U	27.7	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	26.1	U	27.2	U	27.7	U
88-74-4	2-Nitroaniline	430	µg/kg	18.2	U	19	U	19.4	U
131-11-3	Dimethylphthalate	2000	µg/kg	23.3	U	24.4	U	24.8	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	19.2	U	20.1	U	20.5	U
99-09-2	3-Nitroaniline	500	µg/kg	16.4	U	17.1	U	17.5	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	23	U	24	U	24.4	U
100-02-7	4-Nitrophenol	100	µg/kg	31.2	U	32.6	U	33.2	U
132-64-9	Dibenzofuran	6200	µg/kg	11.8	J	12.8	J	26.4	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	14.3	U	15	U	15.2	U
84-66-2	Diethylphthalate	7100	µg/kg	18.3	U	19.1	U	19.4	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	25.5	U	26.6	U	27.1	U
100-01-6	4-Nitroaniline	NA *	µg/kg	24.4	U	25.5	U	26	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	25.1	U	26.2	U	26.7	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	22.4	U	23.4	U	23.9	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	23.9	U	25	U	25.4	U
118-74-1	Hexachlorobenzene	410	µg/kg	21.8	U	22.7	U	23.1	U
87-86-5	Pentachlorophenol	1000	µg/kg	16.1	U	16.8	U	17.1	U
86-74-8	Carbazole	NA *	µg/kg	34.7		12	J	10.6	J
84-74-2	Di-n-butylphthalate	8100	µg/kg	38.2	J	12.4	J	13.4	J
85-68-7	Butylbenzylphthalate	50000	µg/kg	19.7	U	20.6	U	21	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	46.4	U	48.4	U	49.3	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	255	B	115	JB	171	B
117-84-0	Di-n-octylphthalate	50000	µg/kg	20.5	U	21.4	U	21.8	U
	Non Carcinogenic PAHs								
83-32-9	Acenaphthene	50000*	µg/kg	13.4	J	248		107	
208-96-8	Acenaphthylene	41000	µg/kg	288		51.4		33.7	
120-12-7	Anthracene	50000*	µg/kg	110		178		113	
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	463		23.5		15	J
206-44-0	Fluoranthene	50000*	µg/kg	1080		240		162	
86-73-7	Fluorene	50000*	µg/kg	24.4		169		91.4	
91-57-6	2-Methylnaphthalene	36400	µg/kg	34.4		240		59.7	
91-20-3	Naphthalene	13000	µg/kg	65.7		391		106	
85-01-8	Phenanthrene	50000*	µg/kg	276		638		408	
129-00-0	Pyrene	50000*	µg/kg	1120		346		241	
	Total Non Carcinogenic PAHs			3474.9		2524.9		1336.8	
	Probable Carcinogenic PAHs								
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	**958**		120		84	
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	822		35.9		28.4	
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	**1180**		59.8		41.4	
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	**1200**		84.5		51.6	
218-01-9	Chrysene	400	µg/kg	**908**		110		75.5	
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	473		19.1		12.2	J
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	**170**		14.8	U	15.1	U
	Total Probable Carcinogenic PAHs			5711		429.3		293.1	
	Total PAHs			**9185.9**		**2954.2**		**1629.9**	
	Metals								
7429-90-5	Aluminum	SB / 33000	mg/kg	5080		4150		4310	
7440-36-0	Antimony	SB / NA	mg/kg	0.21	U	0.22	U	0.085	J
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.27	U	0.29	U	0.29	U
7440-39-3	Barium	300 or SB / 15-600	mg/kg	37.1		47.8		46.3	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.069	U	0.072	U	0.073	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.069	U	0.072	U	0.073	U
7440-70-2	Calcium	SB / 130-35000	mg/kg	4650		11500		13100	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	**11.1**		**11.6**		**12.2**	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	4.32		5.07		5.92	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	8.82		12.4		11.2	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	**8860**		**8850**		**9760**	
7439-92-1	Lead	SB / 200-500	mg/kg	296		2.29		2.31	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	3350		**9740**		**11000**	
7439-96-5	Manganese	SB / 50-5000	mg/kg	94		88.3		89.2	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	**0.27**		0.0012	J	0.011	U
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	8.3		8.65		8.98	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	1650		1950		2130	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.27	U	0.28	U	0.29	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04272-005**		**01-04272-006**		**01-04272-007**	
	Sample Location:	**Soil Cleanup**		**SB-3**		**SB-3**		**SB-3**	
	Depth:	**Objectives /**		**3' - 4'**		**10' - 11'**		**28.5' - 29.5'**	
	Laboratory ID:	**Eastern USA**		**K9228-5**		**K9228-6**		**K9228-7**	
	Sampling Date:	**Background**		**06/04/2001**		**06/04/2001**		**06/04/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**						
7440-22-4	Silver	SB / NA	mg/kg	0.086	U	0.09	U	0.091	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	640		120		124	
7440-28-0	Thallium	SB / NA	mg/kg	0.22	U	0.23	U	0.24	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	11.7		14.7		15.2	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	$\boxed{50.9}$		$\boxed{24.2}$		$\boxed{25.7}$	
57-12-5	Cyanide		mg/kg	0.57		0.25	U	0.25	U
	% Solids		%	87.3		83.6		82.1	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-04272-008		01-04362-009		01-04362-011		01-04362-010		01-04270-003	
	Sample Location:	Soil Cleanup		SB-3 (Dup)		SB-4		SB-4		SB-4		SB-5	
	Depth:	Objectives /		28' - 29'		3' - 4'		16' - 18'		32' - 33'		2' - 4'	
	Laboratory ID:	Eastern USA		K9228-8		K9267-9		K9266-2		K9266-1		K9229-3	
	Sampling Date:	Background		06/04/2001		06/19/2001		06/19/2001		06/19/2001		05/29/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	7.73	U	7.02	U	8.03	U	8.12	U	7.25	U
11104-28-2	PCB 1221	1000	µg/kg	9.42	U	8.55	U	9.78	U	9.89	U	8.83	U
11141-16-5	PCB 1232	1000	µg/kg	6.72	U	6.1	U	6.98	U	7.06	U	6.3	U
53469-21-9	PCB 1242	1000	µg/kg	8.41	U	7.63	U	8.73	U	8.83	U	7.88	U
12672-29-6	PCB 1248	1000	µg/kg	10.5	U	9.52	U	10.9	U	11	U	9.84	U
11097-69-1	PCB 1254	1000	µg/kg	6.28	U	5.7	U	6.52	U	6.59	U	5.89	U
11096-82-5	PCB 1260	1000	µg/kg	6.33	U	5.74	U	6.57	U	6.64	U	5.93	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.39	U	0.38	U	148	U	0.44	U	0.33	U
74-83-9	Bromomethane	NA *	µg/kg	0.49	U	0.18	U	130	U	0.21	U	0.28	U
75-01-4	Vinyl Chloride	200	µg/kg	0.29	U	0.21	U	30.2	U	0.24	U	0.33	U
75-00-3	Chloroethane	1900	µg/kg	0.26	U	0.35	U	184	U	0.4	U	0.33	U
75-09-2	Methylene Chloride	100	µg/kg	1.9	B	12.2	B	776	B	11.5	B	0.35	U
67-64-1	Acetone	200	µg/kg	40.3		5.3	U	942	U	82.6		38.6	
75-15-0	Carbon disulfide	2700	µg/kg	2.6		0.21	U	60.4	U	2.7		2.9	
75-35-4	1,1-Dichloroethene	400	µg/kg	0.27	U	0.34	U	90.6	U	0.39	U	0.9	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.27	U	0.16	U	66.4	U	0.18	U	0.26	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.31	U	0.16	U	60.4	U	0.18	U	0.31	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.22	U	0.18	U	63.4	U	0.21	U	0.22	U
67-66-3	Chloroform	300	µg/kg	0.28	U	0.17	U	60.4	U	0.2	U	0.19	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.13	U	0.23	U	69.5	U	0.27	U	0.13	U
78-93-3	2-Butanone	300	µg/kg	5.8	U	4.32	U	1510	U	4.98	U	5.45	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.28	U	0.15	U	66.4	U	0.17	U	0.65	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.24	U	0.22	U	75.5	U	0.26	U	0.26	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.15	U	0.19	U	45.3	U	0.22	U	0.15	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.07	U	0.15	U	109	U	0.17	U	0.28	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.14	U	0.19	U	48.3	U	0.22	U	0.29	U
79-01-6	Trichloroethene	700	µg/kg	0.15	U	0.21	U	48.3	U	0.24	U	1.8	
124-48-1	Dibromochloromethane	NA *	µg/kg	0.093	U	0.25	U	33.2	U	0.29	U	0.96	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.14	U	0.2	U	27.2	U	0.23	U	0.33	U
71-43-2	Benzene	60	µg/kg	8.3		0.15	U	48.3	U	2.8		28.4	
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.16	U	0.23	U	24.2	U	0.27	U	0.29	U
75-25-2	Bromoform	NA *	µg/kg	0.07	U	0.25	U	30.2	U	0.29	U	0.32	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	5.8	U	5.3	U	1510	U	6.1	U	5.45	U
591-78-6	2-Hexanone	NA *	µg/kg	5.8	U	5.3	U	1510	U	6.1	U	5.45	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.1	U	0.19	U	72.5	U	0.22	U	0.11	U
108-88-3	Toluene	1500	µg/kg	9.2		0.21	U	42.3	U	0.24	U	5.5	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.1	U	0.21	U	48.3	U	0.24	U	0.44	U
108-90-7	Chlorobenzene	1700	µg/kg	0.081	U	0.14	U	45.3	U	0.16	U	0.2	U
100-41-4	Ethylbenzene	5500	µg/kg	155		15.6		**67500**		12.1		3.6	
100-42-5	Styrene	NA *	µg/kg	0.16	U	0.19	U	51.3	U	0.22	U	0.11	U
108-38-3	*m,p*-xylene	1200	µg/kg	158		11.7		**33400**		9.2		4.8	
95-47-6	o-xylene	1200	µg/kg	87.6		5		**32900**		5.2		2.7	
	Total BTEX		**µg/kg**	**418.1**		**32.3**		**133800**		**29.3**		**45**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	231	U	62.9	U	720	U	72.8	U	217	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	299	U	81.5	U	932	U	94.3	U	281	U
95-57-8	2-Chlorophenol	800	µg/kg	281	U	76.6	U	876	U	88.5	U	264	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	307	U	83.5	U	955	U	96.6	U	288	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	291	U	79.4	U	908	U	91.8	U	273	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	329	U	89.5	U	1020	U	104	U	308	U
95-48-7	2-Methylphenol	100	µg/kg	295	U	80.3	U	918	U	92.8	U	276	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	311	U	84.7	U	969	U	97.9	U	292	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	295	U	80.4	U	919	U	92.9	U	277	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	272	U	74	U	847	U	85.6	U	255	U
67-72-1	Hexachloroethane	NA *	µg/kg	261	U	71.2	U	814	U	82.3	U	245	U
98-95-3	Nitrobenzene	200	µg/kg	325	U	88.5	U	1010	U	102	U	305	U
78-59-1	Isophorone	4400	µg/kg	265	U	72.1	U	825	U	83.4	U	248	U
88-75-5	2-Nitrophenol	330	µg/kg	247	U	67.2	U	768	U	77.7	U	231	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	231	U	62.8	U	719	U	72.6	U	216	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	303	U	82.5	U	943	U	95.4	U	284	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	272	U	74.2	U	849	U	85.8	U	256	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	332	U	90.5	U	1030	U	105	U	312	U
106-47-8	4-Chloroaniline	220	µg/kg	165	U	44.9	U	513	U	51.9	U	154	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	311	U	84.7	U	969	U	97.9	U	292	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	320	U	87.1	U	996	U	101	U	300	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	138	U	37.5	U	429	U	43.3	U	129	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		**01-04272-008**		**01-04362-009**		**01-04362-011**		**01-04362-010**		**01-04270-003**	
	Sample Location:	Soil Cleanup		SB-3 (Dup)		SB-4		SB-4		SB-4		SB-5	
	Depth:	Objectives /		28' - 29'		3' - 4'		16' - 18'		32' - 33'		2' - 4'	
	Laboratory ID:	Eastern USA		K9228-8		K9267-9		K9266-2		K9266-1		K9229-3	
	Sampling Date:	Background		06/04/2001		06/19/2001		06/19/2001		06/19/2001		05/29/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	**Analyte:**		**Units:**										
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	274	U	74.6	U	853	U	86.2	U	257	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	244	U	66.4	U	760	U	76.8	U	229	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	318	U	86.6	U	990	U	100	U	298	U
88-74-4	2-Nitroaniline	430	µg/kg	239	U	65	U	744	U	75.2	U	224	U
131-11-3	Dimethylphthalate	2000	µg/kg	317	U	86.5	U	989	U	100	U	298	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	236	U	64.2	U	734	U	74.2	U	221	U
99-09-2	3-Nitroaniline	500	µg/kg	152	U	41.4	U	473	U	47.9	U	142	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	225	U	61.4	U	702	U	70.9	U	211	U
100-02-7	4-Nitrophenol	100	µg/kg	506	U	138	U	1580	U	159	U	474	U
132-64-9	Dibenzofuran	6200	µg/kg	539		89	U	5540		162		306	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	216	U	58.7	U	671	U	67.9	U	202	U
84-66-2	Diethylphthalate	7100	µg/kg	209	U	56.8	U	650	U	73.3		196	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	376	U	102	U	1170	U	118	U	352	U
100-01-6	4-Nitroaniline	NA *	µg/kg	175	U	47.7	U	546	U	55.2	U	164	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	296	U	80.6	U	921	U	93.2	U	277	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	311	U	84.8	U	970	U	98	U	292	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	284	U	77.3	U	884	U	89.4	U	266	U
118-74-1	Hexachlorobenzene	410	µg/kg	278	U	75.8	U	867	U	87.7	U	261	U
87-86-5	Pentachlorophenol	1000	µg/kg	189	U	51.5	U	589	U	59.6	U	177	U
86-74-8	Carbazole	NA *	µg/kg	221	U	60.3	U	1590		1890		80	J
84-74-2	Di-n-butylphthalate	8100	µg/kg	837	U	24.3	J	2610	U	31.7	J	785	U
85-68-7	Butylbenzylphthalate	50000	µg/kg	185	U	50.5	U	577	U	58.4	U	174	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	321	U	87.4	U	1000	U	101	U	301	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	1260	U	97.1	J	1220	JB	717	B	316	J
117-84-0	Di-n-octylphthalate	50000	µg/kg	239	U	65	U	744	U	75.2	U	224	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	10800		28.5	J	**81800**		602		138	J
208-96-8	Acenaphthylene	41000	µg/kg	2580		84.9	U	18300		36.6	J	2070	
120-12-7	Anthracene	50000*	µg/kg	8790		21.1	J	**50400**		999		1960	
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	1240		56	U	10200		64.7	U	1890	
206-44-0	Fluoranthene	50000*	µg/kg	9300		66.5	J	**65500**		928		7540	
86-73-7	Fluorene	50000*	µg/kg	7670		92.7	U	**54900**		1900		825	
91-57-6	2-Methylnaphthalene	36400	µg/kg	273	U	79.2		**211000**		1680		469	
91-20-3	Naphthalene	13000	µg/kg	321	U	244		**460000**		6370		480	
85-01-8	Phenanthrene	50000*	µg/kg	22700		69.7	J	**232000**		2780		5410	
129-00-0	Pyrene	50000*	µg/kg	11400		72.9		**88600**		821		11800	
	Total Non Carcinogenic PAHs			74480		581.9		1272700		16116.6		32582	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	**5810**		35.9	J	**38700**		61.3	U	**7500**	
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	**2480**		33.8	J	**13500**		100	U	**4830**	
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	**1890**		43.3	J	**18100**		81.3	U	**1940**	
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	**3750**		46.5	J	**27000**		66.4	U	**4330**	
218-01-9	Chrysene	400	µg/kg	**5050**		50.7	J	**35600**		61	U	**9120**	
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	1050		67.2	U	**8820**		77.7	U	1660	
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	232	U	63.1	U	722	U	73	U	**767**	
	Total Probable Carcinogenic PAHs			20030		210.2		141720		0		30147	
	Total PAHs			**94510**		**792.1**		**1414420**		**16116.6**		**62729**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	3820		5270		3980		2340		3790	
7440-36-0	Antimony	SB / NA	mg/kg	0.21	U	0.32		0.22		0.32		0.57	
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.28	U	0.25	U	0.29	U	0.29	U	2.39	
7440-39-3	Barium	300 or SB / 15-600	mg/kg	20.2		39.2		28.7		26.3		351	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.07	U	0.063	U	0.072	U	0.073	U	0.065	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.07	U	0.063	U	0.012	J	0.073	U	1	
7440-70-2	Calcium	SB / 130-35000	mg/kg	754		4760		1570		1260		5540	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	5.74		8.34		8.54		7.58		19.6	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	2.98		4.96		3.97		3.18		3.94	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	3.81		11.8		6.59		10.7		22.7	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	9210		7940		7300		4220		12200	
7439-92-1	Lead	SB / 200-500	mg/kg	2.08		23.6		382		1.67		578	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	1750		4970		2300		1690		2730	
7439-96-5	Manganese	SB / 50-5000	mg/kg	54.1		159		61.4		41.8		181	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.0033	J	0.14		0.045		0.023		0.44	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	4.99		7.41		5.89		5.27		12.3	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	420		1340		1100		851		866	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.27	U	0.25	U	0.28	U	0.29	U	0.26	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04272-008**		**01-04362-009**		**01-04362-011**		**01-04362-010**		**01-04270-003**	
	Sample Location:	**Soil Cleanup**		**SB-3 (Dup)**		**SB-4**		**SB-4**		**SB-4**		**SB-5**	
	Depth:	**Objectives /**		**28' - 29'**		**3' - 4'**		**16' - 18'**		**32' - 33'**		**2' - 4'**	
	Laboratory ID:	**Eastern USA**		**K9228-8**		**K9267-9**		**K9266-2**		**K9266-1**		**K9229-3**	
	Sampling Date:	**Background**		**06/04/2001**		**06/19/2001**		**06/19/2001**		**06/19/2001**		**05/29/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
7440-22-4	Silver	SB / NA	mg/kg	0.087	U	0.079	U	0.091	U	0.092	U	0.082	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	353		287		249		53.4		155	
7440-28-0	Thallium	SB / NA	mg/kg	0.23	U	0.21	U	0.24	U	0.24	U	0.21	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	7.58		10.7		9.4		5.34		10.8	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	16.4		$\boxed{32.7}$		$\boxed{21}$		13		$\boxed{806}$	
57-12-5	Cyanide		mg/kg	0.27	U	0.066	J	0.29	U	0.25	U	3.21	
	% Solids		%	86		94.7		82.8		81.9		91.7	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04270-002**		**01-04270-004**		**01-04270-001**		**01-04362-005**		**01-04362-007**	
	Sample Location:	Soil Cleanup		**SB-5**		**SB-5**		**SB-5**		**SB-6**		**SB-6**	
	Depth:	Objectives /		**15' - 16'**		**27' - 28'**		**29' - 30'**		**3' - 4'**		**8' - 10'**	
	Laboratory ID:	Eastern USA		**K9229-2**		**K9229-4**		**K9229-1**		**K9267-5**		**K9267-7**	
	Sampling Date:	**Background**		**05/29/2001**		**05/29/2001**		**05/29/2001**		**06/19/2001**		**06/19/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	15.9	U	16	U	8.39	U	7.78	U	8.45	U
11104-28-2	PCB 1221	1000	µg/kg	19.4	U	19.5	U	10.2	U	9.47	U	10.3	U
11141-16-5	PCB 1232	1000	µg/kg	13.8	U	13.9	U	7.29	U	6.76	U	7.34	U
53469-21-9	PCB 1242	1000	µg/kg	17.3	U	17.4	U	9.12	U	8.46	U	9.19	U
12672-29-6	PCB 1248	1000	µg/kg	21.6	U	21.7	U	11.4	U	10.5	U	11.5	U
11097-69-1	PCB 1254	1000	µg/kg	12.9	U	13	U	6.81	U	6.32	U	6.86	U
11096-82-5	PCB 1260	1000	µg/kg	13	U	13.1	U	6.86	U	6.36	U	6.91	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.36	U	128	U	0.38	U	0.42	U	156	U
74-83-9	Bromomethane	NA *	µg/kg	0.31	U	98.2	U	0.33	U	0.2	U	137	U
75-01-4	Vinyl Chloride	200	µg/kg	0.36	U	128	U	0.38	U	0.23	U	31.8	U
75-00-3	Chloroethane	1900	µg/kg	0.36	U	101	U	0.38	U	0.39	U	194	U
75-09-2	Methylene Chloride	100	µg/kg	1.7	B	55.9	U	1.8	B	12.2	B	947	B
67-64-1	Acetone	200	µg/kg	88.2		347	U	185	B	5.85	U	992	U
75-15-0	Carbon disulfide	2700	µg/kg	21.2		102		1.3		0.23	U	63.6	U
75-35-4	1,1-Dichloroethene	400	µg/kg	0.99	U	33.2	U	1.05	U	0.37	U	95.4	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.29	U	37.8	U	0.3	U	0.18	U	70	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.33	U	42.3	U	0.35	U	0.18	U	63.6	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.24	U	27.2	U	0.25	U	0.2	U	66.8	U
67-66-3	Chloroform	300	µg/kg	0.2	U	33.2	U	0.21	U	0.19	U	63.6	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.14	U	24.2	U	0.15	U	0.26	U	73.1	U
78-93-3	2-Butanone	300	µg/kg	7.9		2600	U	1.3	J	4.77	U	1590	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.71	U	21.1	U	0.76	U	0.16	U	70	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.29	U	15.1	U	0.3	U	0.25	U	79.5	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.17	U	24.2	U	0.18	U	0.21	U	47.7	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.31	U	21.1	U	0.33	U	0.16	U	114	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.32	U	33.2	U	0.34	U	0.21	U	50.9	U
79-01-6	Trichloroethene	700	µg/kg	0.25	U	25.7	U	0.26	U	0.23	U	50.9	U
124-48-1	Dibromochloromethane	NA *	µg/kg	1.05	U	25.7	U	1.11	U	0.28	U	35	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.36	U	28.7	U	0.38	U	0.22	U	28.6	U
71-43-2	Benzene	60	µg/kg	12.6		25.7	U	0.2	U	6.7		565	
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.32	U	21.1	U	0.34	U	0.26	U	25.4	U
75-25-2	Bromoform	NA *	µg/kg	0.35	U	40.8	U	0.37	U	0.28	U	31.8	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	5.95	U	1360	U	6.3	U	5.85	U	1590	U
591-78-6	2-Hexanone	NA *	µg/kg	5.95	U	755	U	6.3	U	5.85	U	1590	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.12	U	18.1	U	0.13	U	0.21	U	76.3	U
108-88-3	Toluene	1500	µg/kg	51.2		21.1	U	1.3		4.9		1110	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.48	U	22.6	U	0.5	U	0.23	U	50.9	U
108-90-7	Chlorobenzene	1700	µg/kg	0.21	U	28.7	U	0.23	U	0.15	U	47.7	U
100-41-4	Ethylbenzene	5500	µg/kg	**7930**		411		2.2		8.9		**103000**	
100-42-5	Styrene	NA *	µg/kg	0.12	U	289		0.13	U	0.21	U	54.1	U
108-38-3	m,p-xylene	1200	µg/kg	**3000**		331		1.8		3.5		**59300**	
95-47-6	o-xylene	1200	µg/kg	**3890**		268		0.19	U	1.9		**31500**	
	Total BTEX		**µg/kg**	**14883.8**		**1010**		**5.3**		**25.9**		**195475**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	23.7	U	239	U	25	U	69.7	U	75.7	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	30.7	U	310	U	32.4	U	90.3	U	98.1	U
95-57-8	2-Chlorophenol	800	µg/kg	28.9	U	291	U	30.5	U	84.8	U	92.1	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	31.5	U	318	U	33.2	U	92.5	U	101	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	29.9	U	302	U	31.6	U	88	U	95.5	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	33.8	U	341	U	35.6	U	99.2	U	108	U
95-48-7	2-Methylphenol	100	µg/kg	30.3	U	305	U	31.9	U	88.9	U	96.6	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	31.9	U	322	U	33.7	U	93.8	U	102	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	30.3	U	306	U	32	U	91.2		96.7	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	27.9	U	282	U	29.5	U	82	U	89.1	U
67-72-1	Hexachloroethane	NA *	µg/kg	26.8	U	271	U	28.3	U	78.8	U	85.6	U
98-95-3	Nitrobenzene	200	µg/kg	33.4	U	337	U	35.2	U	98	U	2660	U
78-59-1	Isophorone	4400	µg/kg	27.2	U	274	U	28.7	U	79.9	U	2170	U
88-75-5	2-Nitrophenol	330	µg/kg	25.3	U	255	U	26.7	U	74.4	U	2020	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	23.7	U	239	U	25	U	69.6	U	1890	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	31.1	U	314	U	32.8	U	91.3	U	2480	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	28	U	282	U	29.5	U	82.2	U	2230	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	34.1	U	344	U	36	U	100	U	2720	U
106-47-8	4-Chloroaniline	220	µg/kg	16.9	U	171	U	17.9	U	49.7	U	1350	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	31.9	U	322	U	33.7	U	93.8	U	2550	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	32.9	U	331	U	34.7	U	96.5	U	2620	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	14.1	U	143	U	14.9	U	41.5	U	45.1	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04270-002**		**01-04270-004**		**01-04270-001**		**01-04362-005**		**01-04362-007**	
	Sample Location:	**Soil Cleanup**		**SB-5**		**SB-5**		**SB-5**		**SB-6**		**SB-6**	
	Depth:	**Objectives /**		**15' - 16'**		**27' - 28'**		**29' - 30'**		**3' - 4'**		**8' - 10'**	
	Laboratory ID:	**Eastern USA**		**K9229-2**		**K9229-4**		**K9229-1**		**K9267-5**		**K9267-7**	
	Sampling Date:	**Background**		**05/29/2001**		**05/29/2001**		**05/29/2001**		**06/19/2001**		**06/19/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	28.1	U	284	U	29.7	U	82.6	U	89.7	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	25	U	253	U	26.4	U	73.6	U	79.9	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	32.7	U	329	U	34.5	U	95.9	U	104	U
88-74-4	2-Nitroaniline	430	µg/kg	24.5	U	247	U	25.9	U	72	U	78.3	U
131-11-3	Dimethylphthalate	2000	µg/kg	32.6	U	329	U	34.4	U	95.8	U	104	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	24.2	U	244	U	25.6	U	71.1	U	77.3	U
99-09-2	3-Nitroaniline	500	µg/kg	15.6	U	157	U	16.5	U	45.8	U	49.8	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	23.1	U	233	U	24.4	U	68	U	73.8	U
100-02-7	4-Nitrophenol	100	µg/kg	52	U	524	U	54.8	U	153	U	166	U
132-64-9	Dibenzofuran	6200	µg/kg	33.6	U	**7940**		35.4	U	78.4	J	2370	
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	22.1	U	223	U	23.4	U	65	U	70.6	U
84-66-2	Diethylphthalate	7100	µg/kg	21.4	U	216	U	8.8	J	62.9	U	68.4	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	38.6	U	389	U	40.7	U	113	U	123	U
100-01-6	4-Nitroaniline	NA *	µg/kg	18	U	182	U	19	U	52.9	U	57.4	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	30.4	U	306	U	32.1	U	89.2	U	96.9	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	32	U	322	U	33.8	U	93.9	U	102	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	29.1	U	294	U	30.8	U	85.6	U	93	U
118-74-1	Hexachlorobenzene	410	µg/kg	28.6	U	288	U	30.2	U	84	U	91.2	U
87-86-5	Pentachlorophenol	1000	µg/kg	19.4	U	196	U	20.5	U	57.1	U	62	U
86-74-8	Carbazole	NA *	µg/kg	62.9		229	U	24	U	52.6	J	1130	
84-74-2	Di-n-butylphthalate	8100	µg/kg	86	U	867	U	90.8	U	253	U	274	U
85-68-7	Butylbenzylphthalate	50000	µg/kg	19	U	192	U	20.1	U	55.9	U	60.7	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	33	U	333	U	34.8	U	96.8	U	105	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	45	J	1310	U	45.8	J	339	J	624	
117-84-0	Di-n-octylphthalate	50000	µg/kg	24.5	U	247	U	25.9	U	72	U	1960	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	9540		**113000**		42		243		49400	
208-96-8	Acenaphthylene	41000	µg/kg	1100		14400		78.2		2750		7130	
120-12-7	Anthracene	50000*	µg/kg	3380		37200		223		905		33800	
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	378		7930		75.2		1720		7530	
206-44-0	Fluoranthene	50000*	µg/kg	2950		**76300**		449		1180		43000	
86-73-7	Fluorene	50000*	µg/kg	3720		**72100**		104		329		29000	
91-57-6	2-Methylnaphthalene	36400	µg/kg	14500		**210000**		14.3	J	1300		**172000**	
91-20-3	Naphthalene	13000	µg/kg	**15800**		**96500**		21.9	J	9200		**1010000**	
85-01-8	Phenanthrene	50000*	µg/kg	16900		**192000**		71.9		1280		**96800**	
129-00-0	Pyrene	50000*	µg/kg	7320		**90700**		590		2220		**59000**	
	Total Non Carcinogenic PAHs			75588		910130		1669.5		21127		1507660	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	**2900**		**33300**		223		**1260**		**23900**	
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	**1150**		**19600**		138		**3560**		**8200**	
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	699		**13600**		44.1		**3320**		**12200**	
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	**1520**		**26700**		166		**4500**		**17600**	
218-01-9	Chrysene	400	µg/kg	**3160**		**31100**		203		**1960**		**21500**	
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	366		**7090**		59.3		**1700**		**6510**	
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	**178**		**2510**		**22.7**	J	**578**		**2480**	
	Total Probable Carcinogenic PAHs			9973		133900		856.1		16878		92390	
	Total PAHs			**85561**		**1044030**		**2525.6**		**38005**		**1600050**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	3980		2440		6950		4760		6960	
7440-36-0	Antimony	SB / NA	mg/kg	0.25		0.22	U	0.2	J	0.33		0.23	U
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.29	U	0.29	U	0.3	U	1.67		0.095	J
7440-39-3	Barium	300 or SB / 15-600	mg/kg	32.6		21.2		96.3		79		64.2	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.072	U	0.072	U	0.076	U	0.07	U	0.076	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.072	U	0.072	U	0.076	U	0.19		0.032	J
7440-70-2	Calcium	SB / 130-35000	mg/kg	1360		8220		13400		3160		2770	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	**10.6**		7.92		**16.7**		9.95		**12.4**	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	4.84		3.39		7.12		4.61		5.86	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	8.45		8.34		16.2		23.4		21.8	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	**7780**		**6770**		**12400**		**9350**		**14600**	
7439-92-1	Lead	SB / 200-500	mg/kg	1.77		1.75		2.86		421		93	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	2760		**5990**		**10800**		3030		3160	
7439-96-5	Manganese	SB / 50-5000	mg/kg	63.5		64.9		176		92.6		238	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.01	U	0.00063	J	0.0015	J	**0.2**		0.059	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	7.7		6.01		12		9.4		11.2	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	1400		959		3680		938		1080	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.28	U	0.28	U	0.3	U	0.27	U	0.3	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04270-002**		**01-04270-004**		**01-04270-001**		**01-04362-005**		**01-04362-007**	
	Sample Location:	**Soil Cleanup**		**SB-5**		**SB-5**		**SB-5**		**SB-6**		**SB-6**	
	Depth:	**Objectives /**		**15' - 16'**		**27' - 28'**		**29' - 30'**		**3' - 4'**		**8' - 10'**	
	Laboratory ID:	**Eastern USA**		**K9229-2**		**K9229-4**		**K9229-1**		**K9267-5**		**K9267-7**	
	Sampling Date:	**Background**		**05/29/2001**		**05/29/2001**		**05/29/2001**		**06/19/2001**		**06/19/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
7440-22-4	Silver	SB / NA	mg/kg	0.09	U	0.09	U	0.095	U	0.088	U	0.095	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	283		195		210		312		420	
7440-28-0	Thallium	SB / NA	mg/kg	0.23	U	0.23	U	0.25	U	0.23	U	0.25	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	12.5		8.67		21.4		12		18.6	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	22		13.1		39.2		122		78.4	
57-12-5	Cyanide		mg/kg	0.26	U	0.064	J	0.28	U	0.3	U	0.26	U
	% Solids		%	83.7		83		79.3		85.5		78.7	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04362-008**		**01-04362-006**		**00-07914-001**		**00-07914-005**	
	Sample Location:	**Soil Cleanup**		**SB-6**		**SB-6**		**SB-7**		**SB-7**	
	Depth:	**Objectives /**		**12' - 14'**		**34' - 36'**		**2'-4'**		**17'-17.4'**	
	Laboratory ID:	**Eastern USA**		**K9267-8**		**K9267-6**		**J9482-1**		**J9482-5**	
	Sampling Date:	**Background**		**06/19/2001**		**06/19/2001**		**08/16/2000**		**08/16/2000**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**								
	PCBs										
12674-11-2	PCB 1016	1000	µg/kg	9.47	U	8.08	U	3.03	U	2.48	U
11104-28-2	PCB 1221	1000	µg/kg	11.5	U	9.84	U	14.2	U	11.7	U
11141-16-5	PCB 1232	1000	µg/kg	8.23	U	7.02	U	3.16	U	2.59	U
53469-21-9	PCB 1242	1000	µg/kg	10.3	U	8.78	U	2.37	U	1.95	U
12672-29-6	PCB 1248	1000	µg/kg	12.8	U	11	U	5.34	U	4.38	U
11097-69-1	PCB 1254	1000	µg/kg	7.69	U	6.56	U	8.09	U	6.63	U
11096-82-5	PCB 1260	1000	µg/kg	7.75	U	6.61	U	9.29	U	7.62	U
	Volatiles										
74-87-3	Chloromethane	NA *	µg/kg	2.56	U	0.44	U	0.5	U	54.7	U
74-83-9	Bromomethane	NA *	µg/kg	1.21	U	0.21	U	0.58	U	38	U
75-01-4	Vinyl Chloride	200	µg/kg	1.42	U	0.24	U	0.5	U	53.2	U
75-00-3	Chloroethane	1900	µg/kg	2.35	U	0.4	U	0.28	U	50.2	U
75-09-2	Methylene Chloride	100	µg/kg	1.57	U	12	B	0.8	U	30.4	U
67-64-1	Acetone	200	µg/kg	360		98.1		6.42	U	287	U
75-15-0	Carbon disulfide	2700	µg/kg	15.1		0.24	U	0.4	U	22.8	U
75-35-4	1,1-Dichloroethene	400	µg/kg	2.28	U	0.39	U	0.31	U	31.9	U
75-34-3	1,1-Dichloroethane	200	µg/kg	1.07	U	0.18	U	0.24	U	21.3	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	1.07	U	0.18	U	0.61	U	41	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	1.21	U	0.21	U	0.74	U	28.9	U
67-66-3	Chloroform	300	µg/kg	1.14	U	0.2	U	0.25	U	19.8	U
107-06-2	1,2-Dichloroethane	100	µg/kg	1.57	U	0.27	U	0.44	U	24.3	U
78-93-3	2-Butanone	300	µg/kg	29	U	4.98	U	3.71	U	155	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	1	U	0.17	U	0.41	U	16.7	U
56-23-5	Carbon Tetrachloride	600	µg/kg	1.5	U	0.26	U	0.4	U	27.4	U
75-27-4	Bromodichloromethane	NA *	µg/kg	1.28	U	0.22	U	0.28	U	27.4	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	1	U	0.17	U	0.27	U	24.3	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	1.28	U	0.22	U	0.37	U	27.4	U
79-01-6	Trichloroethene	700	µg/kg	1.42	U	0.24	U	0.44	U	25.8	U
124-48-1	Dibromochloromethane	NA *	µg/kg	1.71	U	0.29	U	0.43	U	12.2	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	1.35	U	0.23	U	0.7	U	47.1	U
71-43-2	Benzene	60	µg/kg	376		0.17	U	5.3		21.3	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	1.57	U	0.27	U	0.61	U	27.4	U
75-25-2	Bromoform	NA *	µg/kg	1.71	U	0.29	U	0.71	U	18.2	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	35.6	U	6.1	U	2.19	U	77.5	U
591-78-6	2-Hexanone	NA *	µg/kg	35.6	U	6.1	U	2.29	U	135	U
127-18-4	Tetrachloroethene	1400	µg/kg	1.28	U	0.22	U	0.41	U	12.2	U
108-88-3	Toluene	1500	µg/kg	1040		0.24	U	1.8		24.3	U
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	1.42	U	0.24	U	0.74	U	19.8	U
108-90-7	Chlorobenzene	1700	µg/kg	0.93	U	0.16	U	0.43	U	10.6	U
100-41-4	Ethylbenzene	5500	µg/kg	272000		5.3		0.5	U	8250	
100-42-5	Styrene	NA *	µg/kg	1.28	U	0.22	U	0.43	U	12.2	U
108-38-3	m,p-xylene	1200	µg/kg	210000		3.5		0.93	U	4070	
95-47-6	o-xylene	1200	µg/kg	44100		1.3		0.41	U	2090	
	Total BTEX		**µg/kg**	**527516**		**10.1**		**7.1**		**14410**	
	Semi-Volatiles										
108-95-2	Phenol	30	µg/kg	84.9	U	72.4	U	1550	U	119	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	110	U	93.8	U	2010	U	115	U
95-57-8	2-Chlorophenol	800	µg/kg	103	U	88.1	U	1880	U	117	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	113	U	96.1	U	2060	U	125	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	107	U	91.4	U	1960	U	122	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	121	U	103	U	2200	U	123	U
95-48-7	2-Methylphenol	100	µg/kg	108	U	92.3	U	1980	U	101	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	114	U	97.5	U	2090	U	132	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	108	U	92.5	U	1980	U	98.1	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	99.9	U	85.2	U	1820	U	119	U
67-72-1	Hexachloroethane	NA *	µg/kg	96	U	81.9	U	1750	U	126	U
98-95-3	Nitrobenzene	200	µg/kg	119	U	102	U	2180	U	138	U
78-59-1	Isophorone	4400	µg/kg	97.3	U	83	U	1780	U	126	U
88-75-5	2-Nitrophenol	330	µg/kg	90.6	U	77.3	U	1650	U	95.6	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	84.8	U	72.3	U	1550	U	57.8	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	111	U	94.9	U	2030	U	116	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	100	U	85.4	U	1830	U	100	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	122	U	104	U	2230	U	121	U
106-47-8	4-Chloroaniline	220	µg/kg	60.5	U	51.6	U	1100	U	126	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	114	U	97.5	U	2090	U	122	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	118	U	100	U	2140	U	97.8	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	50.6	U	43.1	U	923	U	102	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-04362-008		01-04362-006		00-07914-001		00-07914-005	
	Sample Location:	Soil Cleanup		SB-6		SB-6		SB-7		SB-7	
	Depth:	Objectives /		12' - 14'		34' - 36'		2'-4'		17'-17.4'	
	Laboratory ID:	Eastern USA		K9267-8		K9267-6		J9482-1		J9482-5	
	Sampling Date:	Background		06/19/2001		06/19/2001		08/16/2000		08/16/2000	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No	
Cas #:	Analyte:		Units:								
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	101	U	85.8	U	1840	U	96.6	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	89.6	U	76.4	U	1640	U	93.1	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	117	U	99.6	U	2130	U	111	U
88-74-4	2-Nitroaniline	430	µg/kg	87.7	U	74.9	U	1600	U	87.6	U
131-11-3	Dimethylphthalate	2000	µg/kg	117	U	99.5	U	2130	U	107	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	86.6	U	73.9	U	1580	U	98.5	U
99-09-2	3-Nitroaniline	500	µg/kg	55.8	U	47.6	U	1020	U	94.1	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	82.8	U	70.6	U	1510	U	112	U
100-02-7	4-Nitrophenol	100	µg/kg	186	U	159	U	3390	U	72.7	U
132-64-9	Dibenzofuran	6200	µg/kg	1250		102	U	2190	U	268	
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	79.2	U	67.6	U	1450	U	93.5	U
84-66-2	Diethylphthalate	7100	µg/kg	76.6	U	65.4	U	1400	U	68.4	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	138	U	118	U	2520	U	108	U
100-01-6	4-Nitroaniline	NA *	µg/kg	64.4	U	54.9	U	1180	U	82.2	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	109	U	92.7	U	1980	U	104	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	114	U	97.6	U	2090	U	97.7	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	104	U	88.9	U	1900	U	98.9	U
118-74-1	Hexachlorobenzene	410	µg/kg	102	U	87.2	U	1870	U	109	U
87-86-5	Pentachlorophenol	1000	µg/kg	69.5	U	59.3	U	1270	U	73.6	U
86-74-8	Carbazole	NA *	µg/kg	440		69.4	U	1480	U	245	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	308	U	38.9	J	5620	U	85.2	JB
85-68-7	Butylbenzylphthalate	50000	µg/kg	68.1	U	58.1	U	1240	U	73	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	118	U	101	U	2150	U	237	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	316	J	119	J	8460	U	46.2	J
117-84-0	Di-n-octylphthalate	50000	µg/kg	87.7	U	74.9	U	1600	U	65.6	U
	Non Carcinogenic PAHs										
83-32-9	Acenaphthene	50000*	µg/kg	13500		27.9	J	2250	U	8620	
208-96-8	Acenaphthylene	41000	µg/kg	4380		97.7	U	10100		1740	
120-12-7	Anthracene	50000*	µg/kg	10000		87.2	U	2700		5040	
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	1990		64.4	U	9890		845	
206-44-0	Fluoranthene	50000*	µg/kg	11700		65.6	J	2990		5930	
86-73-7	Fluorene	50000*	µg/kg	9640		107	U	2280	U	4600	
91-57-6	2-Methylnaphthalene	36400	µg/kg	**91800**		30.4	J	1840		16300	
91-20-3	Naphthalene	13000	µg/kg	**589000**		130		3660		**37400**	
85-01-8	Phenanthrene	50000*	µg/kg	**53500**		82.6	J	2780		16900	
129-00-0	Pyrene	50000*	µg/kg	30500		80.2		6600		7470	
	Total Non Carcinogenic PAHs			816010		416.7		40560		104845	
	Probable Carcinogenic PAHs										
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	**8360**		40.1	J	**4360**		**3320**	
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	**3580**		24.3	J	**12900**		**1450**	
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	**4230**		29.2	J	**10300**		**1920**	
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	**6340**		30.4	J	**12000**		**3020**	
218-01-9	Chrysene	400	µg/kg	**7780**		37.7	J	**6960**		**3050**	
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	**1870**		77.3	U	**9480**		753	
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	**679**		72.7	U	**6260**		**258**	
	Total Probable Carcinogenic PAHs			32839		161.7		62260		13771	
	Total PAHs			**848849**		**578.4**		**102820**		**118616**	
	Metals										
7429-90-5	Aluminum	SB / 33000	mg/kg	6160		4510		10300		3070	
7440-36-0	Antimony	SB / NA	mg/kg	0.33		0.24		5.12		2.99	
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.34	U	0.29	U	**13.3**		0.17	J
7440-39-3	Barium	300 or SB / 15-600	mg/kg	47		65.5		76.1		31.5	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.085	U	0.073	U	**0.45**		**0.26**	
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.085	U	0.073	U	**2.71**		0.96	
7440-70-2	Calcium	SB / 130-35000	mg/kg	1880		15700		6640		874	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	**10.6**		9.81		**35.5**		7.34	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	4.85		5.47		6.67		3.2	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	7.67		13.7		**78.4**		8.45	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	**9590**		**8220**		**25900**		**9470**	
7439-92-1	Lead	SB / 200-500	mg/kg	29.5		2.38		186		1.1	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	2430		**9900**		**6640**		1570	
7439-96-5	Manganese	SB / 50-5000	mg/kg	133		105		109		63.7	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	**0.14**		0.0096	J	**0.25**		0.011	U
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	7.24		8.96		13		5.36	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	596		2650		1950		1040	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.33	U	0.29	U	**2.71**		0.95	

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04362-008**		**01-04362-006**		**00-07914-001**		**00-07914-005**	
	Sample Location:	**Soil Cleanup**		**SB-6**		**SB-6**		**SB-7**		**SB-7**	
	Depth:	**Objectives /**		**12' - 14'**		**34' - 36'**		**2'-4'**		**17'-17.4'**	
	Laboratory ID:	**Eastern USA**		**K9267-8**		**K9267-6**		**J9482-1**		**J9482-5**	
	Sampling Date:	**Background**		**06/19/2001**		**06/19/2001**		**08/16/2000**		**08/16/2000**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**								
7440-22-4	Silver	SB / NA	mg/kg	0.11	U	0.091	U	0.24	J	0.23	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	414		111		148	U	337	
7440-28-0	Thallium	SB / NA	mg/kg	0.28	U	0.24	U	0.27	U	0.22	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	14.9		12.5		33.6		9.2	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	37.1		24.6		57.5		23	
57-12-5	Cyanide		mg/kg	0.22		0.3	U	2.98		0.5	
	% Solids		%	70.2		82.3		67.4		82.2	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-07914-006**		**01-04230-002**		**01-04230-001**		**01-04230-003**		**01-04270-005**	
	Sample Location:	**Soil Cleanup**		**SB-7**		**SB-8**		**SB-8**		**SB-8**		**SB-9**	
	Depth:	**Objectives /**		**36'-39'**		**2-3'**		**10-11'**		**46-48'**		**2' - 4'**	
	Laboratory ID:	**Eastern USA**		**J9482-6**								**K9229-5**	
	Sampling Date:	**Background**		**08/16/2000**		**37032**		**37032**		**37032**		**05/30/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	2.48	U	<36	U	<42	U	<36	U	7.45	U
11104-28-2	PCB 1221	1000	µg/kg	11.7	U	<74	U	<86	U	<74	U	9.07	U
11141-16-5	PCB 1232	1000	µg/kg	2.59	U	<36	U	<42	U	<36	U	6.47	U
53469-21-9	PCB 1242	1000	µg/kg	1.95	U	<36	U	<42	U	<36	U	8.1	U
12672-29-6	PCB 1248	1000	µg/kg	4.38	U	<36	U	<42	U	<36	U	10.1	U
11097-69-1	PCB 1254	1000	µg/kg	6.64	U	<36	U	<42	U	<36	U	6.05	U
11096-82-5	PCB 1260	1000	µg/kg	7.62	U	<36	U	<42	U	<36	U	6.09	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.41	U	<11	U	<1500	U	<10	U	0.34	U
74-83-9	Bromomethane	NA *	µg/kg	0.48	U	<11	U	<1500	U	<10	U	0.29	U
75-01-4	Vinyl Chloride	200	µg/kg	0.41	U	<11	U	<1500	U	<10	U	0.34	U
75-00-3	Chloroethane	1900	µg/kg	0.23	U	<11	U	<1500	U	<10	U	0.34	U
75-09-2	Methylene Chloride	100	µg/kg	0.66	U	2	JB	<1500	U	1	JB	11	B
67-64-1	Acetone	200	µg/kg	5.29	U	5	JB	<1500	U	6	JB	42.2	B
75-15-0	Carbon disulfide	2700	µg/kg	0.33	U	<11	U	<1500	U	<10	U	2.8	
75-35-4	1,1-Dichloroethene	400	µg/kg	0.26	U	<11	U	<1500	U	<10	U	0.93	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.2	U	<11	U	<1500	U	<10	U	0.27	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.5	U	<11	U	<1500	U	<10	U	0.31	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.61	U	<11	U	<1500	U	<10	U	0.22	U
67-66-3	Chloroform	300	µg/kg	0.21	U	<11	U	<1500	U	<10	U	0.19	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.37	U	<11	U	<1500	U	<10	U	0.13	U
78-93-3	2-Butanone	300	µg/kg	3.06	U	<11	U	<1500	U	<10	U	5.6	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.34	U	<11	U	<1500	U	<10	U	0.67	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.33	U	<11	U	<1500	U	<10	U	0.27	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.23	U	<11	U	<1500	U	<10	U	0.16	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.22	U	<11	U	<1500	U	<10	U	0.29	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.3	U	<11	U	<1500	U	<10	U	0.3	U
79-01-6	Trichloroethene	700	µg/kg	0.37	U	<11	U	<1500	U	<10	U	1.5	
124-48-1	Dibromochloromethane	NA *	µg/kg	0.35	U	<11	U	<1500	U	<10	U	0.99	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.57	U	<11	U	1100	J	<10	U	0.34	U
71-43-2	Benzene	60	µg/kg	0.34	U	<11	U	<1500	U	<10	U	28.1	
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.5	U	<11	U	<1500	U	<10	U	0.3	U
75-25-2	Bromoform	NA *	µg/kg	0.59	U	<11	U	<1500	U	<10	U	0.32	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	1.81	U	<11	U	<1500	U	<10	U	5.6	U
591-78-6	2-Hexanone	NA *	µg/kg	1.89	U	<11	U	<1500	U	<10	U	5.6	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.34	U	<11	U	<1500	U	<10	U	0.11	U
108-88-3	Toluene	1500	µg/kg	0.4	U	<11	U	<1500	U	<10	U	4.8	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.61	U	<11	U	<1500	U	<10	U	0.45	U
108-90-7	Chlorobenzene	1700	µg/kg	0.35	U	<11	U	<1500	U	<10	U	0.2	U
100-41-4	Ethylbenzene	5500	µg/kg	0.41	U	<11	U	**20000**		<10	U	3.3	
100-42-5	Styrene	NA *	µg/kg	0.35	U	<11	U	<1500	U	<10	U	0.11	U
108-38-3	m,p-xylene	1200	µg/kg	0.77	U	<11	U	**48000**		<10	U	4.1	
95-47-6	o-xylene	1200	µg/kg	0.34	U	<11	U	**1500**	J	<10	U	2.4	
	Total BTEX		**µg/kg**	**0**		**0**		**69500**		**0**		**42.7**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	119	U	<370	U	<4300	U	<360	U	222	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	115	U	<370	U	<4300	U	<360	U	288	U
95-57-8	2-Chlorophenol	800	µg/kg	117	U	<370	U	<4300	U	<360	U	271	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	125	U	<370	U	<4300	U	<360	U	295	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	122	U	<370	U	<4300	U	<360	U	281	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	123	U	<370	U	<4300	U	<360	U	317	U
95-48-7	2-Methylphenol	100	µg/kg	101	U	<370	U	<4300	U	<360	U	284	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	132	U	<370	U	<4300	U	<360	U	299	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	98.1	U	<370	U	<4300	U	<360	U	284	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	119	U	<370	U	<4300	U	<360	U	262	U
67-72-1	Hexachloroethane	NA *	µg/kg	126	U	<370	U	<4300	U	<360	U	252	U
98-95-3	Nitrobenzene	200	µg/kg	138	U	<370	U	<4300	U	<360	U	313	U
78-59-1	Isophorone	4400	µg/kg	126	U	<370	U	<4300	U	<360	U	255	U
88-75-5	2-Nitrophenol	330	µg/kg	95.6	U	<370	U	<4300	U	<360	U	237	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	57.8	U	<370	U	<4300	U	<360	U	222	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	116	U	<370	U	<4300	U	<360	U	292	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	100	U	<370	U	<4300	U	<360	U	262	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	121	U	<370	U	<4300	U	<360	U	320	U
106-47-8	4-Chloroaniline	220	µg/kg	126	U	<370	U	<4300	U	<360	U	159	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	122	U	<370	U	<4300	U	<360	U	299	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	97.8	U	<370	U	<4300	U	<360	U	308	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	102	U	<370	U	<4300	U	<360	U	133	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

Cas #:	Client Sample ID:	TAGM 4046		00-07914-006		01-04230-002		01-04230-001		01-04230-003		01-04270-005	
	Sample Location:	Soil Cleanup		SB-7		SB-8		SB-8		SB-8		SB-9	
	Depth:	Objectives /		36'-39'		2-3'		10-11'		46-48'		2' - 4'	
	Laboratory ID:	Eastern USA		J9482-6								K9229-5	
	Sampling Date:	Background		08/16/2000		37032		37032		37032		05/30/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	96.6	U	<370	U	<4300	U	<360	U	264	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	93.1	U	<910	U	<11000	U	<890	U	235	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	111	U	<370	U	<4300	U	<360	U	306	U
88-74-4	2-Nitroaniline	430	µg/kg	87.6	U	<910	U	<11000	U	<890	U	230	U
131-11-3	Dimethylphthalate	2000	µg/kg	107	U	<370	U	<4300	U	<360	U	306	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	98.5	U	<370	U	<11000	U	<360	U	227	U
99-09-2	3-Nitroaniline	500	µg/kg	94.1	U	<910	U	<4300	U	<890	U	146	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	112	U	<910	U	<4300	U	<890	U	217	U
100-02-7	4-Nitrophenol	100	µg/kg	72.7	U	<910	U	<11000	U	<890	U	487	U
132-64-9	Dibenzofuran	6200	µg/kg	106	U	180	J	<4300	U	<360	U	153	J
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	93.5	U	<370	U	<4300	U	<360	U	208	U
84-66-2	Diethylphthalate	7100	µg/kg	68.4	U	<370	U	<4300	U	<360	U	201	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	108	U	<370	U	<4300	U	<360	U	362	U
100-01-6	4-Nitroaniline	NA *	µg/kg	82.2	U	<910	U	<11000	U	<890	U	169	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	104	U	<910	U	<11000	U	<890	U	285	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	97.7	U	<370	U	<4300	U	<360	U	300	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	98.9	U	<370	U	<4300	U	<360	U	273	U
118-74-1	Hexachlorobenzene	410	µg/kg	109	U	<370	U	<4300	U	<360	U	268	U
87-86-5	Pentachlorophenol	1000	µg/kg	73.6	U	<910	U	<11000	U	<890	U	182	U
86-74-8	Carbazole	NA *	µg/kg	245	U	130	J	<4300	U	<360	U	213	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	71.9	JB	<370	U	<4300	U	<360	U	74.7	J
85-68-7	Butylbenzylphthalate	50000	µg/kg	73	U	<370	U	<4300	U	<360	U	178	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	237	U	<370	U	<4300	U	<360	U	309	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	36.5	J	1100		260	JD	90	J	284	J
117-84-0	Di-n-octylphthalate	50000	µg/kg	65.6	U	370	U	<4300	U	<360	U	230	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	105	U	330	J	<4300	U	<360	U	1630	
208-96-8	Acenaphthylene	41000	µg/kg	111	U	3400	E	<4300	U	<360	U	3630	
120-12-7	Anthracene	50000*	µg/kg	56	J	4400	E	<4300	U	<360	U	1400	
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	47.8	U	1700		<4300	U	<360	U	2670	
206-44-0	Fluoranthene	50000*	µg/kg	104		13000	E	<4300	U	<360	U	1780	
86-73-7	Fluorene	50000*	µg/kg	103	U	1200		<4300	U	<360	U	1240	
91-57-6	2-Methylnaphthalene	36400	µg/kg	98.3	U	1500		3900	JD	<360	U	3090	
91-20-3	Naphthalene	13000	µg/kg	115	U	2800		**27000**		<360	U	1490	
85-01-8	Phenanthrene	50000*	µg/kg	179		9500	E	260	JD	<360	U	3090	
129-00-0	Pyrene	50000*	µg/kg	135		25000	E	<4300	U	<360	U	3200	
	Total Non Carcinogenic PAHs			474		62830		31160		0		23220	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	53.6	J	**7600**	E	<4300	U	<360	U	**2160**	
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	51.2	U	**11000**	E	<4300	U	<360	U	**4390**	
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	76.7	U	**6200**	E	<4300	U	<360	U	**2180**	
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	57.1	U	**7400**	E	<4300	U	<360	U	**5700**	
218-01-9	Chrysene	400	µg/kg	48.7	J	**7600**	E	<4300	U	<360	U	**2800**	
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	49.9	U	**4400**	E	<4300	U	<360	U	2310	
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	50.1	U	**1500**		<4300	U	<360	U	**810**	
	Total Probable Carcinogenic PAHs			102.3		45700		0		0		20350	
	Total PAHs			576.3		**108530**		**31160**		**0**		**43570**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	3180		6810		14800		5150		2460	
7440-36-0	Antimony	SB / NA	mg/kg	0.62	U	<0.48	U	<0.48	U	0.45		0.2	U
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.37	J	5.6		3.23		0.5		1.66	
7440-39-3	Barium	300 or SB / 15-600	mg/kg	46.8		100		88.9		96.1		20.3	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	**0.24**		**0.17**		**0.51**		<0.11	U	0.067	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.72		<0.11	U	<0.12	U	<0.11	U	0.0056	J
7440-70-2	Calcium	SB / 130-35000	mg/kg	16400		10400		1860		11900		9100	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	7.82		**15.3**		**27.2**		**18.2**		4.44	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	4.11		6.4		14.2		6.73		2.22	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	12.1		**46.4**		9.16		18.2		11.2	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	**7450**		**21400**		**36100**		**13400**		**4420**	
7439-92-1	Lead	SB / 200-500	mg/kg	0.16	U	190		9.18		2		45.6	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	**9480**		**5330**		3960		**8870**		**5150**	
7439-96-5	Manganese	SB / 50-5000	mg/kg	241		186		1182		121		72.9	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.011	U	**0.73**		0.087		<0.036	U	**0.18**	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	6.77		11.9		**15.3**		11.9		3.93	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	1940		1510		496		2970		557	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.22	U	**3.2**		**3.3**		<0.95	U	0.26	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-07914-006**		**01-04230-002**		**01-04230-001**		**01-04230-003**		**01-04270-005**	
	Sample Location:	**Soil Cleanup**		**SB-7**		**SB-8**		**SB-8**		**SB-8**		**SB-9**	
	Depth:	**Objectives /**		**36'-39'**		**2-3'**		**10-11'**		**46-48'**		**2' - 4'**	
	Laboratory ID:	**Eastern USA**		**J9482-6**								**K9229-5**	
	Sampling Date:	**Background**		**08/16/2000**		**37032**		**37032**		**37032**		**05/30/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
7440-22-4	Silver	SB / NA	mg/kg	0.76		<0.11	U	<0.12	U	<0.11	U	0.084	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	122	U	557		1090		120		95.3	
7440-28-0	Thallium	SB / NA	mg/kg	0.22	U	0.64		0.4		0.79		0.22	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	11.2		21.0		48.2		23.4		4.19	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	$\boxed{21}$		$\boxed{160}$		$\boxed{67.7}$		$\boxed{24.5}$		$\boxed{35.1}$	
57-12-5	Cyanide		mg/kg	0.32		2.879		0.326		0.045		1.74	
	% Solids		%	82.1		89.4		77.5		89.6		89.3	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04270-006**		**01-04270-007**		**01-04270-008**		**01-04388-001**		**01-04388-002**	
	Sample Location:	**Soil Cleanup**		**SB-9**		**SB-9**		**SB-9**		**SB-10**		**SB-10**	
	Depth:	**Objectives /**		**9' - 10'**		**10' - 12'**		**40' - 44'**		**3' - 4'**		**12' - 14'**	
	Laboratory ID:	**Eastern USA**		**K9229-6**		**K9229-7**		**K9229-8**		**K9286-1**		**K9286-2**	
	Sampling Date:	**Background**		**05/30/2001**		**05/30/2001**		**05/30/2001**		**06/26/2001**		**06/26/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	7.46	U	9.1	U	7.1	U	7.42	U	7.98	U
11104-28-2	PCB 1221	1000	µg/kg	9.08	U	11.1	U	8.64	U	9.04	U	9.72	U
11141-16-5	PCB 1232	1000	µg/kg	6.48	U	7.91	U	6.17	U	6.45	U	6.94	U
53469-21-9	PCB 1242	1000	µg/kg	8.11	U	9.89	U	7.72	U	8.07	U	8.68	U
12672-29-6	PCB 1248	1000	µg/kg	10.1	U	12.3	U	9.63	U	10.1	U	10.8	U
11097-69-1	PCB 1254	1000	µg/kg	6.05	U	7.39	U	5.76	U	6.03	U	6.48	U
11096-82-5	PCB 1260	1000	µg/kg	6.1	U	7.44	U	5.81	U	6.07	U	6.53	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	238	U	1450	U	0.32	U	0.4	U	735	U
74-83-9	Bromomethane	NA *	µg/kg	182	U	1110	U	0.28	U	0.19	U	645	U
75-01-4	Vinyl Chloride	200	µg/kg	238	U	1450	U	0.32	U	0.22	U	150	U
75-00-3	Chloroethane	1900	µg/kg	188	U	1150	U	0.32	U	0.37	U	916	U
75-09-2	Methylene Chloride	100	µg/kg	104	U	3710	B	0.34	U	13.5	B	2480	
67-64-1	Acetone	200	µg/kg	644	U	3930	U	25.2		5.6	U	4680	U
75-15-0	Carbon disulfide	2700	µg/kg	92.4	U	564	U	1.2		1.6		300	U
75-35-4	1,1-Dichloroethene	400	µg/kg	61.6	U	376	U	0.89	U	0.36	U	450	U
75-34-3	1,1-Dichloroethane	200	µg/kg	70	U	428	U	0.26	U	0.17	U	330	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	78.4	U	479	U	0.3	U	0.17	U	300	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	50.4	U	308	U	0.21	U	1.5		315	U
67-66-3	Chloroform	300	µg/kg	61.6	U	376	U	0.18	U	0.18	U	300	U
107-06-2	1,2-Dichloroethane	100	µg/kg	44.8	U	274	U	0.13	U	0.25	U	345	U
78-93-3	2-Butanone	300	µg/kg	4820	U	29400	U	5.35	U	4.57	U	7500	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	39.2	U	239	U	0.64	U	0.16	U	330	U
56-23-5	Carbon Tetrachloride	600	µg/kg	28	U	171	U	0.26	U	0.24	U	375	U
75-27-4	Bromodichloromethane	NA *	µg/kg	44.8	U	274	U	0.15	U	0.2	U	225	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	39.2	U	239	U	0.28	U	0.16	U	540	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	61.6	U	376	U	0.29	U	0.2	U	240	U
79-01-6	Trichloroethene	700	µg/kg	47.6	U	291	U	0.22	U	20		240	U
124-48-1	Dibromochloromethane	NA *	µg/kg	47.6	U	291	U	0.94	U	0.27	U	165	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	53.2	U	325	U	0.32	U	0.21	U	135	U
71-43-2	Benzene	60	µg/kg	303		291	U	0.17	U	10.1		1940	
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	39.2	U	239	U	0.29	U	0.25	U	120	U
75-25-2	Bromoform	NA *	µg/kg	75.6	U	462	U	0.31	U	0.27	U	150	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	2520	U	15400	U	5.35	U	5.6	U	7500	U
591-78-6	2-Hexanone	NA *	µg/kg	1400	U	8550	U	5.35	U	5.6	U	7500	U
127-18-4	Tetrachloroethene	1400	µg/kg	33.6	U	205	U	0.11	U	0.2	U	360	U
108-88-3	Toluene	1500	µg/kg	39.2	U	2020		0.58		5.9		2750	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	42	U	256	U	0.43	U	0.22	U	240	U
108-90-7	Chlorobenzene	1700	µg/kg	53.2	U	325	U	0.19	U	0.15	U	225	U
100-41-4	Ethylbenzene	5500	µg/kg	16800		134000		1.5		21.7		258000	
100-42-5	Styrene	NA *	µg/kg	36.4	U	222	U	0.11	U	0.2	U	255	U
108-38-3	m,p-xylene	1200	µg/kg	10100		166000		1.7		17.6		230000	
95-47-6	o-xylene	1200	µg/kg	5130		87400		0.69		7.5		107000	
	Total BTEX		**µg/kg**	**32333**		**389420**		**4.47**		**62.8**		**599690**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	22.3	U	27.2	U	21.2	U	665	U	715	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	28.8	U	35.2	U	27.5	U	862	U	927	U
95-57-8	2-Chlorophenol	800	µg/kg	27.1	U	33.1	U	25.8	U	809	U	870	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	29.6	U	36.1	U	28.1	U	883	U	950	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	28.1	U	34.3	U	26.7	U	839	U	903	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	31.7	U	38.7	U	30.2	U	946	U	1020	U
95-48-7	2-Methylphenol	100	µg/kg	28.4	U	34.7	U	27	U	848	U	912	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	30	U	36.6	U	28.5	U	895	U	963	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	28.4	U	34.7	U	27.1	U	849	U	914	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	26.2	U	32	U	24.9	U	782	U	842	U
67-72-1	Hexachloroethane	NA *	µg/kg	25.2	U	30.7	U	24	U	752	U	809	U
98-95-3	Nitrobenzene	200	µg/kg	626	U	38.2	U	29.8	U	935	U	1010	U
78-59-1	Isophorone	4400	µg/kg	510	U	31.1	U	24.3	U	762	U	820	U
88-75-5	2-Nitrophenol	330	µg/kg	475	U	29	U	22.6	U	710	U	764	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	445	U	27.1	U	21.2	U	664	U	714	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	584	U	35.6	U	27.8	U	872	U	938	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	525	U	32.1	U	25	U	785	U	844	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	641	U	39.1	U	30.5	U	956	U	1030	U
106-47-8	4-Chloroaniline	220	µg/kg	318	U	19.4	U	15.1	U	474	U	510	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	599	U	36.6	U	28.5	U	895	U	963	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	617	U	37.6	U	29.3	U	921	U	990	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	13.3	U	16.2	U	12.6	U	396	U	426	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-04270-006		01-04270-007		01-04270-008		01-04388-001		01-04388-002	
	Sample Location:	Soil Cleanup		SB-9		SB-9		SB-9		SB-10		SB-10	
	Depth:	Objectives /		9' - 10'		10' - 12'		40' - 44'		3' - 4'		12' - 14'	
	Laboratory ID:	Eastern USA		K9229-6		K9229-7		K9229-8		K9286-1		K9286-2	
	Sampling Date:	Background		05/30/2001		05/30/2001		05/30/2001		06/26/2001		06/26/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	26.4	U	32.2	U	25.1	U	788	U	848	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	23.5	U	28.7	U	22.4	U	702	U	755	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	30.6	U	37.4	U	29.2	U	915	U	984	U
88-74-4	2-Nitroaniline	430	µg/kg	23	U	28.1	U	21.9	U	688	U	740	U
131-11-3	Dimethylphthalate	2000	µg/kg	30.6	U	37.3	U	29.1	U	914	U	983	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	22.7	U	27.7	U	21.6	U	679	U	730	U
99-09-2	3-Nitroaniline	500	µg/kg	14.6	U	17.9	U	13.9	U	438	U	471	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	21.7	U	26.5	U	20.7	U	648	U	697	U
100-02-7	4-Nitrophenol	100	µg/kg	48.8	U	59.5	U	46.4	U	1460	U	1570	U
132-64-9	Dibenzofuran	6200	µg/kg	81.8		45.1		30	U	312	J	3720	
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	20.8	U	25.4	U	19.8	U	621	U	667	U
84-66-2	Diethylphthalate	7100	µg/kg	20.1	U	9.1	J	19.1	U	600	U	646	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	36.2	U	44.2	U	34.5	U	1080	U	1160	U
100-01-6	4-Nitroaniline	NA *	µg/kg	16.9	U	20.6	U	16.1	U	504	U	543	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	28.5	U	34.8	U	27.1	U	852	U	916	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	30	U	36.6	U	28.6	U	896	U	964	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	27.4	U	33.4	U	26	U	817	U	879	U
118-74-1	Hexachlorobenzene	410	µg/kg	26.8	U	32.7	U	25.5	U	801	U	862	U
87-86-5	Pentachlorophenol	1000	µg/kg	18.2	U	22.3	U	17.4	U	545	U	586	U
86-74-8	Carbazole	NA *	µg/kg	21.3	J	14.6	J	20.3	U	NA		NA	
84-74-2	Di-n-butylphthalate	8100	µg/kg	44.8	J	43.8	J	29.5	J	2410	U	2590	U
85-68-7	Butylbenzylphthalate	50000	µg/kg	17.9	U	21.8	U	17	U	533	U	574	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	30.9	U	37.8	U	29.5	U	924	U	994	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	334		340		113	J	312	JB	3900	U
117-84-0	Di-n-octylphthalate	50000	µg/kg	32.1		35.6		21.9	U	688	U	740	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	326		229		30.7	U	257	J	160000	
208-96-8	Acenaphthylene	41000	µg/kg	313		143		28.6	U	5190		15600	
120-12-7	Anthracene	50000*	µg/kg	361		232		25.5	U	2800		65700	
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	167		81.2		18.9	U	6430		16000	
206-44-0	Fluoranthene	50000*	µg/kg	622		387		22.6	U	7730		81100	
86-73-7	Fluorene	50000*	µg/kg	513		318		31.2	U	391	J	61600	
91-57-6	2-Methylnaphthalene	36400	µg/kg	19500		8190		9.3	J	614	J	254000	
91-20-3	Naphthalene	13000	µg/kg	71500		30900		35.6		1940		808000	
85-01-8	Phenanthrene	50000*	µg/kg	1200		793		13.2	J	3500		250000	
129-00-0	Pyrene	50000*	µg/kg	775		473		18.7	U	12100		111000	
	Total Non Carcinogenic PAHs			95277		41746.2		58.1		40952		1823000	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	348		194		17.9	U	6140		49300	
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	266		158		29.2	U	7080		19600	
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	124		69.3		23.7	U	8250		25800	
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	290		145		19.4	U	8940		38000	
218-01-9	Chrysene	400	µg/kg	343		192		17.8	U	7480		43000	
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	140		68.9		22.6	U	5470		13300	
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	43.3		26.9	J	21.3	U	2250		4110	
	Total Probable Carcinogenic PAHs			1554.3		854.1		0		45610		193110	
	Total PAHs			**96831.3**		**42600.3**		**58.1**		**86562**		**2016110**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	6450		9210		4940		4370		2950	
7440-36-0	Antimony	SB / NA	mg/kg	0.095	J	0.25	U	0.31		0.79		0.22	U
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.27	U	0.33	U	0.26	U	4.5		0.29	U
7440-39-3	Barium	300 or SB / 15-600	mg/kg	23.6		58.6		89.6		75.9		17.1	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.067	U	0.082	U	0.064	U	0.067	U	0.072	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.067	U	0.082	U	0.064	U	0.3		0.072	U
7440-70-2	Calcium	SB / 130-35000	mg/kg	838		1350		11200		7490		1190	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	8.35		13.6		16		9.68		5.37	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	3.96		5.68		5.73		4.27		2.4	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	6.74		7.76		12.8		36.4		3.66	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	7660		10500		10100		14000		4950	
7439-92-1	Lead	SB / 200-500	mg/kg	7.11		5.25		2.18		225		2.39	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	2200		3160		7260		3840		1380	
7439-96-5	Manganese	SB / 50-5000	mg/kg	115		292		205		139		33.1	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.025		0.037		0.0093	U	0.84		0.0089	J
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	6.91		9.12		10.8		8.15		4.52	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	539		772		3510		793		602	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.26	U	0.32	U	0.25	U	0.26	U	0.28	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04270-006**		**01-04270-007**		**01-04270-008**		**01-04388-001**		**01-04388-002**	
	Sample Location:	**Soil Cleanup**		**SB-9**		**SB-9**		**SB-9**		**SB-10**		**SB-10**	
	Depth:	**Objectives /**		**9' - 10'**		**10' - 12'**		**40' - 44'**		**3' - 4'**		**12' - 14'**	
	Laboratory ID:	**Eastern USA**		**K9229-6**		**K9229-7**		**K9229-8**		**K9286-1**		**K9286-2**	
	Sampling Date:	**Background**		**05/30/2001**		**05/30/2001**		**05/30/2001**		**08/28/2001**		**06/28/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
7440-22-4	Silver	SB / NA	mg/kg	0.084	U	0.1	U	0.08	U	0.084	U	0.09	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	153		367		116		366		415	
7440-28-0	Thallium	SB / NA	mg/kg	0.22	U	0.27	U	0.21	U	0.22	U	0.23	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	10.7		18.1		18.5		10.6		5.7	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	27.7		39.1		25.2		148		20	
57-12-5	Cyanide		mg/kg	0.37		0.28	U	0.28	U	2.87		0.28	U
	% Solids		%	89.2		73.1		93.7		89.6		83.3	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04270-006**		**01-04270-007**		**01-04270-008**		**01-04388-001**		**01-04388-002**	
	Sample Location:	**Soil Cleanup**		SB-9		SB-9		SB-9		**SB-10**		**SB-10**	
	Depth:	**Objectives /**		**9' - 10'**		**10' - 12'**		**40' - 44'**		**3' - 4'**		**12' - 14'**	
	Laboratory ID:	**Eastern USA**		**K9229-6**		**K9229-7**		**K9229-8**		**K9286-1**		**K9286-2**	
	Sampling Date:	**Background**		**05/30/2001**		**05/30/2001**		**05/30/2001**		**06/26/2001**		**06/26/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		No		No		**No**	
Cas #:	**Analyte:**		**Units:**										
75-71-8	Dichlorodifluoromethane		µg/kg							0.47	U	735	U
75-45-6	Chlorodifluoromethane		µg/kg							0.36	U	315	U
75-69-4	Trichlorofluoromethane		µg/kg							0.29	U	360	U
76-13-1	1,1,2-Trichlorotrifluoroethane		µg/kg							0.28	U	345	U
1634-04-4	Methyl t-butyl ether		µg/kg							0.4	U	510	U
590-20-7	2,2-Dichloropropane		µg/kg							0.27	U	270	U
74-97-5	Bromochloromethane		µg/kg							0.19	U	405	U
563-58-6	1,1-Dichloropropene		µg/kg							0.49	U	886	U
74-95-3	Dibromomethane		µg/kg							0.35	U	270	U
110-75-8	2-Chloroethylvinylether		µg/kg							0.35	U	195	U
142-28-9	1,3-Dichloropropane		µg/kg							0.43	U	300	U
106-93-4	1,2-Dibromoethane		µg/kg							0.27	U	150	U
630-20-6	1,1,1,2-Tetrachloroethane		µg/kg							0.19	U	270	U
98-82-8	Isopropylbenzene		µg/kg							1.4		31600	
108-86-1	Bromobenzene		µg/kg							0.19	U	360	U
103-65-1	n-Propylbenzene		µg/kg							0.16	U	28700	
96-18-4	1,2,3-Trichloropropane		µg/kg							0.57	U	315	U
622-96-8	p-Ethyltoluene		µg/kg							11		353000	
108-67-8	1,3,5-Trimethylbenzene		µg/kg							4.8		73900	
95-49-8	2-Chlorotoluene		µg/kg							0.09	U	405	U
106-43-4	4-Chlorotoluene		µg/kg							0.16	U	525	U
98-06-6	tert-Butylbenzene		µg/kg							0.17	U	360	U
95-63-6	1,2,4-Trimethylbenzene		µg/kg							10.6		175000	
135-98-8	sec-Butylbenzene		µg/kg							0.13	U	8520	
99-87-6	4-Isopropyltoluene		µg/kg							12.9		360	U
541-73-1	1,3-Dichlorobenzene		µg/kg							0.2	U	345	U
106-46-7	1,4-Dichlorobenzene		µg/kg							0.25	U	345	U
95-50-1	1,2-Dichlorobenzene		µg/kg							0.15	U	225	U
105-05-5	p-Diethylbenzene		µg/kg							0.18	U	360	U
104-51-8	n-Butylbenzene		µg/kg							0.16	U	210	U
95-93-2	1,2,4,5-Tetramethylbenzene		µg/kg							0.28	U	15300	
96-12-8	1,2-Dibromo-3-chloropropane		µg/kg							0.75	U	495	U
120-82-1	1,2,4-Trichlorobenzene		µg/kg							0.43	U	330	U
87-68-3	Hexachlorobutadiene		µg/kg							0.16	U	390	U
91-20-3	Naphthalene		µg/kg							14.7		1880000	
87-61-6	1,2,3-Trichlorobenzene		µg/kg							0.41	U	255	U
100-51-6	Benzyl alcohol		µg/kg							845	U	909	U
65-85-0	Benzoic acid		µg/kg							563	U	605	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04388-003**		**01-04270-013**		**01-04270-016**		**01-04270-018**		**01-04270-019**	
	Sample Location:	**Soil Cleanup**		**SB-10**		**SB-11**		**SB-11**		**SB-11**		**SB-11**	
	Depth:	**Objectives /**		**45' - 47'**		**2' - 4'**		**6' - 8'**		**14' - 16'**		**44' - 46'**	
	Laboratory ID:	**Eastern USA**		K9286-3		K9230-4		K9230-5		K9230-7		K9231-1	
	Sampling Date:	**Background**		06/26/2001		06/01/2001		06/01/2001		06/01/2001		06/01/2001	
	Matrix:	**Concentrations**		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	**Analyte:**		**Units:**										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	8.85	U	7.18	U	7.17	U	7.16	U	15.1	U
11104-28-2	PCB 1221	1000	µg/kg	10.8	U	8.75	U	8.73	U	8.72	U	18.3	U
11141-16-5	PCB 1232	1000	µg/kg	7.7	U	6.24	U	6.23	U	6.22	U	13.1	U
53469-21-9	PCB 1242	1000	µg/kg	9.63	U	7.81	U	7.79	U	7.78	U	16.4	U
12672-29-6	PCB 1248	1000	µg/kg	12	U	9.74	U	9.72	U	9.71	U	20.4	U
11097-69-1	PCB 1254	1000	µg/kg	7.19	U	5.83	U	5.82	U	5.81	U	12.2	U
11096-82-5	PCB 1260	1000	µg/kg	7.24	U	5.87	U	5.86	U	5.86	U	12.3	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.48	U	0.32	U	0.32	U	1140	U	269	U
74-83-9	Bromomethane	NA *	µg/kg	0.23	U	0.28	U	0.28	U	875	U	206	U
75-01-4	Vinyl Chloride	200	µg/kg	0.27	U	0.32	U	0.32	U	1140	U	269	U
75-00-3	Chloroethane	1900	µg/kg	0.44	U	0.32	U	0.32	U	902	U	212	U
75-09-2	Methylene Chloride	100	µg/kg	5.2	B	2.7	B	2.5	B	498	U	361	
67-64-1	Acetone	200	µg/kg	60.8		85		157		3100	U	729	U
75-15-0	Carbon disulfide	2700	µg/kg	0.87		1.4		1.6		444	U	105	U
75-35-4	1,1-Dichloroethene	400	µg/kg	0.43	U	0.9	U	0.9	U	296	U	69.7	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.2	U	0.26	U	0.26	U	336	U	79.3	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.2	U	0.3	U	0.3	U	377	U	88.8	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.23	U	0.22	U	0.22	U	242	U	57.1	U
67-66-3	Chloroform	300	µg/kg	0.21	U	0.18	U	0.18	U	296	U	69.7	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.29	U	0.13	U	0.13	U	215	U	50.7	U
78-93-3	2-Butanone	300	µg/kg	5.43	U	1	J	5.4	U	23200	U	5450	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.19	U	0.65	U	0.65	U	188	U	44.4	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.28	U	0.26	U	0.26	U	135	U	31.7	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.24	U	0.15	U	0.15	U	215	U	50.7	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.19	U	0.28	U	0.28	U	188	U	44.4	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.24	U	0.29	U	0.29	U	296	U	69.7	U
79-01-6	Trichloroethene	700	µg/kg	0.27	U	13.5		26		229	U	53.9	U
124-48-1	Dibromochloromethane	NA *	µg/kg	0.32	U	0.95	U	0.95	U	229	U	53.9	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.25	U	0.32	U	0.32	U	256	U	60.2	U
71-43-2	Benzene	60	µg/kg	0.19	U	0.17	U	0.17	U	229	U	1120	
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.29	U	0.29	U	0.29	U	188	U	44.4	U
75-25-2	Bromoform	NA *	µg/kg	0.32	U	0.31	U	0.31	U	363	U	85.6	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	6.65	U	5.4	U	5.4	U	12100	U	2850	U
591-78-6	2-Hexanone	NA *	µg/kg	6.65	U	5.4	U	5.4	U	6730	U	1580	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.24	U	0.11	U	0.87		162	U	38	U
108-88-3	Toluene	1500	µg/kg	0.27	U	1.4		1.3		1440		1310	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.27	U	0.43	U	0.43	U	202	U	47.5	U
108-90-7	Chlorobenzene	1700	µg/kg	0.17	U	0.19	U	0.19	U	256	U	60.2	U
100-41-4	Ethylbenzene	5500	µg/kg	0.15	U	16		13.5		94600		198000	
100-42-5	Styrene	NA *	µg/kg	0.24	U	0.11	U	0.11	U	175	U	41.2	U
108-38-3	m,p-xylene	1200	µg/kg	0.33	U	15.7		5.8		118000		215000	
95-47-6	o-xylene	1200	µg/kg	0.24	U	26		5.1		62600		99500	
	Total BTEX		**µg/kg**	**ND**		**59.1**		**25.7**		**276640**		**514930**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	79.4	U	107	U	1610	U	535	U	755	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	103	U	139	U	2080	U	692	U	978	U
95-57-8	2-Chlorophenol	800	µg/kg	96.5	U	130	U	1950	U	650	U	919	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	105	U	142	U	2130	U	710	U	1000	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	100	U	135	U	2030	U	675	U	953	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	113	U	153	U	2280	U	761	U	1070	U
95-48-7	2-Methylphenol	100	µg/kg	101	U	137	U	2050	U	682	U	963	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	107	U	144	U	2160	U	719	U	1020	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	101	U	137	U	2050	U	683	U	964	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	93.3	U	126	U	1890	U	629	U	888	U
67-72-1	Hexachloroethane	NA *	µg/kg	89.7	U	121	U	1820	U	605	U	854	U
98-95-3	Nitrobenzene	200	µg/kg	112	U	151	U	2260	U	752	U	1060	U
78-59-1	Isophorone	4400	µg/kg	90.9	U	123	U	1840	U	613	U	866	U
88-75-5	2-Nitrophenol	330	µg/kg	84.7	U	114	U	1710	U	570	U	806	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	79.2	U	107	U	1600	U	534	U	754	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	104	U	141	U	2100	U	701	U	990	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	93.6	U	127	U	1890	U	631	U	891	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	114	U	154	U	2310	U	769	U	1090	U
106-47-8	4-Chloroaniline	220	µg/kg	56.6	U	76.5	U	1140	U	381	U	539	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	107	U	144	U	2160	U	719	U	1020	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	110	U	148	U	2220	U	740	U	1050	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	47.3	U	63.9	U	956	U	318	U	4500	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04388-003**		**01-04270-013**		**01-04270-016**		**01-04270-018**		**01-04270-019**	
	Sample Location:	**Soil Cleanup**		**SB-10**		**SB-11**		**SB-11**		**SB-11**		**SB-11**	
	Depth:	**Objectives /**		**45' - 47'**		**2' - 4'**		**6' - 8'**		**14' - 16'**		**44' - 46'**	
	Laboratory ID:	**Eastern USA**		**K9286-3**		**K9230-4**		**K9230-5**		**K9230-7**		**K9231-1**	
	Sampling Date:	**Background**		**06/26/2001**		**06/01/2001**		**06/01/2001**		**06/01/2001**		**06/01/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	94	U	127	U	1900	U	633	U	895	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	83.8	U	113	U	1690	U	564	U	797	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	109	U	148	U	2210	U	736	U	1040	U
88-74-4	2-Nitroaniline	430	µg/kg	82	U	111	U	1660	U	553	U	781	U
131-11-3	Dimethylphthalate	2000	µg/kg	109	U	147	U	2210	U	735	U	1040	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	81	U	109	U	1640	U	545	U	771	U
99-09-2	3-Nitroaniline	500	µg/kg	52.2	U	70.6	U	1060	U	352	U	497	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	77.4	U	105	U	1570	U	521	U	736	U
100-02-7	4-Nitrophenol	100	µg/kg	174	U	235	U	3520	U	1170	U	1650	U
132-64-9	Dibenzofuran	6200	µg/kg	112	U	64.8	J	9320		4580		8480	
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	74	U	100	U	1500	U	499	U	705	U
84-66-2	Diethylphthalate	7100	µg/kg	71.6	U	96.8	U	1450	U	483	U	682	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	129	U	174	U	2610	U	869	U	1230	U
100-01-6	4-Nitroaniline	NA *	µg/kg	60.2	U	81.4	U	1220	U	405	U	573	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	102	U	137	U	2060	U	684	U	967	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	107	U	145	U	2160	U	720	U	1020	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	97.5	U	132	U	1970	U	657	U	928	U
118-74-1	Hexachlorobenzene	410	µg/kg	95.6	U	129	U	1930	U	644	U	910	U
87-86-5	Pentachlorophenol	1000	µg/kg	65	U	87.8	U	1310	U	438	U	618	U
86-74-8	Carbazole	NA *	µg/kg	NA		135		11100		512	U	2460	
84-74-2	Di-n-butylphthalate	8100	µg/kg	51.9	JB	54	J	5820	U	1940	U	2740	U
85-68-7	Butylbenzylphthalate	50000	µg/kg	63.7	U	86	U	1290	U	429	U	606	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	110	U	149	U	2230	U	743	U	1050	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	140	JB	594		8760	U	2920	U	279	J
117-84-0	Di-n-octylphthalate	50000	µg/kg	82	U	111	U	1660	U	553	U	781	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	66.6	J	108	J	6650		75400		102000	
208-96-8	Acenaphthylene	41000	µg/kg	107	U	697		7810		11200		19300	
120-12-7	Anthracene	50000*	µg/kg	53.3	J	1610		25400		45400		58000	
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	70.6	U	1110		10500		11000		13300	
206-44-0	Fluoranthene	50000*	µg/kg	71.9	J	2190		82200		51900		71600	
86-73-7	Fluorene	50000*	µg/kg	51.9	J	131	J	16400		47600		65900	
91-57-6	2-Methylnaphthalene	36400	µg/kg	57.3	J	70.2	J	2240		191000		294000	
91-20-3	Naphthalene	13000	µg/kg	173		146	J	7380		546000		850000	
85-01-8	Phenanthrene	50000*	µg/kg	176		1160		83800		188000		268000	
129-00-0	Pyrene	50000*	µg/kg	115		2160		55300		67200		86500	
	Total Non Carcinogenic PAHs			765		9382.2		297680		1234700		1828600	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	54.6	J	1360		30100		33600		42500	
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	109	U	1540		30100		16000		19500	
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	88.7	U	868		14700		9170		17300	
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	72.4	U	1470		24000		23200		31600	
218-01-9	Chrysene	400	µg/kg	28	J	1410		28100		29000		38800	
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	84.7	U	911		10900		8920		10700	
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	79.6	U	302		3180		2850		3510	
	Total Probable Carcinogenic PAHs			82.6		7861		141080		122740		163910	
	Total PAHs			**847.6**		**17243.2**		**438760**		**1357440**		**1992510**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	4390		4790		5270		3910		2100	
7440-36-0	Antimony	SB / NA	mg/kg	0.19	J	0.14	J	0.32		0.17	J	0.23	U
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.32	U	0.26	U	0.26	U	0.26	U	0.3	U
7440-39-3	Barium	300 or SB / 15-600	mg/kg	78.4		46.1		56.7		38		17.4	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.08	U	0.065	U	0.065	U	0.065	U	0.076	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.08	U	0.027	J	0.032	J	0.065	U	0.076	U
7440-70-2	Calcium	SB / 130-35000	mg/kg	10900		6700		7500		1120		15900	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	15.7		8.62		9.22		9.27		6.23	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	5.43		4.12		4.48		4.94		2.81	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	15.1		15.8		17.7		10.1		4.53	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	9400		8450		9380		8400		5250	
7439-92-1	Lead	SB / 200-500	mg/kg	1.69		44.5		35.9		2.4		1.46	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	6790		4260		4280		2430		11400	
7439-96-5	Manganese	SB / 50-5000	mg/kg	138		129		151		72.5		55.1	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.0051	J	0.26		0.28		0.0025	J	0.011	U
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	11.2		6.95		7.96		7.66		4.42	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	2800		1240		1230		1760		720	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.31	U	0.25	U	0.25	U	0.25	U	0.3	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

Cas #:	Analyte:	TAGM 4046 Soil Cleanup Objectives / Eastern USA Background Concentrations	Units:										
	Client Sample ID:	TAGM 4046		01-04388-003		01-04270-013		01-04270-016		01-04270-018		01-04270-019	
	Sample Location:	Soil Cleanup		SB-10		SB-11		SB-11		SB-11		SB-11	
	Depth:	Objectives /		45' - 47'		2' - 4'		6' - 8'		14' - 16'		44' - 46'	
	Laboratory ID:	Eastern USA		K9286-3		K9230-4		K9230-5		K9230-7		K9231-1	
	Sampling Date:	Background		06/26/2001		06/01/2001		06/01/2001		06/01/2001		06/01/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
7440-22-4	Silver	SB / NA	mg/kg	0.1	U	0.081	U	0.081	U	0.081	U	0.095	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	76.7		190		213		123		167	
7440-28-0	Thallium	SB / NA	mg/kg	0.26	U	0.21	U	0.21	U	0.21	U	0.25	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	15.2		10.7		11.5		12.3		5.86	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	25		54.1		57.9		22.2		10.6	
57-12-5	Cyanide		mg/kg	0.26	U	0.45		0.8		0.13	J	0.3	U
	% Solids		%	75.1		92.6		92.8		92.9		78.9	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04388-003**		**01-04270-013**		**01-04270-016**		**01-04270-018**		**01-04270-019**	
	Sample Location:	**Soil Cleanup**		**SB-10**		**SB-11**		**SB-11**		**SB-11**		**SB-11**	
	Depth:	**Objectives /**		**45' - 47'**		**2' - 4'**		**6' - 8'**		**14' - 16'**		**44' - 46'**	
	Laboratory ID:	**Eastern USA**		**K9286-3**		**K9230-4**		**K9230-5**		**K9230-7**		**K9231-1**	
	Sampling Date:	**Background**		**06/26/2001**		**06/01/2001**		**06/01/2001**		**06/01/2001**		**06/01/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
75-71-8	Dichlorodifluoromethane		µg/kg	0.56	U								
75-45-6	Chlorodifluoromethane		µg/kg	0.43	U								
75-69-4	Trichlorofluoromethane		µg/kg	0.35	U								
76-13-1	1,1,2-Trichlorotrifluoroethane		µg/kg	0.33	U								
1634-04-4	Methyl t-butyl ether		µg/kg	0.48	U								
590-20-7	2,2-Dichloropropane		µg/kg	0.32	U								
74-97-5	Bromochloromethane		µg/kg	0.23	U								
563-58-6	1,1-Dichloropropene		µg/kg	0.59	U								
74-95-3	Dibromomethane		µg/kg	0.41	U								
110-75-8	2-Chloroethylvinylether		µg/kg	0.41	U								
142-28-9	1,3-Dichloropropane		µg/kg	0.51	U								
106-93-4	1,2-Dibromoethane		µg/kg	0.32	U								
630-20-6	1,1,1,2-Tetrachloroethane		µg/kg	0.23	U								
98-82-8	Isopropylbenzene		µg/kg	0.13	U								
108-86-1	Bromobenzene		µg/kg	0.23	U								
103-65-1	n-Propylbenzene		µg/kg	0.19	U								
96-18-4	1,2,3-Trichloropropane		µg/kg	0.68	U								
622-96-8	p-Ethyltoluene		µg/kg	0.23	U								
108-67-8	1,3,5-Trimethylbenzene		µg/kg	0.13	U								
95-49-8	2-Chlorotoluene		µg/kg	0.11	U								
106-43-4	4-Chlorotoluene		µg/kg	0.19	U								
98-06-6	tert-Butylbenzene		µg/kg	0.2	U								
95-63-6	1,2,4-Trimethylbenzene		µg/kg	0.27	U								
135-98-8	sec-Butylbenzene		µg/kg	0.16	U								
99-87-6	4-Isopropyltoluene		µg/kg	0.24	U								
541-73-1	1,3-Dichlorobenzene		µg/kg	0.24	U								
106-46-7	1,4-Dichlorobenzene		µg/kg	0.29	U								
95-50-1	1,2-Dichlorobenzene		µg/kg	0.17	U								
105-05-5	p-Diethylbenzene		µg/kg	0.21	U								
104-51-8	n-Butylbenzene		µg/kg	0.19	U								
95-93-2	1,2,4,5-Tetramethylbenzene		µg/kg	0.33	U								
96-12-8	1,2-Dibromo-3-chloropropane		µg/kg	0.89	U								
120-82-1	1,2,4-Trichlorobenzene		µg/kg	0.51	U								
87-68-3	Hexachlorobutadiene		µg/kg	0.19	U								
91-20-3	Naphthalene		µg/kg	1.8									
87-61-6	1,2,3-Trichlorobenzene		µg/kg	0.49	U								
100-51-6	Benzyl alcohol		µg/kg	101	U								
65-85-0	Benzoic acid		µg/kg	67.1	U								

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04270-017**		**01-04362-001**		**01-04362-004**		**01-04362-003**		**01-04362-002**	
	Sample Location:	**Soil Cleanup**		**SB-11**		**SB-12**		**SB-12**		**SB-12**		**SB-12**	
	Depth:	**Objectives /**		**54' - 56'**		**2' - 4'**		**14' - 16'**		**42' - 44'**		**48' - 52'**	
	Laboratory ID:	**Eastern USA**		**K9230-6**		**K9267-1**		**K9267-4**		**K9267-3**		**K9267-2**	
	Sampling Date:	**Background**		**06/01/2001**		**06/18/2001**		**06/18/2001**		**06/18/2001**		**06/18/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	7.99	U	7.19	U	7.96	U	8.54	U	8.18	U
11104-28-2	PCB 1221	1000	µg/kg	9.74	U	8.76	U	9.7	U	10.4	U	9.96	U
11141-16-5	PCB 1232	1000	µg/kg	6.95	U	6.25	U	6.92	U	7.42	U	7.11	U
53469-21-9	PCB 1242	1000	µg/kg	8.69	U	7.82	U	8.66	U	9.28	U	8.89	U
12672-29-6	PCB 1248	1000	µg/kg	10.8	U	9.75	U	10.8	U	11.6	U	11.1	U
11097-69-1	PCB 1254	1000	µg/kg	6.49	U	275		6.47	U	6.93	U	6.64	U
11096-82-5	PCB 1260	1000	µg/kg	6.54	U	5.88	U	6.51	U	6.98	U	6.69	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	1.8	U	0.39	U	147	U	393	U	2.21	U
74-83-9	Bromomethane	NA *	µg/kg	1.56	U	0.18	U	129	U	345	U	1.05	U
75-01-4	Vinyl Chloride	200	µg/kg	1.8	U	0.22	U	29.9	U	80.2	U	1.23	U
75-00-3	Chloroethane	1900	µg/kg	1.8	U	0.36	U	182	U	489	U	2.03	U
75-09-2	Methylene Chloride	100	µg/kg	18.5	B	7.4	B	880	B	2110	B	52.7	B
67-64-1	Acetone	200	µg/kg	328		34.1		933	U	2500	U	30.8	U
75-15-0	Carbon disulfide	2700	µg/kg	1.14	U	0.22	U	59.8	U	160	U	9.7	
75-35-4	1,1-Dichloroethene	400	µg/kg	4.99	U	0.35	U	89.7	U	241	U	1.97	U
75-34-3	1,1-Dichloroethane	200	µg/kg	1.44	U	0.16	U	65.8	U	176	U	0.92	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	1.68	U	0.16	U	59.8	U	160	U	0.92	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	1.2	U	0.18	U	62.8	U	168	U	1.05	U
67-66-3	Chloroform	300	µg/kg	1.02	U	0.17	U	59.8	U	160	U	0.98	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.72	U	0.24	U	68.8	U	184	U	1.35	U
78-93-3	2-Butanone	300	µg/kg	30	U	4.41	U	1500	U	4010	U	25.1	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	3.61	U	0.15	U	65.8	U	176	U	0.86	U
56-23-5	Carbon Tetrachloride	600	µg/kg	1.44	U	0.23	U	74.8	U	200	U	1.29	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.84	U	0.19	U	44.8	U	120	U	1.11	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	1.56	U	0.15	U	108	U	289	U	0.86	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	1.62	U	0.19	U	47.8	U	128	U	1.11	U
79-01-6	Trichloroethene	700	µg/kg	1.26	U	10.2		47.8	U	128	U	1.23	U
124-48-1	Dibromochloromethane	NA *	µg/kg	5.29	U	0.26	U	32.9	U	88.2	U	1.48	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	1.8	U	0.21	U	26.9	U	72.2	U	1.17	U
71-43-2	Benzene	60	µg/kg	0.96	U	9		47.8	U	128	U	249	
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	1.62	U	0.24	U	23.9	U	64.2	U	1.35	U
75-25-2	Bromoform	NA *	µg/kg	1.74	U	0.26	U	29.9	U	80.2	U	1.48	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	30	U	5.4	U	1500	U	4010	U	30.8	U
591-78-6	2-Hexanone	NA *	µg/kg	30	U	5.4	U	1500	U	4010	U	30.8	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.6	U	0.19	U	71.8	U	192	U	1.11	U
108-88-3	Toluene	1500	µg/kg	0.9	U	4.1		2900		1860		6.6	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	2.4	U	0.22	U	47.8	U	128	U	1.23	U
108-90-7	Chlorobenzene	1700	µg/kg	1.08	U	0.14	U	44.8	U	120	U	0.8	U
100-41-4	Ethylbenzene	5500	µg/kg	16.7		11.1		245000		263000		278	
100-42-5	Styrene	NA *	µg/kg	0.6	U	0.19	U	50.8	U	136	U	1.11	U
108-38-3	m,p-xylene	1200	µg/kg	11.7		10.7		253000		280000		76.4	
95-47-6	o-xylene	1200	µg/kg	14.1		5.4		113000		137000		105	
	Total BTEX		**µg/kg**	**42.5**		**40.3**		**613900**		**681860**		**715**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	67.8	U	64.4	U	71.4	U	76.5	U	73.3	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	85.2	U	83.5	U	92.5	U	99.1	U	95	U
95-57-8	2-Chlorophenol	800	µg/kg	70.1	U	78.4	U	86.8	U	93.1	U	89.2	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	85.1	U	85.5	U	94.7	U	102	U	97.3	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	86.9	U	81.3	U	90.1	U	96.5	U	92.5	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	87.9	U	91.7	U	102	U	109	U	104	U
95-48-7	2-Methylphenol	100	µg/kg	69.8	U	82.2	U	91	U	97.6	U	93.5	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	50.8	U	86.7	U	96	U	103	U	98.6	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	57.2	U	24.9	J	91.1	U	97.7	U	93.6	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	71	U	75.8	U	84	U	90	U	86.2	U
67-72-1	Hexachloroethane	NA *	µg/kg	88.5	U	72.9	U	80.7	U	86.5	U	82.9	U
98-95-3	Nitrobenzene	200	µg/kg	97.6	U	90.6	U	100	U	2690	U	103	U
78-59-1	Isophorone	4400	µg/kg	65.7	U	73.8	U	81.8	U	2190	U	84	U
88-75-5	2-Nitrophenol	330	µg/kg	75	U	68.8	U	76.2	U	2040	U	78.2	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	42.1	U	64.3	U	71.3	U	1910	U	73.2	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	77.2	U	84.4	U	93.5	U	2510	U	96.1	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	72	U	76	U	84.2	U	2260	U	86.5	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	79.8	U	92.7	U	103	U	2750	U	105	U
106-47-8	4-Chloroaniline	220	µg/kg	88.3	U	45.9	U	50.9	U	1360	U	52.3	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	81	U	86.7	U	96	U	2570	U	98.6	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	55	U	89.2	U	98.8	U	2650	U	101	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	132	U	38.4	U	42.5	U	45.6	U	43.7	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04270-017**		**01-04362-001**		**01-04362-004**		**01-04362-003**		**01-04362-002**	
	Sample Location:	**Soil Cleanup**		**SB-11**		**SB-12**		**SB-12**		**SB-12**		**SB-12**	
	Depth:	**Objectives /**		**54' - 56'**		**2' - 4'**		**14' - 16'**		**42' - 44'**		**48' - 52'**	
	Laboratory ID:	**Eastern USA**		**K9230-6**		**K9267-1**		**K9267-4**		**K9267-3**		**K9267-2**	
	Sampling Date:	**Background**		**06/01/2001**		**06/18/2001**		**06/18/2001**		**06/18/2001**		**06/18/2001**	
	Matrix:	**Concentrations**		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	**Analyte:**		**Units:**										
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	88.5	U	76.3	U	84.6	U	90.6	U	86.8	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	82	U	68	U	75.3	U	80.7	U	77.4	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	82.1	U	88.7	U	98.2	U	105	U	101	U
88-74-4	2-Nitroaniline	430	µg/kg	57.3	U	66.6	U	73.8	U	79.1	U	75.8	U
131-11-3	Dimethylphthalate	2000	µg/kg	73.4	U	88.5	U	98.1	U	105	U	101	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	60.6	U	65.7	U	72.8	U	78	U	74.8	U
99-09-2	3-Nitroaniline	500	µg/kg	51.7	U	42.4	U	46.9	U	50.3	U	48.2	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	72.4	U	62.8	U	69.6	U	74.6	U	71.5	U
100-02-7	4-Nitrophenol	100	µg/kg	98.3	U	141	U	156	U	168	U	161	U
132-64-9	Dibenzofuran	6200	µg/kg	78.1	U	211		1830		5000		104	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	45.1	U	60.1	U	66.6	U	71.4	U	68.4	U
84-66-2	Diethylphthalate	7100	µg/kg	57.6	U	58.2	U	64.4	U	69.1	U	66.2	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	80.2	U	105	U	116	U	124	U	119	U
100-01-6	4-Nitroaniline	NA *	µg/kg	76.9	U	48.9	U	54.1	U	58	U	55.6	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	79.1	U	82.5	U	91.4	U	97.9	U	93.8	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	70.7	U	86.8	U	96.2	U	103	U	98.8	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	75.2	U	79.1	U	87.7	U	94	U	90	U
118-74-1	Hexachlorobenzene	410	µg/kg	68.5	U	77.6	U	86	U	92.2	U	88.3	U
87-86-5	Pentachlorophenol	1000	µg/kg	50.7	U	52.8	U	58.4	U	62.6	U	60	U
86-74-8	Carbazole	NA *	µg/kg	55.5	U	337		505		2110		70.2	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	234	U	38.9	J	259	U	277	U	33.2	J
85-68-7	Butylbenzylphthalate	50000	µg/kg	62.1	U	51.7	U	57.2	U	61.4	U	58.8	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	146	U	89.5	U	99.2	U	106	U	102	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	90.1	JB	608		163	J	335	J	92.3	J
117-84-0	Di-n-octylphthalate	50000	µg/kg	64.5	U	66.6	U	73.8	U	1980	U	75.8	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	39.7	J	265		52200		118000		28.3	J
208-96-8	Acenaphthylene	41000	µg/kg	70.4	U	1580		4480		10200		98.9	U
120-12-7	Anthracene	50000*	µg/kg	61.3	U	1120		27900		59000		88.3	U
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	44.6	U	1510		3190		12900		65.2	U
206-44-0	Fluoranthene	50000*	µg/kg	75.7		5040		34500		78100		25.8	J
86-73-7	Fluorene	50000*	µg/kg	37.3	J	343		26200		**62500**		29.5	J
91-57-6	2-Methylnaphthalene	36400	µg/kg	32.5	J	307		87400		**211000**		34.4	J
91-20-3	Naphthalene	13000	µg/kg	135		832		**241000**	E	**885000**		204	
85-01-8	Phenanthrene	50000*	µg/kg	52.9	J	3210		**93100**		**200000**		71.3	J
129-00-0	Pyrene	50000*	µg/kg	56.5		5590		47200		**105000**		38.1	J
	Total Non Carcinogenic PAHs			429.6		19797		617170		1741700		431.4	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	44.5	U	**3060**		**18800**		**41300**		61.7	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	58.3	U	**3180**		**5060**		**16000**		101	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	53.5	U	**3440**		**6060**		**20400**		81.9	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	43.3	U	**3440**		**9690**		**30500**		66.9	U
218-01-9	Chrysene	400	µg/kg	54.7	U	**3360**		**16100**		**36000**		61.5	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	41.3	U	1580		**2920**		**9850**		78.2	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	44.6	U	**506**		**1040**		**3210**		73.6	U
	Total Probable Carcinogenic PAHs			0		18566		59670		157260		0	
	Total PAHs			**429.6**		**38363**		**676840**		**1898960**		**431.4**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	4220		2620		3970		1880		3680	
7440-36-0	Antimony	SB / NA	mg/kg	0.27		0.34		0.41		0.17	J	0.36	
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.29	U	1.52		0.29	U	0.31	U	0.3	U
7440-39-3	Barium	300 or SB / 15-600	mg/kg	46.7		53.2		38		17.1		43.8	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.072	U	0.065	U	0.072	U	0.077	U	0.074	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.072	U	0.22		0.072	U	0.077	U	0.074	U
7440-70-2	Calcium	SB / 130-35000	mg/kg	16200		12800		1030		19500		15400	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	**11.2**		6.42		8.36		3.43		8.28	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	5.08		2.99		5.92		2.24		4.72	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	8.36		**25.5**		10.9		4.44		10.4	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	**9080**		**6270**		**8030**		**3710**		**7480**	
7439-92-1	Lead	SB / 200-500	mg/kg	1.79		50.6		2.02		1.37		2.82	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	**10400**		3960		2760		**13500**		**9170**	
7439-96-5	Manganese	SB / 50-5000	mg/kg	115		116		68.1		67		109	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.00013	J	**1.3**		0.0057	J	0.0047	J	0.01	J
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	7.85		5.73		8.3		3.32		7.38	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	2400		789		1880		785		2300	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.28	U	0.25	U	0.28	U	0.3	U	0.29	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04270-017**		**01-04362-001**		**01-04362-004**		**01-04362-003**		**01-04362-002**	
	Sample Location:	**Soil Cleanup**		**SB-11**		**SB-12**		**SB-12**		**SB-12**		**SB-12**	
	Depth:	**Objectives /**		**54' - 56'**		**2' - 4'**		**14' - 16'**		**42' - 44'**		**48' - 52'**	
	Laboratory ID:	**Eastern USA**		**K9230-6**		**K9267-1**		**K9267-4**		**K9267-3**		**K9267-2**	
	Sampling Date:	**Background**		**06/01/2001**		**06/18/2001**		**06/18/2001**		**06/18/2001**		**06/18/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			No		No		No		No		No	
Cas #:	**Analyte:**		**Units:**										
7440-22-4	Silver	SB / NA	mg/kg	0.09	U	0.081	U	0.09	U	0.096	U	0.092	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	169		241		95		140		149	
7440-28-0	Thallium	SB / NA	mg/kg	0.23	U	0.21	U	0.23	U	0.25	U	0.24	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	13.3		5.76		10.8		1.78		9.74	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	$\boxed{21.9}$		$\boxed{59.3}$		$\boxed{20.9}$		9.07		19.3	
57-12-5	Cyanide		mg/kg	0.27	U	2.78		0.3	U	0.28	U	0.28	U
	% Solids		%	83.2		92.5		83.5		77.9		81.3	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04272-001**		**01-04272-002**		**01-04272-003**		**01-04272-004**		**00-07914-003**	
	Sample Location:	**Soil Cleanup**		**SB-13**		**SB-13**		**SB-13**		**SB-13**		**SB-14**	
	Depth:	**Objectives /**		**3' - 4'**		**13' - 14'**		**31' - 32'**		**34' - 35'**		**2'-4'**	
	Laboratory ID:	**Eastern USA**		**K9228-1**		**K9228-2**		**K9228-3**		**K9228-4**		**J9482-3**	
	Sampling Date:	**Background**		**06/04/2001**		**06/04/2001**		**06/04/2001**		**06/04/2001**		**08/16/2000**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			No		No		No		No		No	
Cas #:	**Analyte:**		**Units:**										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	7.1	U	8.22	U	8.04	U	8.19	U	2.32	U
11104-28-2	PCB 1221	1000	µg/kg	8.65	U	10	U	9.79	U	9.98	U	10.9	U
11141-16-5	PCB 1232	1000	µg/kg	6.18	U	7.14	U	6.99	U	7.12	U	2.42	U
53469-21-9	PCB 1242	1000	µg/kg	7.72	U	8.94	U	8.74	U	8.9	U	1.82	U
12672-29-6	PCB 1248	1000	µg/kg	9.64	U	11.1	U	10.9	U	11.1	U	4.1	U
11097-69-1	PCB 1254	1000	µg/kg	5.77	U	6.67	U	6.53	U	6.65	U	6.2	U
11096-82-5	PCB 1260	1000	µg/kg	5.81	U	6.72	U	6.58	U	6.7	U	7.12	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.36	U	1310	U	1280	U	2.09	U	0.39	U
74-83-9	Bromomethane	NA *	µg/kg	0.45	U	1000	U	982	U	2.59	U	0.44	U
75-01-4	Vinyl Chloride	200	µg/kg	0.27	U	1310	U	1280	U	1.54	U	0.39	U
75-00-3	Chloroethane	1900	µg/kg	0.24	U	1040	U	1010	U	1.36	U	0.22	U
75-09-2	Methylene Chloride	100	µg/kg	0.6	U	2630	B	4220	B	11	B	0.62	U
67-64-1	Acetone	200	µg/kg	6.66	U	3550	U	3480	U	42.4		4.95	U
75-15-0	Carbon disulfide	2700	µg/kg	0.28	U	510	U	499	U	1.6	U	0.31	U
75-35-4	1,1-Dichloroethene	400	µg/kg	0.25	U	340	U	332	U	1.42	U	0.24	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.25	U	386	U	378	U	1.42	U	0.18	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.29	U	433	U	423	U	1.66	U	0.47	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.2	U	278	U	272	U	1.17	U	0.57	U
67-66-3	Chloroform	300	µg/kg	0.26	U	340	U	332	U	5.2		0.19	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.12	U	247	U	242	U	0.68	U	0.34	U
78-93-3	2-Butanone	300	µg/kg	5.35	U	26600	U	26000	U	30.8	U	2.86	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.26	U	216	U	212	U	1.48	U	0.32	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.22	U	154	U	151	U	1.29	U	0.31	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.14	U	247	U	242	U	0.8	U	0.22	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.064	U	216	U	212	U	0.37	U	0.21	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.13	U	340	U	332	U	0.74	U	0.28	U
79-01-6	Trichloroethene	700	µg/kg	0.14	U	263	U	257	U	0.8	U	0.34	U
124-48-1	Dibromochloromethane	NA *	µg/kg	0.086	U	263	U	257	U	0.49	U	0.33	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.13	U	294	U	287	U	0.74	U	0.54	U
71-43-2	Benzene	60	µg/kg	0.26	U	263	U	257	U	1.48	U	0.32	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.15	U	216	U	212	U	0.86	U	0.47	U
75-25-2	Bromoform	NA *	µg/kg	0.064	U	417	U	408	U	0.37	U	0.55	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	5.35	U	13900	U	13600	U	30.8	U	1.69	U
591-78-6	2-Hexanone	NA *	µg/kg	5.35	U	7720	U	7560	U	30.8	U	1.77	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.096	U	185	U	181	U	0.55	U	0.32	U
108-88-3	Toluene	1500	µg/kg	1.8		**2640**		**2450**		0.62	U	0.38	U
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.096	U	232	U	227	U	0.55	U	0.57	U
108-90-7	Chlorobenzene	1700	µg/kg	0.075	U	294	U	287	U	0.43	U	0.33	U
100-41-4	Ethylbenzene	5500	µg/kg	38.9		**107000**		**127000**		7.1		0.39	U
100-42-5	Styrene	NA *	µg/kg	0.15	U	201	U	196	U	0.86	U	0.33	U
108-38-3	m,p-xylene	1200	µg/kg	31.6		**102000**		**154000**		5.3		0.72	U
95-47-6	o-xylene	1200	µg/kg	10		**42000**		**69800**		6.5		0.32	U
	Total BTEX		**µg/kg**	**82.3**		**253640**		**353250**		**18.9**		**0**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	20.1	U	581	U	568	U	23.2	U	67.9	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	25.2	U	730	U	714	U	29.1	U	88	U
95-57-8	2-Chlorophenol	800	µg/kg	20.8	U	601	U	587	U	23.9	U	82.6	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	25.2	U	729	U	713	U	29.1	U	90.2	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	25.7	U	745	U	729	U	29.7	U	85.7	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	26	U	753	U	737	U	30	U	96.7	U
95-48-7	2-Methylphenol	100	µg/kg	20.7	U	598	U	585	U	23.9	U	86.6	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	15.1	U	436	U	426	U	17.4	U	91.4	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	17	U	490	U	480	U	19.5	U	86.8	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	21	U	609	U	596	U	24.3	U	79.9	U
67-72-1	Hexachloroethane	NA *	µg/kg	26.2	U	758	U	742	U	30.2	U	76.8	U
98-95-3	Nitrobenzene	200	µg/kg	28.9	U	836	U	818	U	33.3	U	95.5	U
78-59-1	Isophorone	4400	µg/kg	19.5	U	563	U	551	U	22.5	U	77.9	U
88-75-5	2-Nitrophenol	330	µg/kg	22.2	U	643	U	629	U	25.6	U	72.5	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	12.5	U	361	U	353	U	14.4	U	67.8	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	22.9	U	661	U	647	U	26.4	U	89	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	21.3	U	617	U	604	U	24.6	U	80.1	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	23.6	U	684	U	669	U	27.3	U	97.7	U
106-47-8	4-Chloroaniline	220	µg/kg	26.2	U	757	U	741	U	30.2	U	48.4	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	24	U	694	U	679	U	27.7	U	91.4	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	16.3	U	472	U	462	U	18.8	U	94	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	39	U	1130	U	1100	U	45	U	40.5	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04272-001**		**01-04272-002**		**01-04272-003**		**01-04272-004**		**00-07914-003**	
	Sample Location:	**Soil Cleanup**		**SB-13**		**SB-13**		**SB-13**		**SB-13**		**SB-14**	
	Depth:	**Objectives /**		**3' - 4'**		**13' - 14'**		**31' - 32'**		**34' - 35'**		**2'-4'**	
	Laboratory ID:	**Eastern USA**		**K9228-1**		**K9228-2**		**K9228-3**		**K9228-4**		**J9482-3**	
	Sampling Date:	**Background**		**06/04/2001**		**06/04/2001**		**06/04/2001**		**06/04/2001**		**08/16/2000**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	26.2	U	758	U	742	U	30.2	U	80.5	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	24.3	U	703	U	687	U	28	U	71.7	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	24.3	U	704	U	688	U	28	U	93.5	U
88-74-4	2-Nitroaniline	430	µg/kg	17	U	491	U	481	U	19.6	U	70.2	U
131-11-3	Dimethylphthalate	2000	µg/kg	21.8	U	629	U	616	U	25.1	U	93.4	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	17.9	U	519	U	508	U	20.7	U	69.3	U
99-09-2	3-Nitroaniline	500	µg/kg	15.3	U	443	U	433	U	17.7	U	44.7	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	21.4	U	620	U	607	U	24.7	U	66.2	U
100-02-7	4-Nitrophenol	100	µg/kg	29.1	U	843	U	824	U	33.6	U	149	U
132-64-9	Dibenzofuran	6200	µg/kg	23.1	U	4570		**6950**		15.6	J	96.1	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	13.4	U	386	U	378	U	15.4	U	63.4	U
84-66-2	Diethylphthalate	7100	µg/kg	13.5	J	493	U	483	U	19.7	U	61.3	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	23.8	U	687	U	672	U	27.4	U	110	U
100-01-6	4-Nitroaniline	NA *	µg/kg	22.8	U	659	U	645	U	26.3	U	51.5	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	23.4	U	678	U	663	U	27	U	87	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	20.9	U	606	U	593	U	24.1	U	91.5	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	22.3	U	645	U	631	U	25.7	U	83.4	U
118-74-1	Hexachlorobenzene	410	µg/kg	20.3	U	587	U	574	U	23.4	U	81.9	U
87-86-5	Pentachlorophenol	1000	µg/kg	15	U	435	U	425	U	17.3	U	55.6	U
86-74-8	Carbazole	NA *	µg/kg	13.9	J	476	U	2700		138		86.5	
84-74-2	Di-n-butylphthalate	8100	µg/kg	31.3	J	2010	U	1970	U	27.1	J	64.8	JB
85-68-7	Butylbenzylphthalate	50000	µg/kg	18.4	U	533	U	521	U	21.2	U	54.5	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	43.2	U	1250	U	1220	U	49.8	U	94.4	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	657	B	216	JB	3710	U	89.9	JB	62.6	J
117-84-0	Di-n-octylphthalate	50000	µg/kg	19.1	U	553	U	541	U	22	U	70.2	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	40.2		**61700**		38900		59.5		28.4	J
208-96-8	Acenaphthylene	41000	µg/kg	377		11500		8120		10.7	J	89.9	J
120-12-7	Anthracene	50000*	µg/kg	118		36400		24100		30.8		303	
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	239		5830		4560		15.2	U	2800	
206-44-0	Fluoranthene	50000*	µg/kg	187		47900		37800		39		8490	
86-73-7	Fluorene	50000*	µg/kg	27.1		38200		28800		108		100	U
91-57-6	2-Methylnaphthalene	36400	µg/kg	65.9		**130000**		**81900**		110		80.4	U
91-20-3	Naphthalene	13000	µg/kg	131		**305000**		**241000**		328		43.2	J
85-01-8	Phenanthrene	50000*	µg/kg	161		**142000**		**84800**		160		485	
129-00-0	Pyrene	50000*	µg/kg	282		**61900**		45500		43.5		8060	
	Total Non Carcinogenic PAHs			1628.2		840430		595480		889.5		20299.5	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	89		**25800**		**17600**		16		**8990**	
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	131		**8460**		**6080**		19.9	U	**9740**	
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	115		**11900**		**8560**		18.3	U	**6310**	
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	236		**18000**		**12600**		9.4	J	**8270**	
218-01-9	Chrysene	400	µg/kg	122		**23000**		**15800**		13.5	J	**8100**	
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	140		**4560**		**3510**		14.1	U	**3350**	
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	30.6		**1470**		**1050**		15.2	U	**1610**	
	Total Probable Carcinogenic PAHs			863.6		93190		65200		38.9		46370	
	Total PAHs			**2491.8**		**933620**		**660680**		**928.4**		**66669.5**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	3200		3570		1930		3680		5910	
7440-36-0	Antimony	SB / NA	mg/kg	0.021	J	0.21	J	0.22	U	0.062	J	1.74	
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.26	U	0.3	U	0.29	U	0.3	U	0.1	J
7440-39-3	Barium	300 or SB / 15-600	mg/kg	16.1		32.8		19.8		39.4		60.5	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.064	U	0.074	U	0.073	U	0.074	U	**0.39**	
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.064	U	0.074	U	0.073	U	0.074	U	**1.16**	
7440-70-2	Calcium	SB / 130-35000	mg/kg	9560		1060		14900		13400		3810	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	5.56		7.72		7.33		**10.2**		**11.4**	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	3.62		3.89		4.48		4.82		5.4	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	10.2		6.48		7.74		7.11		23.8	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	**5480**		**7490**		**5640**		**7940**		**10900**	
7439-92-1	Lead	SB / 200-500	mg/kg	2.82		1.85		1.59		1.82		25.1	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	**8410**		2020		**10600**		**10500**		3440	
7439-96-5	Manganese	SB / 50-5000	mg/kg	107		83.6		79.9		88.1		189	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.024		0.011	U	0.0025	J	0.0078	J	0.055	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	4.92		6.28		7.33		7.19		9.73	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	782		1020		647		1970		1680	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.25	U	0.29	U	0.28	U	0.29	U	0.21	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04272-001**		**01-04272-002**		**01-04272-003**		**01-04272-004**		**00-07914-003**	
	Sample Location:	**Soil Cleanup**		**SB-13**		**SB-13**		**SB-13**		**SB-13**		**SB-14**	
	Depth:	**Objectives /**		**3' - 4'**		**13' - 14'**		**31' - 32'**		**34' - 35'**		**2'-4'**	
	Laboratory ID:	**Eastern USA**		**K9228-1**		**K9228-2**		**K9228-3**		**K9228-4**		**J9482-3**	
	Sampling Date:	**Background**		**06/04/2001**		**06/04/2001**		**06/04/2001**		**06/04/2001**		**08/16/2000**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
7440-22-4	Silver	SB / NA	mg/kg	0.08	U	0.093	U	0.091	U	0.092	U	0.55	
7440-23-5	Sodium	SB / 6000-8000	mg/kg	230		163		138		112		114	U
7440-28-0	Thallium	SB / NA	mg/kg	0.21	U	0.24	U	0.24	U	0.24	U	0.21	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	5.58		10.1		6.43		11.9		16.4	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	$\boxed{44.6}$		$\boxed{25.3}$		11.2		$\boxed{21.2}$		$\boxed{44.1}$	
57-12-5	Cyanide		mg/kg	0.26	U	0.21	J	0.23	U	0.28	U	3.08	
	% Solids		%	93.6		80.9		82.7		81.2		87.9	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-07914-007**		**00-07914-008**		**01-03882-005**		**01-03882-004**		**01-03882-003**	
	Sample Location:	**Soil Cleanup**		**SB-14**		**SB-14**		**SB-15**		**SB-15**		**SB-15**	
	Depth:	**Objectives /**		**10.5'-11.8'**		**16'-18'**		**2' - 4'**		**10' - 11'**		**21.5' - 22'**	
	Laboratory ID:	**Eastern USA**		**J9482-7**		**J9482-8**		**K9161-5**		**K9161-4**		**K9161-3**	
	Sampling Date:	**Background**		**08/16/2000**		**08/16/2000**		**04/24/2001**		**04/23/2001**		**04/23/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	2.59	U	2.94	U	43.2	U	45.2	U	41.7	U
11104-28-2	PCB 1221	1000	µg/kg	12.2	U	13.8	U	184	U	193	U	178	U
11141-16-5	PCB 1232	1000	µg/kg	2.71	U	3.07	U	97.4	U	102	U	94	U
53469-21-9	PCB 1242	1000	µg/kg	2.03	U	2.31	U	40.8	U	42.7	U	39.4	U
12672-29-6	PCB 1248	1000	µg/kg	4.57	U	5.19	U	92.4	U	96.8	U	89.2	U
11097-69-1	PCB 1254	1000	µg/kg	6.93	U	7.85	U	21.5	U	22.5	U	20.7	U
11096-82-5	PCB 1260	1000	µg/kg	7.95	U	9.02	U	61.2	U	64.1	U	59.1	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	57.2	U	64.8	U	0.41	U	0.43	U	0.4	U
74-83-9	Bromomethane	NA *	µg/kg	39.8	U	45	U	0.19	U	0.2	U	0.19	U
75-01-4	Vinyl Chloride	200	µg/kg	55.6	U	63	U	0.23	U	0.24	U	0.22	U
75-00-3	Chloroethane	1900	µg/kg	52.5	U	59.4	U	0.38	U	0.4	U	0.36	U
75-09-2	Methylene Chloride	100	µg/kg	31.8	U	36	U	3.6	B	3.8	B	3.9	B
67-64-1	Acetone	200	µg/kg	301	U	340	U	2.82	U	**408**		74.7	
75-15-0	Carbon disulfide	2700	µg/kg	23.8	U	27	U	0.23	U	1.1		0.22	U
75-35-4	1,1-Dichloroethene	400	µg/kg	33.4	U	37.8	U	0.36	U	0.38	U	0.35	U
75-34-3	1,1-Dichloroethane	200	µg/kg	22.3	U	25.2	U	0.17	U	0.18	U	0.17	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	42.9	U	48.6	U	0.17	U	0.18	U	0.17	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	30.2	U	34.2	U	0.19	U	0.2	U	0.19	U
67-66-3	Chloroform	300	µg/kg	20.7	U	23.4	U	0.18	U	0.19	U	0.18	U
107-06-2	1,2-Dichloroethane	100	µg/kg	25.4	U	28.8	U	0.25	U	0.26	U	0.24	U
78-93-3	2-Butanone	300	µg/kg	162	U	184	U	4.65	U	4.9	U	4.49	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	17.5	U	19.8	U	1.2		1.1		1	
56-23-5	Carbon Tetrachloride	600	µg/kg	28.6	U	32.4	U	0.24	U	0.25	U	0.23	U
75-27-4	Bromodichloromethane	NA *	µg/kg	28.6	U	32.4	U	0.21	U	0.22	U	0.2	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	25.4	U	28.8	U	0.16	U	0.17	U	0.15	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	28.6	U	32.4	U	0.21	U	0.22	U	0.2	U
79-01-6	Trichloroethene	700	µg/kg	27	U	30.6	U	0.23	U	0.24	U	0.22	U
124-48-1	Dibromochloromethane	NA *	µg/kg	12.7	U	14.4	U	0.27	U	0.29	U	0.26	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	49.3	U	55.8	U	0.22	U	0.23	U	0.21	U
71-43-2	Benzene	60	µg/kg	22.3	U	25.2	U	0.16	U	0.17	U	0.15	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	28.6	U	32.4	U	0.25	U	0.26	U	0.24	U
75-25-2	Bromoform	NA *	µg/kg	19.1	U	21.6	U	0.27	U	0.29	U	0.26	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	81.1	U	91.8	U	1.94	U	2.04	U	1.87	U
591-78-6	2-Hexanone	NA *	µg/kg	142	U	160	U	1.69	U	1.78	U	1.63	U
127-18-4	Tetrachloroethene	1400	µg/kg	12.7	U	14.4	U	0.21	U	0.22	U	0.2	U
108-88-3	Toluene	1500	µg/kg	25.4	U	28.8	U	0.23	U	1.1		0.94	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	20.7	U	23.4	U	0.23	U	0.24	U	0.22	U
108-90-7	Chlorobenzene	1700	µg/kg	11.1	U	12.6	U	0.15	U	0.16	U	0.14	U
100-41-4	Ethylbenzene	5500	µg/kg	896		1290		0.13	U	0.13	U	0.12	U
100-42-5	Styrene	NA *	µg/kg	12.7	U	14.4	U	0.21	U	0.22	U	0.2	U
108-38-3	m,p-xylene	1200	µg/kg	597		848		0.28	U	0.66		1.7	
95-47-6	o-xylene	1200	µg/kg	491		857		0.21	U	0.22	U	0.99	
	Total BTEX		**µg/kg**	**1984**		**2995**		**ND**		**1.76**		**3.63**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	124	U	140	U	136	U	71.3	U	65.7	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	119	U	135	U	176	U	92.3	U	85.1	U
95-57-8	2-Chlorophenol	800	µg/kg	122	U	138	U	166	U	86.7	U	79.9	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	130	U	147	U	181	U	94.6	U	87.2	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	126	U	143	U	172	U	90	U	82.9	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	128	U	145	U	194	U	101	U	93.5	U
95-48-7	2-Methylphenol	100	µg/kg	106	U	120	U	174	U	90.9	U	83.8	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	138	U	156	U	183	U	95.9	U	88.4	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	102	U	116	U	174	U	91	U	83.9	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	124	U	141	U	160	U	83.9	U	77.3	U
67-72-1	Hexachloroethane	NA *	µg/kg	131	U	148	U	154	U	80.6	U	74.3	U
98-95-3	Nitrobenzene	200	µg/kg	143	U	162	U	191	U	100	U	92.4	U
78-59-1	Isophorone	4400	µg/kg	131	U	148	U	156	U	81.7	U	75.3	U
88-75-5	2-Nitrophenol	330	µg/kg	99.6	U	113	U	145	U	76.1	U	70.1	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	60.2	U	68.3	U	136	U	71.2	U	65.6	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	120	U	136	U	178	U	93.4	U	86.1	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	104	U	118	U	161	U	84.1	U	77.5	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	126	U	143	U	196	U	103	U	94.5	U
106-47-8	4-Chloroaniline	220	µg/kg	131	U	149	U	97	U	50.8	U	46.9	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	126	U	143	U	183	U	95.9	U	88.4	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	102	U	115	U	188	U	98.7	U	91	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	106	U	120	U	81.1	U	42.5	U	39.1	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-07914-007**		**00-07914-008**		**01-03882-005**		**01-03882-004**		**01-03882-003**	
	Sample Location:	**Soil Cleanup**		**SB-14**		**SB-14**		SB-15		SB-15		SB-15	
	Depth:	**Objectives /**		**10.5'-11.8'**		**16'-18'**		**2' - 4'**		**10' - 11'**		**21.5' - 22'**	
	Laboratory ID:	Eastern USA		J9482-7		J9482-8		K9161-5		K9161-4		K9161-3	
	Sampling Date:	Background		**08/16/2000**		08/16/2000		**04/24/2001**		**04/23/2001**		**04/23/2001**	
	Matrix:	**Concentrations**		**Soil**		Soil		**Soil**		**Soil**		**Soil**	
	Validated:			No		No		No		No		No	
Cas #:	**Analyte:**		**Units:**										
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	101	U	114	U	161	U	84.5	U	77.8	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	96.9	U	110	U	144	U	75.2	U	69.3	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	116	U	131	U	187	U	98.1	U	90.4	U
88-74-4	2-Nitroaniline	430	µg/kg	91.2	U	103	U	141	U	73.7	U	67.9	U
131-11-3	Dimethylphthalate	2000	µg/kg	111	U	126	U	187	U	98	U	90.3	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	102	U	116	U	139	U	72.7	U	67	U
99-09-2	3-Nitroaniline	500	µg/kg	97.9	U	111	U	89.5	U	46.9	U	43.2	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	116	U	132	U	133	U	69.5	U	64.1	U
100-02-7	4-Nitrophenol	100	µg/kg	75.7	U	85.8	U	298	U	156	U	144	U
132-64-9	Dibenzofuran	6200	µg/kg	2540		1020		192	U	101	U	92.9	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	97.3	U	110	U	127	U	66.5	U	61.3	U
84-66-2	Diethylphthalate	7100	µg/kg	71.2	U	80.8	U	45.7	J	64.4	U	59.3	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	113	U	128	U	221	U	116	U	107	U
100-01-6	4-Nitroaniline	NA *	µg/kg	85.6	U	97.1	U	103	U	54.1	U	49.8	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	108	U	122	U	174	U	91.3	U	84.1	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	102	U	115	U	183	U	96.1	U	88.5	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	103	U	117	U	167	U	87.6	U	80.7	U
118-74-1	Hexachlorobenzene	410	µg/kg	113	U	128	U	164	U	85.9	U	79.2	U
87-86-5	Pentachlorophenol	1000	µg/kg	76.6	U	86.8	U	111	U	58.4	U	53.8	U
86-74-8	Carbazole	NA *	µg/kg	490		249	J	130	U	68.3	U	63	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	249	U	49	JB	356	JB	150	JB	168	JB
85-68-7	Butylbenzylphthalate	50000	µg/kg	75.9	U	86.1	U	109	U	57.2	U	52.7	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	246	U	279	U	189	U	99	U	91.3	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	439	U	67.7	J	662	JB	200	JB	331	JB
117-84-0	Di-n-octylphthalate	50000	µg/kg	1370	U	77.5	U	141	U	73.7	U	67.9	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	49000		13300		197	U	103	U	33.1	J
208-96-8	Acenaphthylene	41000	µg/kg	4340		2030		148	J	96.2	U	88.6	U
120-12-7	Anthracene	50000*	µg/kg	24500		8420		110	J	85.9	U	79.2	U
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	3960		1090		418		63.4	U	58.4	U
206-44-0	Fluoranthene	50000*	µg/kg	30400		9680		724		76	U	70	U
86-73-7	Fluorene	50000*	µg/kg	24800		8080		200	U	105	U	35.3	J
91-57-6	2-Methylnaphthalene	36400	µg/kg	**101000**		19900		161	U	84.3	U	24.3	J
91-20-3	Naphthalene	13000	µg/kg	**180000**		**22800**		189	U	99	U	69.5	J
85-01-8	Phenanthrene	50000*	µg/kg	**78600**		29400		240		84.2	U	89.3	
129-00-0	Pyrene	50000*	µg/kg	34200		11700		820		62.9	U	58	U
	Total Non Carcinogenic PAHs			530800		126400		2460		0		251.5	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	**11100**		**5670**		**562**		60	U	55.3	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	**5340**		**2530**		598		98.2	U	90.5	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	**7240**		**3480**		365		79.7	U	73.4	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	**11500**		**4880**		**626**		65.1	U	60	U
218-01-9	Chrysene	400	µg/kg	**10400**		**5120**		**546**		59.8	U	55.1	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	**3280**		1040		336		76.1	U	70.1	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	**1140**		**422**		137	U	71.5	U	65.9	U
	Total Probable Carcinogenic PAHs			50000		23142		3033		0		0	
	Total PAHs			**580800**		**149542**		**5493**		**0**		**251.5**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	3380		4310		5720		5230		5130	
7440-36-0	Antimony	SB / NA	mg/kg	2.02		1.47		0.21	U	0.22	U	0.5	
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.46		0.49	U	0.27	U	0.29	U	0.26	U
7440-39-3	Barium	300 or SB / 15-600	mg/kg	38.8		46.1		42.1		66.3		112	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	**0.3**		**0.32**		0.068	U	0.072	U	0.066	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.56		**1.09**		0.051	J	0.072	U	0.066	U
7440-70-2	Calcium	SB / 130-35000	mg/kg	1090		2130		3370		891		7060	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	6.22		9.49		**10.9**		**10.3**		**43.9**	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	2.83		6.32		4.46		3.85		11.1	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	4.34		17.1		11.9		4.99		12.2	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	**5450**		**10100**		**9180**		**7590**		**11000**	
7439-92-1	Lead	SB / 200-500	mg/kg	0.17	U	0.19	U	35		2.24		1.91	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	1320		2720		3090		2030		**7950**	
7439-96-5	Manganese	SB / 50-5000	mg/kg	54.5		71.9		183		69		108	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.011	U	0.013	U	**0.1**		0.028		0.01	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	4.1		8.41		7.34		5.92		**48**	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	298		1400		879		444		3420	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.48		1.61		0.27	U	0.28	U	0.26	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		00-07914-007		00-07914-008		01-03882-005		01-03882-004		01-03882-003	
	Sample Location:	Soil Cleanup		SB-14		SB-14		SB-15		SB-15		SB-15	
	Depth:	Objectives /		10.5'-11.8'		16'-18'		2' - 4'		10' - 11'		21.5' - 22'	
	Laboratory ID:	Eastern USA		J9482-7		J9482-8		K9161-5		K9161-4		K9161-3	
	Sampling Date:	Background		08/16/2000		08/16/2000		04/24/2001		04/23/2001		04/23/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
7440-22-4	Silver	SB / NA	mg/kg	0.1	J	1.24		0.086	U	0.09	U	0.083	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	257		439		92.6		201		136	
7440-28-0	Thallium	SB / NA	mg/kg	0.23	U	0.26	U	0.22	U	0.23	U	0.21	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	7.73		15.5		13.9		19.8		20	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	21.3		25.3		40.3		21.3		26.9	
57-12-5	Cyanide		mg/kg	0.37		0.47		0.18	J	0.13	J	0.067	J
	% Solids		%	78.7		69.4		87.6		83.6		90.7	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-03882-002**		**01-03882-001**		**00-07683-002**		**00-07757-001**		**00-07757-002**	
	Sample Location:	**Soil Cleanup**		**SB-16**		**SB-16**		**SB-17**		**SB-17**		**SB-17**	
	Depth:	**Objectives /**		**2' - 4'**		**9.5' - 10'**		**2'-4'**		**26'-28'**		**40'-44'**	
	Laboratory ID:	**Eastern USA**		**K9161-2**		**K9161-1**		**J7186-2**		**J7190-1**		**J7190-2**	
	Sampling Date:	**Background**		**04/24/2001**		**04/23/2001**		**08/08/2000**		**08/10/2000**		**08/10/2000**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	42.9	U	45.9	U	2.24	U	2.43	U	2.6	U
11104-28-2	PCB 1221	1000	µg/kg	183	U	196	U	10.6	U	11.4	U	12.2	U
11141-16-5	PCB 1232	1000	µg/kg	96.7	U	104	U	2.34	U	2.53	U	2.71	U
53469-21-9	PCB 1242	1000	µg/kg	40.5	U	43.4	U	1.76	U	1.9	U	2.04	U
12672-29-6	PCB 1248	1000	µg/kg	91.7	U	98.3	U	3.96	U	4.28	U	4.59	U
11097-69-1	PCB 1254	1000	µg/kg	157		22.8	U	6	U	6.48	U	6.94	U
11096-82-5	PCB 1260	1000	µg/kg	60.8	U	65.1	U	102		7.44	U	7.97	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.41	U	48.6	U	0.38	U	2.02	U	0.43	U
74-83-9	Bromomethane	NA *	µg/kg	0.19	U	18.2	U	0.43	U	2.32	U	0.5	U
75-01-4	Vinyl Chloride	200	µg/kg	0.23	U	38	U	0.38	U	2.02	U	0.43	U
75-00-3	Chloroethane	1900	µg/kg	0.37	U	45.6	U	0.21	U	1.13	U	0.24	U
75-09-2	Methylene Chloride	100	µg/kg	2.6	B	144		7	B	24	B	8.6	
67-64-1	Acetone	200	µg/kg	69.7		225	U	4.82	U	25.8	U	5.51	U
75-15-0	Carbon disulfide	2700	µg/kg	0.23	U	47.1	U	0.3	U	1.61	U	2.2	
75-35-4	1,1-Dichloroethene	400	µg/kg	0.36	U	27.4	U	0.23	U	1.25	U	0.27	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.17	U	21.3	U	0.18	U	0.95	U	0.2	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.17	U	33.4	U	0.46	U	2.44	U	0.52	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.19	U	45.6	U	0.56	U	2.98	U	0.64	U
67-66-3	Chloroform	300	µg/kg	0.18	U	22.8	U	0.19	U	1.01	U	0.22	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.25	U	30.4	U	0.33	U	1.79	U	0.38	U
78-93-3	2-Butanone	300	µg/kg	4.61	U	380	U	2.79	U	14.9	U	3.19	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.16	U	30.4	U	0.31	U	1.67	U	0.36	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.24	U	27.4	U	0.3	U	1.61	U	0.34	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.2	U	19.8	U	0.21	U	1.13	U	0.24	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.16	U	24.3	U	0.2	U	1.07	U	0.23	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.2	U	22.8	U	0.28	U	1.49	U	0.32	U
79-01-6	Trichloroethene	700	µg/kg	0.23	U	30.4	U	0.33	U	1.79	U	0.38	U
124-48-1	Dibromochloromethane	NA *	µg/kg	0.27	U	21.3	U	0.32	U	1.73	U	0.37	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.21	U	30.4	U	0.52	U	2.8	U	0.6	U
71-43-2	Benzene	60	µg/kg	0.16	U	15.2	U	0.31	U	1.67	U	0.36	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.25	U	22.8	U	0.46	U	2.44	U	0.52	U
75-25-2	Bromoform	NA *	µg/kg	0.27	U	13.7	U	0.53	U	2.86	U	0.61	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	1.92	U	76	U	1.64	U	8.81	U	1.88	U
591-78-6	2-Hexanone	NA *	µg/kg	1.67	U	60.8	U	1.72	U	9.22	U	1.97	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.2	U	16.7	U	0.31	U	1.67	U	0.36	U
108-88-3	Toluene	1500	µg/kg	0.23	U	22.8	U	0.37	U	6.7		0.42	U
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.23	U	33.4	U	0.56	U	2.98	U	0.64	U
108-90-7	Chlorobenzene	1700	µg/kg	0.15	U	16.7	U	0.32	U	1.73	U	0.37	U
100-41-4	Ethylbenzene	5500	µg/kg	0.12	U	1760		0.38	U	328		1.6	
100-42-5	Styrene	NA *	µg/kg	0.2	U	35	U	0.32	U	1.49	U	0.37	U
108-38-3	m,p-xylene	1200	µg/kg	0.28	U	349		0.7	U	623		0.8	U
95-47-6	o-xylene	1200	µg/kg	0.2	U	510		0.31	U	644		0.36	U
	Total BTEX		**µg/kg**	**ND**		**2619**		**0**		**1601.7**		**1.6**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	67.6	U	362	U	65.6	U	70.9	U	71.6	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	87.5	U	469	U	84.9	U	91.9	U	90	U
95-57-8	2-Chlorophenol	800	µg/kg	82.2	U	440	U	79.8	U	86.3	U	74	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	89.7	U	481	U	87	U	94.1	U	89.9	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	85.3	U	457	U	82.7	U	89.5	U	91.8	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	96.1	U	515	U	93.3	U	101	U	92.8	U
95-48-7	2-Methylphenol	100	µg/kg	86.2	U	462	U	83.6	U	90.4	U	73.8	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	90.9	U	487	U	88.2	U	95.4	U	53.7	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	86.3	U	462	U	83.7	U	90.6	U	60.5	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	79.5	U	426	U	77.1	U	83.4	U	75.1	U
67-72-1	Hexachloroethane	NA *	µg/kg	76.4	U	409	U	74.1	U	80.2	U	93.5	U
98-95-3	Nitrobenzene	200	µg/kg	95	U	509	U	92.2	U	99.7	U	103	U
78-59-1	Isophorone	4400	µg/kg	77.4	U	415	U	75.1	U	81.3	U	69.5	U
88-75-5	2-Nitrophenol	330	µg/kg	72.1	U	386	U	70	U	75.7	U	79.2	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	67.5	U	361	U	65.5	U	70.8	U	44.4	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	88.5	U	474	U	85.9	U	92.9	U	81.5	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	79.7	U	427	U	77.3	U	83.7	U	76.1	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	97.2	U	521	U	94.3	U	102	U	84.3	U
106-47-8	4-Chloroaniline	220	µg/kg	48.2	U	258	U	46.8	U	50.6	U	93.3	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	90.9	U	487	U	88.2	U	95.4	U	85.6	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	93.5	U	501	U	90.8	U	98.2	U	58.2	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	40.2	U	216	U	39	U	42.2	U	139	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-03882-002		01-03882-001		00-07683-002		00-07757-001		00-07757-002	
	Sample Location:	Soil Cleanup		SB-16		SB-16		SB-17		SB-17		SB-17	
	Depth:	Objectives /		2' - 4'		9.5' - 10'		2'-4'		26'-28'		40'-44'	
	Laboratory ID:	Eastern USA		K9161-2		K9161-1		J7186-2		J7190-1		J7190-2	
	Sampling Date:	Background		04/24/2001		04/23/2001		08/08/2000		08/10/2000		08/10/2000	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	80	U	429	U	77.7	U	84	U	93.5	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	71.3	U	382	U	69.2	U	74.9	U	86.6	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	93	U	498	U	90.2	U	97.6	U	86.7	U
88-74-4	2-Nitroaniline	430	µg/kg	69.8	U	374	U	67.8	U	73.3	U	60.6	U
131-11-3	Dimethylphthalate	2000	µg/kg	92.9	U	498	U	90.1	U	97.5	U	77.6	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	68.9	U	369	U	66.9	U	72.4	U	64	U
99-09-2	3-Nitroaniline	500	µg/kg	44.4	U	238	U	43.1	U	46.6	U	54.6	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	65.9	U	353	U	63.9	U	69.1	U	76.5	U
100-02-7	4-Nitrophenol	100	µg/kg	148	U	793	U	144	U	155	U	104	U
132-64-9	Dibenzofuran	6200	µg/kg	95.6	U	512	U	92.7	U	3970		82.5	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	63	U	338	U	61.2	U	66.2	U	47.6	U
84-66-2	Diethylphthalate	7100	µg/kg	61	U	327	U	59.2	U	64	U	60.8	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	110	U	589	U	107	U	115	U	84.7	U
100-01-6	4-Nitroaniline	NA *	µg/kg	51.2	U	275	U	49.7	U	53.8	U	81.3	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	86.5	U	464	U	83.9	U	90.8	U	83.6	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	91	U	488	U	88.3	U	95.6	U	74.7	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	83	U	445	U	80.5	U	87.1	U	79.5	U
118-74-1	Hexachlorobenzene	410	µg/kg	81.4	U	436	U	79	U	85.4	U	72.4	U
87-86-5	Pentachlorophenol	1000	µg/kg	55.3	U	296	U	53.7	U	58.1	U	53.6	U
86-74-8	Carbazole	NA *	µg/kg	64.7	U	347	U	93.5		67.9	U	111	
84-74-2	Di-n-butylphthalate	8100	µg/kg	130	JB	261	JB	31.9	J	257	U	248	U
85-68-7	Butylbenzylphthalate	50000	µg/kg	54.2	U	290	U	52.6	U	56.9	U	65.7	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	93.9	U	503	U	91.1	U	98.5	U	154	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	241	JB	377	JB	47.3	JB	387	U	468	U
117-84-0	Di-n-octylphthalate	50000	µg/kg	69.8	U	374	U	67.8	U	73.3	U	68.2	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	31.7	J	9560		44	J	61700		43.3	J
208-96-8	Acenaphthylene	41000	µg/kg	119		3760		147		7640		74.4	U
120-12-7	Anthracene	50000*	µg/kg	112		11400		178		29700		164	
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	297		5230		528		5100		47.1	U
206-44-0	Fluoranthene	50000*	µg/kg	753		19900		1510		37900		56.1	
86-73-7	Fluorene	50000*	µg/kg	55.6	J	8210		61.6	J	33500		116	
91-57-6	2-Methylnaphthalene	36400	µg/kg	104		1960		47.3	J	72100		34.4	J
91-20-3	Naphthalene	13000	µg/kg	334		3550		106		167000		150	
85-01-8	Phenanthrene	50000*	µg/kg	339		28400		826		95500		163	
129-00-0	Pyrene	50000*	µg/kg	729		27200		1370		53200		79	
	Total Non Carcinogenic PAHs			2874.3		119170		4817.9		563340		805.8	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	592		13500		787		21400		47	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	527		7780		762		10300		61.6	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	367		5170		602		8930		56.5	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	565		9510		735		16800		45.7	U
218-01-9	Chrysene	400	µg/kg	498		11800		790		17900		57.8	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	272		4300		436		4720		43.7	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	67.8	U	1550		242		1970		47.1	U
	Total Probable Carcinogenic PAHs			2821		53610		4354		82020		0	
	Total PAHs			**5695.3**		**172780**		**9171.9**		**645360**		**805.8**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	4770		5410		7670		3480		1290	
7440-36-0	Antimony	SB / NA	mg/kg	0.045	J	0.22	U	0.57	U	0.61	U	0.65	U
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.27	U	0.29	U	4.6		1.01		0.19	
7440-39-3	Barium	300 or SB / 15-600	mg/kg	53.8		44.5		51.4		37		12.3	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.068	U	0.073	U	0.44		0.24		0.1	J
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.062	J	0.073	U	1.42		0.69		0.25	
7440-70-2	Calcium	SB / 130-35000	mg/kg	7.48	U	1410		9150		24400		11800	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	8.44		10.7		12.2		7.04		2.79	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	4.43		4.87		6.11		4.36		1.98	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	14.2		8.68		17		8.68		5.14	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	8270		11600		12100		7590		33900	
7439-92-1	Lead	SB / 200-500	mg/kg	39.9		14.6		31.5		3.09		0.38	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	3730		2440		4760		16900		7660	
7439-96-5	Manganese	SB / 50-5000	mg/kg	146		73.6		202		98.1		42.3	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.14		0.17		0.35		0.01	U	0.011	U
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	7.35		7.89		9.77		6.52		3.15	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	1180		1000		1730		330		418	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.27	U	0.29	U	0.2	U	0.21	U	0.23	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-03882-002**		**01-03882-001**		**00-07683-002**		**00-07757-001**		**00-07757-002**	
	Sample Location:	**Soil Cleanup**		**SB-16**		**SB-16**		**SB-17**		**SB-17**		**SB-17**	
	Depth:	**Objectives /**		**2' - 4'**		**9.5' - 10'**		**2'-4'**		**26'-28'**		**40'-44'**	
	Laboratory ID:	**Eastern USA**		**K9161-2**		**K9161-1**		**J7186-2**		**J7190-1**		**J7190-2**	
	Sampling Date:	**Background**		**04/24/2001**		**04/23/2001**		**08/08/2000**		**08/10/2000**		**08/10/2000**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
7440-22-4	Silver	SB / NA	mg/kg	0.085	U	0.091	U	0.78		0.36		0.24	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	140		137		566		684		402	
7440-28-0	Thallium	SB / NA	mg/kg	0.22	U	0.24	U	0.2	U	0.21	U	0.23	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	12.4		14.7		18.7		9.99		3.34	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	38.6		100		87.5		30.2		7.45	
57-12-5	Cyanide		mg/kg	0.16	J	2.17		0.26	J	0.28	U	0.27	U
	% Solids		%	88.2		82.3		90		84.1		78.5	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		00-07757-003		00-07757-004		00-07683-001		00-07683-005		00-07683-006	
	Sample Location:	Soil Cleanup		SB-17		SB-17		SB-18		SB-18		SB-18	
	Depth:	Objectives /		54.5'-55'		55'-56'		2'-4'		26'-28'		59'-60'	
	Laboratory ID:	Eastern USA		J7190-3		J7190-4		J7186-1		J7190-5		J7190-6	
	Sampling Date:	Background		08/10/2000		08/10/2000		08/08/2000		08/11/2000		08/11/2000	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	2.44	U	2.46	U	2.31	U	2.47	U	2.53	U
11104-28-2	PCB 1221	1000	µg/kg	11.5	U	11.6	U	10.9	U	11.6	U	11.9	U
11141-16-5	PCB 1232	1000	µg/kg	2.54	U	2.57	U	2.41	U	2.58	U	2.64	U
53469-21-9	PCB 1242	1000	µg/kg	1.91	U	1.93	U	1.81	U	1.94	U	1.98	U
12672-29-6	PCB 1248	1000	µg/kg	4.3	U	4.34	U	4.07	U	4.36	U	4.46	U
11097-69-1	PCB 1254	1000	µg/kg	6.51	U	6.57	U	6.16	U	6.61	U	6.75	U
11096-82-5	PCB 1260	1000	µg/kg	7.48	U	7.54	U	7.08	U	7.59	U	7.76	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	1080	U	0.41	U	0.39	U	2.06	U	0.84	U
74-83-9	Bromomethane	NA *	µg/kg	747	U	0.47	U	0.45	U	2.36	U	0.97	U
75-01-4	Vinyl Chloride	200	µg/kg	1050	U	0.41	U	0.39	U	2.06	U	0.84	U
75-00-3	Chloroethane	1900	µg/kg	986	U	0.23	U	0.22	U	1.15	U	0.47	U
75-09-2	Methylene Chloride	100	µg/kg	597	U	8		7.4	B	24.1	B	13.5	
67-64-1	Acetone	200	µg/kg	5650	U	5.21	U	5.03	U	26.3	U	10.8	U
75-15-0	Carbon disulfide	2700	µg/kg	448	U	2		0.31	U	1.64	U	3.5	
75-35-4	1,1-Dichloroethene	400	µg/kg	627	U	0.25	U	0.24	U	1.27	U	0.52	U
75-34-3	1,1-Dichloroethane	200	µg/kg	418	U	0.19	U	0.19	U	0.97	U	0.4	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	806	U	0.49	U	0.48	U	2.48	U	1.02	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	568	U	0.6	U	0.58	U	3.03	U	1.24	U
67-66-3	Chloroform	300	µg/kg	388	U	0.2	U	0.2	U	1.03	U	0.42	U
107-06-2	1,2-Dichloroethane	100	µg/kg	478	U	0.36	U	0.35	U	1.82	U	0.74	U
78-93-3	2-Butanone	300	µg/kg	3050	U	3.01	U	2.91	U	15.2	U	6.22	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	329	U	0.34	U	0.32	U	1.7	U	0.69	U
56-23-5	Carbon Tetrachloride	600	µg/kg	538	U	0.32	U	0.31	U	1.64	U	0.67	U
75-27-4	Bromodichloromethane	NA *	µg/kg	538	U	0.23	U	0.22	U	1.15	U	0.47	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	478	U	0.22	U	0.21	U	1.09	U	0.45	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	538	U	0.3	U	0.29	U	1.52	U	0.62	U
79-01-6	Trichloroethene	700	µg/kg	508	U	0.36	U	0.35	U	1.82	U	0.74	U
124-48-1	Dibromochloromethane	NA *	µg/kg	239	U	0.35	U	0.34	U	1.76	U	0.72	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	926	U	0.56	U	0.55	U	2.85	U	1.17	U
71-43-2	Benzene	60	µg/kg	418	U	0.34	U	0.32	U	1.7	U	0.69	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	538	U	0.49	U	0.48	U	2.48	U	1.02	U
75-25-2	Bromoform	NA *	µg/kg	358	U	0.58	U	0.56	U	2.91	U	1.19	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	1520	U	1.78	U	1.72	U	8.97	U	3.67	U
591-78-6	2-Hexanone	NA *	µg/kg	2660	U	1.86	U	1.8	U	9.39	U	3.84	U
127-18-4	Tetrachloroethene	1400	µg/kg	239	U	0.34	U	0.32	U	1.7	U	0.69	U
108-88-3	Toluene	1500	µg/kg	80600		0.4	U	0.38	U	2	U	0.82	U
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	388	U	0.6	U	0.58	U	3.03	U	1.24	U
108-90-7	Chlorobenzene	1700	µg/kg	209	U	0.35	U	0.34	U	1.76	U	0.72	U
100-41-4	Ethylbenzene	5500	µg/kg	292000		0.41	U	0.39	U	22.7		0.84	U
100-42-5	Styrene	NA *	µg/kg	239	U	0.35	U	0.34	U	1.76	U	0.72	U
108-38-3	m,p-xylene	1200	µg/kg	372000		0.76	U	0.73	U	19.9		1.56	U
95-47-6	o-xylene	1200	µg/kg	174000		0.34	U	0.32	U	22.2		0.69	U
	Total BTEX		µg/kg	918600		0		0		64.8		0	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	715	U	67.7	U	67.3	U	72.1	U	73.9	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	926	U	85.1	U	87.2	U	93.4	U	95.7	U
95-57-8	2-Chlorophenol	800	µg/kg	870	U	70	U	81.9	U	87.7	U	89.9	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	949	U	85	U	89.4	U	95.7	U	98.1	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	902	U	86.8	U	85	U	91	U	93.2	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	1020	U	87.7	U	95.8	U	103	U	105	U
95-48-7	2-Methylphenol	100	µg/kg	912	U	69.7	U	85.9	U	92	U	94.2	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	962	U	50.8	U	90.6	U	97	U	99.4	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	913	U	57.1	U	86	U	92.1	U	94.4	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	841	U	70.9	U	79.2	U	84.8	U	86.9	U
67-72-1	Hexachloroethane	NA *	µg/kg	809	U	88.3	U	76.2	U	81.6	U	83.6	U
98-95-3	Nitrobenzene	200	µg/kg	1010	U	97.4	U	94.7	U	101	U	104	U
78-59-1	Isophorone	4400	µg/kg	820	U	65.6	U	77.2	U	82.6	U	84.7	U
88-75-5	2-Nitrophenol	330	µg/kg	763	U	74.9	U	71.9	U	77	U	78.9	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	714	U	42	U	67.2	U	72	U	73.8	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	937	U	77	U	88.3	U	94.5	U	96.8	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	844	U	71.9	U	79.4	U	85.1	U	87.2	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	1030	U	79.7	U	96.8	U	104	U	106	U
106-47-8	4-Chloroaniline	220	µg/kg	510	U	88.2	U	48	U	51.4	U	52.7	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	962	U	80.9	U	90.6	U	97	U	99.4	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	990	U	55	U	93.2	U	99.8	U	102	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	426	U	132	U	40.1	U	43	U	44	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-07757-003**		**00-07757-004**		**00-07683-001**		**00-07683-005**		**00-07683-006**	
	Sample Location:	**Soil Cleanup**		**SB-17**		**SB-17**		**SB-18**		**SB-18**		**SB-18**	
	Depth:	**Objectives /**		**54.5'-55'**		**55'-56'**		**2'-4'**		**26'-28'**		**59'-60'**	
	Laboratory ID:	**Eastern USA**		**J7190-3**		**J7190-4**		**J7186-1**		**J7190-5**		**J7190-6**	
	Sampling Date:	**Background**		**08/10/2000**		**08/10/2000**		**08/08/2000**		**08/11/2000**		**08/11/2000**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	847	U	88.3	U	79.8	U	85.4	U	87.5	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	755	U	81.8	U	71.1	U	76.1	U	78	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	984	U	82	U	92.7	U	99.2	U	102	U
88-74-4	2-Nitroaniline	430	µg/kg	739	U	57.2	U	69.6	U	74.5	U	76.4	U
131-11-3	Dimethylphthalate	2000	µg/kg	983	U	73.3	U	92.5	U	99.1	U	102	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	730	U	60.5	U	68.7	U	73.6	U	75.4	U
99-09-2	3-Nitroaniline	500	µg/kg	470	U	51.6	U	44.3	U	47.4	U	48.6	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	697	U	72.2	U	65.7	U	70.3	U	72	U
100-02-7	4-Nitrophenol	100	µg/kg	1570	U	98.2	U	147	U	158	U	162	U
132-64-9	Dibenzofuran	6200	µg/kg	56500		78	U	95.3	U	102	U	105	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	667	U	45	U	62.8	U	67.3	U	68.9	U
84-66-2	Diethylphthalate	7100	µg/kg	646	U	57.5	U	60.8	U	65.1	U	66.7	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	1160	U	80	U	109	U	117	U	120	U
100-01-6	4-Nitroaniline	NA *	µg/kg	542	U	76.8	U	51.1	U	54.7	U	56	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	916	U	79	U	86.2	U	92.3	U	94.6	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	964	U	70.6	U	90.7	U	97.2	U	99.6	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	878	U	75.1	U	82.7	U	88.6	U	90.8	U
118-74-1	Hexachlorobenzene	410	µg/kg	862	U	68.4	U	81.1	U	86.9	U	89	U
87-86-5	Pentachlorophenol	1000	µg/kg	586	U	50.6	U	55.1	U	59	U	60.5	U
86-74-8	Carbazole	NA *	µg/kg	23200		39.8	J	64.5	U	69.1	U	70.8	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	2590	U	234	U	40.7	J	261	U	268	U
85-68-7	Butylbenzylphthalate	50000	µg/kg	574	U	62	U	54	U	57.8	U	59.3	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	994	U	146	U	93.6	U	100	U	103	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	3900	U	25.3	JB	41.8	JB	393	U	403	U
117-84-0	Di-n-octylphthalate	50000	µg/kg	739	U	64.4	U	69.6	U	74.5	U	76.4	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	**356000**		37.3	J	97.6	U	1280		107	U
208-96-8	Acenaphthylene	41000	µg/kg	**60200**		70.3	U	90.9	U	7480		99.7	U
120-12-7	Anthracene	50000*	µg/kg	**195000**		63.9		81.1	U	1540		89	U
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	25000		44.5	U	59.9	U	6360		65.7	U
206-44-0	Fluoranthene	50000*	µg/kg	**295000**		90.4		71.8	U	11000		78.7	U
86-73-7	Fluorene	50000*	µg/kg	**257000**		54.2	J	99.2	U	245		109	U
91-57-6	2-Methylnaphthalene	36400	µg/kg	**690000**		86.7		79.7	U	177		87.4	U
91-20-3	Naphthalene	13000	µg/kg	**1850000**		376		93.6	U	815		103	U
85-01-8	Phenanthrene	50000*	µg/kg	**757000**		330		79.6	U	876		87.3	U
129-00-0	Pyrene	50000*	µg/kg	**354000**		137		26	J	6100		65.2	U
	Total Non Carcinogenic PAHs			4839200		1175.5		26		35873		0	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	**118000**		43.4	J	56.7	U	**8760**		62.2	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	**52500**		58.2	U	92.8	U	**10600**		102	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	**70600**		53.4	U	75.3	U	**8740**		82.6	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	**93400**		24.1	J	61.5	U	**22400**		67.5	U
218-01-9	Chrysene	400	µg/kg	**101000**		39.8	J	56.5	U	**10600**		62	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	**25000**		41.3	U	71.9	U	**5770**		78.9	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	**10000**		44.5	U	67.6	U	**2280**		74.2	U
	Total Probable Carcinogenic PAHs			470500		107.3		0		69150		0	
	Total PAHs			**5309700**		**1282.8**		**26**		**105023**		**0**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	1690		3380		3290		2080		7460	
7440-36-0	Antimony	SB / NA	mg/kg	0.61	U	0.61	U	0.59	U	0.62	U	0.63	U
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	1.23		0.76		1		0.42		0.42	U
7440-39-3	Barium	300 or SB / 15-600	mg/kg	17.1		39.6		33.4		13.6		88.3	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.14		**0.24**		**0.26**		**0.18**		**0.38**	
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.42		0.73		0.63		0.38		**1.45**	
7440-70-2	Calcium	SB / 130-35000	mg/kg	15700		15600		7880		9180		1180	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	4.76		8.83		6.53		4.73		**15.5**	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	2.59		4.48		3.13		2.81		8.39	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	7.88		10.2		10.2		6.46		13.8	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	**4700**		**8290**		**5660**		**4710**		**15400**	
7439-92-1	Lead	SB / 200-500	mg/kg	1.9		1.08		38.4		0.96		1.86	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	**8500**		**9110**		**5220**		**6510**		**9140**	
7439-96-5	Manganese	SB / 50-5000	mg/kg	63.5		108		126		59.1		269	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.01	U	0.011	U	0.34		0.011	U	0.011	U
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	4.32		7.4		5.41		4.02		**13.3**	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	962		2450		954		716		4460	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.21	U	0.22	U	0.21	U	0.22	U	0.22	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		00-07757-003		00-07757-004		00-07683-001		00-07683-005		00-07683-006	
	Sample Location:	Soil Cleanup		SB-17		SB-17		SB-18		SB-18		SB-18	
	Depth:	Objectives /		54.5'-55'		55'-56'		2'-4'		26'-28'		59'-60'	
	Laboratory ID:	Eastern USA		J7190-3		J7190-4		J7186-1		J7190-5		J7190-6	
	Sampling Date:	Background		08/10/2000		08/10/2000		08/08/2000		08/11/2000		08/11/2000	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
7440-22-4	Silver	SB / NA	mg/kg	0.23	U	0.86		1.39		0.097	J	2.39	
7440-23-5	Sodium	SB / 6000-8000	mg/kg	635		636		365		386		887	
7440-28-0	Thallium	SB / NA	mg/kg	0.21	U	0.22	U	0.21	U	0.22	U	0.22	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	7.21		13.3		8.93		6.56		24.8	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	9.59		$\boxed{20.5}$		$\boxed{32.4}$		14.5		$\boxed{39}$	
57-12-5	Cyanide		mg/kg	0.27	U	0.28	U	0.22	J	0.28	U	0.28	U
	% Solids		%	83.7		83		85.9		82.5		80.7	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04230-005**		**01-04367-001**		**01-04367-002**		**01-04367-003**		**01-03839-005**	
	Sample Location:	**Soil Cleanup**		**SB-19 (TP Wat)**		**SB-19**		**SB-19**		**SB-19**		**SB-20**	
	Depth:	**Objectives /**		**2' - 3'**		**5' - 6'**		**12' - 14'**		**48' - 52'**		**3' - 4'**	
	Laboratory ID:	**Eastern USA**				**K9270-1**		**K9270-2**		**K9270-3**		**K9155-5**	
	Sampling Date:	**Background**		**05/22/01**		**06/21/2001**		**06/21/2001**		**06/21/2001**		**04/19/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	<36	U	7.61	U	7.95	U	8.32	U	42.7	U
11104-28-2	PCB 1221	1000	µg/kg	<74	U	9.27	U	9.69	U	10.1	U	182	U
11141-16-5	PCB 1232	1000	µg/kg	<36	U	6.61	U	6.91	U	7.23	U	96.3	U
53469-21-9	PCB 1242	1000	µg/kg	<36	U	8.27	U	8.65	U	9.05	U	40.3	U
12672-29-6	PCB 1248	1000	µg/kg	<36	U	10.3	U	10.8	U	11.3	U	91.3	U
11097-69-1	PCB 1254	1000	µg/kg	<36	U	6.18	U	6.46	U	6.76	U	21.2	U
11096-82-5	PCB 1260	1000	µg/kg	<36	U	6.22	U	6.51	U	6.81	U	60.5	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	<10	U	0.41	U	0.43	U	0.45	U	0.41	U
74-83-9	Bromomethane	NA *	µg/kg	<10	U	0.19	U	0.2	U	0.21	U	0.19	U
75-01-4	Vinyl Chloride	200	µg/kg	<10	U	0.23	U	0.24	U	0.25	U	0.23	U
75-00-3	Chloroethane	1900	µg/kg	<10	U	0.38	U	0.4	U	0.41	U	0.37	U
75-09-2	Methylene Chloride	100	µg/kg	5	JB	6.7	B	13.9	B	11.3	B	1.9	
67-64-1	Acetone	200	µg/kg	2	JB	5.7	U	$\boxed{233}$		57.5		2.79	U
75-15-0	Carbon disulfide	2700	µg/kg	<10	U	0.23	U	3.1		0.95		0.23	U
75-35-4	1,1-Dichloroethene	400	µg/kg	<10	U	0.36	U	0.38	U	0.4	U	0.36	U
75-34-3	1,1-Dichloroethane	200	µg/kg	<10	U	0.17	U	0.18	U	0.19	U	0.17	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	<10	U	0.17	U	0.18	U	0.19	U	0.17	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	<10	U	0.19	U	0.2	U	0.21	U	0.19	U
67-66-3	Chloroform	300	µg/kg	<10	U	0.18	U	0.19	U	0.2	U	0.18	U
107-06-2	1,2-Dichloroethane	100	µg/kg	<10	U	0.25	U	0.26	U	0.28	U	0.25	U
78-93-3	2-Butanone	300	µg/kg	<10	U	4.65	U	4.9	U	5.1	U	4.61	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	<10	U	0.16	U	0.17	U	0.17	U	0.16	U
56-23-5	Carbon Tetrachloride	600	µg/kg	<10	U	0.24	U	0.25	U	0.26	U	0.24	U
75-27-4	Bromodichloromethane	NA *	µg/kg	<10	U	0.21	U	0.22	U	0.22	U	0.2	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	<10	U	0.16	U	0.17	U	0.17	U	0.16	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	<10	U	0.21	U	0.22	U	0.22	U	0.2	U
79-01-6	Trichloroethene	700	µg/kg	<10	U	0.23	U	0.24	U	0.25	U	0.23	U
124-48-1	Dibromochloromethane	NA *	µg/kg	<10	U	0.27	U	0.29	U	0.3	U	0.27	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	<10	U	0.22	U	0.23	U	0.24	U	0.21	U
71-43-2	Benzene	60	µg/kg	<10	U	1.3		0.17	U	0.17	U	0.16	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	<10	U	0.25	U	0.26	U	0.28	U	0.25	U
75-25-2	Bromoform	NA *	µg/kg	<10	U	0.27	U	0.29	U	0.3	U	0.27	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	<10	U	5.7	U	6	U	6.25	U	1.92	U
591-78-6	2-Hexanone	NA *	µg/kg	<10	U	5.7	U	6	U	6.25	U	1.67	U
127-18-4	Tetrachloroethene	1400	µg/kg	<10	U	0.68		0.22	U	0.22	U	0.2	U
108-88-3	Toluene	1500	µg/kg	<10	U	0.23	U	0.24	U	0.25	U	1.9	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	<10	U	0.23	U	0.24	U	0.25	U	0.23	U
108-90-7	Chlorobenzene	1700	µg/kg	<10	U	0.15	U	0.16	U	0.16	U	0.15	U
100-41-4	Ethylbenzene	5500	µg/kg	<10	U	0.13	U	0.13	U	0.14	U	0.12	U
100-42-5	Styrene	NA *	µg/kg	<10	U	0.21	U	0.22	U	0.22	U	0.2	U
108-38-3	m,p-xylene	1200	µg/kg	<10	U	0.28	U	0.3	U	0.31	U	2.8	
95-47-6	o-xylene	1200	µg/kg	<10	U	0.21	U	0.22	U	0.22	U	0.85	
	Total BTEX		**µg/kg**	**0**		**1.98**		**0**		**0**		**5.55**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	<360	U	727		71.3	U	74.6	U	36.7	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	<360	U	442	U	92.3	U	96.6	U	35.3	U
95-57-8	2-Chlorophenol	800	µg/kg	<360	U	415	U	86.7	U	90.7	U	36	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	<360	U	452	U	94.6	U	99	U	38.5	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	<360	U	430	U	90	U	94.1	U	37.5	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	<360	U	485	U	101	U	106	U	37.8	U
95-48-7	2-Methylphenol	100	µg/kg	<360	U	235	J	90.9	U	95.1	U	31.3	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	<360	U	459	U	95.9	U	100	U	40.8	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	18	J	1020		91	U	95.2	U	30.2	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	<360	U	401	U	83.9	U	87.7	U	36.8	U
67-72-1	Hexachloroethane	NA *	µg/kg	<360	U	386	U	80.6	U	84.4	U	38.7	U
98-95-3	Nitrobenzene	200	µg/kg	<360	U	479	U	100	U	105	U	42.4	U
78-59-1	Isophorone	4400	µg/kg	<360	U	391	U	81.7	U	85.5	U	38.8	U
88-75-5	2-Nitrophenol	330	µg/kg	<360	U	364	U	76.1	U	79.6	U	29.5	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	<360	U	320	J	71.2	U	74.5	U	17.8	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	<360	U	447	U	93.4	U	97.7	U	35.6	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	<360	U	402	U	84.1	U	88	U	30.9	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	<360	U	490	U	103	U	107	U	37.4	U
106-47-8	4-Chloroaniline	220	µg/kg	<360	U	243	U	50.8	U	53.2	U	38.9	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	<360	U	459	U	95.9	U	100	U	37.5	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	<360	U	472	U	98.7	U	103	U	30.2	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	<360	U	203	U	42.5	U	44.4	U	31.3	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

Cas #:													
	Client Sample ID:	**TAGM 4046**		**01-04230-005**		**01-04367-001**		**01-04367-002**		**01-04367-003**		**01-03839-005**	
	Sample Location:	**Soil Cleanup**		**SB-19 (TP Wat)**		**SB-19**		**SB-19**		**SB-19**		**SB-20**	
	Depth:	**Objectives /**		**2' - 3'**		**5' - 6'**		**12' - 14'**		**48' - 52'**		**3' - 4'**	
	Laboratory ID:	**Eastern USA**				**K9270-1**		**K9270-2**		**K9270-3**		**K9155-5**	
	Sampling Date:	**Background**		**05/22/01**		**06/21/2001**		**06/21/2001**		**06/21/2001**		**04/19/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	<360	U	404	U	84.5	U	88.4	U	29.8	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	<910	U	360	U	75.2	U	78.7	U	28.7	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	<360	U	469	U	98.1	U	103	U	34.3	U
88-74-4	2-Nitroaniline	430	µg/kg	<910	U	352	U	73.7	U	77.1	U	27	U
131-11-3	Dimethylphthalate	2000	µg/kg	<360	U	468	U	98	U	103	U	32.9	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	<360	U	348	U	72.7	U	76.1	U	30.4	U
99-09-2	3-Nitroaniline	500	µg/kg	<910	U	224	U	46.9	U	49.1	U	29	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	<910	U	332	U	69.5	U	72.7	U	34.5	U
100-02-7	4-Nitrophenol	100	µg/kg	<910	U	746	U	156	U	163	U	22.4	U
132-64-9	Dibenzofuran	6200	µg/kg	29	J	3210		101	U	106	U	16.6	J
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	<360	U	318	U	66.5	U	69.6	U	28.8	U
84-66-2	Diethylphthalate	7100	µg/kg	<360	U	308	U	64.4	U	67.3	U	21.1	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	<360	U	554	U	116	U	121	U	33.4	U
100-01-6	4-Nitroaniline	NA *	µg/kg	<910	U	259	U	54.1	U	56.6	U	25.4	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	<910	U	436	U	91.3	U	95.5	U	31.9	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	<360	U	459	U	96.1	U	101	U	30.1	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	<360	U	419	U	87.6	U	91.6	U	30.5	U
118-74-1	Hexachlorobenzene	410	µg/kg	<360	U	411	U	85.9	U	89.9	U	33.5	U
87-86-5	Pentachlorophenol	1000	µg/kg	<910	U	279	U	58.4	U	61.1	U	22.7	U
86-74-8	Carbazole	NA *	µg/kg	35	J	2360		68.3	U	71.5	U	138	
84-74-2	Di-n-butylphthalate	8100	µg/kg	35	J	1240	U	258	U	270	U	25.6	J
85-68-7	Butylbenzylphthalate	50000	µg/kg	<360	U	273	U	57.2	U	59.8	U	22.5	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	<360	U	474	U	99	U	104	U	72.9	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	25	J	475	JB	389	U	47.6	J	33.5	J
117-84-0	Di-n-octylphthalate	50000	µg/kg	<360	U	352	U	73.7	U	77.1	U	20.2	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	<360	U	1640		41.9	J	108	U	53.8	
208-96-8	Acenaphthylene	41000	µg/kg	260	J	5390		96.2	U	101	U	388	
120-12-7	Anthracene	50000*	µg/kg	250	J	14800		85.9	U	89.9	U	220	
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	860		8300		63.4	U	66.3	U	406	
206-44-0	Fluoranthene	50000*	µg/kg	2700		69000		76	U	79.5	U	1000	
86-73-7	Fluorene	50000*	µg/kg	59	J	6560		105	U	110	U	55.3	
91-57-6	2-Methylnaphthalene	36400	µg/kg	90	J	463		84.3	U	88.2	U	33.1	
91-20-3	Naphthalene	13000	µg/kg	220	J	1410		99	U	104	U	52.7	
85-01-8	Phenanthrene	50000*	µg/kg	830		42200		84.2	U	88.1	U	601	
129-00-0	Pyrene	50000*	µg/kg	2300		51000		62.9	U	65.8	U	1040	
	Total Non Carcinogenic PAHs			7569		200763		41.9		0		3849.9	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	**1400**		**34500**		60	U	62.8	U	**654**	
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	**1400**		**19500**		98.2	U	103	U	656	
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	**1400**		**27500**		79.7	U	83.4	U	623	
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	**1400**		**24300**		65.1	U	68.1	U	**771**	
218-01-9	Chrysene	400	µg/kg	**1200**		**28400**		59.8	U	62.6	U	**763**	
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	730		**10300**		76.1	U	79.6	U	361	
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	250	J	**6340**		71.5	U	74.8	U	**126**	
	Total Probable Carcinogenic PAHs			7780		150840		0		0		3954	
	Total PAHs			**15349**		**351603**		**41.9**		**0**		**7803.9**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	8580		5190		6060		3910		6000	
7440-36-0	Antimony	SB / NA	mg/kg	<0.45	U	0.35		0.27		0.29		0.78	
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	2.7		0.28		0.29	U	0.3	U	0.21	J
7440-39-3	Barium	300 or SB / 15-600	mg/kg	102		53.6		41		44.9		103	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.19		0.069	U	0.072	U	0.075	U	0.068	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	<0.11	U	0.046	J	0.072	U	0.075	U	0.17	
7440-70-2	Calcium	SB / 130-35000	mg/kg	6500		3940		669		16500		4590	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	16.7		7.36		13.1		9.29		11.8	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	7.8		4.37		4.42		4.56		5.22	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	51.0		21.1		5.38		9.46		33.3	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	18900		8890		9060		7810		12100	
7439-92-1	Lead	SB / 200-500	mg/kg	171		61.2		2.61		2		256	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	5530		3460		3690		10200		3480	
7439-96-5	Manganese	SB / 50-5000	mg/kg	205		152		71.1		96.8		177	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.81		0.24		0.01		0.015		0.31	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	12.9		7.36		9.26		7.52		10.4	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	1930		893		1550		2260		1170	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	<1.0	U	0.27	U	0.28	U	0.29	U	0.27	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-04230-005		01-04367-001		01-04367-002		01-04367-003		01-03839-005	
	Sample Location:	**Soil Cleanup**		**SB-19 (TP Wat)**		**SB-19**		**SB-19**		**SB-19**		**SB-20**	
	Depth:	**Objectives /**		**2' - 3'**		**5' - 6'**		**12' - 14'**		**48' - 52'**		**3' - 4'**	
	Laboratory ID:	**Eastern USA**				**K9270-1**		**K9270-2**		**K9270-3**		**K9155-5**	
	Sampling Date:	**Background**		**05/22/01**		**06/21/2001**		**06/21/2001**		**06/21/2001**		**04/19/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			No		No		No		No		No	
Cas #:	**Analyte:**		**Units:**										
7440-22-4	Silver	SB / NA	mg/kg	<0.11	U	0.086	U	0.09	U	0.094	U	0.085	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	245		103		400		102		161	
7440-28-0	Thallium	SB / NA	mg/kg	<0.32	U	0.22	U	0.23	U	0.24	U	0.22	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	23.2		10		10.3		10.5		16.5	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	184		48.9		26.7		22.1		134	
57-12-5	Cyanide		mg/kg	0.178		1.02		0.26	U	0.29	U	0.17	J
	% Solids		%	88.9		87.4		83.6		79.9		88.6	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-03882-009		01-03882-008	
	Sample Location:	Soil Cleanup		SB-20		SB-20	
	Depth:	Objectives /		11' - 12'		30' - 31.5'	
	Laboratory ID:	Eastern USA		K9161-9		K9161-8	
	Sampling Date:	Background		04/24/2001		04/24/2001	
	Matrix:	Concentrations		Soil		Soil	
	Validated:			No		No	
Cas #:	Analyte:		Units:				
	PCBs						
12674-11-2	PCB 1016	1000	µg/kg	61.9	U	41.9	U
11104-28-2	PCB 1221	1000	µg/kg	264	U	178	U
11141-16-5	PCB 1232	1000	µg/kg	140	U	94.6	U
53469-21-9	PCB 1242	1000	µg/kg	58.4	U	39.6	U
12672-29-6	PCB 1248	1000	µg/kg	132	U	89.7	U
11097-69-1	PCB 1254	1000	µg/kg	30.8	U	20.8	U
11096-82-5	PCB 1260	1000	µg/kg	87.7	U	59.4	U
	Volatiles						
74-87-3	Chloromethane	NA *	µg/kg	0.59	U	0.4	U
74-83-9	Bromomethane	NA *	µg/kg	0.28	U	0.19	U
75-01-4	Vinyl Chloride	200	µg/kg	0.33	U	0.22	U
75-00-3	Chloroethane	1900	µg/kg	0.54	U	0.37	U
75-09-2	Methylene Chloride	100	µg/kg	4.7	B	3.7	B
67-64-1	Acetone	200	µg/kg	61		2.74	U
75-15-0	Carbon disulfide	2700	µg/kg	1.8		0.22	U
75-35-4	1,1-Dichloroethene	400	µg/kg	0.52	U	0.36	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.25	U	0.17	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.25	U	0.17	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.28	U	0.19	U
67-66-3	Chloroform	300	µg/kg	0.26	U	0.18	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.36	U	0.24	U
78-93-3	2-Butanone	300	µg/kg	6.69	U	4.53	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	1.4		1	
56-23-5	Carbon Tetrachloride	600	µg/kg	0.34	U	0.23	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.3	U	0.2	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.23	U	0.16	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.3	U	0.2	U
79-01-6	Trichloroethene	700	µg/kg	0.33	U	0.22	U
124-48-1	Dibromochloromethane	NA *	µg/kg	0.39	U	0.27	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.31	U	0.21	U
71-43-2	Benzene	60	µg/kg	0.23	U	0.16	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.36	U	0.24	U
75-25-2	Bromoform	NA *	µg/kg	0.39	U	0.27	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	2.79	U	1.89	U
591-78-6	2-Hexanone	NA *	µg/kg	2.43	U	1.64	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.3	U	0.2	U
108-88-3	Toluene	1500	µg/kg	1.4		1	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.33	U	0.22	U
108-90-7	Chlorobenzene	1700	µg/kg	0.21	U	0.14	U
100-41-4	Ethylbenzene	5500	µg/kg	0.18	U	0.12	U
100-42-5	Styrene	NA *	µg/kg	0.3	U	0.2	U
108-38-3	m,p-xylene	1200	µg/kg	1.2		0.28	U
95-47-6	o-xylene	1200	µg/kg	0.3	U	0.2	U
	Total BTEX		µg/kg	2.6		1	
	Semi-Volatiles						
108-95-2	Phenol	30	µg/kg	97.5	U	66.1	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	126	U	85.6	U
95-57-8	2-Chlorophenol	800	µg/kg	119	U	80.4	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	129	U	87.7	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	123	U	83.4	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	139	U	94	U
95-48-7	2-Methylphenol	100	µg/kg	124	U	84.3	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	131	U	88.9	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	125	U	84.4	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	115	U	77.7	U
67-72-1	Hexachloroethane	NA *	µg/kg	110	U	74.7	U
98-95-3	Nitrobenzene	200	µg/kg	137	U	92.9	U
78-59-1	Isophorone	4400	µg/kg	112	U	75.7	U
88-75-5	2-Nitrophenol	330	µg/kg	104	U	70.5	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	97.4	U	66	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	128	U	86.6	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	115	U	77.9	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	140	U	95	U
106-47-8	4-Chloroaniline	220	µg/kg	69.6	U	47.1	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	131	U	88.9	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	135	U	91.5	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	58.1	U	39.4	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		**01-03882-009**		**01-03882-008**	
	Sample Location:	**Soil Cleanup**		**SB-20**		**SB-20**	
	Depth:	**Objectives /**		**11' - 12'**		**30' - 31.5'**	
	Laboratory ID:	Eastern USA		**K9161-9**		**K9161-8**	
	Sampling Date:	**Background**		**04/24/2001**		**04/24/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**	
	Validated:			**No**		**No**	
Cas #:	**Analyte:**		**Units:**				
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	116	U	78.3	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	103	U	69.7	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	134	U	90.9	U
88-74-4	2-Nitroaniline	430	µg/kg	101	U	68.3	U
131-11-3	Dimethylphthalate	2000	µg/kg	134	U	90.8	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	99.5	U	67.4	U
99-09-2	3-Nitroaniline	500	µg/kg	64.2	U	43.5	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	95.1	U	64.4	U
100-02-7	4-Nitrophenol	100	µg/kg	214	U	145	U
132-64-9	Dibenzofuran	6200	µg/kg	138	U	93.5	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	91	U	61.6	U
84-66-2	Diethylphthalate	7100	µg/kg	88.1	U	59.6	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	159	U	107	U
100-01-6	4-Nitroaniline	NA *	µg/kg	74	U	50.1	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	125	U	84.6	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	131	U	89	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	120	U	81.1	U
118-74-1	Hexachlorobenzene	410	µg/kg	118	U	79.6	U
87-86-5	Pentachlorophenol	1000	µg/kg	79.9	U	54.1	U
86-74-8	Carbazole	NA *	µg/kg	93.5	U	63.3	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	254	JB	150	JB
85-68-7	Butylbenzylphthalate	50000	µg/kg	78.2	U	23.3	J
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	136	U	91.8	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	368	JB	548	B
117-84-0	Di-n-octylphthalate	50000	µg/kg	101	U	68.3	U
	Non Carcinogenic PAHs						
83-32-9	Acenaphthene	50000*	µg/kg	141	U	95.8	U
208-96-8	Acenaphthylene	41000	µg/kg	132	U	89.1	U
120-12-7	Anthracene	50000*	µg/kg	118	U	79.6	U
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	86.7	U	58.8	U
206-44-0	Fluoranthene	50000*	µg/kg	104	U	70.4	U
86-73-7	Fluorene	50000*	µg/kg	144	U	97.3	U
91-57-6	2-Methylnaphthalene	36400	µg/kg	115	U	78.2	U
91-20-3	Naphthalene	13000	µg/kg	136	U	91.8	U
85-01-8	Phenanthrene	50000*	µg/kg	115	U	78	U
129-00-0	Pyrene	50000*	µg/kg	86.1	U	58.3	U
	Total Non Carcinogenic PAHs			0		0	
	Probable Carcinogenic PAHs						
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	82.2	U	55.7	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	134	U	91	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	109	U	73.8	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	89	U	60.3	U
218-01-9	Chrysene	400	µg/kg	81.8	U	55.4	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	104	U	70.5	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	97.9	U	66.3	U
	Total Probable Carcinogenic PAHs			0		0	
	Total PAHs			**0**		**0**	
	Metals						
7429-90-5	Aluminum	SB / 33000	mg/kg	8650		2460	
7440-36-0	Antimony	SB / NA	mg/kg	0.041	J	0.17	J
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.39	U	0.27	U
7440-39-3	Barium	300 or SB / 15-600	mg/kg	64.5		31.7	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.098	U	0.067	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.098	U	0.067	U
7440-70-2	Calcium	SB / 130-35000	mg/kg	1850		779	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	**15.5**		6.19	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	4.88		3.25	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	5.2		4.63	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	**10200**		**6230**	
7439-92-1	Lead	SB / 200-500	mg/kg	4.03		1.82	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	2380		1430	
7439-96-5	Manganese	SB / 50-5000	mg/kg	93.8		85.8	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.058		0.013	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	8.03		5.08	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	491		1160	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.38	U	0.26	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-03882-009**		**01-03882-008**	
	Sample Location:	**Soil Cleanup**		**SB-20**		**SB-20**	
	Depth:	**Objectives /**		**11' - 12'**		**30' - 31.5'**	
	Laboratory ID:	**Eastern USA**		**K9161-9**		**K9161-8**	
	Sampling Date:	**Background**		**04/24/2001**		**04/24/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**	
	Validated:			**No**		**No**	
Cas #:	**Analyte:**		**Units:**				
7440-22-4	Silver	SB / NA	mg/kg	0.12	U	0.083	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	298		70.9	
7440-28-0	Thallium	SB / NA	mg/kg	0.32	U	0.22	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	18.2		7.46	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	31.1		14.3	
57-12-5	Cyanide		mg/kg	0.3	U	0.27	U
	% Solids		%	61.1		90.2	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-03839-006		01-03882-011		01-03882-012		01-03882-013		01-03882-010	
	Sample Location:	Soil Cleanup		SB-21		SB-21		SB-21 (Dup)		SB-21 (Dup2)		SB-21	
	Depth:	Objectives /		3' - 4'		10' - 11'		10' - 11'		10' - 11'		34' - 35	
	Laboratory ID:	Eastern USA		K9155-6		K9162-2		K9162-3		K9162-4		K9162-1	
	Sampling Date:	Background		04/19/2001		04/24/2001		04/24/2001		04/24/2001		04/24/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	41.9	U	48.6	U	45.5	U	55.4	U	49.1	U
11104-28-2	PCB 1221	1000	µg/kg	178	U	207	U	194	U	236	U	209	U
11141-16-5	PCB 1232	1000	µg/kg	94.6	U	110	U	103	U	125	U	111	U
53469-21-9	PCB 1242	1000	µg/kg	39.6	U	45.9	U	43	U	52.3	U	46.4	U
12672-29-6	PCB 1248	1000	µg/kg	89.7	U	104	U	97.4	U	119	U	105	U
11097-69-1	PCB 1254	1000	µg/kg	20.8	U	24.2	U	22.6	U	27.6	U	24.4	U
11096-82-5	PCB 1260	1000	µg/kg	59.4	U	69	U	64.5	U	78.6	U	69.6	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.4	U	0.46	U	0.43	U	0.53	U	0.47	U
74-83-9	Bromomethane	NA *	µg/kg	0.19	U	0.22	U	0.2	U	0.25	U	0.22	U
75-01-4	Vinyl Chloride	200	µg/kg	0.22	U	0.26	U	0.24	U	0.29	U	0.26	U
75-00-3	Chloroethane	1900	µg/kg	0.37	U	0.43	U	0.4	U	0.49	U	0.43	U
75-09-2	Methylene Chloride	100	µg/kg	6.8		3.9	B	3.7	B	2.8	B	3.4	B
67-64-1	Acetone	200	µg/kg	2.74	U	62.1		73.6		3.63	U	3.21	U
75-15-0	Carbon disulfide	2700	µg/kg	0.22	U	0.26	U	0.24	U	0.29	U	0.26	U
75-35-4	1,1-Dichloroethene	400	µg/kg	0.36	U	0.41	U	0.38	U	0.47	U	0.42	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.17	U	0.19	U	0.18	U	0.22	U	0.19	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.17	U	0.19	U	0.18	U	0.22	U	0.19	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.19	U	0.22	U	0.2	U	0.25	U	0.22	U
67-66-3	Chloroform	300	µg/kg	0.18	U	0.21	U	0.19	U	0.24	U	0.21	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.24	U	0.28	U	0.26	U	0.32	U	0.29	U
78-93-3	2-Butanone	300	µg/kg	4.53	U	5.26	U	4.9	U	6	U	5.3	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.16	U	1.2		1.2		0.21	U	0.91	
56-23-5	Carbon Tetrachloride	600	µg/kg	0.23	U	0.27	U	0.25	U	0.31	U	0.27	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.2	U	0.23	U	0.22	U	0.26	U	0.23	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.16	U	0.18	U	0.17	U	0.21	U	0.18	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.2	U	0.23	U	0.22	U	0.26	U	0.23	U
79-01-6	Trichloroethene	700	µg/kg	0.22	U	0.26	U	0.24	U	0.29	U	0.26	U
124-48-1	Dibromochloromethane	NA *	µg/kg	0.27	U	0.31	U	0.29	U	0.35	U	0.31	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.21	U	0.25	U	0.23	U	0.28	U	0.25	U
71-43-2	Benzene	60	µg/kg	0.16	U	0.18	U	0.17	U	0.21	U	0.18	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.24	U	0.28	U	0.26	U	0.32	U	0.29	U
75-25-2	Bromoform	NA *	µg/kg	0.27	U	0.31	U	0.29	U	0.35	U	0.31	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	1.89	U	2.19	U	2.04	U	2.5	U	2.21	U
591-78-6	2-Hexanone	NA *	µg/kg	1.64	U	1.91	U	1.78	U	2.18	U	1.92	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.2	U	0.23	U	0.22	U	0.26	U	0.23	U
108-88-3	Toluene	1500	µg/kg	2.6		2.2		3.3		1.3		1.2	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.22	U	0.26	U	0.24	U	0.29	U	0.26	U
108-90-7	Chlorobenzene	1700	µg/kg	0.14	U	0.17	U	0.16	U	0.19	U	0.17	U
100-41-4	Ethylbenzene	5500	µg/kg	0.12	U	0.14	U	0.13	U	0.16	U	0.14	U
100-42-5	Styrene	NA *	µg/kg	0.2	U	0.23	U	0.22	U	0.26	U	0.23	U
108-38-3	m,p-xylene	1200	µg/kg	1.3		1		1.4		1.2		2.1	
95-47-6	o-xylene	1200	µg/kg	0.2	U	0.23	U	0.22	U	0.26	U	0.23	U
	Total BTEX		**µg/kg**	**3.9**		**3.2**		**4.7**		**2.5**		**3.3**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	36	U	125	U	117	U	143	U	127	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	34.7	U	121	U	113	U	138	U	122	U
95-57-8	2-Chlorophenol	800	µg/kg	35.4	U	123	U	115	U	140	U	124	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	37.8	U	132	U	123	U	150	U	133	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	36.8	U	128	U	120	U	146	U	129	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	37.2	U	129	U	121	U	148	U	131	U
95-48-7	2-Methylphenol	100	µg/kg	30.7	U	107	U	100	U	122	U	108	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	40.1	U	140	U	130	U	159	U	141	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	29.7	U	103	U	96.8	U	118	U	104	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	36.1	U	126	U	118	U	143	U	127	U
67-72-1	Hexachloroethane	NA *	µg/kg	38.1	U	133	U	124	U	151	U	134	U
98-95-3	Nitrobenzene	200	µg/kg	41.7	U	145	U	136	U	165	U	146	U
78-59-1	Isophorone	4400	µg/kg	38.1	U	133	U	124	U	151	U	134	U
88-75-5	2-Nitrophenol	330	µg/kg	29	U	101	U	94.3	U	115	U	102	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	17.5	U	61	U	57	U	69.5	U	61.6	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	35	U	122	U	114	U	139	U	123	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	30.3	U	106	U	98.8	U	120	U	107	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	36.7	U	128	U	120	U	146	U	129	U
106-47-8	4-Chloroaniline	220	µg/kg	38.2	U	133	U	124	U	152	U	134	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	36.8	U	128	U	120	U	146	U	129	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	29.6	U	103	U	96.5	U	118	U	104	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	30.8	U	107	U	100	U	122	U	108	U
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	29.3	U	102	U	95.3	U	116	U	103	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-03839-006**		**01-03882-011**		**01-03882-012**		**01-03882-013**		**01-03882-010**	
	Sample Location:	**Soil Cleanup**		**SB-21**		**SB-21**		**SB-21 (Dup)**		**SB-21 (Dup2)**		**SB-21**	
	Depth:	**Objectives /**		**3' - 4'**		**10' - 11'**		**10' - 11'**		**10' - 11'**		**34' - 35**	
	Laboratory ID:	**Eastern USA**		**K9155-6**		**K9162-2**		**K9162-3**		**K9162-4**		**K9162-1**	
	Sampling Date:	**Background**		**04/19/2001**		**04/24/2001**		**04/24/2001**		**04/24/2001**		**04/24/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		No		**No**		No		**No**	
Cas #:	**Analyte:**		**Units:**										
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	28.2	U	98.2	U	91.8	U	112	U	99.1	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	33.7	U	118	U	110	U	134	U	119	U
88-74-4	2-Nitroaniline	430	µg/kg	26.5	U	92.4	U	86.4	U	105	U	93.2	U
131-11-3	Dimethylphthalate	2000	µg/kg	32.3	U	112	U	105	U	128	U	114	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	29.8	U	104	U	97.1	U	118	U	105	U
99-09-2	3-Nitroaniline	500	µg/kg	28.5	U	99.2	U	92.8	U	113	U	100	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	33.9	U	118	U	110	U	134	U	119	U
100-02-7	4-Nitrophenol	100	µg/kg	22	U	76.7	U	71.7	U	87.4	U	77.4	U
132-64-9	Dibenzofuran	6200	µg/kg	32.2	U	112	U	105	U	128	U	113	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	28.3	U	98.6	U	92.2	U	112	U	99.5	U
84-66-2	Diethylphthalate	7100	µg/kg	20.7	U	29.6	J	67.5	U	32.3	J	72.9	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	32.8	U	114	U	107	U	130	U	115	U
100-01-6	4-Nitroaniline	NA *	µg/kg	24.9	U	86.7	U	81.1	U	98.8	U	87.5	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	31.4	U	109	U	102	U	124	U	110	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	29.6	U	103	U	96.4	U	117	U	104	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	30	U	104	U	97.6	U	119	U	105	U
118-74-1	Hexachlorobenzene	410	µg/kg	32.9	U	115	U	107	U	131	U	116	U
87-86-5	Pentachlorophenol	1000	µg/kg	22.3	U	77.6	U	72.6	U	88.4	U	78.3	U
86-74-8	Carbazole	NA *	µg/kg	67.3	J	258	U	241	U	294	U	261	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	29.2	J	180	JB	176	JB	213	JB	203	JB
85-68-7	Butylbenzylphthalate	50000	µg/kg	22.1	U	77	U	72	U	87.7	U	77.7	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	71.6	U	250	U	233	U	284	U	252	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	35.1	J	463	B	266	JB	642	B	277	JB
117-84-0	Di-n-octylphthalate	50000	µg/kg	19.9	U	69.2	U	64.7	U	78.9	U	69.9	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	12.9	J	111	U	104	U	127	U	112	U
208-96-8	Acenaphthylene	41000	µg/kg	146		118	U	110	U	134	U	119	U
120-12-7	Anthracene	50000*	µg/kg	92		86	U	80.4	U	97.9	U	86.8	U
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	185		50.5	U	47.2	U	57.5	U	50.9	U
206-44-0	Fluoranthene	50000*	µg/kg	596		84.3	U	78.8	U	96	U	85.1	U
86-73-7	Fluorene	50000*	µg/kg	15.5	J	109	U	102	U	124	U	110	U
91-57-6	2-Methylnaphthalene	36400	µg/kg	21.1	J	104	U	97	U	118	U	105	U
91-20-3	Naphthalene	13000	µg/kg	27.3	J	122	U	114	U	139	U	123	U
85-01-8	Phenanthrene	50000*	µg/kg	223		94.2	U	88.1	U	107	U	95.1	U
129-00-0	Pyrene	50000*	µg/kg	541		85.2	U	79.7	U	97.1	U	86	U
	Total Non Carcinogenic PAHs			1859.8		0		0		0		0	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	390		77.7	U	72.7	U	88.6	U	78.4	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	377		54.1	U	50.5	U	61.6	U	54.5	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	388		81	U	75.7	U	92.2	U	81.7	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	423		60.2	U	56.3	U	68.6	U	60.8	U
218-01-9	Chrysene	400	µg/kg	434		82.9	U	77.5	U	94.4	U	83.6	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	181		52.6	U	49.2	U	60	U	53.1	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	57.6		52.9	U	49.5	U	60.3	U	53.4	U
	Total Probable Carcinogenic PAHs			2250.6		0		0		0		0	
	Total PAHs			**4110.4**		**0**		**0**		**0**		**0**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	6350		7730		5270		8170		11200	
7440-36-0	Antimony	SB / NA	mg/kg	0.2		0.23	U	0.024	J	0.037	J	0.052	J
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.27	U	0.31	U	0.29	U	0.35	U	0.31	U
7440-39-3	Barium	300 or SB / 15-600	mg/kg	70		46		44.4		61		113	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.066	U	0.077	U	0.072	U	0.088	U	0.078	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.05	J	0.077	U	0.018	J	0.088	U	0.078	U
7440-70-2	Calcium	SB / 130-35000	mg/kg	8430		1270		1130		1690		8.57	U
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	11.6		12.8		10.3		18.4		19.9	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	5.14		3.73		2.62		3.5		10.1	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	19.2		4.66		4.84		5.4		17.8	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	10400		6520		3990		6130		18400	
7439-92-1	Lead	SB / 200-500	mg/kg	72.5		3.03		2.05		3.15		3.1	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	5590		2500		1690		2040		16200	
7439-96-5	Manganese	SB / 50-5000	mg/kg	175		48		32.3		43		193	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.17		0.033		0.019		0.059		0.0057	J
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	9.24		7.24		4.97		7.58		15.7	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	1170		517		416		438		6520	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.26	U	0.3	U	0.28	U	0.34	U	0.31	U
7440-22-4	Silver	SB / NA	mg/kg	0.083	U	0.097	U	0.09	U	0.11	U	0.097	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	146		45		36.6		38.4		217	

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-03839-006		01-03882-011		01-03882-012		01-03882-013		01-03882-010	
	Sample Location:	Soil Cleanup		SB-21		SB-21		SB-21 (Dup)		SB-21 (Dup2)		SB-21	
	Depth:	Objectives /		3' - 4'		10' - 11'		10' - 11'		10' - 11'		34' - 35	
	Laboratory ID:	Eastern USA		K9155-6		K9162-2		K9162-3		K9162-4		K9162-1	
	Sampling Date:	Background		04/19/2001		04/24/2001		04/24/2001		04/24/2001		04/24/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
7440-28-0	Thallium	SB / NA	mg/kg	0.22	U	0.25	U	0.23	U	0.29	U	0.25	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	17.7		14.2		9.52		17.3		30.2	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	93.4		29.5		19		24.1		66.2	
57-12-5	Cyanide		mg/kg	0.057	J	0.075	J	0.078	J	0.12	J	0.28	U
	% Solids		%	90.2		77.7		83.1		68.2		77	
	Total Rec.Petr. Hydrocarbons		mg/kg										

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

Cas #:	Analyte:	TAGM 4046 Soil Cleanup Objectives / Eastern USA Background Concentrations	Units:										
	Client Sample ID:	TAGM 4046		01-03839-007		01-03882-007		01-03882-006		01-03839-012		01-03839-013	
	Sample Location:	Soil Cleanup		SB-22		SB-22		SB-22		SB-23		SB-23	
	Depth:	Objectives /		3' - 4'		10' - 11'		34' - 35'		3' - 4'		23' - 24'	
	Laboratory ID:	Eastern USA		K9155-7		K9161-7		K9161-6		K9156-4		K9156-5	
	Sampling Date:	Background		04/19/2001		04/23/2001		04/23/2001		04/20/2001		04/20/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	42.5	U	46.8	U	41.4	U	40.4	U	39.4	U
11104-28-2	PCB 1221	1000	µg/kg	181	U	199	U	176	U	172	U	168	U
11141-16-5	PCB 1232	1000	µg/kg	96	U	106	U	93.4	U	91.1	U	88.9	U
53469-21-9	PCB 1242	1000	µg/kg	40.2	U	44.2	U	39.1	U	38.1	U	37.2	U
12672-29-6	PCB 1248	1000	µg/kg	91	U	100	U	88.6	U	86.4	U	84.3	U
11097-69-1	PCB 1254	1000	µg/kg	21.1	U	23.3	U	20.6	U	20.1	U	19.6	U
11096-82-5	PCB 1260	1000	µg/kg	60.3	U	66.3	U	58.7	U	57.3	U	55.8	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.4	U	0.45	U	0.4	U	0.39	U	0.37	U
74-83-9	Bromomethane	NA *	µg/kg	0.19	U	0.21	U	0.19	U	0.18	U	0.18	U
75-01-4	Vinyl Chloride	200	µg/kg	0.22	U	0.25	U	0.22	U	0.21	U	0.21	U
75-00-3	Chloroethane	1900	µg/kg	0.37	U	0.41	U	0.36	U	0.35	U	0.34	U
75-09-2	Methylene Chloride	100	µg/kg	6		2.4	B	3.4	B	6.6		6	
67-64-1	Acetone	200	µg/kg	31.4		3.06	U	2.72	U	2.64	U	2.57	U
75-15-0	Carbon disulfide	2700	µg/kg	0.22	U	0.25	U	0.22	U	0.21	U	0.21	U
75-35-4	1,1-Dichloroethene	400	µg/kg	0.36	U	0.4	U	0.35	U	0.34	U	0.33	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.17	U	0.19	U	0.17	U	0.16	U	0.16	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.17	U	0.19	U	0.17	U	0.16	U	0.16	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.19	U	0.21	U	0.19	U	0.18	U	0.18	U
67-66-3	Chloroform	300	µg/kg	0.18	U	0.2	U	0.18	U	0.17	U	0.17	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.25	U	0.27	U	0.24	U	0.24	U	0.23	U
78-93-3	2-Butanone	300	µg/kg	4.57	U	5.06	U	4.49	U	4.37	U	4.24	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.16	U	0.9		0.87		0.15	U	0.15	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.24	U	0.26	U	0.23	U	0.22	U	0.22	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.2	U	0.22	U	0.2	U	0.19	U	0.19	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.16	U	0.17	U	0.15	U	0.15	U	0.15	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.2	U	0.22	U	0.2	U	0.19	U	0.19	U
79-01-6	Trichloroethene	700	µg/kg	0.22	U	0.25	U	0.22	U	0.21	U	0.21	U
124-48-1	Dibromochloromethane	NA *	µg/kg	0.27	U	0.3	U	0.26	U	0.26	U	0.25	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.21	U	0.24	U	0.21	U	0.2	U	0.2	U
71-43-2	Benzene	60	µg/kg	0.16	U	0.17	U	0.15	U	0.15	U	0.15	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.25	U	0.27	U	0.24	U	0.24	U	0.23	U
75-25-2	Bromoform	NA *	µg/kg	0.27	U	0.3	U	0.26	U	0.26	U	0.25	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	1.9	U	2.11	U	1.87	U	1.82	U	1.77	U
591-78-6	2-Hexanone	NA *	µg/kg	1.66	U	1.84	U	1.63	U	1.58	U	1.54	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.2	U	0.22	U	0.2	U	0.19	U	0.19	U
108-88-3	Toluene	1500	µg/kg	1.6		1.5		0.93		2.4		2.2	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.22	U	0.25	U	0.22	U	0.21	U	0.21	U
108-90-7	Chlorobenzene	1700	µg/kg	0.15	U	0.16	U	0.14	U	0.14	U	0.14	U
100-41-4	Ethylbenzene	5500	µg/kg	0.12	U	5.6		0.12	U	0.12	U	0.11	U
100-42-5	Styrene	NA *	µg/kg	0.2	U	0.22	U	0.2	U	0.19	U	0.19	U
108-38-3	m,p-xylene	1200	µg/kg	1.6		17.1		0.58		1.8		1.5	
95-47-6	o-xylene	1200	µg/kg	0.2	U	11.6		0.2	U	0.73		0.57	
	Total BTEX		**µg/kg**	**3.2**		**30.2**		**1.51**		**4.93**		**4.27**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	22.4	U	73.8	U	65.3	U	34.7	U	33.9	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	29	U	95.5	U	84.6	U	33.4	U	32.6	U
95-57-8	2-Chlorophenol	800	µg/kg	27.2	U	89.7	U	79.4	U	34.1	U	33.3	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	29.7	U	97.9	U	86.6	U	36.5	U	35.6	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	28.2	U	93.1	U	82.4	U	35.5	U	34.6	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	31.8	U	105	U	92.9	U	35.8	U	34.9	U
95-48-7	2-Methylphenol	100	µg/kg	28.5	U	94.1	U	83.2	U	29.6	U	28.9	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	30.1	U	99.3	U	87.8	U	38.6	U	37.6	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	28.5	U	94.2	U	83.4	U	28.6	U	27.9	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	26.3	U	86.8	U	76.8	U	34.8	U	33.9	U
67-72-1	Hexachloroethane	NA *	µg/kg	25.3	U	83.4	U	73.8	U	36.7	U	35.8	U
98-95-3	Nitrobenzene	200	µg/kg	31.4	U	104	U	91.8	U	40.2	U	39.2	U
78-59-1	Isophorone	4400	µg/kg	25.6	U	84.5	U	74.8	U	36.7	U	35.8	U
88-75-5	2-Nitrophenol	330	µg/kg	23.9	U	78.7	U	69.7	U	27.9	U	27.2	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	22.3	U	73.6	U	65.2	U	16.9	U	16.5	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	29.3	U	96.7	U	85.5	U	33.7	U	32.9	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	26.4	U	87	U	77	U	29.2	U	28.5	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	32.1	U	106	U	93.9	U	35.4	U	34.5	U
106-47-8	4-Chloroaniline	220	µg/kg	15.9	U	52.6	U	46.6	U	36.8	U	35.9	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	30.1	U	99.3	U	87.8	U	35.5	U	34.6	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	30.9	U	102	U	90.4	U	28.6	U	27.8	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	13.3	U	43.9	U	38.9	U	29.7	U	28.9	U
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	26.5	U	87.4	U	77.3	U	28.2	U	27.5	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-03839-007		01-03882-007		01-03882-006		01-03839-012		01-03839-013	
	Sample Location:	Soil Cleanup		SB-22		SB-22		SB-22		SB-23		SB-23	
	Depth:	Objectives /		3' - 4'		10' - 11'		34' - 35'		3' - 4'		23' - 24'	
	Laboratory ID:	Eastern USA		K9155-7		K9161-7		K9161-6		K9156-4		K9156-5	
	Sampling Date:	Background		04/19/2001		04/23/2001		04/23/2001		04/20/2001		04/20/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	23.6	U	77.8	U	68.9	U	27.2	U	26.5	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	30.8	U	101	U	89.8	U	32.5	U	31.7	U
88-74-4	2-Nitroaniline	430	µg/kg	23.1	U	76.2	U	67.5	U	25.6	U	24.9	U
131-11-3	Dimethylphthalate	2000	µg/kg	30.7	U	101	U	89.7	U	31.1	U	30.3	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	22.8	U	75.2	U	66.6	U	28.7	U	28	U
99-09-2	3-Nitroaniline	500	µg/kg	14.7	U	48.5	U	42.9	U	27.5	U	26.8	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	21.8	U	71.9	U	63.6	U	32.7	U	31.8	U
100-02-7	4-Nitrophenol	100	µg/kg	48.9	U	162	U	143	U	21.2	U	20.7	U
132-64-9	Dibenzofuran	6200	µg/kg	10.5	J	104	U	92.3	U	31.1	U	30.3	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	20.9	U	68.8	U	60.9	U	27.3	U	26.6	U
84-66-2	Diethylphthalate	7100	µg/kg	20.2	U	66.6	U	58.9	U	20	U	19.5	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	36.3	U	120	U	106	U	31.7	U	30.9	U
100-01-6	4-Nitroaniline	NA *	µg/kg	17	U	55.9	U	49.5	U	24	U	23.4	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	28.6	U	94.4	U	83.6	U	30.2	U	29.5	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	30.1	U	99.4	U	88	U	28.5	U	27.8	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	27.5	U	90.6	U	80.2	U	28.9	U	28.2	U
118-74-1	Hexachlorobenzene	410	µg/kg	26.9	U	88.9	U	78.6	U	31.7	U	30.9	U
87-86-5	Pentachlorophenol	1000	µg/kg	18.3	U	60.4	U	53.5	U	21.5	U	20.9	U
86-74-8	Carbazole	NA *	µg/kg	34.5		70.7	U	62.5	U	71.4	U	69.6	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	35.6	J	176	JB	165	JB	24.2	JB	14.9	JB
85-68-7	Butylbenzylphthalate	50000	µg/kg	17.9	U	59.2	U	52.4	U	21.3	U	20.8	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	31	U	102	U	90.7	U	69	U	67.3	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	64.9	J	255	JB	300	JB	88.3	JB	140	B
117-84-0	Di-n-octylphthalate	50000	µg/kg	23.1	U	76.2	U	67.5	U	7.5	J	18.7	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	18.4	J	107	U	94.6	U	30.7	U	30	U
208-96-8	Acenaphthylene	41000	µg/kg	132		99.5	U	88.1	U	32.5	U	31.7	U
120-12-7	Anthracene	50000*	µg/kg	77.6		88.9	U	78.6	U	23.8	U	23.2	U
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	229		65.6	U	58.1	U	14	U	13.6	U
206-44-0	Fluoranthene	50000*	µg/kg	401		78.6	U	69.6	U	23.3	U	22.7	U
86-73-7	Fluorene	50000*	µg/kg	30.7	J	109	U	96.2	U	30.2	U	29.4	U
91-57-6	2-Methylnaphthalene	36400	µg/kg	12.7	J	87.3	U	77.2	U	50.2		28	U
91-20-3	Naphthalene	13000	µg/kg	18.7	J	102	U	90.7	U	15.7	J	32.8	U
85-01-8	Phenanthrene	50000*	µg/kg	192		87.1	U	77.1	U	13.9	J	25.4	U
129-00-0	Pyrene	50000*	µg/kg	497		65.1	U	57.6	U	23.6	U	23	U
	Total Non Carcinogenic PAHs			1609.1		0		0		79.8		0	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	301		62.1	U	55	U	21.5	U	21	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	338		102	U	89.9	U	15	U	14.6	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	306		82.4	U	72.9	U	22.4	U	21.8	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	345		67.3	U	59.6	U	16.7	U	16.2	U
218-01-9	Chrysene	400	µg/kg	345		61.9	U	54.8	U	22.9	U	22.4	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	174		78.7	U	69.7	U	14.6	U	14.2	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	69.7		74	U	65.5	U	14.6	U	14.3	U
	Total Probable Carcinogenic PAHs			1878.7		0		0		0		0	
	Total PAHs			**3487.8**		**0**		**0**		**79.8**		**0**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	6550		5090		6020		4360		2700	
7440-36-0	Antimony	SB / NA	mg/kg	0.18	J	0.22	U	0.16	J	0.19	U	0.11	J
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.27	U	0.3	U	0.26	U	0.26	U	0.25	U
7440-39-3	Barium	300 or SB / 15-600	mg/kg	65.1		51.3		110		29		19.6	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.067	U	0.074	U	0.066	U	0.064	U	0.063	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.056	J	0.074	U	0.066	U	0.064	U	0.063	U
7440-70-2	Calcium	SB / 130-35000	mg/kg	10500		1160		7290		1770		11800	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	12.5		9.98		16.3		8.16		6.08	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	5.1		3.04		6.6		4.67		3.57	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	19.8		5.29		18.1		9.47		7.28	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	10800		6350		12500		7550		6530	
7439-92-1	Lead	SB / 200-500	mg/kg	85.7		6.44		1.98		2.66		2.09	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	6410		1630		6510		2770		8020	
7439-96-5	Manganese	SB / 50-5000	mg/kg	158		75.5		167		135		98.7	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.18		0.017		0.014		0.017		0.014	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	9.67		5.28		9.93		7.32		5.21	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	1440		463		4350		1170		827	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.26	U	0.29	U	0.26	U	0.25	U	0.24	U
7440-22-4	Silver	SB / NA	mg/kg	0.084	U	0.093	U	0.082	U	0.08	U	0.078	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	147		60.9		122		162		76.1	

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-03839-007**		**01-03882-007**		**01-03882-006**		**01-03839-012**		**01-03839-013**	
	Sample Location:	**Soil Cleanup**		**SB-22**		**SB-22**		**SB-22**		**SB-23**		**SB-23**	
	Depth:	**Objectives /**		**3' - 4'**		**10' - 11'**		**34' - 35'**		**3' - 4'**		**23' - 24'**	
	Laboratory ID:	**Eastern USA**		**K9155-7**		**K9161-7**		**K9161-6**		**K9156-4**		**K9156-5**	
	Sampling Date:	**Background**		**04/19/2001**		**04/23/2001**		**04/23/2001**		**04/20/2001**		**04/20/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
7440-28-0	Thallium	SB / NA	mg/kg	0.22	U	0.24	U	0.21	U	0.21	U	0.2	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	18.8		11.2		24.8		10.8		7.4	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	91.4		26.3		27.1		21.9		14.8	
57-12-5	Cyanide		mg/kg	0.099	J	0.084	J	0.28	U	0.16	J	0.071	J
	% Solids		%	88.9		80.8		91.3		93.6		96	
	Total Rec.Petr. Hydrocarbons		mg/kg										
Notes													
U - Below detection limit													
J - Estimated value													
NR - Not run													
NA - Not available													
SB - Site background													
MDL - Method Detection Limit													
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg													

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-03839-014		01-03839-015		01-03839-016		01-03839-001		01-03839-002	
	Sample Location:	Soil Cleanup		SB-23		SB-23		SB-23 (Dup)		SB-24		SB-24	
	Depth:	Objectives /		37' - 38'		47' - 48'		47' - 48'		2' - 3'		21' - 22'	
	Laboratory ID:	Eastern USA		K9156-6		K9156-7		K9156-8		K9155-1		K9155-2	
	Sampling Date:	Background		04/20/2001		04/20/2001		04/20/2001		04/19/2001		04/19/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	45.8	U	46.3	U	46.8	U	42	U	42	U
11104-28-2	PCB 1221	1000	µg/kg	195	U	197	U	200	U	179	U	179	U
11141-16-5	PCB 1232	1000	µg/kg	103	U	104	U	106	U	94.7	U	94.8	U
53469-21-9	PCB 1242	1000	µg/kg	43.2	U	43.7	U	44.2	U	39.6	U	39.7	U
12672-29-6	PCB 1248	1000	µg/kg	97.9	U	99	U	100	U	89.8	U	89.9	U
11097-69-1	PCB 1254	1000	µg/kg	22.8	U	23	U	23.3	U	20.9	U	20.9	U
11096-82-5	PCB 1260	1000	µg/kg	64.9	U	65.6	U	66.4	U	59.5	U	59.6	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.44	U	0.44	U	0.45	U	0.4	U	0.4	U
74-83-9	Bromomethane	NA *	µg/kg	0.21	U	0.21	U	0.21	U	0.19	U	0.19	U
75-01-4	Vinyl Chloride	200	µg/kg	0.24	U	0.24	U	0.25	U	0.22	U	0.22	U
75-00-3	Chloroethane	1900	µg/kg	0.4	U	0.4	U	0.41	U	0.37	U	0.37	U
75-09-2	Methylene Chloride	100	µg/kg	1.4		6.6		6.2		4.1		5	
67-64-1	Acetone	200	µg/kg	2.99	U	3.01	U	3.06	U	2.74	U	2.74	U
75-15-0	Carbon disulfide	2700	µg/kg	0.24	U	0.24	U	0.25	U	0.22	U	0.22	U
75-35-4	1,1-Dichloroethene	400	µg/kg	0.39	U	0.39	U	0.4	U	0.36	U	0.36	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.18	U	0.18	U	0.19	U	0.17	U	0.17	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.18	U	0.18	U	0.19	U	0.17	U	0.17	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.21	U	0.21	U	0.21	U	0.19	U	0.19	U
67-66-3	Chloroform	300	µg/kg	0.19	U	0.2	U	0.2	U	0.18	U	0.18	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.27	U	0.27	U	0.27	U	0.24	U	0.24	U
78-93-3	2-Butanone	300	µg/kg	4.94	U	4.98	U	5.06	U	4.53	U	4.53	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.17	U	0.17	U	0.17	U	0.16	U	0.16	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.25	U	0.26	U	0.26	U	0.23	U	0.23	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.22	U	0.22	U	0.22	U	0.2	U	0.2	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.17	U	0.17	U	0.17	U	0.16	U	0.16	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.22	U	0.22	U	0.22	U	0.2	U	0.2	U
79-01-6	Trichloroethene	700	µg/kg	0.24	U	0.24	U	0.25	U	0.22	U	0.22	U
124-48-1	Dibromochloromethane	NA *	µg/kg	0.29	U	0.29	U	0.3	U	0.27	U	0.27	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.23	U	0.23	U	0.24	U	0.21	U	0.21	U
71-43-2	Benzene	60	µg/kg	0.69		0.17	U	0.17	U	0.16	U	0.16	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.27	U	0.27	U	0.27	U	0.24	U	0.24	U
75-25-2	Bromoform	NA *	µg/kg	0.29	U	0.29	U	0.3	U	0.27	U	0.27	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	2.06	U	2.07	U	2.11	U	1.89	U	1.89	U
591-78-6	2-Hexanone	NA *	µg/kg	1.79	U	1.81	U	1.84	U	1.64	U	1.64	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.22	U	0.22	U	0.22	U	0.2	U	0.2	U
108-88-3	Toluene	1500	µg/kg	3.1		2.6		2.6		2.5		2.6	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.24	U	0.24	U	0.25	U	0.22	U	0.22	U
108-90-7	Chlorobenzene	1700	µg/kg	1.2		0.16	U	0.16	U	0.14	U	0.14	U
100-41-4	Ethylbenzene	5500	µg/kg	0.13	U	0.13	U	0.14	U	0.12	U	1.3	
100-42-5	Styrene	NA *	µg/kg	0.22	U	0.22	U	0.22	U	0.2	U	0.2	U
108-38-3	m,p-xylene	1200	µg/kg	1.6		1.2		1.2		1		1	
95-47-6	o-xylene	1200	µg/kg	0.69		0.22	U	0.22	U	0.2	U	0.2	U
	Total BTEX		**µg/kg**	**5.39**		**3.8**		**3.8**		**3.5**		**3.6**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	39.4	U	39.8	U	40.3	U	36.2	U	36.1	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	37.9	U	38.3	U	38.8	U	34.9	U	34.8	U
95-57-8	2-Chlorophenol	800	µg/kg	38.7	U	39.1	U	39.6	U	35.6	U	35.5	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	41.3	U	41.8	U	42.3	U	38	U	37.9	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	40.2	U	40.6	U	41.1	U	37	U	36.9	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	40.6	U	41	U	41.6	U	37.3	U	37.3	U
95-48-7	2-Methylphenol	100	µg/kg	33.5	U	33.9	U	34.3	U	30.8	U	30.8	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	43.8	U	44.2	U	44.8	U	40.2	U	40.2	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	32.4	U	32.8	U	33.2	U	29.8	U	29.8	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	39.4	U	39.9	U	40.4	U	36.3	U	36.2	U
67-72-1	Hexachloroethane	NA *	µg/kg	41.6	U	42	U	42.5	U	38.2	U	38.2	U
98-95-3	Nitrobenzene	200	µg/kg	45.5	U	46	U	46.6	U	41.9	U	41.8	U
78-59-1	Isophorone	4400	µg/kg	41.6	U	42.1	U	42.6	U	38.3	U	38.2	U
88-75-5	2-Nitrophenol	330	µg/kg	31.6	U	32	U	32.4	U	29.1	U	29	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	19.1	U	19.3	U	19.6	U	17.6	U	17.6	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	38.2	U	38.6	U	39.1	U	35.2	U	35.1	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	33.1	U	33.5	U	33.9	U	30.5	U	30.4	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	40.1	U	40.6	U	41.1	U	36.9	U	36.8	U
106-47-8	4-Chloroaniline	220	µg/kg	41.7	U	42.2	U	42.7	U	38.4	U	38.3	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	40.2	U	40.6	U	41.1	U	37	U	36.9	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	32.4	U	32.7	U	33.1	U	29.8	U	29.7	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	33.6	U	34	U	34.4	U	30.9	U	30.9	U
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	32	U	32.3	U	32.7	U	29.4	U	29.3	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-03839-014		01-03839-015		01-03839-016		01-03839-001		01-03839-002	
	Sample Location:	Soil Cleanup		SB-23		SB-23		SB-23 (Dup)		SB-24		SB-24	
	Depth:	Objectives /		37' - 38'		47' - 48'		47' - 48'		2' - 3'		21' - 22'	
	Laboratory ID:	Eastern USA		K9156-6		K9156-7		K9156-8		K9155-1		K9155-2	
	Sampling Date:	Background		04/20/2001		04/20/2001		04/20/2001		04/19/2001		04/19/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	30.8	U	31.1	U	31.5	U	28.3	U	28.3	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	36.8	U	37.3	U	37.7	U	33.9	U	33.8	U
88-74-4	2-Nitroaniline	430	µg/kg	29	U	29.3	U	29.7	U	26.7	U	26.6	U
131-11-3	Dimethylphthalate	2000	µg/kg	35.3	U	35.7	U	36.1	U	32.4	U	32.4	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	32.6	U	32.9	U	33.3	U	30	U	29.9	U
99-09-2	3-Nitroaniline	500	µg/kg	31.1	U	31.5	U	31.9	U	28.6	U	28.6	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	37	U	37.4	U	37.9	U	34	U	34	U
100-02-7	4-Nitrophenol	100	µg/kg	24.1	U	24.3	U	24.6	U	22.1	U	22.1	U
132-64-9	Dibenzofuran	6200	µg/kg	35.2	U	35.6	U	36	U	32.4	U	32.3	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	30.9	U	31.3	U	31.6	U	28.4	U	28.4	U
84-66-2	Diethylphthalate	7100	µg/kg	22.6	U	22.9	U	14.9	J	20.8	U	20.8	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	35.9	U	36.3	U	36.7	U	33	U	32.9	U
100-01-6	4-Nitroaniline	NA *	µg/kg	27.2	U	27.5	U	27.8	U	25	U	25	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	34.3	U	34.6	U	35.1	U	31.5	U	31.4	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	32.3	U	32.7	U	33.1	U	29.7	U	29.7	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	32.7	U	33.1	U	33.5	U	30.1	U	30	U
118-74-1	Hexachlorobenzene	410	µg/kg	35.9	U	36.3	U	36.8	U	33	U	33	U
87-86-5	Pentachlorophenol	1000	µg/kg	24.3	U	24.6	U	24.9	U	22.4	U	22.3	U
86-74-8	Carbazole	NA *	µg/kg	81	U	81.8	U	82.9	U	74.5	U	74.3	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	23.8	JB	17.1	JB	21.5	J	24.1	J	31.1	J
85-68-7	Butylbenzylphthalate	50000	µg/kg	24.1	U	24.4	U	24.7	U	22.2	U	22.1	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	78.3	U	79.1	U	80.1	U	72	U	71.8	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	85.1	JB	553	B	1090		481		55.2	J
117-84-0	Di-n-octylphthalate	50000	µg/kg	21.7	U	22	U	22.2	U	20	U	19.9	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	436		35.2	U	35.7	U	32	U	32	U
208-96-8	Acenaphthylene	41000	µg/kg	36.8	U	37.3	U	16.1	J	33.9	U	33.8	U
120-12-7	Anthracene	50000*	µg/kg	103		27.3	U	27.6	U	24.8	U	24.7	U
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	15.8	U	16	U	16.2	U	14.6	U	14.5	U
206-44-0	Fluoranthene	50000*	µg/kg	50.4		26.7	U	27.1	U	24.3	U	24.3	U
86-73-7	Fluorene	50000*	µg/kg	121		34.6	U	35	U	31.5	U	31.4	U
91-57-6	2-Methylnaphthalene	36400	µg/kg	245		32.9	U	33.3	U	29.9	U	29.9	U
91-20-3	Naphthalene	13000	µg/kg	964		38.6	U	39	U	35.1	U	35	U
85-01-8	Phenanthrene	50000*	µg/kg	527		29.9	U	30.2	U	27.2	U	27.1	U
129-00-0	Pyrene	50000*	µg/kg	59.3		27	U	27.3	U	24.6	U	24.5	U
	Total Non Carcinogenic PAHs			2505.7		0		16.1		0		0	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	24.4	U	24.6	U	25	U	22.4	U	22.4	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	17	U	17.1	U	9.5	J	15.6	U	15.6	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	25.4	U	25.7	U	26	U	23.3	U	23.3	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	18.9	U	19.1	U	33		17.4	U	17.3	U
218-01-9	Chrysene	400	µg/kg	26	U	26.3	U	26.6	U	23.9	U	23.9	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	16.5	U	16.7	U	16.9	U	15.2	U	15.1	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	16.6	U	16.8	U	17	U	15.3	U	15.2	U
	Total Probable Carcinogenic PAHs			0		0		42.5		0		0	
	Total PAHs			**2505.7**		**0**		**58.6**		**0**		**0**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	2300		2130		2030		7030		3960	
7440-36-0	Antimony	SB / NA	mg/kg	0.018	J	0.22	U	0.32		0.13	J	0.27	
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.29	U	0.29	U	0.3	U	0.27	U	0.27	U
7440-39-3	Barium	300 or SB / 15-600	mg/kg	16.4		15.1		13.9		44.5		29.2	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.073	U	0.073	U	0.074	U	0.067	U	0.067	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.073	U	0.073	U	0.074	U	0.067	U	0.067	U
7440-70-2	Calcium	SB / 130-35000	mg/kg	18000		17900		17700		1020		1480	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	6.7		4.85		4.88		10.6		8.01	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	2.69		2.8		2.5		5.75		4.54	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	7.49		6.4		6.3		8.86		8.53	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	6300		5060		5020		10400		7590	
7439-92-1	Lead	SB / 200-500	mg/kg	1.71		1.77		1.59		2.89		2.11	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	9400		9350		9070		3590		2830	
7439-96-5	Manganese	SB / 50-5000	mg/kg	71.5		54.5		54.9		180		102	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.0061	J	0.0029	J	0.006	J	0.016		0.0067	J
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	4.27		4.02		4.02		8.56		6.67	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	722		613		558		1720		1240	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.28	U	0.29	U	0.29	U	0.26	U	0.26	U
7440-22-4	Silver	SB / NA	mg/kg	0.091	U	0.092	U	6.16		0.084	U	4.06	
7440-23-5	Sodium	SB / 6000-8000	mg/kg	185		254		254		575		564	

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-03839-014**		**01-03839-015**		**01-03839-016**		**01-03839-001**		**01-03839-002**	
	Sample Location:	**Soil Cleanup**		**SB-23**		**SB-23**		**SB-23 (Dup)**		**SB-24**		**SB-24**	
	Depth:	**Objectives /**		**37' - 38'**		**47' - 48'**		**47' - 48'**		**2' - 3'**		**21' - 22'**	
	Laboratory ID:	Eastern USA		**K9156-6**		**K9156-7**		**K9156-8**		**K9155-1**		**K9155-2**	
	Sampling Date:	**Background**		**04/20/2001**		**04/20/2001**		**04/20/2001**		**04/19/2001**		**04/19/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
7440-28-0	Thallium	SB / NA	mg/kg	0.24	U	0.24	U	0.24	U	0.22	U	0.22	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	7.69		5.36		5.05		15		10.5	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	12.2		9.88		10.1		$\boxed{25.5}$		$\boxed{21.8}$	
57-12-5	Cyanide		mg/kg	0.12	J	0.053	J	0.27	U	0.12	J	0.1	J
	% Solids		%	82.6		81.7		80.7		89.8		90	
	Total Rec.Petr. Hydrocarbons		mg/kg										

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-03839-003**		**01-03839-004**		**01-03839-008**		**01-03839-009**		**01-03839-010**	
	Sample Location:	**Soil Cleanup**		**SB-24**		**SB-24**		**SB-25**		**SB-25**		**SB-25**	
	Depth:	**Objectives /**		**36' - 38'**		**51' - 52'**		**3' - 4'**		**21' - 22'**		**22.5' - 23.5'**	
	Laboratory ID:	**Eastern USA**		**K9155-3**		**K9155-4**		**K9155-8**		**K9156-1**		**K9156-2**	
	Sampling Date:	**Background**		**04/19/2001**		**04/19/2001**		**04/20/2001**		**04/20/2001**		**04/20/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	42.7	U	47.8	U	42.8	U	41.7	U	46.6	U
11104-28-2	PCB 1221	1000	µg/kg	182	U	204	U	182	U	178	U	199	U
11141-16-5	PCB 1232	1000	µg/kg	96.3	U	108	U	96.5	U	94.2	U	105	U
53469-21-9	PCB 1242	1000	µg/kg	40.3	U	45.2	U	40.4	U	39.4	U	44	U
12672-29-6	PCB 1248	1000	µg/kg	91.3	U	102	U	91.5	U	89.3	U	99.8	U
11097-69-1	PCB 1254	1000	µg/kg	21.2	U	23.8	U	21.3	U	20.8	U	23.2	U
11096-82-5	PCB 1260	1000	µg/kg	60.5	U	67.8	U	60.6	U	59.2	U	66.1	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	2030	U	0.46	U	0.41	U	0.4	U	0.44	U
74-83-9	Bromomethane	NA *	µg/kg	5140	U	0.22	U	0.19	U	0.19	U	0.21	U
75-01-4	Vinyl Chloride	200	µg/kg	1640	U	0.25	U	0.23	U	0.22	U	0.25	U
75-00-3	Chloroethane	1900	µg/kg	903	U	0.42	U	0.37	U	0.36	U	0.41	U
75-09-2	Methylene Chloride	100	µg/kg	1020	U	8.1		5.9		6		6.7	
67-64-1	Acetone	200	µg/kg	9990	U	3.14	U	2.79	U	2.72	U	3.04	U
75-15-0	Carbon disulfide	2700	µg/kg	1350	U	0.25	U	0.23	U	0.22	U	0.25	U
75-35-4	1,1-Dichloroethene	400	µg/kg	1690	U	0.41	U	0.36	U	0.35	U	0.39	U
75-34-3	1,1-Dichloroethane	200	µg/kg	1190	U	0.19	U	0.17	U	0.17	U	0.18	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	1130	U	0.19	U	0.17	U	0.17	U	0.18	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	1810	U	0.22	U	0.19	U	0.19	U	0.21	U
67-66-3	Chloroform	300	µg/kg	790	U	0.2	U	0.18	U	0.18	U	0.2	U
107-06-2	1,2-Dichloroethane	100	µg/kg	734	U	0.28	U	0.25	U	0.24	U	0.27	U
78-93-3	2-Butanone	300	µg/kg	3780	U	5.18	U	4.61	U	4.49	U	5.02	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	1300	U	0.18	U	0.16	U	0.15	U	0.17	U
56-23-5	Carbon Tetrachloride	600	µg/kg	734	U	0.27	U	0.24	U	0.23	U	0.26	U
75-27-4	Bromodichloromethane	NA *	µg/kg	677	U	0.23	U	0.2	U	0.2	U	0.22	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	1020	U	0.18	U	0.16	U	0.15	U	0.17	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	1300	U	0.23	U	0.2	U	0.2	U	0.22	U
79-01-6	Trichloroethene	700	µg/kg	1580	U	0.25	U	0.23	U	0.22	U	0.25	U
124-48-1	Dibromochloromethane	NA *	µg/kg	959	U	0.3	U	0.27	U	0.26	U	0.3	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	1300	U	0.24	U	0.21	U	0.21	U	0.23	U
71-43-2	Benzene	60	µg/kg	677	U	0.18	U	0.16	U	0.15	U	0.17	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	1240	U	0.28	U	0.25	U	0.24	U	0.27	U
75-25-2	Bromoform	NA *	µg/kg	790	U	0.3	U	0.27	U	0.26	U	0.3	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	3160	U	2.16	U	1.92	U	1.87	U	2.09	U
591-78-6	2-Hexanone	NA *	µg/kg	5080	U	1.88	U	1.67	U	1.63	U	1.82	U
127-18-4	Tetrachloroethene	1400	µg/kg	1300	U	1.2		0.2	U	0.2	U	0.22	U
108-88-3	Toluene	1500	µg/kg	734	U	3		3.6		2.5		2.8	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	1810	U	0.25	U	0.23	U	0.22	U	0.25	U
108-90-7	Chlorobenzene	1700	µg/kg	790	U	0.17	U	0.15	U	0.14	U	0.16	U
100-41-4	Ethylbenzene	5500	µg/kg	903	U	13.1		0.12	U	0.12	U	0.14	U
100-42-5	Styrene	NA *	µg/kg	621	U	96.5		0.2	U	0.2	U	0.22	U
108-38-3	m,p-xylene	1200	µg/kg	**27400**		176		3.9		1.1		1.4	
95-47-6	o-xylene	1200	µg/kg	**9880**		73.2		1.8		0.2	U	0.22	U
	Total BTEX		**µg/kg**	**37280**		**265.3**		**9.3**		**3.6**		**4.2**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	734	U	41.1	U	36.8	U	35.9	U	40.1	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	707	U	39.6	U	35.4	U	34.5	U	38.6	U
95-57-8	2-Chlorophenol	800	µg/kg	721	U	40.4	U	36.1	U	35.2	U	39.4	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	770	U	43.2	U	38.6	U	37.7	U	42.1	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	749	U	42	U	37.6	U	36.6	U	40.9	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	757	U	42.4	U	37.9	U	37	U	41.3	U
95-48-7	2-Methylphenol	100	µg/kg	625	U	35.1	U	31.3	U	30.6	U	34.2	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	816	U	45.7	U	40.9	U	39.9	U	44.6	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	605	U	33.9	U	30.3	U	29.6	U	33	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	735	U	41.2	U	36.8	U	35.9	U	40.2	U
67-72-1	Hexachloroethane	NA *	µg/kg	775	U	43.5	U	38.8	U	37.9	U	42.3	U
98-95-3	Nitrobenzene	200	µg/kg	849	U	47.6	U	42.5	U	41.5	U	46.4	U
78-59-1	Isophorone	4400	µg/kg	776	U	43.5	U	38.9	U	37.9	U	42.4	U
88-75-5	2-Nitrophenol	330	µg/kg	590	U	33.1	U	29.6	U	28.8	U	32.2	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	357	U	20	U	17.9	U	17.4	U	19.5	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	713	U	40	U	35.7	U	34.8	U	38.9	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	618	U	34.6	U	31	U	30.2	U	33.7	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	748	U	41.9	U	37.5	U	36.6	U	40.9	U
106-47-8	4-Chloroaniline	220	µg/kg	778	U	43.6	U	39	U	38	U	42.5	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	749	U	42	U	37.6	U	36.6	U	40.9	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	603	U	33.8	U	30.2	U	29.5	U	33	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	627	U	35.1	U	31.4	U	30.6	U	34.2	U
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	596	U	33.4	U	29.9	U	29.1	U	32.6	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-03839-003**		**01-03839-004**		**01-03839-008**		**01-03839-009**		**01-03839-010**	
	Sample Location:	**Soil Cleanup**		**SB-24**		**SB-24**		**SB-25**		**SB-25**		**SB-25**	
	Depth:	**Objectives /**		**36' - 38'**		**51' - 52'**		**3' - 4'**		**21' - 22'**		**22.5' - 23.5'**	
	Laboratory ID:	**Eastern USA**		**K9155-3**		**K9155-4**		**K9155-8**		**K9156-1**		**K9156-2**	
	Sampling Date:	**Background**		**04/19/2001**		**04/19/2001**		**04/20/2001**		**04/20/2001**		**04/20/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	574	U	32.2	U	28.8	U	28.1	U	31.4	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	687	U	38.5	U	34.4	U	33.6	U	37.5	U
88-74-4	2-Nitroaniline	430	µg/kg	540	U	30.3	U	27.1	U	26.4	U	29.5	U
131-11-3	Dimethylphthalate	2000	µg/kg	658	U	36.9	U	33	U	32.2	U	35.9	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	607	U	34	U	30.4	U	29.7	U	33.2	U
99-09-2	3-Nitroaniline	500	µg/kg	580	U	32.5	U	29.1	U	28.4	U	31.7	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	690	U	38.7	U	34.6	U	33.7	U	37.7	U
100-02-7	4-Nitrophenol	100	µg/kg	448	U	25.1	U	22.5	U	21.9	U	24.5	U
132-64-9	Dibenzofuran	6200	µg/kg	11200		36.8	U	32.9	U	32.1	U	35.8	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	576	U	32.3	U	28.9	U	28.2	U	31.5	U
84-66-2	Diethylphthalate	7100	µg/kg	422	U	23.7	U	21.2	U	8.1	J	23.1	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	669	U	37.5	U	33.5	U	32.7	U	36.5	U
100-01-6	4-Nitroaniline	NA *	µg/kg	507	U	28.4	U	25.4	U	24.8	U	27.7	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	639	U	35.8	U	32	U	31.2	U	34.9	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	603	U	33.8	U	30.2	U	29.5	U	32.9	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	610	U	34.2	U	30.6	U	29.8	U	33.3	U
118-74-1	Hexachlorobenzene	410	µg/kg	670	U	37.5	U	33.6	U	32.7	U	36.6	U
87-86-5	Pentachlorophenol	1000	µg/kg	454	U	25.4	U	22.7	U	22.2	U	24.8	U
86-74-8	Carbazole	NA *	µg/kg	1510	U	84.6	U	75.6	U	73.8	U	82.4	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	1470	U	38	J	26.8	J	27.6	JB	17.3	JB
85-68-7	Butylbenzylphthalate	50000	µg/kg	450	U	25.2	U	22.6	U	22	U	24.6	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	1460	U	81.8	U	73.1	U	71.3	U	79.7	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	2600	U	154		52.8	J	59.6	JB	30.4	JB
117-84-0	Di-n-octylphthalate	50000	µg/kg	405	U	22.7	U	20.3	U	19.8	U	22.1	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	30500		34.2	J	32.5	U	31.7	U	35.5	U
208-96-8	Acenaphthylene	41000	µg/kg	463000		477		34.4	U	33.6	U	37.5	U
120-12-7	Anthracene	50000*	µg/kg	211000		273		25.2	U	24.6	U	27.5	U
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	22400		89.5		14.8	U	14.4	U	16.1	U
206-44-0	Fluoranthene	50000*	µg/kg	281000		478		24.7	U	24.1	U	26.9	U
86-73-7	Fluorene	50000*	µg/kg	242000		219		32	U	31.2	U	34.9	U
91-57-6	2-Methylnaphthalene	36400	µg/kg	599000		351		30.4	U	29.7	U	33.1	U
91-20-3	Naphthalene	13000	µg/kg	1570000		771		35.6	U	34.8	U	38.8	U
85-01-8	Phenanthrene	50000*	µg/kg	728000		1100		27.6	U	26.9	U	30.1	U
129-00-0	Pyrene	50000*	µg/kg	355000		621		25	U	24.4	U	27.2	U
	Total Non Carcinogenic PAHs			4501900		4413.7		0		0		0	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	146000		222		22.8	U	22.2	U	24.8	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	44700		81.4		15.8	U	15.5	U	17.3	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	53400		113		23.7	U	23.1	U	25.9	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	113000		185		17.6	U	17.2	U	19.2	U
218-01-9	Chrysene	400	µg/kg	125000		205		24.3	U	23.7	U	26.5	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	19600		59.9		15.4	U	15	U	16.8	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	6570		17.3	U	15.5	U	15.1	U	16.9	U
	Total Probable Carcinogenic PAHs			508270				0		0		0	
	Total PAHs			**5010170**		**4413.7**		**0**		**0**		**0**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	2880		1750		6750		4250		3800	
7440-36-0	Antimony	SB / NA	mg/kg	0.14	J	0.032	J	0.085	J	0.05	J	0.17	J
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.27	U	0.3	U	0.27	U	0.26	U	0.3	U
7440-39-3	Barium	300 or SB / 15-600	mg/kg	26.1		12.3		51.8		32.5		36.8	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.068	U	0.076	U	0.068	U	0.066	U	0.074	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.068	U	0.076	U	0.068	U	0.066	U	0.074	U
7440-70-2	Calcium	SB / 130-35000	mg/kg	34600		19900		1030		1140		27700	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	5.58		6.51		11.5		8.58		7.83	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	3.67		3.11		6.78		4.95		4.52	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	7.41		7.35		12.7		9.42		7.32	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	6690		5910		12100		8530		7770	
7439-92-1	Lead	SB / 200-500	mg/kg	1.82		1.85		2.66		2.05		2	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	17300		9850		3600		2820		16300	
7439-96-5	Manganese	SB / 50-5000	mg/kg	81.1		60.2		144		136		118	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.0083	J	0.0078	J	0.014		0.0048	J	0.0034	J
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	4.91		4.09		9.86		6.78		6.35	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	1150		498		2270		1550		1570	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.27	U	0.3	U	0.27	U	0.26	U	0.29	U
7440-22-4	Silver	SB / NA	mg/kg	0.085	U	0.095	U	0.085	U	0.083	U	0.093	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	149		210		91.6		61.1		117	

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-03839-003**		**01-03839-004**		**01-03839-008**		**01-03839-009**		**01-03839-010**	
	Sample Location:	**Soil Cleanup**		**SB-24**		**SB-24**		**SB-25**		**SB-25**		**SB-25**	
	Depth:	**Objectives /**		**36' - 38'**		**51' - 52'**		**3' - 4'**		**21' - 22'**		**22.5' - 23.5'**	
	Laboratory ID:	**Eastern USA**		**K9155-3**		**K9155-4**		**K9155-8**		**K9156-1**		**K9156-2**	
	Sampling Date:	**Background**		**04/19/2001**		**04/19/2001**		**04/20/2001**		**04/20/2001**		**04/20/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
7440-28-0	Thallium	SB / NA	mg/kg	0.22	U	0.25	U	0.22	U	0.22	U	0.24	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	7.54		6.77		17.9		11.5		10.1	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	14.1		8.87		$\boxed{30}$		$\boxed{20}$		16.6	
57-12-5	Cyanide		mg/kg	0.26	U	0.24	U	0.29	U	0.096	J	0.29	U
	% Solids		%	88.6		79		88.4		90.6		81.1	
	Total Rec.Petr. Hydrocarbons		mg/kg										
Notes													
U - Below detection limit													
J - Estimated value													
NR - Not run													
NA - Not available													
SB - Site background													
MDL - Method Detection Limit													
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg													

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-03839-011**		**01-04367-005**		**01-04367-006**		**01-04367-007**		**01-04230-004**	
	Sample Location:	**Soil Cleanup**		**SB-25**		**SB-26**		**SB-26**		**SB-26**		**SB-27A (MLK)**	
	Depth:	**Objectives /**		**43' - 44'**		**5' - 7'**		**10' - 12'**		**28' - 32'**		**2' - 3'**	
	Laboratory ID:	**Eastern USA**		**K9156-3**		**K9270-5**		**K9270-6**		**K9270-7**			
	Sampling Date:	**Background**		**04/20/2001**		**06/22/2001**		**06/22/2001**		**06/22/2001**		**5/22/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	46.8	U	7.66	U	8.34	U	7.41	U	<36	U
11104-28-2	PCB 1221	1000	µg/kg	199	U	9.33	U	10.2	U	9.03	U	<74	U
11141-16-5	PCB 1232	1000	µg/kg	106	U	6.66	U	7.25	U	6.44	U	<36	U
53469-21-9	PCB 1242	1000	µg/kg	44.2	U	8.33	U	9.07	U	8.06	U	<36	U
12672-29-6	PCB 1248	1000	µg/kg	100	U	10.4	U	11.3	U	10.1	U	<36	U
11097-69-1	PCB 1254	1000	µg/kg	23.3	U	6.22	U	6.78	U	6.02	U	<36	U
11096-82-5	PCB 1260	1000	µg/kg	66.3	U	6.27	U	6.83	U	6.06	U	<36	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.45	U	0.41	U	0.45	U	0.4	U	<11	U
74-83-9	Bromomethane	NA *	µg/kg	0.21	U	0.2	U	0.21	U	0.19	U	<11	U
75-01-4	Vinyl Chloride	200	µg/kg	0.25	U	0.23	U	0.25	U	0.22	U	<11	U
75-00-3	Chloroethane	1900	µg/kg	0.41	U	0.38	U	0.41	U	0.37	U	<11	U
75-09-2	Methylene Chloride	100	µg/kg	5.9		12.3	B	11.9	B	11.1	B	<11	U
67-64-1	Acetone	200	µg/kg	3.06	U	117		65		5.55	U	5	JB
75-15-0	Carbon disulfide	2700	µg/kg	0.25	U	0.23	U	2		0.59		<11	U
75-35-4	1,1-Dichloroethene	400	µg/kg	0.4	U	0.37	U	0.4	U	0.36	U	<11	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.19	U	0.17	U	0.19	U	0.17	U	<11	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.19	U	0.17	U	0.19	U	0.17	U	<11	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.21	U	0.2	U	0.21	U	0.19	U	<11	U
67-66-3	Chloroform	300	µg/kg	0.2	U	0.18	U	0.2	U	0.18	U	<11	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.27	U	0.25	U	0.28	U	0.24	U	<11	U
78-93-3	2-Butanone	300	µg/kg	5.06	U	4.69	U	5.1	U	4.53	U	<11	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.17	U	0.16	U	0.17	U	0.16	U	<11	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.26	U	0.24	U	0.26	U	0.23	U	<11	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.22	U	0.21	U	0.22	U	0.2	U	<11	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.17	U	0.16	U	0.17	U	0.16	U	<11	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.22	U	0.21	U	0.22	U	0.2	U	<11	U
79-01-6	Trichloroethene	700	µg/kg	0.25	U	0.23	U	0.25	U	0.22	U	<11	U
124-48-1	Dibromochloromethane	NA *	µg/kg	0.3	U	0.28	U	0.3	U	0.27	U	<11	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.24	U	0.22	U	0.24	U	0.21	U	<11	U
71-43-2	Benzene	60	µg/kg	0.17	U	0.16	U	0.17	U	0.16	U	<11	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.27	U	0.25	U	0.28	U	0.24	U	<11	U
75-25-2	Bromoform	NA *	µg/kg	0.3	U	0.28	U	0.3	U	0.27	U	<11	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	2.11	U	5.75	U	6.25	U	5.55	U	<11	U
591-78-6	2-Hexanone	NA *	µg/kg	1.84	U	5.75	U	6.25	U	5.55	U	<11	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.22	U	1.1		0.22	U	0.2	U	<11	U
108-88-3	Toluene	1500	µg/kg	3.7		0.23	U	0.25	U	0.22	U	<11	U
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.25	U	0.23	U	0.25	U	0.22	U	<11	U
108-90-7	Chlorobenzene	1700	µg/kg	0.16	U	0.15	U	0.16	U	0.14	U	<11	U
100-41-4	Ethylbenzene	5500	µg/kg	0.14	U	0.13	U	0.14	U	0.12	U	<11	U
100-42-5	Styrene	NA *	µg/kg	0.22	U	0.21	U	0.22	U	0.2	U	<11	U
108-38-3	m,p-xylene	1200	µg/kg	1.3		0.29	U	0.31	U	0.28	U	<11	U
95-47-6	o-xylene	1200	µg/kg	0.22	U	0.21	U	0.22	U	0.2	U	<11	U
	Total BTEX		µg/kg	5		0		0		0		0	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	40.2	U	68.7	U	74.8	U	66.4	U	49	J
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	38.7	U	88.9	U	96.9	U	86.1	U	<360	U
95-57-8	2-Chlorophenol	800	µg/kg	39.5	U	83.5	U	91	U	80.8	U	<360	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	42.2	U	91.1	U	99.2	U	88.2	U	<360	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	41.1	U	86.6	U	94.4	U	83.8	U	<360	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	41.5	U	97.7	U	106	U	94.5	U	<360	U
95-48-7	2-Methylphenol	100	µg/kg	34.3	U	87.6	U	95.4	U	84.7	U	<360	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	44.7	U	92.4	U	101	U	89.4	U	<360	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	33.2	U	87.7	U	95.5	U	84.8	U	<360	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	40.3	U	80.8	U	88	U	78.1	U	<360	U
67-72-1	Hexachloroethane	NA *	µg/kg	42.5	U	77.7	U	84.6	U	75.1	U	<360	U
98-95-3	Nitrobenzene	200	µg/kg	46.5	U	96.5	U	105	U	93.4	U	<360	U
78-59-1	Isophorone	4400	µg/kg	42.5	U	78.7	U	85.7	U	76.1	U	<360	U
88-75-5	2-Nitrophenol	330	µg/kg	32.3	U	73.3	U	79.8	U	70.9	U	<360	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	19.6	U	68.5	U	74.7	U	66.3	U	<360	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	39.1	U	90	U	98	U	87.1	U	<360	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	33.9	U	81	U	88.2	U	78.4	U	<360	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	41	U	98.7	U	108	U	95.5	U	<360	U
106-47-8	4-Chloroaniline	220	µg/kg	42.7	U	49	U	53.3	U	47.4	U	<360	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	41.1	U	92.4	U	101	U	89.4	U	<360	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	33.1	U	95	U	104	U	92	U	69	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	34.4	U	40.9	U	44.5	U	39.6	U	<360	U
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	32.7	U	81.3	U	88.6	U	78.7	U	<360	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-03839-011**		**01-04367-005**		**01-04367-006**		**01-04367-007**		**01-04230-004**	
	Sample Location:	**Soil Cleanup**		**SB-25**		**SB-26**		**SB-26**		**SB-26**		**SB-27A (MLK)**	
	Depth:	**Objectives /**		**43' - 44'**		**5' - 7'**		**10' - 12'**		**28' - 32'**		**2' - 3'**	
	Laboratory ID:	**Eastern USA**		**K9156-3**		**K9270-5**		**K9270-6**		**K9270-7**			
	Sampling Date:	**Background**		**04/20/2001**		**06/22/2001**		**06/22/2001**		**06/22/2001**		**5/22/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	31.5	U	72.5	U	78.9	U	70.1	U	<910	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	37.7	U	94.5	U	103	U	91.4	U	<360	U
88-74-4	2-Nitroaniline	430	µg/kg	29.6	U	71	U	77.3	U	68.7	U	<910	U
131-11-3	Dimethylphthalate	2000	µg/kg	36.1	U	94.4	U	103	U	91.3	U	<360	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	33.3	U	70	U	76.3	U	67.8	U	<360	U
99-09-2	3-Nitroaniline	500	µg/kg	31.8	U	45.2	U	49.2	U	43.7	U	<910	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	37.8	U	66.9	U	72.9	U	64.8	U	<910	U
100-02-7	4-Nitrophenol	100	µg/kg	24.6	U	150	U	164	U	145	U	<910	U
132-64-9	Dibenzofuran	6200	µg/kg	36	U	97.1	U	106	U	94	U	<360	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	31.6	U	64.1	U	69.8	U	62	U	<360	U
84-66-2	Diethylphthalate	7100	µg/kg	23.1	U	62	U	67.5	U	60	U	<360	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	36.7	U	112	U	122	U	108	U	<360	U
100-01-6	4-Nitroaniline	NA *	µg/kg	27.8	U	52.1	U	56.7	U	50.4	U	<910	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	35	U	87.9	U	95.7	U	85.1	U	<910	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	33	U	92.5	U	101	U	89.5	U	<360	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	33.5	U	84.3	U	91.8	U	81.6	U	<360	U
118-74-1	Hexachlorobenzene	410	µg/kg	36.7	U	82.7	U	90.1	U	80	U	<360	U
87-86-5	Pentachlorophenol	1000	µg/kg	24.9	U	56.2	U	61.2	U	54.4	U	<910	U
86-74-8	Carbazole	NA *	µg/kg	82.7	U	65.8	U	71.6	U	63.7	U	<360	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	23.5	JB	249	U	271	U	241	U	30	J
85-68-7	Butylbenzylphthalate	50000	µg/kg	24.7	U	55.1	U	60	U	53.3	U	20	J
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	80	U	95.4	U	104	U	92.3	U	<360	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	283	B	36.9	JB	286	JB	41.2	JB	24	J
117-84-0	Di-n-octylphthalate	50000	µg/kg	22.2	U	71	U	77.3	U	68.7	U	<360	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	35.6	U	99.5	U	108	U	96.3	U	<360	U
208-96-8	Acenaphthylene	41000	µg/kg	37.7	U	92.6	U	101	U	89.6	U	34	J
120-12-7	Anthracene	50000*	µg/kg	27.6	U	82.7	U	90.1	U	80	U	25	J
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	16.2	U	61.1	U	66.5	U	59.1	U	130	J
206-44-0	Fluoranthene	50000*	µg/kg	27	U	73.2	U	79.7	U	70.8	U	190	J
86-73-7	Fluorene	50000*	µg/kg	35	U	101	U	110	U	97.9	U	<360	U
91-57-6	2-Methylnaphthalene	36400	µg/kg	33.2	U	81.2	U	46.4	J	78.6	U	<360	U
91-20-3	Naphthalene	13000	µg/kg	39	U	95.4	U	55.2	J	92.3	U	22	J
85-01-8	Phenanthrene	50000*	µg/kg	30.2	U	81.1	U	60.2	J	78.5	U	98	J
129-00-0	Pyrene	50000*	µg/kg	27.3	U	60.6	U	31.4	J	58.6	U	210	J
	Total Non Carcinogenic PAHs			0		0		193.2		0		709	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	24.9	U	57.8	U	63	U	56	U	150	J
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	17.3	U	94.6	U	103	U	91.5	U	200	J
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	25.9	U	76.7	U	83.6	U	74.2	U	130	J
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	19.3	U	62.7	U	68.3	U	60.6	U	180	J
218-01-9	Chrysene	400	µg/kg	26.6	U	57.6	U	62.7	U	55.7	U	150	J
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	16.9	U	73.3	U	79.8	U	70.9	U	110	J
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	17	U	68.9	U	75	U	66.7	U	40	J
	Total Probable Carcinogenic PAHs			0		0		0		0		960	
	Total PAHs			**0**		**0**		**193.2**		**0**		**1669**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	2440		5090		4720		3550		9060	
7440-36-0	Antimony	SB / NA	mg/kg	0.18	J	0.081	J	0.46		0.44		<0.41	U
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.3	U	0.28	U	0.3	U	0.27	U	2.3	
7440-39-3	Barium	300 or SB / 15-600	mg/kg	21.6		29.3		73.3		65.4		80.9	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.074	U	0.069	U	0.075	U	0.067	U	0.2	
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.074	U	0.069	U	0.33		0.067	U	<0.11	U
7440-70-2	Calcium	SB / 130-35000	mg/kg	15700		1260		1460		9590		6740	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	6.53		7.53		10.4		29.9		14.3	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	2.98		4.41		6.81		5		7.9	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	4.83		8.67		12.6		11.4		22.4	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	6880		7680		6180		7490		18100	
7439-92-1	Lead	SB / 200-500	mg/kg	1.77		14.1		2.2		1.5		48.1	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	9100		2380		2790		7210		6130	
7439-96-5	Manganese	SB / 50-5000	mg/kg	61.3		133		53.1		87.5		305	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.015		0.021		0.013		0.0076	J	0.13	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	4.72		7.02		8.44		30		12.9	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	881		1060		931		2110		1940	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.29	U	0.27	U	0.29	U	0.26	U	1.5	
7440-22-4	Silver	SB / NA	mg/kg	0.093	U	0.086	U	0.094	U	0.084	U	<0.1	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	247		187		558		138		200	

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-03839-011**		**01-04367-005**		**01-04367-006**		**01-04367-007**		**01-04230-004**	
	Sample Location:	**Soil Cleanup**		**SB-25**		SB-26		**SB-26**		**SB-26**		**SB-27A (MLK)**	
	Depth:	**Objectives /**		**43' - 44'**		**5' - 7'**		**10' - 12'**		**28' - 32'**		**2' - 3'**	
	Laboratory ID:	Eastern USA		**K9156-3**		**K9270-5**		**K9270-6**		**K9270-7**			
	Sampling Date:	**Background**		**04/20/2001**		**06/22/2001**		**06/22/2001**		**06/22/2001**		**5/22/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
7440-28-0	Thallium	SB / NA	mg/kg	0.24	U	0.22	U	0.24	U	0.22	U	0.76	
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	7.37		9.99		16.2		12.5		22.8	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	12.6		20.6		28.8		15.5		76.7	
57-12-5	Cyanide		mg/kg	0.24	U	0.063	J	0.26	U	0.27	U	<0.03	U
	% Solids		%	80.8		86.8		79.7		89.7		91.4	
	Total Rec.Petr. Hydrocarbons		mg/kg										

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-04367-014		01-04367-008		01-04367-009		01-04367-010		01-04230-009	
	Sample Location:	Soil Cleanup		SB-27		MW-27		MW-27		MW-27		SB-28	
	Depth:	Objectives /		2' - 3'		9' - 10.5'		11' - 12'		30' - 31.5'		2' - 4'	
	Laboratory ID:	Eastern USA		K9271-5		K9270-8		K9270-9-		K9271-1			
	Sampling Date:	Background		06/21/2001		06/22/2001		06/22/2001		06/22/2001		5/24/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	7.39	U	7.95	U	NR		8.87	U	<35	U
11104-28-2	PCB 1221	1000	µg/kg	9	U	9.68	U	NR		10.8	U	<72	U
11141-16-5	PCB 1232	1000	µg/kg	6.42	U	6.91	U	NR		7.71	U	<35	U
53469-21-9	PCB 1242	1000	µg/kg	8.03	U	8.64	U	NR		9.64	U	<35	U
12672-29-6	PCB 1248	1000	µg/kg	10	U	10.8	U	NR		12	U	<35	U
11097-69-1	PCB 1254	1000	µg/kg	6	U	6.45	U	NR		7.2	U	<35	U
11096-82-5	PCB 1260	1000	µg/kg	6.04	U	6.5	U	NR		7.25	U	<35	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.4	U	0.43	U	NR		2.4	U	<10	U
74-83-9	Bromomethane	NA *	µg/kg	0.19	U	0.2	U	NR		1.13	U	<10	U
75-01-4	Vinyl Chloride	200	µg/kg	0.22	U	0.24	U	NR		1.33	U	<10	U
75-00-3	Chloroethane	1900	µg/kg	0.37	U	0.39	U	NR		2.2	U	<10	U
75-09-2	Methylene Chloride	100	µg/kg	10.7	B	14.1	B	NR		41.8	B	1	JB
67-64-1	Acetone	200	µg/kg	60.4		5.95	U	NR		363		3	JB
75-15-0	Carbon disulfide	2700	µg/kg	0.22	U	0.24	U	NR		1.33	U	<10	U
75-35-4	1,1-Dichloroethene	400	µg/kg	0.36	U	0.38	U	NR		2.13	U	<10	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.17	U	0.18	U	NR		1	U	<10	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.17	U	0.18	U	NR		1	U	<10	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.19	U	0.2	U	NR		1.13	U	<10	U
67-66-3	Chloroform	300	µg/kg	0.18	U	0.19	U	NR		1.07	U	<10	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.24	U	0.26	U	NR		1.47	U	<10	U
78-93-3	2-Butanone	300	µg/kg	4.53	U	4.86	U	NR		27.2	U	<10	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.16	U	0.17	U	NR		0.93	U	<10	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.23	U	0.25	U	NR		1.4	U	<10	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.2	U	0.21	U	NR		1.2	U	<10	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.16	U	0.17	U	NR		0.93	U	<10	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.2	U	0.21	U	NR		1.2	U	<10	U
79-01-6	Trichloroethene	700	µg/kg	0.22	U	0.24	U	NR		1.33	U	<10	U
124-48-1	Dibromochloromethane	NA *	µg/kg	0.27	U	0.29	U	NR		1.6	U	<10	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.21	U	0.23	U	NR		1.27	U	<10	U
71-43-2	Benzene	60	µg/kg	0.16	U	0.17	U	NR		0.93	U	<10	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.24	U	0.26	U	NR		1.47	U	<10	U
75-25-2	Bromoform	NA *	µg/kg	0.27	U	0.29	U	NR		1.6	U	<10	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	5.55	U	5.95	U	NR		33.3	U	<10	U
591-78-6	2-Hexanone	NA *	µg/kg	5.55	U	5.95	U	NR		33.3	U	<10	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.2	U	0.21	U	NR		1.2	U	<10	U
108-88-3	Toluene	1500	µg/kg	0.22	U	0.24	U	NR		4.4		<10	U
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.22	U	0.24	U	NR		1.33	U	<10	U
108-90-7	Chlorobenzene	1700	µg/kg	0.14	U	0.15	U	NR		0.87	U	<10	U
100-41-4	Ethylbenzene	5500	µg/kg	0.12	U	0.13	U	NR		0.73	U	<10	U
100-42-5	Styrene	NA *	µg/kg	0.2	U	0.21	U	NR		1.2	U	<10	U
108-38-3	m,p-xylene	1200	µg/kg	0.28	U	1.1		NR		7.7		<10	U
95-47-6	o-xylene	1200	µg/kg	0.2	U	0.21	U	NR		1.2	U	<10	U
	Total BTEX		**µg/kg**	**0**		**1.1**		**NR**		**12.1**		**0**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	66.2	U	71.2	U	NR		79.5	U	<350	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	85.8	U	92.2	U	NR		103	U	<350	U
95-57-8	2-Chlorophenol	800	µg/kg	80.6	U	86.6	U	NR		96.7	U	<350	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	87.9	U	94.5	U	NR		105	U	<350	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	83.6	U	89.8	U	NR		100	U	<350	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	94.2	U	101	U	NR		113	U	<350	U
95-48-7	2-Methylphenol	100	µg/kg	84.4	U	90.8	U	NR		101	U	<350	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	89.1	U	95.8	U	NR		107	U	<350	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	84.6	U	90.9	U	NR		101	U	<350	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	77.9	U	83.7	U	NR		93.5	U	<350	U
67-72-1	Hexachloroethane	NA *	µg/kg	74.9	U	80.5	U	NR		89.9	U	<350	U
98-95-3	Nitrobenzene	200	µg/kg	93.1	U	100	U	NR		112	U	<350	U
78-59-1	Isophorone	4400	µg/kg	75.9	U	81.6	U	NR		91.1	U	<350	U
88-75-5	2-Nitrophenol	330	µg/kg	70.7	U	76	U	NR		84.8	U	<350	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	66.1	U	71.1	U	NR		79.3	U	<350	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	86.8	U	93.3	U	NR		104	U	<350	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	78.1	U	84	U	NR		93.7	U	<350	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	95.2	U	102	U	NR		114	U	<350	U
106-47-8	4-Chloroaniline	220	µg/kg	47.2	U	50.8	U	NR		56.7	U	<350	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	89.1	U	95.8	U	NR		107	U	<350	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	91.7	U	98.6	U	NR		110	U	<350	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	39.4	U	42.4	U	NR		47.3	U	<350	U
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	78.4	U	84.3	U	NR		94.1	U	<350	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-04367-014		01-04367-008		01-04367-009		01-04367-010		01-04230-009	
	Sample Location:	Soil Cleanup		SB-27		MW-27		MW-27		MW-27		SB-28	
	Depth:	Objectives /		2' - 3'		9' - 10.5'		11' - 12'		30' - 31.5'		2' - 4'	
	Laboratory ID:	Eastern USA		K9271-5		K9270-8		K9270-9-		K9271-1			
	Sampling Date:	Background		06/21/2001		06/22/2001		06/22/2001		06/22/2001		5/24/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	69.9	U	75.1	U	NR		83.9	U	<880	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	91.1	U	98	U	NR		109	U	<350	U
88-74-4	2-Nitroaniline	430	µg/kg	68.4	U	73.6	U	NR		82.1	U	<880	U
131-11-3	Dimethylphthalate	2000	µg/kg	91	U	97.8	U	NR		109	U	<350	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	67.6	U	72.6	U	NR		81.1	U	<350	U
99-09-2	3-Nitroaniline	500	µg/kg	43.6	U	46.8	U	NR		52.3	U	<880	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	64.6	U	69.4	U	NR		77.5	U	<880	U
100-02-7	4-Nitrophenol	100	µg/kg	145	U	156	U	NR		174	U	<880	U
132-64-9	Dibenzofuran	6200	µg/kg	93.7	U	101	U	NR		112	U	<350	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	61.8	U	66.4	U	NR		74.1	U	<350	U
84-66-2	Diethylphthalate	7100	µg/kg	59.8	U	64.3	U	NR		71.7	U	<350	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	108	U	116	U	NR		129	U	<350	U
100-01-6	4-Nitroaniline	NA *	µg/kg	50.2	U	54	U	NR		60.3	U	<350	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	84.8	U	91.2	U	NR		102	U	<350	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	89.2	U	95.9	U	NR		107	U	<350	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	81.3	U	87.5	U	NR		97.6	U	<350	U
118-74-1	Hexachlorobenzene	410	µg/kg	79.8	U	85.8	U	NR		95.7	U	<350	U
87-86-5	Pentachlorophenol	1000	µg/kg	54.2	U	58.3	U	NR		65.1	U	<880	U
86-74-8	Carbazole	NA *	µg/kg	63.4	U	68.2	U	NR		76.1	U	<350	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	240	U	258	U	NR		288	U	<350	U
85-68-7	Butylbenzylphthalate	50000	µg/kg	53.1	U	57.1	U	NR		63.7	U	<350	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	92	U	98.9	U	NR		110	U	<350	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	66.7	J	66.9	JB	NR		56	JB	20	J
117-84-0	Di-n-octylphthalate	50000	µg/kg	68.4	U	73.6	U	NR		82.1	U	<350	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	96	U	103	U	NR		115	U	<350	U
208-96-8	Acenaphthylene	41000	µg/kg	137		96.1	U	NR		107	U	<350	U
120-12-7	Anthracene	50000*	µg/kg	47.8	J	85.8	U	NR		95.7	U	<350	U
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	282		63.3	U	NR		70.7	U	<350	U
206-44-0	Fluoranthene	50000*	µg/kg	261		75.9	U	NR		84.7	U	<350	U
86-73-7	Fluorene	50000*	µg/kg	97.6	U	105	U	NR		117	U	<350	U
91-57-6	2-Methylnaphthalene	36400	µg/kg	24.4	J	84.2	U	NR		94	U	<350	U
91-20-3	Naphthalene	13000	µg/kg	51.1	J	44.2	J	NR		110	U	<350	U
85-01-8	Phenanthrene	50000*	µg/kg	102		84.1	U	NR		93.9	U	<350	U
129-00-0	Pyrene	50000*	µg/kg	372		62.8	U	NR		70.1	U	<350	U
	Total Non Carcinogenic PAHs			1277.3		44.2		NR		0		0	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	207		60	U	NR		66.9	U	<350	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	249		98.1	U	NR		109	U	<350	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	321		79.6	U	NR		88.8	U	<350	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	293		65	U	NR		633		<350	U
218-01-9	Chrysene	400	µg/kg	301		59.7	U	NR		66.7	U	<350	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	203		76	U	NR		84.8	U	<350	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	53.3	J	71.4	U	NR		79.7	U	<350	U
	Total Probable Carcinogenic PAHs			1627.3		0		NR		633		0	
	Total PAHs			**2904.6**		**44.2**		**NR**		**633**		**0**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	4500		3110		NR		5580		6830	
7440-36-0	Antimony	SB / NA	mg/kg	0.061	J	0.06	J	NR		0.24	U	0.84	
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.27	U	0.29	U	NR		0.32	U	0.71	
7440-39-3	Barium	300 or SB / 15-600	mg/kg	35.8		42.5		NR		62.5		33.2	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.067	U	0.072	U	NR		0.08	U	0.19	
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.067	U	0.072	U	NR		0.08	U	<0.1	U
7440-70-2	Calcium	SB / 130-35000	mg/kg	4720		7770		NR		1160		225	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	7.49		8.64		NR		10.4		9.5	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	3.71		3.83		NR		4.09		6.8	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	15		7.95		NR		5.22		13.7	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	7210		6080		NR		8280		13500	
7439-92-1	Lead	SB / 200-500	mg/kg	26		2.29		NR		3.32		3.4	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	3410		5370		NR		1810		2520	
7439-96-5	Manganese	SB / 50-5000	mg/kg	126		73		NR		142		245	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.13		0.052		NR		0.026		<0.036	U
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	6.08		6.79		NR		6.39		10.6	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	1200		1520		NR		445		769	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.26	U	0.28	U	NR		0.31	U	0.93	
7440-22-4	Silver	SB / NA	mg/kg	0.083	U	0.09	U	NR		0.1	U	<0.1	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	207		167		NR		244		30.8	

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-04367-014		01-04367-008		01-04367-009		01-04367-010		01-04230-009	
	Sample Location:	Soil Cleanup		SB-27		MW-27		MW-27		MW-27		SB-28	
	Depth:	Objectives /		2' - 3'		9' - 10.5'		11' - 12'		30' - 31.5'		2' - 4'	
	Laboratory ID:	Eastern USA		K9271-5		K9270-8		K9270-9-		K9271-1			
	Sampling Date:	Background		06/21/2001		06/22/2001		06/22/2001		06/22/2001		5/24/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
7440-28-0	Thallium	SB / NA	mg/kg	0.22	U	0.23	U	NR		0.26	U	<0.32	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	10		7.93		NR		15.2		13.9	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	31.1		15.6		NR		22.5		25.6	
57-12-5	Cyanide		mg/kg	0.28	U	0.28	U	NR		0.1	J	<0.03	U
	% Solids		%	90		83.7		NR		75		92.8	
	Total Rec.Petr. Hydrocarbons		mg/kg										
Notes													
U - Below detection limit													
J - Estimated value													
NR - Not run													
NA - Not available													
SB - Site background													
MDL - Method Detection Limit													
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg													

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-04230-008		01-04230-007		01-04230-010		01-04230-006		01-04230-
	Sample Location:	Soil Cleanup		SB-28		SB-28		SB-28		SB-28		SB-28
	Depth:	Objectives /		10' - 11'		27' - 28'		50' - 52'		68' - 75'		75' - 77
	Laboratory ID:	Eastern USA										
	Sampling Date:	Background		5/24/2001		5/24/2001		5/24/2001		5/21/2001		5/24/200
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil
	Validated:			No		No		No		No		No
Cas #:	Analyte:		Units:									
	PCBs											
12674-11-2	PCB 1016	1000	µg/kg	<34	U	<38	U	<39	U	<40	U	<40
11104-28-2	PCB 1221	1000	µg/kg	<69	U	<78	U	<79	U	<80	U	<82
11141-16-5	PCB 1232	1000	µg/kg	<34	U	<38	U	<39	U	<40	U	<40
53469-21-9	PCB 1242	1000	µg/kg	<34	U	<38	U	<39	U	<40	U	<40
12672-29-6	PCB 1248	1000	µg/kg	<34	U	<38	U	<39	U	<40	U	<40
11097-69-1	PCB 1254	1000	µg/kg	<34	U	<38	U	<39	U	<40	U	<40
11096-82-5	PCB 1260	1000	µg/kg	<34	U	<38	U	<39	U	<40	U	<40
	Volatiles											
74-87-3	Chloromethane	NA *	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
74-83-9	Bromomethane	NA *	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
75-01-4	Vinyl Chloride	200	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
75-00-3	Chloroethane	1900	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
75-09-2	Methylene Chloride	100	µg/kg	<10	U	2	JB	2	JB	<12	U	2
67-64-1	Acetone	200	µg/kg	5	JB	13	B	10	JB	8	JB	11
75-15-0	Carbon disulfide	2700	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
75-35-4	1,1-Dichloroethene	400	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
75-34-3	1,1-Dichloroethane	200	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
156-60-5	t-1,2-Dichloroethene	300	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
156-59-2	c-1,2-Dichloroethene	300	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
67-66-3	Chloroform	300	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
107-06-2	1,2-Dichloroethane	100	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
78-93-3	2-Butanone	300	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
71-55-6	1,1,1-Trichloroethane	800	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
56-23-5	Carbon Tetrachloride	600	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
75-27-4	Bromodichloromethane	NA *	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
78-87-5	1,2-Dichloropropane	NA *	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
79-01-6	Trichloroethene	700	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
124-48-1	Dibromochloromethane	NA *	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
71-43-2	Benzene	60	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
75-25-2	Bromoform	NA *	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
591-78-6	2-Hexanone	NA *	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
127-18-4	Tetrachloroethene	1400	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
108-88-3	Toluene	1500	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
108-90-7	Chlorobenzene	1700	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
100-41-4	Ethylbenzene	5500	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
100-42-5	Styrene	NA *	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
108-38-3	m,p-xylene	1200	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
95-47-6	o-xylene	1200	µg/kg	<10	U	<11	U	<11	U	<12	U	<12
	Total BTEX		**µg/kg**	**0**		0		**0**		**0**		**0**
	Semi-Volatiles											
108-95-2	Phenol	30	µg/kg	<340	U	<390	U	<390	U	<400	U	**120**
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
95-57-8	2-Chlorophenol	800	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
95-48-7	2-Methylphenol	100	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
106-44-5	3+4-Methylphenol	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
67-72-1	Hexachloroethane	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
98-95-3	Nitrobenzene	200	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
78-59-1	Isophorone	4400	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
88-75-5	2-Nitrophenol	330	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
120-83-2	2,4-Dichlorophenol	400	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
106-47-8	4-Chloroaniline	220	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
87-68-3	Hexachlorobutadiene	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	<340	U	<390	U	<390	U	<400	U	270
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04230-008**		**01-04230-007**		**01-04230-010**		**01-04230-006**		**01-04230-**
	Sample Location:	**Soil Cleanup**		**SB-28**		**SB-28**		**SB-28**		**SB-28**		**SB-28**
	Depth:	**Objectives /**		**10' - 11'**		**27' - 28'**		**50' - 52'**		**68' - 75'**		**75' - 77**
	Laboratory ID:	**Eastern USA**										
	Sampling Date:	**Background**		**5/24/2001**		**5/24/2001**		**5/24/2001**		**5/21/2001**		**5/24/200**
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**
	Validated:			**No**		**No**		**No**		**No**		**No**
Cas #:	**Analyte:**		**Units:**									
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	<850	U	<980	U	<980	U	<1000	U	<1000
91-58-7	2-Chloronaphthalene	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
88-74-4	2-Nitroaniline	430	µg/kg	<340	U	<980	U	<980	U	<1000	U	<1000
131-11-3	Dimethylphthalate	2000	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
99-09-2	3-Nitroaniline	500	µg/kg	<850	U	<980	U	<980	U	<1000	U	<1000
51-28-5	2,4-Dinitrophenol	200	µg/kg	<850	U	<980	U	<980	U	<1000	U	<1000
100-02-7	4-Nitrophenol	100	µg/kg	<850	U	<980	U	<980	U	<1000	U	<1000
132-64-9	Dibenzofuran	6200	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
84-66-2	Diethylphthalate	7100	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
100-01-6	4-Nitroaniline	NA *	µg/kg	<850	U	<980	U	<390	U	<1000	U	<1000
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	<850	U	<980	U	<390	U	<1000	U	<1000
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
118-74-1	Hexachlorobenzene	410	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
87-86-5	Pentachlorophenol	1000	µg/kg	<850	U	<980	U	<980	U	<1000	U	<1000
86-74-8	Carbazole	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
84-74-2	Di-n-butylphthalate	8100	µg/kg	21	J	33	J	<390	U	<400	U	23
85-68-7	Butylbenzylphthalate	50000	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	57	J	56	J	180	J	20	J	46
117-84-0	Di-n-octylphthalate	50000	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
	Non Carcinogenic PAHs											
83-32-9	Acenaphthene	50000*	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
208-96-8	Acenaphthylene	41000	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
120-12-7	Anthracene	50000*	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
206-44-0	Fluoranthene	50000*	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
86-73-7	Fluorene	50000*	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
91-57-6	2-Methylnaphthalene	36400	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
91-20-3	Naphthalene	13000	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
85-01-8	Phenanthrene	50000*	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
129-00-0	Pyrene	50000*	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
	Total Non Carcinogenic PAHs			0		0		0		0		0
	Probable Carcinogenic PAHs											
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
218-01-9	Chrysene	400	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	<340	U	<390	U	<390	U	<400	U	<410
	Total Probable Carcinogenic PAHs			0		0		0		0		0
	Total PAHs			**0**		**0**		**0**		**0**		**0**
	Metals											
7429-90-5	Aluminum	SB / 33000	mg/kg	3070		5650		4990		2960		6310
7440-36-0	Antimony	SB / NA	mg/kg	<0.41	U	<0.47	U	<0.45	U	<0.45	U	<0.46
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	1.1		0.57		0.56		0.82		0.96
7440-39-3	Barium	300 or SB / 15-600	mg/kg	28.1		48.4		82.8		31.2		52.9
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	<0.1	U	<0.12	U	1.1		<0.11	U	<0.12
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	<0.1	U	<0.12	U	<0.11	U	<0.11	U	<0.12
7440-70-2	Calcium	SB / 130-35000	mg/kg	43300		10300		2080		22000		33200
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	6.5		10.4		31.3		9		13.0
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	3.1		7.5		17.5		4.21		6.4
7440-50-8	Copper	25 or SB / 1-50	mg/kg	19.1		19.4		13		13.1		17.3
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	6460		12700		63600		9300		12500
7439-92-1	Lead	SB / 200-500	mg/kg	5		3.9		2.5		2.4		2.9
7439-95-4	Magnesium	SB / 100-5000	mg/kg	24100		9330		3130		11500		21100
7439-96-5	Manganese	SB / 50-5000	mg/kg	99.7		129		109		104		128
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	<0.034	U	<0.039	U	<0.04	U	<0.038	U	<0.042
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	5.4		10.3		14.6		7.7		10.1
7440-09-7	Potassium	SB / 8500-43000	mg/kg	1480		2120		2310		1280		3250
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	<0.92	U	3		<1	U	<1	U	<1
7440-22-4	Silver	SB / NA	mg/kg	<0.1	U	<0.12	U	<0.11	U	<0.11	U	<0.12
7440-23-5	Sodium	SB / 6000-8000	mg/kg	60.1		82.2		269		254		334

p:/736109/dbase/ph3data/Table 4-2.xls

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04230-008**		**01-04230-007**		**01-04230-010**		**01-04230-006**		**01-04230-**
	Sample Location:	**Soil Cleanup**		**SB-28**		**SB-28**		**SB-28**		**SB-28**		**SB-28**
	Depth:	**Objectives /**		**10' - 11'**		**27' - 28'**		**50' - 52'**		**68' - 75'**		**75' - 77**
	Laboratory ID:	**Eastern USA**										
	Sampling Date:	**Background**		**5/24/2001**		**5/24/2001**		**5/24/2001**		**5/21/2001**		**5/24/20**
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**
	Validated:			**No**		**No**		**No**		**No**		**No**
Cas #:	**Analyte:**		**Units:**									
7440-28-0	Thallium	SB / NA	mg/kg	1.1		<0.35	U	0.79		0.74		0.85
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	8.4		16.1		60.3		11.8		20.4
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	19.3		$\boxed{33.3}$		$\boxed{63.8}$		17.4		$\boxed{37.9}$
57-12-5	Cyanide		mg/kg	<0.03	U	<0.03	U	<0.03	U	<0.03	U	<0.03
	% Solids		%	96.7		83.4		82.4		82.6		79.6
	Total Rec.Petr. Hydrocarbons		mg/kg									

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		013	01-04388-004		01-04388-007		01-04388-008		01-04388-009		01-04388-010	
	Sample Location:	Soil Cleanup			SB-29		SB-29		SB-29		SB-29		SB-29	
	Depth:	Objectives /		'	3' - 4'		28' - 30'		38' - 40'		56' - 58'		68' - 72'	
	Laboratory ID:	Eastern USA			K9286-4		K9286-5		K9286-6		K9286-7		K9286-8	
	Sampling Date:	Background		1	06/26/2001		06/26/2001		06/26/2001		06/26/2001		06/26/2001	
	Matrix:	Concentrations			Soil		Soil		Soil		Soil		Soil	
	Validated:				No		No		No		No		No	
Cas #:	Analyte:		Units:											
	PCBs													
12674-11-2	PCB 1016	1000	µg/kg	U	8.16	U	8.21	U	8.03	U	8.17	U	8.19	U
11104-28-2	PCB 1221	1000	µg/kg	U	9.94	U	10	U	9.78	U	9.95	U	9.98	U
11141-16-5	PCB 1232	1000	µg/kg	U	7.09	U	7.14	U	6.98	U	7.1	U	7.12	U
53469-21-9	PCB 1242	1000	µg/kg	U	8.87	U	8.93	U	8.73	U	8.88	U	8.9	U
12672-29-6	PCB 1248	1000	µg/kg	U	11.1	U	11.1	U	10.9	U	11.1	U	11.1	U
11097-69-1	PCB 1254	1000	µg/kg	U	6.63	U	6.67	U	6.52	U	6.63	U	6.65	U
11096-82-5	PCB 1260	1000	µg/kg	U	6.67	U	6.72	U	6.57	U	6.68	U	6.7	U
	Volatiles													
74-87-3	Chloromethane	NA *	µg/kg	U	0.42	U	0.44	U	0.44	U	0.44	U	0.44	U
74-83-9	Bromomethane	NA *	µg/kg	U	0.2	U	0.21	U	0.21	U	0.21	U	0.21	U
75-01-4	Vinyl Chloride	200	µg/kg	U	0.24	U	0.25	U	0.24	U	0.25	U	0.25	U
75-00-3	Chloroethane	1900	µg/kg	U	0.39	U	0.41	U	0.4	U	0.41	U	0.41	U
75-09-2	Methylene Chloride	100	µg/kg	JB	5.1	B	10.5	B	9.2	B	8.4	B	7.3	B
67-64-1	Acetone	200	µg/kg	JB	5.9	U	6.15	U	6.05	U	44.8		6.15	U
75-15-0	Carbon disulfide	2700	µg/kg	U	0.24	U	0.25	U	0.24	U	0.25	U	1.5	
75-35-4	1,1-Dichloroethene	400	µg/kg	U	0.38	U	0.39	U	0.39	U	0.39	U	0.39	U
75-34-3	1,1-Dichloroethane	200	µg/kg	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	U	0.2	U	0.21	U	0.21	U	0.21	U	0.21	U
67-66-3	Chloroform	300	µg/kg	U	0.19	U	0.2	U	0.19	U	0.2	U	0.2	U
107-06-2	1,2-Dichloroethane	100	µg/kg	U	0.26	U	0.27	U	0.27	U	0.27	U	0.27	U
78-93-3	2-Butanone	300	µg/kg	U	4.81	U	5.02	U	4.94	U	5.02	U	5.02	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U
56-23-5	Carbon Tetrachloride	600	µg/kg	U	0.25	U	0.26	U	0.25	U	0.26	U	0.26	U
75-27-4	Bromodichloromethane	NA *	µg/kg	U	0.21	U	0.22	U	0.22	U	0.22	U	0.22	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	U	0.21	U	0.22	U	0.22	U	0.22	U	0.22	U
79-01-6	Trichloroethene	700	µg/kg	U	0.79		0.25	U	0.24	U	0.25	U	0.25	U
124-48-1	Dibromochloromethane	NA *	µg/kg	U	0.28	U	0.3	U	0.29	U	0.3	U	0.3	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	U	0.22	U	0.23	U	0.23	U	0.23	U	0.23	U
71-43-2	Benzene	60	µg/kg	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	U	0.26	U	0.27	U	0.27	U	0.27	U	0.27	U
75-25-2	Bromoform	NA *	µg/kg	U	0.28	U	0.3	U	0.29	U	0.3	U	0.3	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	U	5.9	U	6.15	U	6.05	U	6.15	U	6.15	U
591-78-6	2-Hexanone	NA *	µg/kg	U	5.9	U	6.15	U	6.05	U	6.15	U	6.15	U
127-18-4	Tetrachloroethene	1400	µg/kg	U	0.21	U	0.22	U	0.22	U	0.22	U	0.22	U
108-88-3	Toluene	1500	µg/kg	U	1.1		0.25	U	0.24	U	5.5		1.9	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	U	0.24	U	0.25	U	0.24	U	0.25	U	0.25	U
108-90-7	Chlorobenzene	1700	µg/kg	U	0.15	U	0.16	U	0.16	U	0.16	U	0.16	U
100-41-4	Ethylbenzene	5500	µg/kg	U	0.13	U	0.14	U	0.13	U	0.14	U	0.14	U
100-42-5	Styrene	NA *	µg/kg	U	0.21	U	0.22	U	0.22	U	0.22	U	0.22	U
108-38-3	m,p-xylene	1200	µg/kg	U	0.94		0.31	U	0.3	U	0.93		0.31	U
95-47-6	o-xylene	1200	µg/kg	U	0.21	U	0.22	U	0.22	U	0.22	U	8.1	
	Total BTEX		**µg/kg**		**2.04**		**0**		**0**		**6.43**		**10**	
	Semi-Volatiles													
108-95-2	Phenol	30	µg/kg		70	U	73.6	U	72	U	73.2	U	73.4	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	U	90.7	U	95.3	U	93.2	U	94.8	U	95.1	U
95-57-8	2-Chlorophenol	800	µg/kg	U	85.2	U	89.5	U	87.6	U	89.1	U	89.3	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	U	93	U	97.7	U	95.5	U	97.2	U	97.4	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	U	88.4	U	92.8	U	90.8	U	92.4	U	92.6	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	U	99.6	U	105	U	102	U	104	U	104	U
95-48-7	2-Methylphenol	100	µg/kg	U	89.3	U	93.8	U	91.8	U	93.4	U	93.6	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	U	94.2	U	99	U	96.9	U	98.5	U	98.8	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	U	89.4	U	94	U	91.9	U	93.5	U	93.7	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	U	82.4	U	86.5	U	84.7	U	86.1	U	86.3	U
67-72-1	Hexachloroethane	NA *	µg/kg	U	79.2	U	83.2	U	81.4	U	82.8	U	83	U
98-95-3	Nitrobenzene	200	µg/kg	U	98.5	U	103	U	101	U	103	U	103	U
78-59-1	Isophorone	4400	µg/kg	U	80.3	U	84.3	U	82.5	U	83.9	U	84.1	U
88-75-5	2-Nitrophenol	330	µg/kg	U	74.7	U	78.5	U	76.8	U	78.1	U	78.3	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	U	69.9	U	73.5	U	71.9	U	73.1	U	73.3	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	U	91.8	U	96.4	U	94.3	U	95.9	U	96.2	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	U	82.6	U	86.8	U	84.9	U	86.4	U	86.6	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	U	101	U	106	U	103	U	105	U	106	U
106-47-8	4-Chloroaniline	220	µg/kg	U	49.9	U	52.5	U	51.3	U	52.2	U	52.3	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	U	94.2	U	99	U	96.9	U	98.5	U	98.8	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	J	96.9	U	102	U	99.6	U	101	U	102	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	U	41.7	U	43.8	U	42.9	U	43.6	U	43.7	U
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	U	83	U	87.2	U	85.3	U	86.7	U	86.9	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**013**	**01-04388-004**		**01-04388-007**		**01-04388-008**		**01-04388-009**		**01-04388-010**	
	Sample Location:	**Soil Cleanup**			SB-29		SB-29		SB-29		SB-29		**SB-29**	
	Depth:	**Objectives /**		'	**3' - 4'**		**28' - 30'**		**38' - 40'**		**56' - 58'**		**68' - 72'**	
	Laboratory ID:	Eastern USA			**K9286-4**		**K9286-5**		K9286-6		K9286-7		**K9286-8**	
	Sampling Date:	**Background**		**1**	**06/26/2001**		**06/26/2001**		**06/26/2001**		**06/26/2001**		**06/26/2001**	
	Matrix:	**Concentrations**			**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:				**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**											
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	U	73.9	U	77.7	U	76	U	77.3	U	77.5	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	U	96.4	U	101	U	99	U	101	U	101	U
88-74-4	2-Nitroaniline	430	µg/kg	U	72.4	U	76.1	U	74.4	U	75.7	U	75.9	U
131-11-3	Dimethylphthalate	2000	µg/kg	U	96.2	U	101	U	98.9	U	101	U	101	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	U	71.4	U	75.1	U	73.4	U	74.7	U	74.9	U
99-09-2	3-Nitroaniline	500	µg/kg	U	46.1	U	48.4	U	47.3	U	48.2	U	48.3	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	U	68.3	U	71.7	U	70.2	U	71.4	U	71.6	U
100-02-7	4-Nitrophenol	100	µg/kg	U	153	U	161	U	158	U	160	U	161	U
132-64-9	Dibenzofuran	6200	µg/kg	U	99.1	U	104	U	102	U	104	U	104	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	U	65.3	U	68.6	U	67.1	U	68.3	U	68.5	U
84-66-2	Diethylphthalate	7100	µg/kg	U	63.2	U	66.4	U	65	U	66.1	U	66.3	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	U	114	U	120	U	117	U	119	U	119	U
100-01-6	4-Nitroaniline	NA *	µg/kg	U	53.1	U	55.8	U	54.6	U	55.5	U	55.7	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	U	89.7	U	94.2	U	92.1	U	93.7	U	94	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	U	94.4	U	99.1	U	97	U	98.6	U	98.9	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	U	86	U	90.4	U	88.4	U	89.9	U	90.1	U
118-74-1	Hexachlorobenzene	410	µg/kg	U	84.4	U	88.6	U	86.7	U	88.2	U	88.4	U
87-86-5	Pentachlorophenol	1000	µg/kg	U	57.3	U	60.2	U	58.9	U	60	U	60.1	U
86-74-8	Carbazole	NA *	µg/kg	U	NA		NA		NA		NA		NA	
84-74-2	Di-n-butylphthalate	8100	µg/kg	J	43.5	JB	38.3	JB	41.1	JB	43	JB	55.4	JB
85-68-7	Butylbenzylphthalate	50000	µg/kg	U	56.2	U	59	U	57.7	U	58.7	U	58.9	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	U	97.3	U	102	U	100	U	102	U	102	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	J	181	JB	76.5	JB	112	JB	103	JB	156	JB
117-84-0	Di-n-octylphthalate	50000	µg/kg	U	72.4	U	76.1	U	74.4	U	75.7	U	75.9	U
	Non Carcinogenic PAHs													
83-32-9	Acenaphthene	50000*	µg/kg	U	102	U	107	U	104	U	106	U	39.4	J
208-96-8	Acenaphthylene	41000	µg/kg	U	94.5	U	99.3	U	97.1	U	98.8	U	64	J
120-12-7	Anthracene	50000*	µg/kg	U	84.4	U	88.6	U	86.7	U	88.2	U	88.4	U
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	U	62.3	U	65.4	U	64	U	65.1	U	65.3	U
206-44-0	Fluoranthene	50000*	µg/kg	U	74.6	U	78.4	U	29	J	29.5	J	78.2	U
86-73-7	Fluorene	50000*	µg/kg	U	103	U	108	U	106	U	108	U	108	U
91-57-6	2-Methylnaphthalene	36400	µg/kg	U	82.8	U	87	U	85.1	U	31.9	J	86.8	U
91-20-3	Naphthalene	13000	µg/kg	U	97.3	U	102	U	100	U	115		111	
85-01-8	Phenanthrene	50000*	µg/kg	U	37.6	J	86.9	U	85	U	62.7	J	69	J
129-00-0	Pyrene	50000*	µg/kg	U	61.8	U	64.9	U	35	J	34.4	J	64.8	U
	Total Non Carcinogenic PAHs				37.6		0		64		273.5		283.4	
	Probable Carcinogenic PAHs													
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	U	59	U	62	U	60.6	U	61.7	U	61.8	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	U	96.5	U	101	U	99.2	U	101	U	101	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	U	78.3	U	82.2	U	80.4	U	81.8	U	82	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	U	63.9	U	67.2	U	65.7	U	66.8	U	67	U
218-01-9	Chrysene	400	µg/kg	U	58.8	U	61.7	U	60.4	U	61.4	U	61.6	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	U	74.7	U	78.5	U	76.8	U	78.1	U	78.3	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	U	70.3	U	73.8	U	72.2	U	73.5	U	73.6	U
	Total Probable Carcinogenic PAHs				0		0		0		0		0	
	Total PAHs				**37.6**		**0**		64		**273.5**		**283.4**	
	Metals													
7429-90-5	Aluminum	SB / 33000	mg/kg		5260		5740		3990		2400		6230	
7440-36-0	Antimony	SB / NA	mg/kg	U	0.21	U	0.41		0.22	U	0.2	J	0.062	J
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg		0.28	U	0.3	U	0.29	U	0.29	U	0.3	U
7440-39-3	Barium	300 or SB / 15-600	mg/kg		45.7		48.8		38.9		22.3		75.3	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	U	0.071	U	0.074	U	0.072	U	0.074	U	0.074	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	U	0.071	U	0.074	U	0.072	U	0.074	U	0.074	U
7440-70-2	Calcium	SB / 130-35000	mg/kg		826		8.14	U	7.97	U	8.1	U	8.13	U
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg		7.17		**10.5**		7.88		4.99		**14.1**	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg		4.48		6.22		4.6		3.16		6.92	
7440-50-8	Copper	25 or SB / 1-50	mg/kg		8.45		8.57		8.85		6.19		12.9	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg		**7960**		**8830**		**7470**		**4430**		**12400**	
7439-92-1	Lead	SB / 200-500	mg/kg		31		1.33		1.5		0.91		2.14	
7439-95-4	Magnesium	SB / 100-5000	mg/kg		2110		**13400**		**13100**		**9430**		**9940**	
7439-96-5	Manganese	SB / 50-5000	mg/kg		262		106		90.8		60		176	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	U	**0.12**		0.0026	J	0.0032	J	0.003	J	0.0087	J
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg		8.28		8.79		6.79		4.91		11.9	
7440-09-7	Potassium	SB / 8500-43000	mg/kg		782		2610		1810		954		3640	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	U	0.28	U	0.29	U	0.28	U	0.29	U	0.29	U
7440-22-4	Silver	SB / NA	mg/kg	U	0.088	U	0.093	U	0.091	U	0.092	U	0.092	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg		54.8		62.1		58.6		109		309	

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**013**	**01-04388-004**		**01-04388-007**		**01-04388-008**		**01-04388-009**		**01-04388-010**	
	Sample Location:	**Soil Cleanup**			**SB-29**		**SB-29**		**SB-29**		**SB-29**		**SB-29**	
	Depth:	**Objectives /**		'	**3' - 4'**		**28' - 30'**		**38' - 40'**		**56' - 58'**		**68' - 72'**	
	Laboratory ID:	**Eastern USA**			**K9286-4**		**K9286-5**		**K9286-6**		**K9286-7**		**K9286-8**	
	Sampling Date:	**Background**		**1**	**06/26/2001**		**06/26/2001**		**06/26/2001**		**06/26/2001**		**06/26/2001**	
	Matrix:	**Concentrations**			**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:				**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**											
7440-28-0	Thallium	SB / NA	mg/kg		0.23	U	0.24	U	0.24	U	0.24	U	0.24	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg		9.14		12		8.41		3.34		17.2	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg		22.8		34		19.7		11.9		34.2	
57-12-5	Cyanide		mg/kg	U	0.29	U	0.28	U	0.26	U	0.26	U	0.28	U
	% Solids		%		85.1		81		82.8		81.4		81.2	
	Total Rec.Petr. Hydrocarbons		mg/kg											

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		013	01-04388-004		01-04388-007		01-04388-008		01-04388-009		01-04388-010	
	Sample Location:	Soil Cleanup			SB-29		SB-29		SB-29		SB-29		SB-29	
	Depth:	Objectives /		'	3' - 4'		28' - 30'		38' - 40'		56' - 58'		68' - 72'	
	Laboratory ID:	Eastern USA			K9286-4		K9286-5		K9286-6		K9286-7		K9286-8	
	Sampling Date:	Background		1	06/26/2001		06/26/2001		06/26/2001		06/26/2001		06/26/2001	
	Matrix:	Concentrations			Soil		Soil		Soil		Soil		Soil	
	Validated:				No		No		No		No		No	
Cas #:	Analyte:		Units:											
75-71-8	Dichlorodifluoromethane		µg/kg		0.5	U	0.52	U	0.51	U	0.52	U	0.52	U
75-45-6	Chlorodifluoromethane		µg/kg		0.38	U	0.39	U	0.39	U	0.39	U	0.39	U
75-69-4	Trichlorofluoromethane		µg/kg		0.31	U	0.32	U	0.31	U	0.32	U	0.32	U
76-13-1	1,1,2-Trichlorotrifluoroethane		µg/kg		0.29	U	0.31	U	0.3	U	0.31	U	0.31	U
1634-04-4	Methyl t-butyl ether		µg/kg		0.42	U	0.44	U	0.44	U	0.44	U	0.44	U
590-20-7	2,2-Dichloropropane		µg/kg		0.28	U	0.3	U	0.29	U	0.3	U	0.3	U
74-97-5	Bromochloromethane		µg/kg		0.2	U	0.21	U	0.21	U	0.21	U	0.21	U
563-58-6	1,1-Dichloropropene		µg/kg		0.52	U	0.54	U	0.53	U	0.54	U	0.54	U
74-95-3	Dibromomethane		µg/kg		0.37	U	0.38	U	0.38	U	0.38	U	0.38	U
110-75-8	2-Chloroethylvinylether		µg/kg		0.37	U	0.38	U	0.38	U	0.38	U	0.38	U
142-28-9	1,3-Dichloropropane		µg/kg		0.45	U	0.47	U	0.46	U	0.47	U	0.47	U
106-93-4	1,2-Dibromoethane		µg/kg		0.28	U	0.3	U	0.29	U	0.3	U	0.3	U
630-20-6	1,1,1,2-Tetrachloroethane		µg/kg		0.2	U	0.21	U	0.21	U	0.21	U	0.21	U
98-82-8	Isopropylbenzene		µg/kg		0.12	U	0.12	U	0.12	U	0.12	U	0.12	U
108-86-1	Bromobenzene		µg/kg		0.2	U	0.21	U	0.21	U	0.21	U	0.21	U
103-65-1	n-Propylbenzene		µg/kg		0.17	U	0.17	U	0.17	U	0.17	U	0.17	U
96-18-4	1,2,3-Trichloropropane		µg/kg		0.6	U	0.63	U	0.62	U	0.63	U	0.63	U
622-96-8	p-Ethyltoluene		µg/kg		0.2	U	0.21	U	0.81		0.21	U	0.21	U
108-67-8	1,3,5-Trimethylbenzene		µg/kg		0.12	U	0.12	U	0.12	U	0.12	U	0.12	U
95-49-8	2-Chlorotoluene		µg/kg		0.094	U	0.098	U	0.097	U	0.098	U	0.098	U
106-43-4	4-Chlorotoluene		µg/kg		0.17	U	0.17	U	0.17	U	0.17	U	0.17	U
98-06-6	tert-Butylbenzene		µg/kg		0.18	U	0.18	U	0.18	U	0.18	U	0.18	U
95-63-6	1,2,4-Trimethylbenzene		µg/kg		0.9		0.25	U	0.74		0.25	U	0.25	U
135-98-8	sec-Butylbenzene		µg/kg		0.14	U	0.15	U	0.15	U	0.15	U	0.15	U
99-87-6	4-Isopropyltoluene		µg/kg		0.21	U	0.22	U	0.22	U	2.6		0.22	U
541-73-1	1,3-Dichlorobenzene		µg/kg		0.21	U	0.22	U	0.22	U	0.22	U	0.22	U
106-46-7	1,4-Dichlorobenzene		µg/kg		0.26	U	0.27	U	0.27	U	0.27	U	0.27	U
95-50-1	1,2-Dichlorobenzene		µg/kg		0.15	U	0.16	U	0.16	U	0.16	U	0.16	U
105-05-5	p-Diethylbenzene		µg/kg		0.19	U	0.2	U	0.19	U	0.2	U	0.2	U
104-51-8	n-Butylbenzene		µg/kg		0.17	U	0.17	U	0.17	U	0.17	U	0.17	U
95-93-2	1,2,4,5-Tetramethylbenzene		µg/kg		0.29	U	0.31	U	0.3	U	0.31	U	0.73	
96-12-8	1,2-Dibromo-3-chloropropane		µg/kg		0.79	U	0.82	U	0.81	U	0.82	U	0.82	U
120-82-1	1,2,4-Trichlorobenzene		µg/kg		0.45	U	0.47	U	0.46	U	0.47	U	0.47	U
87-68-3	Hexachlorobutadiene		µg/kg		0.17	U	0.17	U	0.17	U	0.17	U	0.17	U
91-20-3	Naphthalene		µg/kg		2.6		0.89	U	0.87	U	0.89	U	0.89	U
87-61-6	1,2,3-Trichlorobenzene		µg/kg		0.44	U	0.46	U	0.45	U	0.46	U	0.46	U
100-51-6	Benzyl alcohol		µg/kg		89	U	93.5	U	91.4	U	93	U	93.2	U
65-85-0	Benzoic acid		µg/kg		59.2	U	62.2	U	60.9	U	61.9	U	62.1	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-04362-012		01-04362-013		01-04362-014		01-04362-017		01-04270-009	
	Sample Location:	Soil Cleanup		SB-30		SB-30		SB-30		SB-30		SB-31	
	Depth:	Objectives /		14' - 16'		20' - 22'		26' - 28'		68' - 72'		4' - 5'	
	Laboratory ID:	Eastern USA		K9266-3		K9266-4		K9266-5		K9266-6		K9229-9	
	Sampling Date:	Background		06/20/2001		06/20/2001		06/20/2001		06/20/2001		05/31/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	6.79	U	6.82	U	7.23	U	7.45	U	7.61	U
11104-28-2	PCB 1221	1000	µg/kg	8.27	U	8.31	U	8.8	U	9.07	U	9.27	U
11141-16-5	PCB 1232	1000	µg/kg	5.9	U	5.93	U	6.28	U	6.47	U	6.61	U
53469-21-9	PCB 1242	1000	µg/kg	7.38	U	7.42	U	7.86	U	8.1	U	8.27	U
12672-29-6	PCB 1248	1000	µg/kg	9.2	U	9.25	U	9.8	U	10.1	U	10.3	U
11097-69-1	PCB 1254	1000	µg/kg	5.51	U	5.54	U	5.87	U	6.05	U	6.18	U
11096-82-5	PCB 1260	1000	µg/kg	5.55	U	5.58	U	5.91	U	6.09	U	6.22	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.37	U	0.37	U	0.39	U	0.4	U	486	U
74-83-9	Bromomethane	NA *	µg/kg	0.17	U	0.18	U	0.19	U	0.19	U	372	U
75-01-4	Vinyl Chloride	200	µg/kg	0.2	U	0.21	U	0.22	U	0.22	U	486	U
75-00-3	Chloroethane	1900	µg/kg	0.34	U	0.34	U	0.36	U	0.37	U	383	U
75-09-2	Methylene Chloride	100	µg/kg	3.6	B	8.9	B	8.1	B	7.5	B	212	U
67-64-1	Acetone	200	µg/kg	5.1	U	5.15	U	5.45	U	52		1320	U
75-15-0	Carbon disulfide	2700	µg/kg	0.2	U	0.21	U	0.22	U	0.22	U	189	U
75-35-4	1,1-Dichloroethene	400	µg/kg	0.33	U	0.33	U	0.35	U	0.36	U	126	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.15	U	0.15	U	0.16	U	0.17	U	143	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.15	U	0.15	U	0.16	U	0.17	U	160	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.17	U	0.18	U	0.19	U	0.19	U	103	U
67-66-3	Chloroform	300	µg/kg	0.16	U	0.16	U	0.17	U	0.18	U	126	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.22	U	0.23	U	0.24	U	0.25	U	91.5	U
78-93-3	2-Butanone	300	µg/kg	4.16	U	4.2	U	4.45	U	4.57	U	9840	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.14	U	0.14	U	0.15	U	0.16	U	80.1	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.21	U	0.22	U	0.23	U	0.24	U	57.2	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.18	U	0.19	U	0.2	U	0.2	U	91.5	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.14	U	0.14	U	0.15	U	0.16	U	80.1	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.18	U	0.19	U	0.2	U	0.2	U	126	U
79-01-6	Trichloroethene	700	µg/kg	0.2	U	0.21	U	0.22	U	0.22	U	97.2	U
124-48-1	Dibromochloromethane	NA *	µg/kg	0.24	U	0.25	U	0.26	U	0.27	U	97.2	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.19	U	0.2	U	0.21	U	0.21	U	109	U
71-43-2	Benzene	60	µg/kg	0.14	U	0.14	U	0.15	U	0.16	U	538	
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.22	U	0.23	U	0.24	U	0.25	U	80.1	U
75-25-2	Bromoform	NA *	µg/kg	0.24	U	0.25	U	0.26	U	0.27	U	154	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	5.1	U	5.15	U	5.45	U	5.6	U	5150	U
591-78-6	2-Hexanone	NA *	µg/kg	5.1	U	5.15	U	5.45	U	5.6	U	2860	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.18	U	0.19	U	0.2	U	0.2	U	68.6	U
108-88-3	Toluene	1500	µg/kg	0.2	U	0.21	U	0.22	U	0.22	U	360	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.2	U	0.21	U	0.22	U	0.22	U	85.8	U
108-90-7	Chlorobenzene	1700	µg/kg	0.13	U	0.13	U	0.14	U	0.15	U	109	U
100-41-4	Ethylbenzene	5500	µg/kg	0.11	U	0.92		0.12	U	0.12	U	3610	
100-42-5	Styrene	NA *	µg/kg	0.18	U	0.19	U	0.2	U	0.2	U	74.4	U
108-38-3	m,p-xylene	1200	µg/kg	0.25	U	1.9		0.82		0.58		7110	
95-47-6	o-xylene	1200	µg/kg	0.18	U	1.5		0.2	U	0.2	U	3450	
	Total BTEX		**µg/kg**	**0**		**4.32**		**0.82**		**0.58**		**15068**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	60.8	U	61.1	U	64.8	U	66.7	U	227	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	78.8	U	79.2	U	83.9	U	86.4	U	294	U
95-57-8	2-Chlorophenol	800	µg/kg	74	U	74.4	U	78.8	U	81.2	U	277	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	80.7	U	81.1	U	86	U	88.6	U	302	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	76.7	U	77.1	U	81.7	U	84.2	U	287	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	86.5	U	87	U	92.2	U	95	U	323	U
95-48-7	2-Methylphenol	100	µg/kg	77.6	U	77.9	U	82.6	U	85.1	U	290	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	81.8	U	82.3	U	87.2	U	89.8	U	306	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	77.7	U	78	U	82.7	U	85.2	U	290	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	71.5	U	71.9	U	76.2	U	78.5	U	267	U
67-72-1	Hexachloroethane	NA *	µg/kg	68.8	U	69.1	U	73.3	U	75.5	U	257	U
98-95-3	Nitrobenzene	200	µg/kg	85.5	U	85.9	U	91.1	U	93.8	U	320	U
78-59-1	Isophorone	4400	µg/kg	69.7	U	70	U	74.2	U	76.5	U	260	U
88-75-5	2-Nitrophenol	330	µg/kg	64.9	U	65.2	U	69.1	U	71.2	U	243	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	60.7	U	61	U	64.7	U	66.6	U	227	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	79.7	U	80.1	U	84.9	U	87.5	U	298	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	71.7	U	72.1	U	76.4	U	78.7	U	268	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	87.4	U	87.9	U	93.2	U	96	U	327	U
106-47-8	4-Chloroaniline	220	µg/kg	43.4	U	43.6	U	46.2	U	47.6	U	162	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	81.8	U	82.3	U	87.2	U	89.8	U	306	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	84.2	U	84.6	U	89.7	U	92.4	U	315	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	36.2	U	36.4	U	38.6	U	39.8	U	135	U
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	72	U	72.4	U	76.7	U	79.1	U	269	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04362-012**		**01-04362-013**		**01-04362-014**		**01-04362-017**		**01-04270-009**	
	Sample Location:	**Soil Cleanup**		**SB-30**		**SB-30**		**SB-30**		**SB-30**		**SB-31**	
	Depth:	**Objectives /**		**14' - 16'**		**20' - 22'**		**26' - 28'**		**68' - 72'**		**4' - 5'**	
	Laboratory ID:	**Eastern USA**		**K9266-3**		**K9266-4**		**K9266-5**		**K9266-6**		**K9229-9**	
	Sampling Date:	**Background**		**06/20/2001**		**06/20/2001**		**06/20/2001**		**06/20/2001**		**05/31/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	64.2	U	64.5	U	68.4	U	70.4	U	240	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	83.7	U	84.1	U	89.1	U	91.8	U	313	U
88-74-4	2-Nitroaniline	430	µg/kg	62.9	U	63.2	U	67	U	69	U	235	U
131-11-3	Dimethylphthalate	2000	µg/kg	83.6	U	84	U	89	U	91.7	U	312	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	62	U	62.4	U	66.1	U	68.1	U	232	U
99-09-2	3-Nitroaniline	500	µg/kg	40	U	40.2	U	42.6	U	43.9	U	150	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	59.3	U	59.6	U	63.2	U	65.1	U	222	U
100-02-7	4-Nitrophenol	100	µg/kg	133	U	134	U	142	U	146	U	498	U
132-64-9	Dibenzofuran	6200	µg/kg	58.2	J	86.5	U	91.6	U	94.4	U	721	
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	56.7	U	57	U	60.4	U	62.3	U	212	U
84-66-2	Diethylphthalate	7100	µg/kg	60.2		50.3	J	200		60.2	U	205	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	98.9	U	99.4	U	105	U	109	U	370	U
100-01-6	4-Nitroaniline	NA *	µg/kg	46.1	U	46.4	U	49.1	U	50.6	U	172	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	77.9	U	78.3	U	82.9	U	85.4	U	291	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	81.9	U	82.4	U	87.3	U	89.9	U	306	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	74.7	U	75.1	U	79.6	U	82	U	279	U
118-74-1	Hexachlorobenzene	410	µg/kg	73.3	U	73.6	U	78	U	80.4	U	274	U
87-86-5	Pentachlorophenol	1000	µg/kg	49.8	U	50	U	53	U	54.6	U	186	U
86-74-8	Carbazole	NA *	µg/kg	58.3	U	58.6	U	62.1	U	63.9	U	183	J
84-74-2	Di-n-butylphthalate	8100	µg/kg	220	U	28.7	J	29.3	J	242	U	114	J
85-68-7	Butylbenzylphthalate	50000	µg/kg	48.8	U	49	U	52	U	53.5	U	210	
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	84.5	U	84.9	U	90	U	92.7	U	316	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	459	B	446	B	2200	B	166	JB	2790	
117-84-0	Di-n-octylphthalate	50000	µg/kg	62.9	U	63.2	U	67	U	69	U	324	
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	881		103		26.1	J	96.8	U	1460	
208-96-8	Acenaphthylene	41000	µg/kg	162		29.7	J	87.4	U	90	U	2390	
120-12-7	Anthracene	50000*	µg/kg	541		109		35.9	J	80.4	U	2700	
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	128		25.6	J	57.6	U	59.3	U	1270	
206-44-0	Fluoranthene	50000*	µg/kg	789		167		57.6	J	71.1	U	3260	
86-73-7	Fluorene	50000*	µg/kg	629		104		44.6	J	98.3	U	3440	
91-57-6	2-Methylnaphthalene	36400	µg/kg	1320		60.5	J	25	J	29.1	J	12700	
91-20-3	Naphthalene	13000	µg/kg	1620		41	J	27.2	J	63.8	J	3620	
85-01-8	Phenanthrene	50000*	µg/kg	2120		425		149		33.6	J	8040	
129-00-0	Pyrene	50000*	µg/kg	1080		230		79.3		58.9	U	4640	
	Total Non Carcinogenic PAHs			9270		1294.8		444.7		126.5		43520	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	429		88.2		54.6	U	56.2	U	1950	
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	154		31.8	J	89.2	U	91.9	U	1710	
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	193		41	J	72.4	U	74.6	U	1100	
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	294		63.6		59.1	U	60.9	U	1950	
218-01-9	Chrysene	400	µg/kg	371		83.1		54.3	U	56	U	2220	
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	101		65.2	U	69.1	U	71.2	U	965	
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	52	J	61.3	U	65	U	67	U	359	
	Total Probable Carcinogenic PAHs			1594		307.7		0		0		10254	
	Total PAHs			**10864**		**1602.5**		**444.7**		**126.5**		**53774**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	2060		1870		3030		5660		4680	
7440-36-0	Antimony	SB / NA	mg/kg	0.22		0.14	J	0.22		0.65		0.12	J
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.24	U	0.25	U	0.26	U	0.27	U	1.16	
7440-39-3	Barium	300 or SB / 15-600	mg/kg	21.7		15.7		27.6		91.4		84.2	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.061	U	0.062	U	0.065	U	0.067	U	0.069	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.061	U	0.062	U	0.065	U	0.067	U	0.097	
7440-70-2	Calcium	SB / 130-35000	mg/kg	18700		8300		10700		12600		4660	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	3.21		3.06		6.17		17.8		9.35	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	2.26		2.3		3.79		6.07		4.76	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	5.71		4.81		8.02		13.6		27.7	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	3880		3610		5710		10800		9820	
7439-92-1	Lead	SB / 200-500	mg/kg	1.84		1.55		2.2		1.81		276	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	11700		4890		7920		8200		3780	
7439-96-5	Manganese	SB / 50-5000	mg/kg	78.8		62.6		88.3		151		111	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.0064	J	0.0076	J	0.006	J	0.0037	J	0.37	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	3.44		3.5		5.74		10.5		8.09	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	926		640		1320		3530		843	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.24	U	0.24	U	0.26	U	0.26	U	0.27	U
7440-22-4	Silver	SB / NA	mg/kg	0.077	U	0.077	U	0.082	U	0.084	U	0.086	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	46.1		52.8		102		109		159	

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-04362-012		01-04362-013		01-04362-014		01-04362-017		01-04270-009	
	Sample Location:	Soil Cleanup		SB-30		SB-30		SB-30		SB-30		SB-31	
	Depth:	Objectives /		14' - 16'		20' - 22'		26' - 28'		68' - 72'		4' - 5'	
	Laboratory ID:	Eastern USA		K9266-3		K9266-4		K9266-5		K9266-6		K9229-9	
	Sampling Date:	Background		06/20/2001		06/20/2001		06/20/2001		06/20/2001		05/31/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
7440-28-0	Thallium	SB / NA	mg/kg	0.2	U	0.2	U	0.21	U	0.22	U	0.22	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	2.34		2.26		5.6		18.8		11.8	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	10.8		9.59		15.6		27.7		73.7	
57-12-5	Cyanide		mg/kg	0.24	U	0.29	U	0.27	U	0.25	U	0.12	J
	% Solids		%	98		97.5		92		89.3		87.4	
	Total Rec.Petr. Hydrocarbons		mg/kg	3.42	U	NR		NR		NR			

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04270-010**		**01-04270-011**		**01-04270-012**	
	Sample Location:	**Soil Cleanup**		**SB-31**		**SB-31**		**SB-31**	
	Depth:	**Objectives /**		**7' - 8'**		**11' - 12'**		**40' - 42'**	
	Laboratory ID:	Eastern USA		**K9230-1**		**K9230-2**		**K9230-3**	
	Sampling Date:	**Background**		**05/31/2001**		**05/31/2001**		**05/31/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**						
	PCBs								
12674-11-2	PCB 1016	1000	µg/kg	8.01	U	8.06	U	7.33	U
11104-28-2	PCB 1221	1000	µg/kg	9.76	U	9.82	U	8.93	U
11141-16-5	PCB 1232	1000	µg/kg	6.96	U	7.01	U	6.37	U
53469-21-9	PCB 1242	1000	µg/kg	8.71	U	8.76	U	7.97	U
12672-29-6	PCB 1248	1000	µg/kg	10.9	U	10.9	U	9.94	U
11097-69-1	PCB 1254	1000	µg/kg	6.51	U	6.55	U	5.95	U
11096-82-5	PCB 1260	1000	µg/kg	6.55	U	6.59	U	6	U
	Volatiles								
74-87-3	Chloromethane	NA *	µg/kg	128	U	129	U	0.33	U
74-83-9	Bromomethane	NA *	µg/kg	98.2	U	98.8	U	0.29	U
75-01-4	Vinyl Chloride	200	µg/kg	128	U	129	U	0.33	U
75-00-3	Chloroethane	1900	µg/kg	101	U	102	U	0.33	U
75-09-2	Methylene Chloride	100	µg/kg	55.9	U	56.2	U	45.3	B
67-64-1	Acetone	200	µg/kg	347	U	350	U	42.7	
75-15-0	Carbon disulfide	2700	µg/kg	49.8	U	50.2	U	0.21	U
75-35-4	1,1-Dichloroethene	400	µg/kg	33.2	U	33.4	U	0.91	U
75-34-3	1,1-Dichloroethane	200	µg/kg	37.8	U	38	U	0.26	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	42.3	U	42.6	U	0.31	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	27.2	U	27.4	U	0.22	U
67-66-3	Chloroform	300	µg/kg	33.2	U	33.4	U	0.19	U
107-06-2	1,2-Dichloroethane	100	µg/kg	24.2	U	24.3	U	0.13	U
78-93-3	2-Butanone	300	µg/kg	2600	U	2610	U	5.5	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	21.1	U	21.3	U	0.66	U
56-23-5	Carbon Tetrachloride	600	µg/kg	15.1	U	15.2	U	0.26	U
75-27-4	Bromodichloromethane	NA *	µg/kg	24.2	U	24.3	U	0.15	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	21.1	U	21.3	U	0.29	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	33.2	U	33.4	U	0.3	U
79-01-6	Trichloroethene	700	µg/kg	25.7	U	25.8	U	0.23	U
124-48-1	Dibromochloromethane	NA *	µg/kg	25.7	U	25.8	U	0.97	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	28.7	U	28.9	U	0.33	U
71-43-2	Benzene	60	µg/kg	**1110**		**197**		0.18	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	21.1	U	21.3	U	0.3	U
75-25-2	Bromoform	NA *	µg/kg	40.8	U	41	U	0.32	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	1360	U	1370	U	5.5	U
591-78-6	2-Hexanone	NA *	µg/kg	755	U	760	U	5.5	U
127-18-4	Tetrachloroethene	1400	µg/kg	18.1	U	18.2	U	0.11	U
108-88-3	Toluene	1500	µg/kg	390		21.3	U	0.17	U
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	22.6	U	22.8	U	0.44	U
108-90-7	Chlorobenzene	1700	µg/kg	28.7	U	28.9	U	0.2	U
100-41-4	Ethylbenzene	5500	µg/kg	**16100**		**17500**		0.9	
100-42-5	Styrene	NA *	µg/kg	19.6	U	19.8	U	0.11	U
108-38-3	m,p-xylene	1200	µg/kg	**7960**		**6390**		1.2	
95-47-6	o-xylene	1200	µg/kg	**1920**		**1910**		0.17	U
	Total BTEX		**µg/kg**	**27480**		**25997**		**2.1**	
	Semi-Volatiles								
108-95-2	Phenol	30	µg/kg	479	U	482	U	21.9	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	620	U	624	U	28.4	U
95-57-8	2-Chlorophenol	800	µg/kg	582	U	586	U	26.6	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	635	U	639	U	29.1	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	604	U	608	U	27.6	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	681	U	259	J	31.2	U
95-48-7	2-Methylphenol	100	µg/kg	610	U	614	U	27.9	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	644	U	648	U	29.5	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	611	U	615	U	28	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	563	U	566	U	25.8	U
67-72-1	Hexachloroethane	NA *	µg/kg	541	U	545	U	24.8	U
98-95-3	Nitrobenzene	200	µg/kg	673	U	677	U	30.8	U
78-59-1	Isophorone	4400	µg/kg	549	U	552	U	25.1	U
88-75-5	2-Nitrophenol	330	µg/kg	511	U	514	U	23.4	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	478	U	481	U	21.9	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	627	U	631	U	28.7	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	565	U	568	U	25.8	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	688	U	693	U	31.5	U
106-47-8	4-Chloroaniline	220	µg/kg	341	U	343	U	15.6	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	644	U	648	U	29.5	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	663	U	667	U	30.3	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	285	U	287	U	13	U
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	567	U	571	U	25.9	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04270-010**		**01-04270-011**		**01-04270-012**	
	Sample Location:	**Soil Cleanup**		**SB-31**		**SB-31**		**SB-31**	
	Depth:	**Objectives /**		**7' - 8'**		**11' - 12'**		**40' - 42'**	
	Laboratory ID:	**Eastern USA**		**K9230-1**		**K9230-2**		**K9230-3**	
	Sampling Date:	**Background**		**05/31/2001**		**05/31/2001**		**05/31/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**						
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	505	U	508	U	23.1	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	659	U	663	U	30.1	U
88-74-4	2-Nitroaniline	430	µg/kg	495	U	498	U	22.6	U
131-11-3	Dimethylphthalate	2000	µg/kg	658	U	662	U	30.1	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	488	U	491	U	22.3	U
99-09-2	3-Nitroaniline	500	µg/kg	315	U	317	U	14.4	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	467	U	470	U	21.4	U
100-02-7	4-Nitrophenol	100	µg/kg	1050	U	1050	U	48	U
132-64-9	Dibenzofuran	6200	µg/kg	677	U	681	U	31	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	447	U	449	U	20.4	U
84-66-2	Diethylphthalate	7100	µg/kg	432	U	435	U	19.8	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	778	U	783	U	35.6	U
100-01-6	4-Nitroaniline	NA *	µg/kg	363	U	365	U	16.6	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	613	U	617	U	28	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	645	U	649	U	29.5	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	588	U	592	U	26.9	U
118-74-1	Hexachlorobenzene	410	µg/kg	577	U	580	U	26.4	U
87-86-5	Pentachlorophenol	1000	µg/kg	392	U	394	U	17.9	U
86-74-8	Carbazole	NA *	µg/kg	459	U	461	U	21	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	1730	U	1750	U	36.4	J
85-68-7	Butylbenzylphthalate	50000	µg/kg	384	U	386	U	17.6	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	665	U	669	U	30.4	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	5050		2960		313	
117-84-0	Di-n-octylphthalate	50000	µg/kg	570		380	J	22.6	U
	Non Carcinogenic PAHs								
83-32-9	Acenaphthene	50000*	µg/kg	4630		3790		31.8	U
208-96-8	Acenaphthylene	41000	µg/kg	1350		1070		7.4	J
120-12-7	Anthracene	50000*	µg/kg	2550		2410		26.4	U
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	964		743		19.5	U
206-44-0	Fluoranthene	50000*	µg/kg	4080		3890		23.3	U
86-73-7	Fluorene	50000*	µg/kg	6010		4620		32.3	U
91-57-6	2-Methylnaphthalene	36400	µg/kg	31100		34700		9.6	J
91-20-3	Naphthalene	13000	µg/kg	6660		14400		9.9	J
85-01-8	Phenanthrene	50000*	µg/kg	12600		10600		12.1	J
129-00-0	Pyrene	50000*	µg/kg	5100		4660		19.3	U
	Total Non Carcinogenic PAHs			75044		80883		39	
	Probable Carcinogenic PAHs								
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	2040		1820		18.4	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	1410		1180		30.2	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	1010		840		24.5	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	1580		1370		9.9	J
218-01-9	Chrysene	400	µg/kg	2160		1890		18.4	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	835		663		23.4	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	321	J	299	J	22	U
	Total Probable Carcinogenic PAHs			9356		8062		9.9	
	Total PAHs			**84400**		**88945**		**48.9**	
	Metals								
7429-90-5	Aluminum	SB / 33000	mg/kg	5680		4650		5400	
7440-36-0	Antimony	SB / NA	mg/kg	0.34		0.13	J	0.53	
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	1.17		0.29	U	0.26	U
7440-39-3	Barium	300 or SB / 15-600	mg/kg	53.4		25.4		113	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.072	U	0.073	U	0.066	U
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.2		0.073	U	0.066	U
7440-70-2	Calcium	SB / 130-35000	mg/kg	2710		768		7200	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	9.96		6.97		15.5	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	4.22		3.08		6.81	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	11.8		4.45		22.8	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	9410		6850		10800	
7439-92-1	Lead	SB / 200-500	mg/kg	80		3.39		2.26	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	2970		1950		6340	
7439-96-5	Manganese	SB / 50-5000	mg/kg	127		74.3		131	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.16		0.01	J	0.00014	J
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	8.16		5.25		13.3	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	900		401		3660	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.28	U	0.28	U	0.26	U
7440-22-4	Silver	SB / NA	mg/kg	0.09	U	0.091	U	0.083	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	314		306		144	

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04270-010**		**01-04270-011**		**01-04270-012**	
	Sample Location:	**Soil Cleanup**		**SB-31**		**SB-31**		**SB-31**	
	Depth:	**Objectives /**		**7' - 8'**		**11' - 12'**		**40' - 42'**	
	Laboratory ID:	**Eastern USA**		**K9230-1**		**K9230-2**		**K9230-3**	
	Sampling Date:	**Background**		**05/31/2001**		**05/31/2001**		**05/31/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**						
7440-28-0	Thallium	SB / NA	mg/kg	0.23	U	0.24	U	0.21	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	12.4		8.45		24	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	$\boxed{428}$		$\boxed{21.9}$		$\boxed{27.1}$	
57-12-5	Cyanide		mg/kg	0.078	J	0.27	U	0.25	U
	% Solids		%	83		82.5		90.7	
	Total Rec.Petr. Hydrocarbons		mg/kg						

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-02657-001**		**00-02657-002**		**00-02460-002**		**00-02460-003**		**00-02460-004**	
	Sample Location:	**Soil Cleanup**		**MW-1**		**MW-1**		**MW-2**		**MW-2**		**MW-2**	
	Depth:	**Objectives /**		**26'-27.5'**		**32'-34'**		**7'-10'**		**24'-25'**		**27'-30'**	
	Laboratory ID:	**Eastern USA**		**J4474-1**		**J4474-2**		**J4455-2**		**J4455-3**		**J4455-4**	
	Sampling Date:	**Background**		**3/21/00**		**3/21/00**		**3/15/00**		**3/15/00**		**3/15/00**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	3.80	U	4.67	U	4.54	U	4.54	U	4.91	U
11104-28-2	PCB 1221	1000	µg/kg	16.2	U	19.9	U	19.3	U	19.3	U	20.9	U
11141-16-5	PCB 1232	1000	µg/kg	8.56	U	10.5	U	10.2	U	10.2	U	11.1	U
53469-21-9	PCB 1242	1000	µg/kg	3.58	U	4.41	U	4.28	U	4.28	U	4.64	U
12672-29-6	PCB 1248	1000	µg/kg	8.12	U	10.0	U	9.71	U	9.71	U	10.5	U
11097-69-1	PCB 1254	1000	µg/kg	1.89	U	2.32	U	2.26	U	2.26	U	2.44	U
11096-82-5	PCB 1260	1000	µg/kg	5.38	U	6.63	U	6.43	U	6.43	U	6.97	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.80	U	0.97	U	0.40	U	0.81	U	0.43	U
74-83-9	Bromomethane	NA *	µg/kg	0.81	U	0.98	U	0.46	U	0.92	U	0.49	U
75-01-4	Vinyl Chloride	200	µg/kg	0.97	U	1.17	U	0.40	U	0.81	U	0.43	U
75-00-3	Chloroethane	1900	µg/kg	0.85	U	1.03	U	0.22	U	0.45	U	0.24	U
75-09-2	Methylene Chloride	100	µg/kg	1.00	U	80.4		0.64	U	1.28	U	0.68	U
67-64-1	Acetone	200	µg/kg	2.39	U	2.88	U	23.3		10.3	U	15.7	
75-15-0	Carbon disulfide	2700	µg/kg	0.74	U	0.89	U	0.32	U	0.64	U	0.34	U
75-35-4	1,1-Dichloroethene	400	µg/kg	0.68	U	0.82	U	0.25	U	0.50	U	0.26	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.61	U	0.73	U	0.19	U	0.38	U	0.20	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.35	U	0.42	U	0.48	U	0.97	U	0.51	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.74	U	0.89	U	0.59	U	1.18	U	0.63	U
67-66-3	Chloroform	300	µg/kg	0.69	U	0.83	U	0.20	U	0.40	U	0.21	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.47	U	0.57	U	0.35	U	0.71	U	0.38	U
78-93-3	2-Butanone	300	µg/kg	0.96	U	1.15	U	2.96	U	5.95	U	3.14	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.73	U	0.88	U	0.33	U	0.66	U	0.35	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.77	U	0.93	U	0.32	U	0.64	U	0.34	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.68	U	0.82	U	0.29	U	0.59	U	0.31	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.66	U	0.79	U	0.21	U	0.43	U	0.22	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.65	U	0.78	U	0.29	U	0.59	U	0.31	U
79-01-6	Trichloroethene	700	µg/kg	0.77	U	0.93	U	0.35	U	0.71	U	0.38	U
124-48-1	Dibromochloromethane	NA *	µg/kg	0.57	U	0.68	U	0.34	U	0.69	U	0.36	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.60	U	0.72	U	0.55	U	1.11	U	0.59	U
71-43-2	Benzene	60	µg/kg	0.13	U	0.16	U	0.33	U	0.66	U	0.35	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.58	U	0.69	U	0.48	U	0.97	U	0.51	U
75-25-2	Bromoform	NA *	µg/kg	0.35	U	0.42	U	0.57	U	1.14	U	0.60	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	1.77	U	2.13	U	1.75	U	3.51	U	1.85	U
591-78-6	2-Hexanone	NA *	µg/kg	1.44	U	1.74	U	1.83	U	3.67	U	1.94	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.65	U	0.78	U	0.33	U	0.66	U	0.35	U
108-88-3	Toluene	1500	µg/kg	0.18	U	0.21	U	15.2		0.78	U	0.41	U
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.61	U	0.73	U	0.59	U	1.18	U	0.63	U
108-90-7	Chlorobenzene	1700	µg/kg	0.28	U	0.33	U	0.34	U	0.69	U	0.36	U
100-41-4	Ethylbenzene	5500	µg/kg	0.093	U	0.11	U	0.40	U	0.81	U	0.43	U
100-42-5	Styrene	NA *	µg/kg	0.74	U	0.89	U	0.34	U	0.69	U	0.36	U
108-38-3	m,p-xylene	1200	µg/kg	0.16	U	0.20	U	0.74	U	1.49	U	0.79	U
95-47-6	o-xylene	1200	µg/kg	0.12	U	0.15	U	0.33	U	0.66	U	0.35	U
	Total BTEX		**µg/kg**	**0**		**0**		**15.2**		**0**		**0**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	33.3	U	39.7	U	21.7	U	22.2	U	23.5	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	32.1	U	38.2	U	27.3	U	27.9	U	29.5	U
95-57-8	2-Chlorophenol	800	µg/kg	32.8	U	39.0	U	22.4	U	22.9	U	24.3	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	35.0	U	41.7	U	27.3	U	27.8	U	29.5	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	34.1	U	40.5	U	27.8	U	28.4	U	30.1	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	34.4	U	40.9	U	28.1	U	28.7	U	30.4	U
95-48-7	2-Methylphenol	100	µg/kg	28.4	U	33.8	U	22.4	U	22.8	U	24.2	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	37.1	U	44.1	U	16.3	U	16.6	U	17.6	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	27.5	U	32.7	U	18.3	U	18.7	U	19.8	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	33.4	U	39.8	U	22.8	U	23.2	U	24.6	U
67-72-1	Hexachloroethane	NA *	µg/kg	35.2	U	41.9	U	28.3	U	28.9	U	30.6	U
98-95-3	Nitrobenzene	200	µg/kg	38.6	U	45.9	U	31.3	U	31.9	U	33.8	U
78-59-1	Isophorone	4400	µg/kg	35.3	U	42.0	U	21.1	U	21.5	U	22.8	U
88-75-5	2-Nitrophenol	330	µg/kg	26.8	U	31.9	U	24.0	U	24.5	U	26.0	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	16.2	U	19.3	U	13.5	U	13.8	U	14.6	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	32.4	U	38.5	U	24.7	U	25.2	U	26.7	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	28.1	U	33.4	U	23.1	U	23.5	U	24.9	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	34.0	U	40.5	U	25.6	U	26.1	U	27.6	U
106-47-8	4-Chloroaniline	220	µg/kg	35.4	U	42.1	U	28.3	U	28.9	U	30.6	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	34.1	U	40.5	U	25.9	U	26.5	U	28.0	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	27.4	U	32.6	U	17.6	U	18.0	U	19.1	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	28.5	U	33.9	U	42.2	U	43.1	U	45.6	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		00-02657-001		00-02657-002		00-02460-002		00-02460-003		00-02460-004	
	Sample Location:	Soil Cleanup		MW-1		MW-1		MW-2		MW-2		MW-2	
	Depth:	Objectives /		26'-27.5'		32'-34'		7'-10'		24'-25'		27'-30'	
	Laboratory ID:	Eastern USA		J4474-1		J4474-2		J4455-2		J4455-3		J4455-4	
	Sampling Date:	Background		3/21/00		3/21/00		3/15/00		3/15/00		3/15/00	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	27.1	U	32.2	U	28.3	U	28.9	U	30.6	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	26.1	U	31.1	U	26.3	U	26.8	U	28.4	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	31.2	U	37.2	U	26.3	U	26.8	U	28.4	U
88-74-4	2-Nitroaniline	430	µg/kg	24.6	U	29.2	U	18.4	U	18.7	U	19.8	U
131-11-3	Dimethylphthalate	2000	µg/kg	29.9	U	35.6	U	23.5	U	24.0	U	25.4	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	27.6	U	32.8	U	19.4	U	19.8	U	21.0	U
99-09-2	3-Nitroaniline	500	µg/kg	26.4	U	31.4	U	16.6	U	16.9	U	17.9	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	31.4	U	37.3	U	23.2	U	23.7	U	25.0	U
100-02-7	4-Nitrophenol	100	µg/kg	20.4	U	24.3	U	31.5	U	32.1	U	34.0	U
132-64-9	Dibenzofuran	6200	µg/kg	29.8	U	35.5	U	25.0	U	25.5	U	27.0	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	26.2	U	31.2	U	14.4	U	14.7	U	15.6	U
84-66-2	Diethylphthalate	7100	µg/kg	19.2	U	22.8	U	18.4	U	18.8	U	19.9	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	30.4	U	36.2	U	25.7	U	26.2	U	27.7	U
100-01-6	4-Nitroaniline	NA *	µg/kg	23.1	U	27.4	U	24.6	U	25.2	U	26.6	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	29.0	U	34.6	U	25.3	U	25.9	U	27.4	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	27.4	U	32.6	U	22.6	U	23.1	U	24.5	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	27.7	U	33.0	U	24.1	U	24.6	U	26.0	U
118-74-1	Hexachlorobenzene	410	µg/kg	30.4	U	36.2	U	21.9	U	22.4	U	23.7	U
87-86-5	Pentachlorophenol	1000	µg/kg	20.6	U	24.5	U	16.2	U	16.6	U	17.6	U
86-74-8	Carbazole	NA *	µg/kg	68.6	U	81.6	U	17.8	U	18.2	U	19.2	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	67.0	U	79.7	U	75.1	U	76.6	U	81.1	U
85-68-7	Butylbenzylphthalate	50000	µg/kg	20.5	U	24.3	U	19.9	U	20.3	U	21.5	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	66.3	U	78.9	U	46.7	U	47.7	U	50.5	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	15.8	JB	141	U	309	B	294	B	21.6	JB
117-84-0	Di-n-octylphthalate	50000	µg/kg	18.4	U	21.9	U	20.7	U	21.1	U	22.3	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	29.5	U	35.1	U	26.1	U	26.6	U	28.2	U
208-96-8	Acenaphthylene	41000	µg/kg	31.2	U	37.2	U	11.9	J	23.0	U	24.4	U
120-12-7	Anthracene	50000*	µg/kg	22.8	U	27.2	U	19.6	U	20.0	U	21.2	U
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	13.4	U	16.0	U	18.5		14.6	U	15.4	U
206-44-0	Fluoranthene	50000*	µg/kg	22.4	U	26.7	U	13.1	J	16.8	U	17.8	U
86-73-7	Fluorene	50000*	µg/kg	29.0	U	34.5	U	22.8	U	23.3	U	24.7	U
91-57-6	2-Methylnaphthalene	36400	µg/kg	27.6	U	32.8	U	25.4	U	25.9	U	27.4	U
91-20-3	Naphthalene	13000	µg/kg	32.3	U	38.5	U	11.2	J	27.4	U	29.0	U
85-01-8	Phenanthrene	50000*	µg/kg	25.0	U	29.8	U	15.4	J	18.8	U	19.9	U
129-00-0	Pyrene	50000*	µg/kg	22.6	U	26.9	U	23.5		17.0	U	18.0	U
	Total Non Carcinogenic PAHs			0		0		43.5		0		0	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	20.7	U	24.6	U	12.7	J	14.5	U	15.4	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	14.4	U	17.1	U	10.8	J	19.1	U	20.2	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	21.5	U	25.6	U	14.2	J	17.5	U	18.5	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	16.0	U	19.0	U	18.5		14.1	U	15.0	U
218-01-9	Chrysene	400	µg/kg	22.0	U	26.2	U	12.7	J	17.9	U	18.9	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	14.0	U	16.6	U	13.2	U	13.5	U	14.3	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	14.1	U	16.7	U	14.3	U	14.6	U	15.4	U
	Total Probable Carcinogenic PAHs			0		0		68.9		0		0	
	Total PAHs			**0**		**0**		**112.4**		**0**		**0**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	2080		1770		4850		2410		5710	
7440-36-0	Antimony	SB / NA	mg/kg	1.03	U	1.24	U	0.46	J	1.19	U	1.25	U
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	2.31		0.74	U	0.71	U	0.71	U	0.75	U
7440-39-3	Barium	300 or SB / 15-600	mg/kg	12.6		12.5		31.0		22.2		106	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.13	J	**0.17**	J	**0.44**		**0.23**	J	**0.31**	
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.59		0.52		**1.16**		0.51		**1.39**	
7440-70-2	Calcium	SB / 130-35000	mg/kg	26500		16500		4840		6460		10600	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	4.25		3.99		**11.2**		6.93		**20.1**	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	2.35		2.23		7.16		2.87		7.38	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	8.27		7.46		13.0		9.34		**26.0**	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	**4940**		**4710**		**10200**		**4680**		**13400**	
7439-92-1	Lead	SB / 200-500	mg/kg	0.82		0.42		2.41		1.04		1.31	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	**17500**		**9100**		**5610**		4530		**8040**	
7439-96-5	Manganese	SB / 50-5000	mg/kg	64.3		72.4		225		49.2		217	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.0014	J	0.0036	J	0.030		0.022		0.018	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	3.98		3.30		9.97		5.11		**14.6**	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	755		439		921		539		2770	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.51	U	0.62	U	0.59	U	0.60	U	0.63	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-02657-001**		**00-02657-002**		**00-02460-002**		**00-02460-003**		**00-02460-004**	
	Sample Location:	**Soil Cleanup**		**MW-1**		**MW-1**		**MW-2**		**MW-2**		**MW-2**	
	Depth:	**Objectives /**		**26'-27.5'**		**32'-34'**		**7'-10'**		**24'-25'**		**27'-30'**	
	Laboratory ID:	**Eastern USA**		**J4474-1**		**J4474-2**		**J4455-2**		**J4455-3**		**J4455-4**	
	Sampling Date:	**Background**		**3/21/00**		**3/21/00**		**3/15/00**		**3/15/00**		**3/15/00**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
7440-22-4	Silver	SB / NA	mg/kg	0.82	U	0.99	U	0.60	J	0.24	J	2.45	
7440-23-5	Sodium	SB / 6000-8000	mg/kg	703		413		412		504		669	
7440-28-0	Thallium	SB / NA	mg/kg	5.56	U	6.70	U	6.37	U	6.43	U	6.75	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	5.85		6.21		15.3		9.71		25.0	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	15.0		11.1		91.6		14.6		33.3	
57-12-5	Cyanide		mg/kg	0.0060	U	0.0060	U	0.0060	U	0.0060	U	0.0060	U
	% Solids		%	96.7		80.9		84.9		84.3		80.2	
	Total Rec.Petr. Hydrocarbons		mg/kg										

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-02657-003**		**00-02657-004**		**00-02434-004**		**00-02434-005**		**00-02434-006**	
	Sample Location:	**Soil Cleanup**		**MW-3**		**MW-3**		**MW-4**		**MW-4**		**MW-4**	
	Depth:	**Objectives /**		**20'-22'**		**27'-29'**		**12.5'-12.8'**		**10'-12.5'**		**34'-36'**	
	Laboratory ID:	**Eastern USA**		**J4474-3**		**J4474-4**		**J4459-4**		**J4459-5**		**J4459-6**	
	Sampling Date:	**Background**		**3/21/00**		**3/21/00**		**3/14/00**		**3/14/00**		**3/14/00**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	3.97	U	4.69	U	NR		4.54	U	4.91	U
11104-28-2	PCB 1221	1000	µg/kg	16.9	U	20.0	U	NR		19.3	U	20.9	U
11141-16-5	PCB 1232	1000	µg/kg	8.97	U	10.6	U	NR		10.2	U	11.1	U
53469-21-9	PCB 1242	1000	µg/kg	3.75	U	4.43	U	NR		4.28	U	4.64	U
12672-29-6	PCB 1248	1000	µg/kg	8.50	U	10.0	U	NR		9.71	U	10.5	U
11097-69-1	PCB 1254	1000	µg/kg	1.98	U	2.33	U	NR		2.26	U	2.44	U
11096-82-5	PCB 1260	1000	µg/kg	5.63	U	6.65	U	NR		6.43	U	6.97	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.78	U	0.78	U	2.14	U	NR		0.43	U
74-83-9	Bromomethane	NA *	µg/kg	0.79	U	0.79	U	2.46	U	NR		0.49	U
75-01-4	Vinyl Chloride	200	µg/kg	0.94	U	0.94	U	2.14	U	NR		0.43	U
75-00-3	Chloroethane	1900	µg/kg	0.83	U	0.83	U	1.20	U	NR		0.24	U
75-09-2	Methylene Chloride	100	µg/kg	0.97	U	0.97	U	23.4		NR		7.50	
67-64-1	Acetone	200	µg/kg	4.90		11.0		106		NR		36.7	
75-15-0	Carbon disulfide	2700	µg/kg	0.72	U	0.72	U	1.70	U	NR		0.34	U
75-35-4	1,1-Dichloroethene	400	µg/kg	0.66	U	0.66	U	1.32	U	NR		0.26	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.59	U	0.59	U	1.01	U	NR		0.20	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.34	U	0.34	U	2.58	U	NR		0.51	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.72	U	0.72	U	3.15	U	NR		0.63	U
67-66-3	Chloroform	300	µg/kg	0.67	U	0.67	U	1.07	U	NR		0.21	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.46	U	0.46	U	1.89	U	NR		0.38	U
78-93-3	2-Butanone	300	µg/kg	0.93	U	0.93	U	15.8	U	NR		3.14	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.71	U	0.71	U	1.76	U	NR		0.35	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.75	U	0.75	U	1.70	U	NR		0.34	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.66	U	0.66	U	1.58	U	NR		0.31	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.64	U	0.64	U	1.13	U	NR		0.22	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.63	U	0.63	U	1.58	U	NR		0.31	U
79-01-6	Trichloroethene	700	µg/kg	0.75	U	0.75	U	1.89	U	NR		0.38	U
124-48-1	Dibromochloromethane	NA *	µg/kg	0.55	U	0.55	U	1.83	U	NR		0.36	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.58	U	0.58	U	2.96	U	NR		0.59	U
71-43-2	Benzene	60	µg/kg	0.13	U	0.13	U	1.76	U	NR		0.35	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.56	U	0.56	U	2.58	U	NR		0.51	U
75-25-2	Bromoform	NA *	µg/kg	0.34	U	0.34	U	3.02	U	NR		0.60	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	1.72	U	1.72	U	9.32	U	NR		1.85	U
591-78-6	2-Hexanone	NA *	µg/kg	1.40	U	1.40	U	9.77	U	NR		1.94	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.63	U	0.63	U	1.76	U	NR		0.35	U
108-88-3	Toluene	1500	µg/kg	0.17	U	1		2.08	U	NR		19.9	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.59	U	0.59	U	3.15	U	NR		0.63	U
108-90-7	Chlorobenzene	1700	µg/kg	0.27	U	0.27	U	1.83	U	NR		0.36	U
100-41-4	Ethylbenzene	5500	µg/kg	0.090	U	1.7		7.20		NR		0.43	U
100-42-5	Styrene	NA *	µg/kg	0.72	U	0.72	U	1.83	U	NR		0.36	U
108-38-3	m,p-xylene	1200	µg/kg	0.16	U	3.4		8.60		NR		0.79	U
95-47-6	o-xylene	1200	µg/kg	0.12	U	2.5		1.76	U	NR		0.35	U
	Total BTEX		**µg/kg**	**0**		**8.6**		**15.8**		**NR**		**19.9**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	33.9	U	41.3	U	23.2	U	NR		23.0	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	32.7	U	39.8	U	29.2	U	NR		28.9	U
95-57-8	2-Chlorophenol	800	µg/kg	33.3	U	40.6	U	24.0	U	NR		23.8	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	35.6	U	43.4	U	29.2	U	NR		28.9	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	34.7	U	42.2	U	29.8	U	NR		29.5	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	35.0	U	42.7	U	30.1	U	NR		29.8	U
95-48-7	2-Methylphenol	100	µg/kg	28.9	U	35.2	U	23.9	U	NR		23.7	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	37.7	U	46.0	U	17.4	U	NR		17.3	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	28.0	U	34.1	U	19.6	U	NR		19.4	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	34.0	U	41.4	U	24.3	U	NR		24.1	U
67-72-1	Hexachloroethane	NA *	µg/kg	35.8	U	43.7	U	30.3	U	NR		30.0	U
98-95-3	Nitrobenzene	200	µg/kg	39.3	U	47.8	U	33.5	U	NR		33.1	U
78-59-1	Isophorone	4400	µg/kg	35.9	U	43.7	U	22.5	U	NR		22.3	U
88-75-5	2-Nitrophenol	330	µg/kg	27.3	U	33.2	U	25.7	U	NR		25.5	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	16.5	U	20.1	U	14.4	U	NR		14.3	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	33.0	U	40.2	U	26.5	U	NR		26.2	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	28.6	U	34.8	U	24.7	U	NR		24.4	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	34.6	U	42.1	U	27.4	U	NR		27.1	U
106-47-8	4-Chloroaniline	220	µg/kg	36.0	U	43.8	U	30.3	U	NR		30.0	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	34.7	U	42.2	U	27.8	U	NR		27.5	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	27.9	U	34.0	U	18.9	U	NR		18.7	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	29.0	U	35.3	U	45.2	U	NR		44.7	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-02657-003**	**00-02657-004**	**00-02434-004**	**00-02434-005**	**00-02434-006**
	Sample Location:	**Soil Cleanup**		**MW-3**	**MW-3**	**MW-4**	**MW-4**	**MW-4**
	Depth:	**Objectives /**		**20'-22'**	**27'-29'**	**12.5'-12.8'**	**10'-12.5'**	**34'-36'**
	Laboratory ID:	**Eastern USA**		**J4474-3**	**J4474-4**	**J4459-4**	**J4459-5**	**J4459-6**
	Sampling Date:	**Background**		**3/21/00**	**3/21/00**	**3/14/00**	**3/14/00**	**3/14/00**
	Matrix:	**Concentrations**		**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
	Validated:			**No**	**No**	**No**	**No**	**No**
Cas #:	**Analyte:**		**Units:**					
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	27.6 U	33.6 U	30.3 U	NR	30.0 U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	26.6 U	32.4 U	28.1 U	NR	27.8 U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	31.8 U	38.7 U	28.1 U	NR	27.9 U
88-74-4	2-Nitroaniline	430	µg/kg	25.0 U	30.4 U	19.7 U	NR	19.5 U
131-11-3	Dimethylphthalate	2000	µg/kg	30.4 U	37.1 U	25.2 U	NR	24.9 U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	28.1 U	34.2 U	20.8 U	NR	20.6 U
99-09-2	3-Nitroaniline	500	µg/kg	26.8 U	32.7 U	17.7 U	NR	17.5 U
51-28-5	2,4-Dinitrophenol	200	µg/kg	31.9 U	38.9 U	24.8 U	NR	24.6 U
100-02-7	4-Nitrophenol	100	µg/kg	20.7 U	25.3 U	33.7 U	NR	33.4 U
132-64-9	Dibenzofuran	6200	µg/kg	30.3 U	37.0 U	26.8 U	NR	26.5 U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	26.7 U	32.5 U	15.5 U	NR	15.3 U
84-66-2	Diethylphthalate	7100	µg/kg	19.5 U	23.8 U	19.7 U	NR	19.5 U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	30.9 U	37.7 U	27.5 U	NR	27.2 U
100-01-6	4-Nitroaniline	NA *	µg/kg	23.5 U	28.6 U	26.4 U	NR	26.1 U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	29.5 U	36.0 U	27.1 U	NR	26.8 U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	27.9 U	34.0 U	24.2 U	NR	24.0 U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	28.2 U	34.4 U	25.8 U	NR	25.5 U
118-74-1	Hexachlorobenzene	410	µg/kg	31.0 U	37.7 U	23.5 U	NR	23.3 U
87-86-5	Pentachlorophenol	1000	µg/kg	21.0 U	25.6 U	17.4 U	NR	17.2 U
86-74-8	Carbazole	NA *	µg/kg	69.8 U	85.1 U	19.0 U	NR	18.8 U
84-74-2	Di-n-butylphthalate	8100	µg/kg	68.1 U	83.0 U	80.3 U	NR	79.6 U
85-68-7	Butylbenzylphthalate	50000	µg/kg	20.8 U	25.4 U	21.3 U	NR	21.1 U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	67.5 U	82.2 U	50.0 U	NR	49.5 U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	10.8 JB	11.9 JB	36.6 JB	NR	180 B
117-84-0	Di-n-octylphthalate	50000	µg/kg	18.7 U	22.8 U	22.1 U	NR	21.9 U
	Non Carcinogenic PAHs							
83-32-9	Acenaphthene	50000*	µg/kg	30.0 U	36.6 U	671	NR	27.6 U
208-96-8	Acenaphthylene	41000	µg/kg	31.8 U	38.7 U	24.1 U	NR	23.9 U
120-12-7	Anthracene	50000*	µg/kg	23.2 U	28.3 U	563	NR	20.8 U
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	13.6 U	16.6 U	219	NR	15.1 U
206-44-0	Fluoranthene	50000*	µg/kg	22.8 U	27.8 U	2620	NR	17.5 U
86-73-7	Fluorene	50000*	µg/kg	29.5 U	36.0 U	2050	NR	24.2 U
91-57-6	2-Methylnaphthalene	36400	µg/kg	28.0 U	34.2 U	27.2 U	NR	26.9 U
91-20-3	Naphthalene	13000	µg/kg	32.9 U	40.1 U	28.8 U	NR	28.5 U
85-01-8	Phenanthrene	50000*	µg/kg	25.5 U	31.0 U	5380	NR	8.60 J
129-00-0	Pyrene	50000*	µg/kg	23.0 U	28.1 U	1930	NR	12.2 J
	Total Non Carcinogenic PAHs			0	0	13433	NR	0
	Probable Carcinogenic PAHs							
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	21.0 U	25.6 U	971	NR	15.1 U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	14.6 U	17.8 U	795	NR	19.8 U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	21.9 U	26.7 U	857	NR	18.2 U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	16.3 U	19.8 U	707	NR	14.7 U
218-01-9	Chrysene	400	µg/kg	22.4 U	27.3 U	1120	NR	18.6 U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	14.2 U	17.3 U	244	NR	14.0 U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	14.3 U	17.4 U	80.7	NR	15.1 U
	Total Probable Carcinogenic PAHs			0	0	4774.7	NR	0
	Total PAHs			**0**	**0**	**18207.7**	**NR**	**0**
	Metals							
7429-90-5	Aluminum	SB / 33000	mg/kg	3000	3140	NR	7550	2810
7440-36-0	Antimony	SB / NA	mg/kg	1.18	1.36	NR	1.15 U	1.25 U
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.64 U	0.77 U	NR	1.82	0.75 U
7440-39-3	Barium	300 or SB / 15-600	mg/kg	40.7	34.6	NR	63.4	20.3
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.22	0.28	NR	0.44	0.20 J
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.76	1.00	NR	1.67	0.54
7440-70-2	Calcium	SB / 130-35000	mg/kg	2200	4170	NR	13200	20000
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	6.00	7.50	NR	15.2	5.85
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	4.19	4.10	NR	8.37	2.86
7440-50-8	Copper	25 or SB / 1-50	mg/kg	11.2	9.48	NR	15.1	8.80
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	6460	9320	NR	14700	5210
7439-92-1	Lead	SB / 200-500	mg/kg	1.43	1.64	NR	2.32	0.51
7439-95-4	Magnesium	SB / 100-5000	mg/kg	3430	4150	NR	12000	13000
7439-96-5	Manganese	SB / 50-5000	mg/kg	440	148	NR	166	81.1
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.0026 J	0.0026 J	NR	0.013	0.017
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	7.58	6.13	NR	12.7	4.69
7440-09-7	Potassium	SB / 8500-43000	mg/kg	738	767	NR	2830	833
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.53 U	0.64 U	NR	0.57 U	0.63 U

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TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		00-02657-003		00-02657-004		00-02434-004		00-02434-005		00-02434-006	
	Sample Location:	Soil Cleanup		MW-3		MW-3		MW-4		MW-4		MW-4	
	Depth:	Objectives /		20'-22'		27'-29'		12.5'-12.8'		10'-12.5'		34'-36'	
	Laboratory ID:	Eastern USA		J4474-3		J4474-4		J4459-4		J4459-5		J4459-6	
	Sampling Date:	Background		3/21/00		3/21/00		3/14/00		3/14/00		3/14/00	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
7440-22-4	Silver	SB / NA	mg/kg	0.85	U	1.02	U	NR		1.90		0.24	J
7440-23-5	Sodium	SB / 6000-8000	mg/kg	262		414		NR		764		902	
7440-28-0	Thallium	SB / NA	mg/kg	5.72	U	6.91	U	NR		6.21	U	6.75	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	8.02		10.3		NR		23.8		8.23	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	21.4		24.3		NR		41.7		20.5	
57-12-5	Cyanide		mg/kg	0.0060	U	0.0060	U	NR		0.0060	U	0.0060	U
	% Solids		%	94.2		78.3		79.4		87.3		80.3	
	Total Rec.Petr. Hydrocarbons		mg/kg										

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		00-02460-001		00-07914-002		00-07914-009		00-08470-003		00-08470-004	
	Sample Location:	Soil Cleanup		MW-5		MW-6		MW-6		MW-6		MW-6 (Dup)	
	Depth:	Objectives /		7'-10'		2'-4'		7.5'-8.5'		8.5'-9.5'		8.5'-9.5'	
	Laboratory ID:	Eastern USA		J4455-1		J9482-2		J9482-9		J6936-3		J6936-4	
	Sampling Date:	Background		3/15/00		08/16/2000		08/16/2000		08/31/2000		08/31/2000	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	4.16	U	3.11	U	2.56	U	2.18	U	2.17	U
11104-28-2	PCB 1221	1000	µg/kg	17.7	U	14.7	U	12.1	U	10.3	U	10.2	U
11141-16-5	PCB 1232	1000	µg/kg	9.38	U	3.25	U	2.68	U	2.28	U	2.27	U
53469-21-9	PCB 1242	1000	µg/kg	3.93	U	2.44	U	2.01	U	1.71	U	1.71	U
12672-29-6	PCB 1248	1000	µg/kg	8.90	U	5.5	U	4.52	U	3.85	U	3.84	U
11097-69-1	PCB 1254	1000	µg/kg	2.07	U	8.32	U	6.85	U	5.82	U	5.81	U
11096-82-5	PCB 1260	1000	µg/kg	5.90	U	9.56	U	7.86	U	6.69	U	6.67	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	250	U	0.52	U	56.5	U	1.82	U	1.81	U
74-83-9	Bromomethane	NA *	µg/kg	243	U	0.6	U	39.3	U	2.08	U	2.08	U
75-01-4	Vinyl Chloride	200	µg/kg	270	U	0.52	U	54.9	U	1.82	U	1.81	U
75-00-3	Chloroethane	1900	µg/kg	164	U	0.29	U	51.8	U	1.01	U	1.01	U
75-09-2	Methylene Chloride	100	µg/kg	197	U	0.83	U	31.4	U	47.6		60.2	
67-64-1	Acetone	200	µg/kg	15800		6.64	U	297	U	23.2	U	23.1	U
75-15-0	Carbon disulfide	2700	µg/kg	138	U	10.5		188		1.44	U	1.44	U
75-35-4	1,1-Dichloroethene	400	µg/kg	316	U	0.32	U	33	U	1.12	U	1.12	U
75-34-3	1,1-Dichloroethane	200	µg/kg	118	U	0.24	U	22	U	0.85	U	0.85	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	184	U	0.63	U	42.4	U	2.19	U	2.19	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	224	U	0.77	U	29.8	U	2.67	U	2.66	U
67-66-3	Chloroform	300	µg/kg	171	U	0.26	U	20.4	U	0.91	U	0.91	U
107-06-2	1,2-Dichloroethane	100	µg/kg	125	U	0.46	U	25.1	U	1.6	U	1.6	U
78-93-3	2-Butanone	300	µg/kg	540	U	3.84	U	160	U	13.4	U	13.4	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	204	U	0.43	U	17.3	U	1.5	U	1.49	U
56-23-5	Carbon Tetrachloride	600	µg/kg	224	U	0.41	U	28.3	U	1.44	U	1.44	U
75-27-4	Bromodichloromethane	NA *	µg/kg	171	U	0.29	U	28.3	U	1.01	U	1.01	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	79.0	U	0.28	U	25.1	U	0.96	U	0.96	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	125	U	0.38	U	28.3	U	1.34	U	1.33	U
79-01-6	Trichloroethene	700	µg/kg	178	U	0.46	U	26.7	U	1.6	U	1.6	U
124-48-1	Dibromochloromethane	NA *	µg/kg	118	U	0.44	U	12.6	U	1.55	U	1.55	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	243	U	0.72	U	48.7	U	2.51	U	2.51	U
71-43-2	Benzene	60	µg/kg	92.1	U	7.1		2510		10.3		37.3	
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	105	U	0.63	U	28.3	U	2.19	U	2.19	U
75-25-2	Bromoform	NA *	µg/kg	132	U	0.73	U	18.8	U	2.56	U	2.56	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	296	U	2.26	U	80.1	U	7.9	U	7.89	U
591-78-6	2-Hexanone	NA *	µg/kg	322	U	2.37	U	140	U	8.28	U	8.26	U
127-18-4	Tetrachloroethene	1400	µg/kg	184	U	0.43	U	12.6	U	1.5	U	1.49	U
108-88-3	Toluene	1500	µg/kg	105	U	2.5		916		4.6		9.1	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	92.1	U	0.77	U	20.4	U	2.67	U	2.66	U
108-90-7	Chlorobenzene	1700	µg/kg	138	U	0.44	U	11	U	1.55	U	1.55	U
100-41-4	Ethylbenzene	5500	µg/kg	2450		3.5		886		12.9		43.2	
100-42-5	Styrene	NA *	µg/kg	184	U	0.44	U	12.6	U	1.55	U	1.55	U
108-38-3	m,p-xylene	1200	µg/kg	1820		3.8		441		6.9		10.3	
95-47-6	o-xylene	1200	µg/kg	1130		0.43	U	223		7.9		16.2	
	Total BTEX		**µg/kg**	**5400**		**16.9**		**4976**		**42.6**		**116.1**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	98.1	U	697	U	2450	U	104	U	60.1	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	123	U	903	U	2360	U	100	U	75.6	U
95-57-8	2-Chlorophenol	800	µg/kg	101	U	848	U	2400	U	102	U	62.2	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	123	U	925	U	2570	U	109	U	75.5	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	126	U	880	U	2500	U	106	U	77.1	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	127	U	992	U	2530	U	107	U	77.9	U
95-48-7	2-Methylphenol	100	µg/kg	101	U	889	U	2090	U	88.8	U	61.9	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	73.6	U	938	U	2720	U	116	U	45.1	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	82.8	U	890	U	2020	U	85.9	U	50.7	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	103	U	820	U	2450	U	104	U	63	U
67-72-1	Hexachloroethane	NA *	µg/kg	128	U	789	U	2590	U	110	U	78.5	U
98-95-3	Nitrobenzene	200	µg/kg	141	U	980	U	2830	U	121	U	86.6	U
78-59-1	Isophorone	4400	µg/kg	95.2	U	799	U	2590	U	110	U	58.3	U
88-75-5	2-Nitrophenol	330	µg/kg	109	U	744	U	1970	U	83.8	U	66.5	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	60.9	U	696	U	1190	U	50.6	U	37.3	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	112	U	914	U	2380	U	101	U	68.4	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	104	U	823	U	2060	U	87.7	U	63.9	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	116	U	1000	U	2490	U	106	U	70.8	U
106-47-8	4-Chloroaniline	220	µg/kg	128	U	497	U	2600	U	110	U	78.4	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	117	U	938	U	2500	U	106	U	71.9	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	79.7	U	965	U	2010	U	85.7	U	48.8	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	191	U	415	U	2090	U	89	U	117	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		00-02460-001		00-07914-002		00-07914-009		00-08470-003		00-08470-004	
	Sample Location:	Soil Cleanup		MW-5		MW-6		MW-6		MW-6		MW-6 (Dup)	
	Depth:	Objectives /		7'-10'		2'-4'		7.5'-8.5'		8.5'-9.5'		8.5'-9.5'	
	Laboratory ID:	Eastern USA		J4455-1		J9482-2		J9482-9		J6936-3		J6936-4	
	Sampling Date:	Background		3/15/00		08/16/2000		08/16/2000		08/31/2000		08/31/2000	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	128	U	826	U	1990	U	84.6	U	78.5	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	119	U	736	U	1920	U	81.5	U	72.7	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	119	U	959	U	2290	U	97.5	U	72.8	U
88-74-4	2-Nitroaniline	430	µg/kg	83.0	U	721	U	1800	U	76.7	U	50.9	U
131-11-3	Dimethylphthalate	2000	µg/kg	106	U	958	U	2190	U	93.4	U	65.1	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	87.7	U	711	U	2030	U	86.2	U	53.7	U
99-09-2	3-Nitroaniline	500	µg/kg	74.8	U	459	U	1940	U	82.4	U	45.8	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	105	U	680	U	2300	U	98	U	64.2	U
100-02-7	4-Nitrophenol	100	µg/kg	142	U	1530	U	1500	U	63.7	U	87.2	U
132-64-9	Dibenzofuran	6200	µg/kg	2550		423	J	4020		93.2	U	69.3	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	65.3	U	651	U	1920	U	81.8	U	40	U
84-66-2	Diethylphthalate	7100	µg/kg	83.3	U	629	U	1410	U	59.9	U	51.1	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	116	U	1130	U	2230	U	95	U	71.1	U
100-01-6	4-Nitroaniline	NA *	µg/kg	111	U	529	U	1690	U	72	U	68.2	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	114	U	893	U	2130	U	90.7	U	70.1	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	102	U	940	U	2010	U	85.6	U	62.7	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	109	U	856	U	2040	U	86.6	U	66.7	U
118-74-1	Hexachlorobenzene	410	µg/kg	99.2	U	840	U	2230	U	95.1	U	60.8	U
87-86-5	Pentachlorophenol	1000	µg/kg	73.4	U	571	U	1510	U	64.4	U	45	U
86-74-8	Carbazole	NA *	µg/kg	1020		668	U	1160	J	214	U	49.3	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	339	U	2530	U	4910	U	209	U	30.9	J
85-68-7	Butylbenzylphthalate	50000	µg/kg	90.0	U	559	U	1500	U	63.9	U	55.1	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	211	U	969	U	4870	U	207	U	129	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	181	JB	493	J	8670	U	29.9	JB	44.8	JB
117-84-0	Di-n-octylphthalate	50000	µg/kg	469	U	721	U	1350	U	57.5	U	57.2	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	33500		798	J	87500		76.9	J	151	
208-96-8	Acenaphthylene	41000	µg/kg	5210		5580		11300		112		94.9	
120-12-7	Anthracene	50000*	µg/kg	13000		3040		57200		99.4		109	
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	1150		6870		8490		161		174	
206-44-0	Fluoranthene	50000*	µg/kg	12400		13100		79100		263		284	
86-73-7	Fluorene	50000*	µg/kg	15400		1170		44700		44.9	J	46.9	J
91-57-6	2-Methylnaphthalene	36400	µg/kg	53800		1490		955	J	65.2	J	35.2	J
91-20-3	Naphthalene	13000	µg/kg	74300		4410		2810		145		118	
85-01-8	Phenanthrene	50000*	µg/kg	51100		4720		150000		214		177	
129-00-0	Pyrene	50000*	µg/kg	23100		19900		95100		361		421	
	Total Non Carcinogenic PAHs			282960		61078		537155		1542.4		1611	
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	6860		10400		44300		201		206	
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	2250		10300		25200		208		124	
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	3190		9040		30500		264		142	
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	4750		9110		40000		260		206	
218-01-9	Chrysene	400	µg/kg	6600		11500		39500		239		240	
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	993		6120		8520		137		124	
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	418		3110		3220		43.9	U	34.1	J
	Total Probable Carcinogenic PAHs					59580		191240		1446		1076.1	
	Total PAHs			**282960**		**120658**		**728395**		**2988.4**		**2687.1**	
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	17400		6430		6950		898		746	
7440-36-0	Antimony	SB / NA	mg/kg	3.64		0.8	U	4.31		0.55	U	ND	
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.63	U	4.31		1.68		0.12	J	0.27	
7440-39-3	Barium	300 or SB / 15-600	mg/kg	381		86.2		50.5		6.96		5.14	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.54		0.5		0.42		0.12		0.13	
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	4.31		2.03		1.56		0.19		0.15	
7440-70-2	Calcium	SB / 130-35000	mg/kg	2640		12000		1560		361		1010	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	58.7		15.1		11.3		1.54		1.53	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	18.6		7.04		5.28		0.99		0.8	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	23.3		47.6		11.2		9.14		6.18	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	34000		17100		14900		1710		1430	
7439-92-1	Lead	SB / 200-500	mg/kg	2.32		178		27.8		10.1		6.81	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	14500		7330		2790		370		664	
7439-96-5	Manganese	SB / 50-5000	mg/kg	560		137		132		20.7		22.5	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.025		0.4		0.16		0.044		0.04	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	39.4		12.8		8.71		1.46		1.18	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	3160		1820		952		91.3	J	69.9	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.52	U	0.3		0.48		0.13	J	0.19	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

Cas #:	Client Sample ID:	TAGM 4046	Units:	00-02460-001		00-07914-002		00-07914-009		00-08470-003		00-08470-004	
	Sample Location:	Soil Cleanup		MW-5		MW-6		MW-6		MW-6		MW-6 (Dup)	
	Depth:	Objectives /		7'-10'		2'-4'		7.5'-8.5'		8.5'-9.5'		8.5'-9.5'	
	Laboratory ID:	Eastern USA		J4455-1		J9482-2		J9482-9		J6936-3		J6936-4	
	Sampling Date:	Background		3/15/00		08/16/2000		08/16/2000		08/31/2000		08/31/2000	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
7440-22-4	Silver	SB / NA	mg/kg	7.74		0.44		0.38		1.01		0.2	U
7440-23-5	Sodium	SB / 6000-8000	mg/kg	1310		361		756		100	J	74.4	
7440-28-0	Thallium	SB / NA	mg/kg	5.67	U	0.28	U	0.23	U	0.19	U	0.19	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	67.3		22.2		17		2.48		2.08	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	192		137		41.7		12		8.77	
57-12-5	Cyanide		mg/kg	1.72		1.75		0.27	J	1.09		0.59	
	% Solids		%	95.0		63.9		79.6		93.6		93.8	
	Total Rec.Petr. Hydrocarbons		mg/kg			NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

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TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		00-07914-010		00-07914-004		00-08386-001		00-08386-002		00-08386-003	
	Sample Location:	Soil Cleanup		MW-6		MW-8		MW-8		MW-8		MW-8	
	Depth:	Objectives /		30'-33'		2'-4'		22.3'-23'		27'-27.5'		37.5'-38'	
	Laboratory ID:	Eastern USA		J9482-10		J9482-4		J6935-1		J6935-2		J6935-3	
	Sampling Date:	Background		08/16/2000		08/16/2000		08/30/2000		08/30/2000		08/30/2000	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	2.61	U	2.23	U	2.14	U	2.18	U	2.41	U
11104-28-2	PCB 1221	1000	µg/kg	12.3	U	10.5	U	10.1	U	10.3	U	11.3	U
11141-16-5	PCB 1232	1000	µg/kg	2.72	U	2.33	U	2.24	U	2.28	U	2.52	U
53469-21-9	PCB 1242	1000	µg/kg	2.05	U	1.75	U	1.68	U	1.71	U	1.89	U
12672-29-6	PCB 1248	1000	µg/kg	4.6	U	3.93	U	3.78	U	3.85	U	4.26	U
11097-69-1	PCB 1254	1000	µg/kg	6.97	U	5.95	U	5.72	U	5.82	U	6.44	U
11096-82-5	PCB 1260	1000	µg/kg	8.01	U	6.83	U	6.57	U	6.69	U	7.4	U
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.44	U	0.37	U	0.36	U	0.36	U	53.3	U
74-83-9	Bromomethane	NA *	µg/kg	0.5	U	0.43	U	0.41	U	0.42	U	37	U
75-01-4	Vinyl Chloride	200	µg/kg	0.44	U	0.37	U	0.36	U	0.36	U	51.8	U
75-00-3	Chloroethane	1900	µg/kg	0.24	U	0.21	U	0.2	U	0.2	U	48.8	U
75-09-2	Methylene Chloride	100	µg/kg	0.69	U	0.59	U	0.57	U	0.58	U	29.6	U
67-64-1	Acetone	200	µg/kg	5.56	U	4.73	U	4.56	U	4.64	U	280	U
75-15-0	Carbon disulfide	2700	µg/kg	0.35	U	0.29	U	0.28	U	0.29	U	22.2	U
75-35-4	1,1-Dichloroethene	400	µg/kg	0.27	U	0.23	U	0.22	U	0.22	U	31.1	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.2	U	0.17	U	0.17	U	0.17	U	20.7	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.52	U	0.45	U	0.43	U	0.44	U	40	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.64	U	0.55	U	0.53	U	0.54	U	28.1	U
67-66-3	Chloroform	300	µg/kg	0.22	U	0.19	U	0.18	U	0.18	U	19.2	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.38	U	0.33	U	0.32	U	0.32	U	23.7	U
78-93-3	2-Butanone	300	µg/kg	3.21	U	2.74	U	2.64	U	2.69	U	151	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.36	U	0.31	U	0.29	U	0.3	U	16.3	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.35	U	0.29	U	0.28	U	0.29	U	26.6	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.24	U	0.21	U	0.2	U	0.2	U	26.6	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.23	U	0.2	U	0.19	U	0.19	U	23.7	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.32	U	0.27	U	0.26	U	0.27	U	26.6	U
79-01-6	Trichloroethene	700	µg/kg	0.38	U	0.33	U	0.32	U	0.32	U	25.2	U
124-48-1	Dibromochloromethane	NA *	µg/kg	0.37	U	0.32	U	0.3	U	0.31	U	11.8	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.6	U	0.51	U	0.49	U	0.5	U	45.9	U
71-43-2	Benzene	60	µg/kg	0.36	U	0.31	U	0.29	U	0.3	U	20.7	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.52	U	0.45	U	0.43	U	0.44	U	26.6	U
75-25-2	Bromoform	NA *	µg/kg	0.61	U	0.52	U	0.5	U	0.51	U	17.8	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	1.89	U	1.61	U	1.55	U	1.58	U	75.5	U
591-78-6	2-Hexanone	NA *	µg/kg	1.98	U	1.69	U	1.63	U	1.66	U	132	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.36	U	0.31	U	0.29	U	0.3	U	11.8	U
108-88-3	Toluene	1500	µg/kg	0.42	U	0.36	U	0.35	U	0.35	U	23.7	U
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.64	U	0.55	U	0.53	U	0.54	U	19.2	U
108-90-7	Chlorobenzene	1700	µg/kg	0.37	U	0.32	U	0.3	U	0.31	U	10.4	U
100-41-4	Ethylbenzene	5500	µg/kg	0.44	U	0.37	U	0.36	U	0.36	U	25.2	U
100-42-5	Styrene	NA *	µg/kg	0.37	U	0.32	U	0.3	U	0.31	U	11.8	U
108-38-3	m,p-xylene	1200	µg/kg	0.81	U	0.69	U	0.66	U	0.67	U	341	
95-47-6	o-xylene	1200	µg/kg	0.36	U	0.31	U	0.29	U	0.3	U	11.8	U
	Total BTEX		**µg/kg**	**0**		**0**		**0**		**0**		**341**	
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	125	U	65	U	102	U	104	U	1150	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	120	U	84.1	U	98.5	U	100	U	1110	U
95-57-8	2-Chlorophenol	800	µg/kg	123	U	79	U	101	U	102	U	1130	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	131	U	86.2	U	107	U	109	U	1210	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	127	U	82	U	105	U	106	U	1180	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	129	U	92.4	U	106	U	107	U	1190	U
95-48-7	2-Methylphenol	100	µg/kg	106	U	82.8	U	87.2	U	88.8	U	982	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	139	U	87.4	U	114	U	116	U	1280	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	103	U	82.9	U	84.4	U	85.9	U	950	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	125	U	76.4	U	103	U	104	U	1150	U
67-72-1	Hexachloroethane	NA *	µg/kg	132	U	73.5	U	108	U	110	U	1220	U
98-95-3	Nitrobenzene	200	µg/kg	144	U	91.3	U	118	U	121	U	1330	U
78-59-1	Isophorone	4400	µg/kg	132	U	74.4	U	108	U	110	U	1220	U
88-75-5	2-Nitrophenol	330	µg/kg	100	U	69.3	U	82.3	U	83.8	U	927	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	60.7	U	64.9	U	49.7	U	50.6	U	560	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	121	U	85.1	U	99.4	U	101	U	1120	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	105	U	76.6	U	86.1	U	87.7	U	970	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	127	U	93.4	U	104	U	106	U	1170	U
106-47-8	4-Chloroaniline	220	µg/kg	132	U	46.3	U	108	U	110	U	1220	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	127	U	87.4	U	105	U	106	U	1180	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	103	U	89.9	U	84.2	U	85.7	U	948	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	107	U	38.7	U	87.4	U	89	U	985	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		00-07914-010	00-07914-004	00-08386-001	00-08386-002	00-08386-003
	Sample Location:	Soil Cleanup		MW-6	MW-8	MW-8	MW-8	MW-8
	Depth:	Objectives /		30'-33'	2'-4'	22.3'-23'	27'-27.5'	37.5'-38'
	Laboratory ID:	Eastern USA		J9482-10	J9482-4	J6935-1	J6935-2	J6935-3
	Sampling Date:	Background		08/16/2000	08/16/2000	08/30/2000	08/30/2000	08/30/2000
	Matrix:	Concentrations		Soil	Soil	Soil	Soil	Soil
	Validated:			No	No	No	No	No
Cas #:	Analyte:		Units:					
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	101 U	77 U	83.1 U	84.6 U	936 U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	97.7 U	68.6 U	80.1 U	81.5 U	902 U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	117 U	89.4 U	95.8 U	97.5 U	1080 U
88-74-4	2-Nitroaniline	430	µg/kg	91.9 U	67.1 U	75.3 U	76.7 U	849 U
131-11-3	Dimethylphthalate	2000	µg/kg	112 U	89.3 U	91.7 U	93.4 U	1030 U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	103 U	66.3 U	84.7 U	86.2 U	954 U
99-09-2	3-Nitroaniline	500	µg/kg	98.7 U	42.7 U	80.9 U	82.4 U	911 U
51-28-5	2,4-Dinitrophenol	200	µg/kg	117 U	63.3 U	96.2 U	98 U	1080 U
100-02-7	4-Nitrophenol	100	µg/kg	76.3 U	142 U	62.5 U	63.7 U	704 U
132-64-9	Dibenzofuran	6200	µg/kg	112 U	91.9 U	91.5 U	93.2 U	7300
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	98 U	60.6 U	80.4 U	81.8 U	905 U
84-66-2	Diethylphthalate	7100	µg/kg	71.8 U	58.6 U	58.9 U	59.9 U	663 U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	114 U	106 U	93.3 U	95 U	1050 U
100-01-6	4-Nitroaniline	NA *	µg/kg	86.3 U	49.3 U	70.7 U	72 U	797 U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	109 U	83.2 U	89.1 U	90.7 U	1000 U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	103 U	87.5 U	84 U	85.6 U	947 U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	104 U	79.8 U	85.1 U	86.6 U	959 U
118-74-1	Hexachlorobenzene	410	µg/kg	114 U	78.3 U	93.4 U	95.1 U	1050 U
87-86-5	Pentachlorophenol	1000	µg/kg	77.2 U	53.2 U	63.3 U	64.4 U	713 U
86-74-8	Carbazole	NA *	µg/kg	257 U	62.2 U	210 U	214 U	2370 U
84-74-2	Di-n-butylphthalate	8100	µg/kg	251 U	235 U	205 U	209 U	2310 U
85-68-7	Butylbenzylphthalate	50000	µg/kg	76.5 U	52.1 U	62.7 U	63.9 U	707 U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	248 U	90.3 U	203 U	207 U	2290 U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	34.5 J	43.7 J	362 U	369 U	4080 U
117-84-0	Di-n-octylphthalate	50000	µg/kg	68.9 U	67.1 U	56.5 U	57.5 U	636 U
	Non Carcinogenic PAHs							
83-32-9	Acenaphthene	50000*	µg/kg	373	94.2 U	90.6 U	92.2 U	353000
208-96-8	Acenaphthylene	41000	µg/kg	61.4 J	87.6 U	95.8 U	97.5 U	35400
120-12-7	Anthracene	50000*	µg/kg	379	78.3 U	70.1 U	71.4 U	104000
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	50.2 U	59	41.1 U	41.9 U	22400
206-44-0	Fluoranthene	50000*	µg/kg	556	63.3 J	68.7 U	70 U	211000
86-73-7	Fluorene	50000*	µg/kg	258	95.7 U	89 U	90.6 U	110000
91-57-6	2-Methylnaphthalene	36400	µg/kg	103 U	76.8 U	84.6 U	86.1 U	540000
91-20-3	Naphthalene	13000	µg/kg	121 U	90.3 U	99.2 U	101 U	1840000
85-01-8	Phenanthrene	50000*	µg/kg	1170	26.2 J	76.8 U	78.2 U	528000
129-00-0	Pyrene	50000*	µg/kg	720	60	69.5 U	70.7 U	263000
	Total Non Carcinogenic PAHs			3517.4	208.5	0	0	4006800
	Probable Carcinogenic PAHs							
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	295	61.1	63.4 U	64.5 U	72400
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	116	59 J	44.1 U	44.9 U	35200
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	174	78.6	66 U	67.2 U	45000
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	206	85.2	49.1 U	50 U	74000
218-01-9	Chrysene	400	µg/kg	263	77.5	67.6 U	68.8 U	67500
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	52.4 U	52.4 J	42.9 U	43.7 U	21000
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	52.6 U	24 J	43.1 U	43.9 U	6300
	Total Probable Carcinogenic PAHs			1106.4	437.8	0	0	321400
	Total PAHs			**4623.8**	**646.3**	**0**	**0**	**4328200**
	Metals							
7429-90-5	Aluminum	SB / 33000	mg/kg	6690	6920	2490	1660	2060
7440-36-0	Antimony	SB / NA	mg/kg	0.65 U	3.41	0.54 U	0.55 U	0.6 U
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.46	0.8	0.21 J	0.82	0.71
7440-39-3	Barium	300 or SB / 15-600	mg/kg	88.9	45.1	19.5	13	14.6
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.47	0.47	0.21	0.21	0.24
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	1.52	1.28	0.55	0.42	0.53
7440-70-2	Calcium	SB / 130-35000	mg/kg	18400	2120	8710	14000	16800
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	16.6	10.9	6.28	3.96	6.15
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	7.35	5.94	2.71	1.96	2.75
7440-50-8	Copper	25 or SB / 1-50	mg/kg	16.3	14.4	5.61	10	7.04
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	14200	11300	4940	3630	5210
7439-92-1	Lead	SB / 200-500	mg/kg	0.13 J	14.8	2.96	1.93	0.21
7439-95-4	Magnesium	SB / 100-5000	mg/kg	12200	3660	6120	9810	10700
7439-96-5	Manganese	SB / 50-5000	mg/kg	183	206	86.9	71.4	98
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.19	0.031	0.0092 U	0.0093 U	0.01 U
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	11.9	9.3	5.2	3.58	4.3
7440-09-7	Potassium	SB / 8500-43000	mg/kg	5170	1910	1090	642	844
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.23 U	0.2 U	0.19 U	0.19 U	0.21 U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-07914-010**		**00-07914-004**		**00-08386-001**		**00-08386-002**		**00-08386-003**	
	Sample Location:	**Soil Cleanup**		**MW-6**		**MW-8**		**MW-8**		**MW-8**		**MW-8**	
	Depth:	**Objectives /**		**30'-33'**		**2'-4'**		**22.3'-23'**		**27'-27.5'**		**37.5'-38'**	
	Laboratory ID:	**Eastern USA**		**J9482-10**		**J9482-4**		**J6935-1**		**J6935-2**		**J6935-3**	
	Sampling Date:	**Background**		**08/16/2000**		**08/16/2000**		**08/30/2000**		**08/30/2000**		**08/30/2000**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
7440-22-4	Silver	SB / NA	mg/kg	2.18		1.16		1.05		0.65		0.63	
7440-23-5	Sodium	SB / 6000-8000	mg/kg	128	U	109	U	392		453		718	
7440-28-0	Thallium	SB / NA	mg/kg	0.23	U	0.2	U	0.19	U	0.19	U	0.21	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	24.5		16.8		7.77		4.88		7.54	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	$\boxed{42.7}$		$\boxed{63.1}$		16.9		13.1		15.6	
57-12-5	Cyanide		mg/kg	0.32		0.53		0.28	U	0.28	U	0.28	U
	% Solids		%	78.2		91.6		95.3		93.6		84.6	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-08386-004**		**00-02434-001**		**00-02434-002**	
	Sample Location:	Soil Cleanup		**MW-8**		**TW-1**		**TW-1**	
	Depth:	**Objectives /**		**47.5'-48'**		**25'-27'**		**30'-32'**	
	Laboratory ID:	**Eastern USA**		**J6935-4**		**J4459-1**		**J4459-2**	
	Sampling Date:	**Background**		**08/30/2000**		**3/13/00**		**3/13/00**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**						
	PCBs								
12674-11-2	PCB 1016	1000	µg/kg	2.48	U	4.16	U	4.54	U
11104-28-2	PCB 1221	1000	µg/kg	11.7	U	17.7	U	19.3	U
11141-16-5	PCB 1232	1000	µg/kg	2.59	U	9.38	U	10.2	U
53469-21-9	PCB 1242	1000	µg/kg	1.95	U	3.93	U	4.28	U
12672-29-6	PCB 1248	1000	µg/kg	4.38	U	8.90	U	9.71	U
11097-69-1	PCB 1254	1000	µg/kg	6.63	U	2.07	U	2.26	U
11096-82-5	PCB 1260	1000	µg/kg	7.62	U	5.90	U	6.43	U
	Volatiles								
74-87-3	Chloromethane	NA *	µg/kg	0.41	U	1.93	U	2.07	U
74-83-9	Bromomethane	NA *	µg/kg	0.48	U	2.22	U	2.38	U
75-01-4	Vinyl Chloride	200	µg/kg	0.41	U	1.93	U	2.07	U
75-00-3	Chloroethane	1900	µg/kg	0.23	U	1.08	U	1.16	U
75-09-2	Methylene Chloride	100	µg/kg	0.66	U	23.7		40.2	
67-64-1	Acetone	200	µg/kg	5.29	U	70.9		85.1	
75-15-0	Carbon disulfide	2700	µg/kg	0.33	U	1.54	U	1.65	U
75-35-4	1,1-Dichloroethene	400	µg/kg	0.26	U	1.19	U	1.28	U
75-34-3	1,1-Dichloroethane	200	µg/kg	0.2	U	0.91	U	0.98	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.5	U	2.33	U	2.50	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.61	U	2.85	U	3.05	U
67-66-3	Chloroform	300	µg/kg	0.21	U	0.97	U	1.04	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.37	U	1.71	U	1.83	U
78-93-3	2-Butanone	300	µg/kg	3.06	U	14.3	U	15.3	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.34	U	1.59	U	1.71	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.33	U	1.54	U	1.65	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.23	U	1.42	U	1.52	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.22	U	1.02	U	1.10	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.3	U	1.42	U	1.52	U
79-01-6	Trichloroethene	700	µg/kg	0.37	U	1.71	U	1.83	U
124-48-1	Dibromochloromethane	NA *	µg/kg	0.35	U	1.65	U	1.77	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.57	U	2.67	U	2.87	U
71-43-2	Benzene	60	µg/kg	0.34	U	1.59	U	1.71	U
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.5	U	2.33	U	2.50	U
75-25-2	Bromoform	NA *	µg/kg	0.59	U	2.73	U	2.93	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	1.81	U	8.42	U	9.03	U
591-78-6	2-Hexanone	NA *	µg/kg	1.89	U	8.82	U	9.45	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.34	U	1.59	U	1.71	U
108-88-3	Toluene	1500	µg/kg	0.4	U	1.88	U	2.01	U
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.61	U	2.85	U	3.05	U
108-90-7	Chlorobenzene	1700	µg/kg	0.35	U	1.65	U	1.77	U
100-41-4	Ethylbenzene	5500	µg/kg	0.41	U	151		206	
100-42-5	Styrene	NA *	µg/kg	0.35	U	1.65	U	1.77	U
108-38-3	m,p-xylene	1200	µg/kg	0.77	U	66.4		49.2	
95-47-6	o-xylene	1200	µg/kg	0.34	U	62.3		89.9	
	Total BTEX		**µg/kg**	**0**		**279.7**		**345.1**	
	Semi-Volatiles								
108-95-2	Phenol	30	µg/kg	119	U	185	U	22.7	U
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	114	U	178	U	28.6	U
95-57-8	2-Chlorophenol	800	µg/kg	117	U	182	U	23.5	U
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	125	U	195	U	28.5	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	121	U	189	U	29.1	U
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	122	U	191	U	29.5	U
95-48-7	2-Methylphenol	100	µg/kg	101	U	158	U	23.4	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	132	U	206	U	17.0	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	97.8	U	153	U	19.2	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	119	U	186	U	23.8	U
67-72-1	Hexachloroethane	NA *	µg/kg	125	U	196	U	29.7	U
98-95-3	Nitrobenzene	200	µg/kg	137	U	214	U	32.7	U
78-59-1	Isophorone	4400	µg/kg	125	U	196	U	22.0	U
88-75-5	2-Nitrophenol	330	µg/kg	95.4	U	149	U	25.1	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	57.7	U	90.1	U	14.1	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	115	U	180	U	25.9	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	99.9	U	156	U	24.1	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	121	U	189	U	26.8	U
106-47-8	4-Chloroaniline	220	µg/kg	126	U	196	U	29.6	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	121	U	189	U	27.2	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	97.6	U	152	U	18.5	U
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	101	U	158	U	44.2	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-08386-004**		**00-02434-001**		**00-02434-002**	
	Sample Location:	**Soil Cleanup**		**MW-8**		**TW-1**		**TW-1**	
	Depth:	**Objectives /**		**47.5'-48'**		**25'-27'**		**30'-32'**	
	Laboratory ID:	**Eastern USA**		**J6935-4**		**J4459-1**		**J4459-2**	
	Sampling Date:	**Background**		**08/30/2000**		**3/13/00**		**3/13/00**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**						
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	96.3	U	150	U	29.7	U
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	92.8	U	145	U	27.5	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	111	U	173	U	27.5	U
88-74-4	2-Nitroaniline	430	µg/kg	87.3	U	136	U	19.2	U
131-11-3	Dimethylphthalate	2000	µg/kg	106	U	166	U	24.6	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	98.2	U	153	U	20.3	U
99-09-2	3-Nitroaniline	500	µg/kg	93.8	U	146	U	17.3	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	112	U	174	U	24.3	U
100-02-7	4-Nitrophenol	100	µg/kg	72.5	U	113	U	33.0	U
132-64-9	Dibenzofuran	6200	µg/kg	106	U	102	J	35.4	
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	93.2	U	146	U	15.1	U
84-66-2	Diethylphthalate	7100	µg/kg	68.2	U	62.6	J	19.3	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	108	U	169	U	26.9	U
100-01-6	4-Nitroaniline	NA *	µg/kg	82	U	128	U	25.8	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	103	U	161	U	26.5	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	97.4	U	152	U	23.7	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	98.7	U	154	U	25.2	U
118-74-1	Hexachlorobenzene	410	µg/kg	108	U	169	U	23.0	U
87-86-5	Pentachlorophenol	1000	µg/kg	73.4	U	115	U	17.0	U
86-74-8	Carbazole	NA *	µg/kg	244	U	118	J	11.3	J
84-74-2	Di-n-butylphthalate	8100	µg/kg	238	U	372	U	78.6	U
85-68-7	Butylbenzylphthalate	50000	µg/kg	72.7	U	114	U	20.8	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	236	U	368	U	48.9	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	420	U	341	JB	260	B
117-84-0	Di-n-octylphthalate	50000	µg/kg	65.4	U	102	U	21.6	U
	Non Carcinogenic PAHs								
83-32-9	Acenaphthene	50000*	µg/kg	105		4120		1590	
208-96-8	Acenaphthylene	41000	µg/kg	111	U	3020		23.6	U
120-12-7	Anthracene	50000*	µg/kg	70.6	J	2100		570	
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	47.7	U	2400		15.0	U
206-44-0	Fluoranthene	50000*	µg/kg	99.8		2510		114	
86-73-7	Fluorene	50000*	µg/kg	58.4	J	1730		654	
91-57-6	2-Methylnaphthalene	36400	µg/kg	64.5	J	4780		2380	
91-20-3	Naphthalene	13000	µg/kg	227		12300		9670	
85-01-8	Phenanthrene	50000*	µg/kg	276		5660		2200	
129-00-0	Pyrene	50000*	µg/kg	141		11300		153	
	Total Non Carcinogenic PAHs			1042.3		49920		2160	
	Probable Carcinogenic PAHs								
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	48.7	J	**1540**		14.9	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	51.1	U	**4040**		19.5	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	76.5	U	**4140**		17.9	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	37.7	J	**7530**		11.3	J
218-01-9	Chrysene	400	µg/kg	46.2	J	**2730**		18.3	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	49.8	U	2030		13.9	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	50	U	**690**		15.0	U
	Total Probable Carcinogenic PAHs			132.6		22700		11.3	
	Total PAHs			**1174.9**		**72620**		**2171.3**	
	Metals								
7429-90-5	Aluminum	SB / 33000	mg/kg	1650		2700		3880	
7440-36-0	Antimony	SB / NA	mg/kg	0.62	U	1.14	U	1.22	U
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.87		0.68	U	0.73	U
7440-39-3	Barium	300 or SB / 15-600	mg/kg	19.5		22.9		37.4	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.16		**0.23**	J	**0.27**	
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.44		0.68		0.92	
7440-70-2	Calcium	SB / 130-35000	mg/kg	15200		13400		17400	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	3.98		7.67		7.61	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	2.46		3.31		4.75	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	10.2		7.91		8.63	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	**4120**		**6420**		**8480**	
7439-92-1	Lead	SB / 200-500	mg/kg	0.98		0.95		1.00	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	**8590**		**9860**		**11600**	
7439-96-5	Manganese	SB / 50-5000	mg/kg	55.3		168		105	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.011	U	0.013		0.014	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	4.5		5.29		7.41	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	640		696		1380	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.22	U	0.57	U	0.61	U

TABLE 4-2
SOIL SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**00-08386-004**		**00-02434-001**		**00-02434-002**	
	Sample Location:	**Soil Cleanup**		**MW-8**		**TW-1**		**TW-1**	
	Depth:	**Objectives /**		**47.5'-48'**		**25'-27'**		**30'-32'**	
	Laboratory ID:	**Eastern USA**		**J6935-4**		**J4459-1**		**J4459-2**	
	Sampling Date:	**Background**		**08/30/2000**		**3/13/00**		**3/13/00**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**						
7440-22-4	Silver	SB / NA	mg/kg	0.26		0.56	J	0.71	J
7440-23-5	Sodium	SB / 6000-8000	mg/kg	580		447		541	
7440-28-0	Thallium	SB / NA	mg/kg	0.22	U	6.16	U	6.59	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	5.29		8.23		11.8	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	18.1		19.9		29.8	
57-12-5	Cyanide		mg/kg	0.29	U	0.0060	U	0.40	
	% Solids		%	82.2		87.9		82.0	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR					

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL QC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-04270-014		01-04270-015		01-03882-013		-03882-013 M		01-03839-001	
	Sample Location:	Soil Cleanup		SB-11 MS		SB-11 MSD		SB-21 MS		SB-21 MSD		SB-24 MS	
	Depth:	Objectives /		2' - 4'		2' - 4'		10' - 11'		10' - 11'		2' - 3'	
	Laboratory ID:	Eastern USA		K9230-4M		K9230-4N		K9162-4M		K9162-4N		K9155-1M	
	Sampling Date:	Background		06/01/2001		06/01/2001		04/24/2001		04/24/2001		04/19/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	84.4		85.4		177		193		185	
11104-28-2	PCB 1221	1000	µg/kg	8.75	U	8.75	U	236	U	236	U	179	U
11141-16-5	PCB 1232	1000	µg/kg	6.24	U	6.24	U	125	U	125	U	95	U
53469-21-9	PCB 1242	1000	µg/kg	7.81	U	7.81	U	52.3	U	52.3	U	39.8	U
12672-29-6	PCB 1248	1000	µg/kg	9.74	U	9.74	U	119	U	119	U	90.1	U
11097-69-1	PCB 1254	1000	µg/kg	5.83	U	5.83	U	27.6	U	27.6	U	20.9	U
11096-82-5	PCB 1260	1000	µg/kg	88.9		87		230		290		288	
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.32	U	0.32	U	0.53	U	0.53	U	0.4	U
74-83-9	Bromomethane	NA *	µg/kg	0.28	U	0.28	U	0.25	U	0.25	U	3.7	
75-01-4	Vinyl Chloride	200	µg/kg	0.32	U	0.32	U	0.29	U	0.29	U	0.22	U
75-00-3	Chloroethane	1900	µg/kg	0.32	U	0.32	U	0.49	U	0.49	U	0.37	U
75-09-2	Methylene Chloride	100	µg/kg	0.35	U	0.35	U	7.9	B	7.7	B	0.24	U
67-64-1	Acetone	200	µg/kg	59		78.3		3.63	U	3.63	U	2.74	U
75-15-0	Carbon disulfide	2700	µg/kg	0.21	U	0.21	U	0.29	U	0.29	U	0.22	U
75-35-4	1,1-Dichloroethene	400	µg/kg	60.1		53.1		77.7		70.5		37.3	
75-34-3	1,1-Dichloroethane	200	µg/kg	0.26	U	0.26	U	0.22	U	0.22	U	0.17	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.3	U	0.3	U	0.22	U	0.22	U	0.17	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.22	U	0.22	U	0.25	U	0.25	U	0.19	U
67-66-3	Chloroform	300	µg/kg	0.18	U	0.18	U	0.24	U	0.24	U	0.18	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.13	U	1.4		0.32	U	0.32	U	0.24	U
78-93-3	2-Butanone	300	µg/kg	0.9	J	1.3	J	6	U	6	U	4.53	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.65	U	0.65	U	3.1		2.9		0.16	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.26	U	0.26	U	0.31	U	0.31	U	0.23	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.15	U	0.15	U	0.26	U	0.26	U	0.2	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.28	U	0.28	U	0.21	U	0.21	U	0.16	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.29	U	0.29	U	0.26	U	0.26	U	0.2	U
79-01-6	Trichloroethene	700	µg/kg	56		55.5		81.3		75.6		34.5	
124-48-1	Dibromochloromethane	NA *	µg/kg	0.95	U	0.95	U	0.35	U	0.35	U	0.27	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.32	U	0.32	U	0.28	U	0.28	U	0.21	U
71-43-2	Benzene	60	µg/kg	50.8		49.3		88.9		81.3		35.7	
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.29	U	0.29	U	0.32	U	0.32	U	0.24	U
75-25-2	Bromoform	NA *	µg/kg	0.31	U	0.31	U	0.35	U	0.35	U	0.27	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	5.4	U	5.4	U	2.5	U	2.5	U	1.89	U
591-78-6	2-Hexanone	NA *	µg/kg	5.4	U	5.4	U	2.18	U	2.18	U	1.64	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.11	U	0.11	U	0.26	U	0.26	U	0.2	U
108-88-3	Toluene	1500	µg/kg	45.7		43.1		82.8		78.9		36.9	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.43	U	0.43	U	0.29	U	0.29	U	0.22	U
108-90-7	Chlorobenzene	1700	µg/kg	45.1		43.2		83.4		79.5		36.1	
100-41-4	Ethylbenzene	5500	µg/kg	2.2		3.4		0.16	U	0.16	U	0.12	U
100-42-5	Styrene	NA *	µg/kg	0.11	U	0.11	U	0.26	U	0.26	U	0.2	U
108-38-3	m,p-xylene	1200	µg/kg	1.3		2		1.3		1.1		0.28	U
95-47-6	o-xylene	1200	µg/kg	0.9		1.4		0.26	U	0.26	U	0.2	U
	Total BTEX												
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	2420		2190		8650		9980		1980	
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	139	U	139	U	145		138	U	34.8	U
95-57-8	2-Chlorophenol	800	µg/kg	2430		2290		8620		10100		1990	
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	142	U	142	U	150	U	150	U	38	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	1250		1170		4580		5330		1020	
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	153	U	153	U	148	U	148	U	37.3	U
95-48-7	2-Methylphenol	100	µg/kg	137	U	137	U	122	U	122	U	30.8	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	144	U	144	U	159	U	159	U	40.2	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	137	U	137	U	118	U	118	U	29.8	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	999		1050		4840		5830		1100	
67-72-1	Hexachloroethane	NA *	µg/kg	121	U	121	U	151	U	151	U	38.2	U
98-95-3	Nitrobenzene	200	µg/kg	151	U	151	U	165	U	165	U	41.8	U
78-59-1	Isophorone	4400	µg/kg	123	U	123	U	151	U	151	U	38.3	U
88-75-5	2-Nitrophenol	330	µg/kg	114	U	114	U	115	U	115	U	29.1	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	107	U	107	U	69.5	U	69.5	U	17.6	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	141	U	141	U	139	U	139	U	35.1	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	127	U	127	U	120	U	120	U	30.5	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	1270		1240		4850		5910		1130	
106-47-8	4-Chloroaniline	220	µg/kg	76.5	U	76.5	U	152	U	152	U	38.4	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	144	U	144	U	146	U	146	U	37	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	2220		2170		9230		11400		2300	
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	63.9	U	63.9	U	122	U	122	U	30.9	U
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	127	U	127	U	116	U	116	U	29.4	U

TABLE 4-2
SOIL QC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04270-014**		**01-04270-015**		**01-03882-013**		**-03882-013 M**		**01-03839-001**	
	Sample Location:	**Soil Cleanup**		SB-11 MS		SB-11 MSD		SB-21 MS		SB-21 MSD		SB-24 MS	
	Depth:	**Objectives /**		**2' - 4'**		**2' - 4'**		**10' - 11'**		**10' - 11'**		**2' - 3'**	
	Laboratory ID:	**Eastern USA**		**K9230-4M**		**K9230-4N**		**K9162-4M**		**K9162-4N**		**K9155-1M**	
	Sampling Date:	**Background**		**06/01/2001**		**06/01/2001**		**04/24/2001**		**04/24/2001**		**04/19/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	113	U	113	U	112	U	112	U	28.3	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	148	U	148	U	134	U	134	U	33.9	U
88-74-4	2-Nitroaniline	430	µg/kg	111	U	111	U	105	U	105	U	26.6	U
131-11-3	Dimethylphthalate	2000	µg/kg	147	U	147	U	128	U	128	U	32.4	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	109	U	109	U	118	U	118	U	29.9	U
99-09-2	3-Nitroaniline	500	µg/kg	70.6	U	70.6	U	113	U	113	U	28.6	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	105	U	105	U	134	U	134	U	34	U
100-02-7	4-Nitrophenol	100	µg/kg	1920		235	U	10300		12500		2900	
132-64-9	Dibenzofuran	6200	µg/kg	59.4	J	81	J	128	U	128	U	32.4	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	938		886		4380		5340		1170	
84-66-2	Diethylphthalate	7100	µg/kg	96.8	U	96.8	U	30.8	J	32.3	J	20.8	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	174	U	174	U	130	U	130	U	33	U
100-01-6	4-Nitroaniline	NA *	µg/kg	81.4	U	81.4	U	98.8	U	98.8	U	25	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	137	U	137	U	124	U	124	U	31.5	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	145	U	145	U	117	U	117	U	29.7	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	132	U	132	U	119	U	119	U	30.1	U
118-74-1	Hexachlorobenzene	410	µg/kg	129	U	129	U	130	U	130	U	33	U
87-86-5	Pentachlorophenol	1000	µg/kg	87.8	U	87.8	U	9720		12400		2890	
86-74-8	Carbazole	NA *	µg/kg	117		207		294	U	294	U	74.4	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	1620		1500		5750	B	6710	B	1650	
85-68-7	Butylbenzylphthalate	50000	µg/kg	86	U	86	U	87.7	U	87.7	U	22.2	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	149	U	149	U	284	U	284	U	71.9	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	230	J	144	J	679	B	771	B	372	
117-84-0	Di-n-octylphthalate	50000	µg/kg	111	U	111	U	78.9	U	78.9	U	20	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	1450		1520		4860		5660		1220	
208-96-8	Acenaphthylene	41000	µg/kg	455		396		134	U	134	U	33.9	U
120-12-7	Anthracene	50000*	µg/kg	576		497		97.9	U	97.9	U	24.8	U
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	846		821		57.5	U	57.5	U	14.5	U
206-44-0	Fluoranthene	50000*	µg/kg	1810		3010		96	U	96	U	24.3	U
86-73-7	Fluorene	50000*	µg/kg	146	J	232		124	U	124	U	31.5	U
91-57-6	2-Methylnaphthalene	36400	µg/kg	79.2	J	151		118	U	118	U	29.9	U
91-20-3	Naphthalene	13000	µg/kg	121	J	193		139	U	139	U	35.1	U
85-01-8	Phenanthrene	50000*	µg/kg	1010		2110		107	U	107	U	27.2	U
129-00-0	Pyrene	50000*	µg/kg	2980		3490		5000		5800		1440	
	Total Non Carcinogenic PAHs												
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	1020		1300		88.6	U	88.6	U	22.4	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	1300		1630		61.6	U	61.6	U	15.6	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	524		742		92.2	U	92.2	U	23.3	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	1060		1250		68.6	U	68.6	U	17.4	U
218-01-9	Chrysene	400	µg/kg	1000		1300		94.4	U	94.4	U	23.9	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	700		787		60	U	60	U	15.2	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	205		212		60.3	U	60.3	U	15.2	U
	Total Probable Carcinogenic PAHs												
	Total PAHs												
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	4260		5130		10100		9280		5610	
7440-36-0	Antimony	SB / NA	mg/kg	1.38		1.72		1.97		1.5		2	
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.88		1		0.96		1.1		0.48	
7440-39-3	Barium	300 or SB / 15-600	mg/kg	102		115		144		154		111	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.89		1.23		1.36		1.17		0.55	
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.054	J	0.097		0.022	J	0.073	J	0.067	U
7440-70-2	Calcium	SB / 130-35000	mg/kg	4570		5800		1770		1880		1020	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	13.8		16.5		24.3		23.1		16.2	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	18.6		22.2		23.4		23.8		23.2	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	21.9		26.3		15.4		16.6		17.4	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	7290		8620		7640		6480		7890	
7439-92-1	Lead	SB / 200-500	mg/kg	26.9		32.7		4.35		4.54		3.2	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	2990		3830		2320		2310		3040	
7439-96-5	Manganese	SB / 50-5000	mg/kg	142		147		72		70.7		164	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.53		0.53		0.31		0.31		0.22	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	21		24.9		26.5		26.8		25.1	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	1120		1180		491		430		1290	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.25	U	0.25	U	0.34	U	0.34	U	0.26	U
7440-22-4	Silver	SB / NA	mg/kg	0.081	U	0.081	U	0.12		0.62		0.18	
7440-23-5	Sodium	SB / 6000-8000	mg/kg	159		205		47.2		44.9		400	

TABLE 4-2
SOIL QC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04270-014**		**01-04270-015**		**01-03882-013**		**-03882-013 M**		**01-03839-001**	
	Sample Location:	**Soil Cleanup**		**SB-11 MS**		**SB-11 MSD**		**SB-21 MS**		**SB-21 MSD**		**SB-24 MS**	
	Depth:	**Objectives /**		**2' - 4'**		**2' - 4'**		**10' - 11'**		**10' - 11'**		**2' - 3'**	
	Laboratory ID:	**Eastern USA**		**K9230-4M**		**K9230-4N**		**K9162-4M**		**K9162-4N**		**K9155-1M**	
	Sampling Date:	**Background**		**06/01/2001**		**06/01/2001**		**04/24/2001**		**04/24/2001**		**04/19/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
7440-28-0	Thallium	SB / NA	mg/kg	0.21	U	0.21	U	0.29	U	0.29	U	0.22	U
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	24.6		29.6		35.8		36.1		30.4	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	64.7		70.4		49.5		50.3		39.5	
57-12-5	Cyanide		mg/kg	5.27		5.08		6.91		6.64		5.28	
	% Solids		%	92.6		92.6		68.2		68.2		89.8	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR		NR	
Notes													
U - Below detection limit													
J - Estimated value													
NR - Not run													
NA - Not available													
SB - Site background													
MDL - Method Detection Limit													
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg													

TABLE 4-2
SOIL QC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-03839-001**		**01-04230-011**		**01-04230-012**		**01-04388-005**		**01-04388-006**	
	Sample Location:	**Soil Cleanup**		SB-24 MSD		SB-28 MS		SB-28 MSD		SB-29 MS		SB-29 MSD	
	Depth:	**Objectives /**		**2' - 3'**		**50' - 52'**		**50' - 52'**		**3' - 4'**		**3' - 4'**	
	Laboratory ID:	**Eastern USA**		**K9155-1N**						**K9286-4M**		**K9286-4N**	
	Sampling Date:	**Background**		**04/19/2001**		**5/24/2001**		**5/24/2001**		**06/26/2001**		**06/26/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
	PCBs												
12674-11-2	PCB 1016	1000	µg/kg	197		<40	U	<40	U	146		161	
11104-28-2	PCB 1221	1000	µg/kg	179	U	<82	U	<81	U	10	U	8.72	U
11141-16-5	PCB 1232	1000	µg/kg	95	U	<40	U	<40	U	7.14	U	6.22	U
53469-21-9	PCB 1242	1000	µg/kg	39.8	U	<40	U	<40	U	8.93	U	7.78	U
12672-29-6	PCB 1248	1000	µg/kg	90.1	U	<40	U	<40	U	11.1	U	9.71	U
11097-69-1	PCB 1254	1000	µg/kg	20.9	U	<40	U	<40	U	6.67	U	5.81	U
11096-82-5	PCB 1260	1000	µg/kg	281		<40	U	<40	U	117		110	
	Volatiles												
74-87-3	Chloromethane	NA *	µg/kg	0.4	U	<12	U	<12	U	0.42	U	0.42	U
74-83-9	Bromomethane	NA *	µg/kg	0.19	U	<12	U	<12	U	0.2	U	0.2	U
75-01-4	Vinyl Chloride	200	µg/kg	0.22	U	<12	U	<12	U	0.24	U	0.24	U
75-00-3	Chloroethane	1900	µg/kg	0.37	U	<12	U	<12	U	0.39	U	0.39	U
75-09-2	Methylene Chloride	100	µg/kg	2.1	B	2	JB	2	JB	0.26	U	0.26	U
67-64-1	Acetone	200	µg/kg	2.74	U	10	JB	6	JB	5.9	U	5.9	U
75-15-0	Carbon disulfide	2700	µg/kg	0.22	U	<12	U	<12	U	0.24	U	0.24	U
75-35-4	1,1-Dichloroethene	400	µg/kg	39		<12	U	<12	U	67		68.3	
75-34-3	1,1-Dichloroethane	200	µg/kg	0.17	U	<12	U	<12	U	0.18	U	0.18	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.17	U	<12	U	<12	U	0.18	U	0.18	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.19	U	<12	U	<12	U	0.2	U	0.2	U
67-66-3	Chloroform	300	µg/kg	0.18	U	<12	U	<12	U	0.19	U	0.19	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.24	U	<12	U	<12	U	0.26	U	0.26	U
78-93-3	2-Butanone	300	µg/kg	4.53	U	<12	U	<12	U	4.81	U	4.81	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.16	U	<12	U	<12	U	0.17	U	0.17	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.23	U	<12	U	<12	U	0.25	U	0.25	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.2	U	<12	U	<12	U	0.21	U	0.21	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.16	U	<12	U	<12	U	0.17	U	0.17	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.2	U	<12	U	<12	U	0.21	U	0.21	U
79-01-6	Trichloroethene	700	µg/kg	41.1		<12	U	<12	U	58.3		64.5	
124-48-1	Dibromochloromethane	NA *	µg/kg	0.27	U	<12	U	<12	U	0.28	U	0.28	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.21	U	<12	U	<12	U	0.22	U	0.22	U
71-43-2	Benzene	60	µg/kg	45		<12	U	<12	U	69.6		76.2	
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.24	U	<12	U	<12	U	0.26	U	0.26	U
75-25-2	Bromoform	NA *	µg/kg	0.27	U	<12	U	<12	U	0.28	U	0.28	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	1.89	U	<12	U	<12	U	5.9	U	5.9	U
591-78-6	2-Hexanone	NA *	µg/kg	1.64	U	<12	U	<12	U	5.9	U	5.9	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.2	U	<12	U	<12	U	0.21	U	0.21	U
108-88-3	Toluene	1500	µg/kg	42		<12	U	<12	U	58		61.8	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.22	U	<12	U	<12	U	0.24	U	0.24	U
108-90-7	Chlorobenzene	1700	µg/kg	42.7		<12	U	<12	U	47.6		52	
100-41-4	Ethylbenzene	5500	µg/kg	0.12	U	<12	U	<12	U	15		1.2	
100-42-5	Styrene	NA *	µg/kg	0.2	U	<12	U	<12	U	0.21	U	0.21	U
108-38-3	m,p-xylene	1200	µg/kg	0.89		<12	U	<12	U	14.5		1.9	
95-47-6	o-xylene	1200	µg/kg	0.2	U	<12	U	<12	U	2.8		0.72	
	Total BTEX												
	Semi-Volatiles												
108-95-2	Phenol	30	µg/kg	1980		<410	U	<410	U	5160		5920	
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	34.8	U	<410	U	<410	U	90.7	U	90.7	U
95-57-8	2-Chlorophenol	800	µg/kg	1960		<410	U	<410	U	4820		5580	
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	38	U	<410	U	<410	U	92.9	U	92.9	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	1010		<410	U	<410	U	2710		3180	
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	37.3	U	<410	U	<410	U	99.6	U	99.6	U
95-48-7	2-Methylphenol	100	µg/kg	30.8	U	<410	U	<410	U	89.3	U	89.3	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	40.2	U	<410	U	<410	U	94.2	U	94.2	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	29.8	U	<410	U	<410	U	89.4	U	89.4	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	1090		<410	U	<410	U	2790		3300	
67-72-1	Hexachloroethane	NA *	µg/kg	38.2	U	<410	U	<410	U	79.2	U	79.2	U
98-95-3	Nitrobenzene	200	µg/kg	41.8	U	<410	U	<410	U	98.5	U	98.5	U
78-59-1	Isophorone	4400	µg/kg	38.3	U	<410	U	<410	U	80.3	U	80.3	U
88-75-5	2-Nitrophenol	330	µg/kg	29.1	U	<410	U	<410	U	74.7	U	74.7	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	17.6	U	<410	U	<410	U	69.9	U	69.9	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	35.1	U	<410	U	<410	U	91.8	U	91.8	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	30.5	U	<410	U	<410	U	82.6	U	82.6	U
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	1110		<410	U	<410	U	3150		3780	
106-47-8	4-Chloroaniline	220	µg/kg	38.4	U	<410	U	<410	U	49.9	U	49.9	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	37	U	<410	U	<410	U	94.2	U	94.2	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	2130		<410	U	<410	U	5410		6370	
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	30.9	U	<410	U	<410	U	41.7	U	41.7	U
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	29.4	U	<410	U	<410	U	83	U	83	U

TABLE 4-2
SOIL QC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-03839-001**		**01-04230-011**		**01-04230-012**		**01-04388-005**		**01-04388-006**	
	Sample Location:	**Soil Cleanup**		**SB-24 MSD**		**SB-26 MS**		**SB-26 MSD**		**SB-29 MS**		**SB-29 MSD**	
	Depth:	**Objectives /**		**2' - 3'**		**50' - 52'**		**50' - 52'**		**3' - 4'**		**3' - 4'**	
	Laboratory ID:	**Eastern USA**		**K9155-1N**						**K9266-4M**		**K9266-4N**	
	Sampling Date:	**Background**		**04/19/2001**		5/24/2001		5/24/2001		**06/26/2001**		**06/26/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	28.3	U	<1000	U	<1000	U	73.9	U	73.9	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	33.9	U	<410	U	<410	U	96.4	U	96.4	U
88-74-4	2-Nitroaniline	430	µg/kg	26.6	U	<1000	U	<1000	U	72.4	U	72.4	U
131-11-3	Dimethylphthalate	2000	µg/kg	32.4	U	<410	U	<410	U	96.2	U	96.2	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	29.9	U	<410	U	<410	U	71.4	U	71.4	U
99-09-2	3-Nitroaniline	500	µg/kg	28.6	U	<1000	U	<1000	U	46.1	U	46.1	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	34	U	<1000	U	<1000	U	68.3	U	68.3	U
100-02-7	4-Nitrophenol	100	µg/kg	2450		<1000	U	<1000	U	4450		5970	
132-64-9	Dibenzofuran	6200	µg/kg	32.4	U	<410	U	<410	U	99.1	U	99.1	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	1010		<410	U	<410	U	2640		3430	
84-66-2	Diethylphthalate	7100	µg/kg	20.8	U	<410	U	<410	U	83.4		63.2	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	33	U	<410	U	<410	U	114	U	114	U
100-01-6	4-Nitroaniline	NA *	µg/kg	25	U	<1000	U	<1000	U	53.1	U	53.1	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	31.5	U	<1000	U	<1000	U	89.7	U	89.7	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	29.7	U	<410	U	<410	U	94.4	U	94.4	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	30.1	U	<410	U	<410	U	86	U	86	U
118-74-1	Hexachlorobenzene	410	µg/kg	33	U	<410	U	<410	U	84.4	U	84.4	U
87-86-5	Pentachlorophenol	1000	µg/kg	2310		<1000	U	<1000	U	3520		5190	
86-74-8	Carbazole	NA *	µg/kg	74.4	U	<410	U	<410	U	NA		NA	
84-74-2	Di-n-butylphthalate	8100	µg/kg	1370		<410	U	21	J	3820	B	4550	B
85-68-7	Butylbenzylphthalate	50000	µg/kg	22.2	U	<410	U	<410	U	56.2	U	56.2	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	71.9	U	<410	U	<410	U	97.3	U	97.3	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	216		25	J	65	J	432	B	88.1	JB
117-84-0	Di-n-octylphthalate	50000	µg/kg	20	U	<410	U	<410	U	72.4	U	72.4	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	50000*	µg/kg	1120		<410	U	<410	U	3170		3700	
208-96-8	Acenaphthylene	41000	µg/kg	33.9	U	<410	U	<410	U	94.5	U	94.5	U
120-12-7	Anthracene	50000*	µg/kg	24.8	U	<410	U	<410	U	84.4	U	84.4	U
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	14.5	U	<410	U	<410	U	62.3	U	62.3	U
206-44-0	Fluoranthene	50000*	µg/kg	24.3	U	<410	U	<410	U	42.3	J	25.9	J
86-73-7	Fluorene	50000*	µg/kg	31.5	U	<410	U	<410	U	103	U	103	U
91-57-6	2-Methylnaphthalene	36400	µg/kg	29.9	U	<410	U	<410	U	82.8	U	82.8	U
91-20-3	Naphthalene	13000	µg/kg	35.1	U	<410	U	<410	U	97.3	U	97.3	U
85-01-8	Phenanthrene	50000*	µg/kg	27.2	U	<410	U	<410	U	47	J	82.7	U
129-00-0	Pyrene	50000*	µg/kg	1190		<410	U	<410	U	3950		4670	
	Total Non Carcinogenic PAHs												
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	22.4	U	<410	U	<410	U	59	U	59	U
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	15.6	U	<410	U	<410	U	96.5	U	96.5	U
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	23.3	U	<410	U	<410	U	78.3	U	78.3	U
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	17.4	U	<410	U	<410	U	63.9	U	63.9	U
218-01-9	Chrysene	400	µg/kg	23.9	U	<410	U	<410	U	58.8	U	58.8	U
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	15.2	U	<410	U	<410	U	74.7	U	74.7	U
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	15.2	U	<410	U	<410	U	70.3	U	70.3	U
	Total Probable Carcinogenic PAHs												
	Total PAHs												
	Metals												
7429-90-5	Aluminum	SB / 33000	mg/kg	5180		7450		3910		5530		5130	
7440-36-0	Antimony	SB / NA	mg/kg	2.2		<0.5	U	<0.48	U	50.1		49.4	
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.47		0.85		<0.36	U	287		277	
7440-39-3	Barium	300 or SB / 15-600	mg/kg	108		69.7		32.4		309		301	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	0.65		0.14		<0.12	U	7.33		7.22	
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.067	U	<0.13	U	<0.12	U	12.1		11.6	
7440-70-2	Calcium	SB / 130-35000	mg/kg	1470		31100		26700		880		829	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	15.4		15.6		9.1		36.2		34.8	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	23.1		8.1		4.6		76.2		75.4	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	17.4		17.7		12.5		44.4		44.4	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	7480		15600		9140		7900		7670	
7439-92-1	Lead	SB / 200-500	mg/kg	3.83		3.2		2.1		86.6		83.1	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	3120		19600		15200		2300		2060	
7439-96-5	Manganese	SB / 50-5000	mg/kg	166		150		92.1		282		336	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.21		<0.041	U	<0.04	U	0.34		0.29	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	24.3		12.8		7.20		77.6		79	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	1160		4250		1800		814		725	
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.26	U	<1.1	U	<1.1	U	280		270	
7440-22-4	Silver	SB / NA	mg/kg	0.23		<0.13	U	<0.12	U	4.99		4.9	
7440-23-5	Sodium	SB / 6000-8000	mg/kg	376		277		264		59.7		56.2	

TABLE 4-2
SOIL QC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-03839-001**		**01-04230-011**		**01-04230-012**		**01-04388-005**		**01-04388-006**	
	Sample Location:	**Soil Cleanup**		**SB-24 MSD**		**SB-28 MS**		**SB-28 MSD**		**SB-29 MS**		**SB-29 MSD**	
	Depth:	**Objectives /**		**2' - 3'**		**50' - 52'**		**50' - 52'**		**3' - 4'**		**3' - 4'**	
	Laboratory ID:	**Eastern USA**		**K9155-1N**						**K9286-4M**		**K9286-4N**	
	Sampling Date:	**Background**		**04/19/2001**		**5/24/2001**		**5/24/2001**		**06/26/2001**		**06/26/2001**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
7440-28-0	Thallium	SB / NA	mg/kg	0.22	U	0.54		0.37		272		265	
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	30.2		23.0		14.2		80.6		78.7	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	37.8		45.2		25.4		97.8		98.9	
57-12-5	Cyanide		mg/kg	4.83		<0.03	U	<0.03	U	4.65		4.54	
	% Solids		%	89.8		79.6		81.0		85.1		85.1	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL QC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-03839-001		01-04230-011		01-04230-012		01-04388-005		01-04388-006	
	Sample Location:	Soil Cleanup		SB-24 MSD		SB-28 MS		SB-28 MSD		SB-29 MS		SB-29 MSD	
	Depth:	Objectives /		2' - 3'		50' - 52'		50' - 52'		3' - 4'		3' - 4'	
	Laboratory ID:	Eastern USA		K9155-1N						K9286-4M		K9286-4N	
	Sampling Date:	Background		04/19/2001		5/24/2001		5/24/2001		06/26/2001		06/26/2001	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No		No	
Cas #:	Analyte:		Units:										
75-71-8	Dichlorodifluoromethane		µg/kg							0.5	U	0.5	U
75-45-6	Chlorodifluoromethane		µg/kg							0.38	U	0.38	U
75-69-4	Trichlorofluoromethane		µg/kg							0.31	U	0.31	U
76-13-1	1,1,2-Trichlorotrifluoroethane		µg/kg							0.29	U	0.29	U
1634-04-4	Methyl t-butyl ether		µg/kg							0.42	U	0.42	U
590-20-7	2,2-Dichloropropane		µg/kg							0.28	U	0.28	U
74-97-5	Bromochloromethane		µg/kg							0.2	U	0.2	U
563-58-6	1,1-Dichloropropene		µg/kg							0.52	U	0.52	U
74-95-3	Dibromomethane		µg/kg							0.37	U	0.37	U
110-75-8	2-Chloroethylvinylether		µg/kg							0.37	U	0.37	U
142-28-9	1,3-Dichloropropane		µg/kg							0.45	U	0.45	U
106-93-4	1,2-Dibromoethane		µg/kg							0.28	U	0.28	U
630-20-6	1,1,1,2-Tetrachloroethane		µg/kg							0.2	U	0.2	U
98-82-8	Isopropylbenzene		µg/kg							1.4		0.12	U
108-86-1	Bromobenzene		µg/kg							0.2	U	0.2	U
103-65-1	n-Propylbenzene		µg/kg							1.1		0.17	U
96-18-4	1,2,3-Trichloropropane		µg/kg							0.6	U	0.6	U
622-96-8	p-Ethyltoluene		µg/kg							0.2	U	0.2	U
108-67-8	1,3,5-Trimethylbenzene		µg/kg							2.7		0.63	
95-49-8	2-Chlorotoluene		µg/kg							0.094	U	0.094	U
106-43-4	4-Chlorotoluene		µg/kg							0.17	U	0.17	U
98-06-6	tert-Butylbenzene		µg/kg							0.18	U	0.18	U
95-63-6	1,2,4-Trimethylbenzene		µg/kg							9.3		2	
135-98-8	sec-Butylbenzene		µg/kg							0.14	U	0.14	U
99-87-6	4-Isopropyltoluene		µg/kg							0.21	U	0.21	U
541-73-1	1,3-Dichlorobenzene		µg/kg							0.21	U	0.21	U
106-46-7	1,4-Dichlorobenzene		µg/kg							0.26	U	0.26	U
95-50-1	1,2-Dichlorobenzene		µg/kg							0.15	U	0.15	U
105-05-5	p-Diethylbenzene		µg/kg							0.19	U	0.19	U
104-51-8	n-Butylbenzene		µg/kg							0.17	U	0.17	U
95-93-2	1,2,4,5-Tetramethylbenzene		µg/kg							0.29	U	0.29	U
96-12-8	1,2-Dibromo-3-chloropropane		µg/kg							0.79	U	0.79	U
120-82-1	1,2,4-Trichlorobenzene		µg/kg							0.45	U	0.45	U
87-68-3	Hexachlorobutadiene		µg/kg							0.17	U	0.17	U
91-20-3	Naphthalene		µg/kg							33.8		6	
87-61-6	1,2,3-Trichlorobenzene		µg/kg							0.44	U	0.44	U
100-51-6	Benzyl alcohol		µg/kg							89	U	89	U
65-85-0	Benzoic acid		µg/kg							59.2	U	59.2	U

TABLE 4-2
SOIL QC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	TAGM 4046		01-04362-015		01-04362-016		00-08470-004		00-08470-004	
	Sample Location:	Soil Cleanup		SB-30 MS		SB-30 MSD		MW-6 MS		MW-6 MSD	
	Depth:	Objectives /		26' - 28'		26' - 28'		8.5'-9.5'		8.5'-9.5'	
	Laboratory ID:	Eastern USA		K9266-5M		K9266-5N		J6936-4M		J6936-4N	
	Sampling Date:	Background		06/20/2001		06/20/2001		08/31/2000		08/31/2000	
	Matrix:	Concentrations		Soil		Soil		Soil		Soil	
	Validated:			No		No		No		No	
Cas #:	Analyte:		Units:								
	PCBs										
12674-11-2	PCB 1016	1000	µg/kg	264		254		78.5		65.1	
11104-28-2	PCB 1221	1000	µg/kg	8.83	U	8.8	U	10.2	U	10.2	U
11141-16-5	PCB 1232	1000	µg/kg	6.3	U	6.28	U	2.27	U	2.27	U
53469-21-9	PCB 1242	1000	µg/kg	7.88	U	7.86	U	1.71	U	1.71	U
12672-29-6	PCB 1248	1000	µg/kg	9.83	U	9.8	U	3.84	U	3.84	U
11097-69-1	PCB 1254	1000	µg/kg	5.89	U	5.87	U	5.81	U	5.81	U
11096-82-5	PCB 1260	1000	µg/kg	234		192		78.4		81	
	Volatiles										
74-87-3	Chloromethane	NA *	µg/kg	0.39	U	0.39	U	1.81	U	1.81	U
74-83-9	Bromomethane	NA *	µg/kg	0.19	U	0.19	U	2.08	U	2.08	U
75-01-4	Vinyl Chloride	200	µg/kg	0.22	U	0.22	U	1.81	U	1.81	U
75-00-3	Chloroethane	1900	µg/kg	0.36	U	0.36	U	1.01	U	1.01	U
75-09-2	Methylene Chloride	100	µg/kg	10.5	B	10	B	18.5		18.8	
67-64-1	Acetone	200	µg/kg	5.45	U	5.45	U	23.1	U	23.1	U
75-15-0	Carbon disulfide	2700	µg/kg	0.22	U	0.22	U	1.44	U	1.44	U
75-35-4	1,1-Dichloroethene	400	µg/kg	57.2		56		222		218	
75-34-3	1,1-Dichloroethane	200	µg/kg	0.16	U	0.16	U	0.85	U	0.85	U
156-60-5	t-1,2-Dichloroethene	300	µg/kg	0.16	U	0.16	U	2.19	U	2.19	U
156-59-2	c-1,2-Dichloroethene	300	µg/kg	0.19	U	0.19	U	2.66	U	2.66	U
67-66-3	Chloroform	300	µg/kg	0.17	U	0.17	U	0.91	U	0.91	U
107-06-2	1,2-Dichloroethane	100	µg/kg	0.24	U	0.24	U	1.6	U	1.6	U
78-93-3	2-Butanone	300	µg/kg	4.45	U	4.45	U	13.4	U	13.4	U
71-55-6	1,1,1-Trichloroethane	800	µg/kg	0.15	U	0.15	U	1.49	U	1.49	U
56-23-5	Carbon Tetrachloride	600	µg/kg	0.23	U	0.23	U	1.44	U	1.44	U
75-27-4	Bromodichloromethane	NA *	µg/kg	0.2	U	0.2	U	1.01	U	1.01	U
78-87-5	1,2-Dichloropropane	NA *	µg/kg	0.15	U	0.15	U	0.96	U	0.96	U
10061-01-5	cis-1,3-Dichloropropene	300	µg/kg	0.2	U	0.2	U	1.33	U	1.33	U
79-01-6	Trichloroethene	700	µg/kg	49.5	B	47.7		257		250	
124-48-1	Dibromochloromethane	NA *	µg/kg	0.26	U	0.26	U	1.55	U	1.55	U
79-00-5	1,1,2-Trichloroethane	NA *	µg/kg	0.21	U	0.21	U	2.51	U	2.51	U
71-43-2	Benzene	60	µg/kg	55.2		54.6		357		337	
10061-02-6	trans-1,3-Dichloropropene	300	µg/kg	0.24	U	0.24	U	2.19	U	2.19	U
75-25-2	Bromoform	NA *	µg/kg	0.26	U	0.26	U	2.56	U	2.56	U
108-10-1	4-Methyl-2-pentanone	1000	µg/kg	5.45	U	5.45	U	7.89	U	7.89	U
591-78-6	2-Hexanone	NA *	µg/kg	5.45	U	5.45	U	8.26	U	8.26	U
127-18-4	Tetrachloroethene	1400	µg/kg	0.2	U	0.2	U	1.49	U	1.49	U
108-88-3	Toluene	1500	µg/kg	49.7		48.3		286		281	
79-34-5	1,1,2,2-Tetrachloroethane	600	µg/kg	0.22	U	0.22	U	2.66	U	2.66	U
108-90-7	Chlorobenzene	1700	µg/kg	47.8		45.7		269		261	
100-41-4	Ethylbenzene	5500	µg/kg	0.12	U	0.12	U	64.6		20.3	
100-42-5	Styrene	NA *	µg/kg	0.2	U	0.2	U	1.55	U	1.55	U
108-38-3	m,p-xylene	1200	µg/kg	0.78		0.74		11.7		5.49	
95-47-6	o-xylene	1200	µg/kg	0.2	U	0.2	U	20		7.04	
	Total BTEX										
	Semi-Volatiles										
108-95-2	Phenol	30	µg/kg	4700		4180		5810		7090	
111-44-4	bis(2-Chloroethyl)ether	NA *	µg/kg	83.9	U	83.9	U	75.6	U	75.6	U
95-57-8	2-Chlorophenol	800	µg/kg	4650		4260		5570		7450	
541-73-1	1,3-Dichlorobenzene	1600	µg/kg	86	U	86	U	75.5	U	75.5	U
106-46-7	1,4-Dichlorobenzene	8500	µg/kg	2360		2210		2790		3560	
95-50-1	1,2-Dichlorobenzene	7900	µg/kg	92.2	U	92.2	U	77.9	U	77.9	U
95-48-7	2-Methylphenol	100	µg/kg	82.6	U	82.6	U	61.9	U	61.9	U
108-60-1	bis(2-Chloroisopropyl)ether	NA *	µg/kg	87.2	U	87.2	U	45.1	U	45.1	U
106-44-5	3+4-Methylphenol	NA *	µg/kg	82.7	U	82.7	U	50.7	U	50.7	U
621-64-7	N-Nitrosodi-n-propylamine	NA *	µg/kg	2540		2260		2880		3670	
67-72-1	Hexachloroethane	NA *	µg/kg	73.3	U	73.3	U	78.5	U	78.5	U
98-95-3	Nitrobenzene	200	µg/kg	91.1	U	91.1	U	86.6	U	86.6	U
78-59-1	Isophorone	4400	µg/kg	74.2	U	74.2	U	58.3	U	58.3	U
88-75-5	2-Nitrophenol	330	µg/kg	69.1	U	69.1	U	66.5	U	66.5	U
105-67-9	2,4-Dimethylphenol	NA *	µg/kg	64.7	U	64.7	U	37.3	U	37.3	U
111-91-1	bis(2-Chloroethoxy)methane	NA *	µg/kg	84.9	U	84.9	U	68.4	U	68.4	U
120-83-2	2,4-Dichlorophenol	400	µg/kg	76.4	U	76.4	U	37.3	J	48	J
120-82-1	1,2,4-Trichlorobenzene	NA *	µg/kg	2690		2420		3280		3590	
106-47-8	4-Chloroaniline	220	µg/kg	46.2	U	46.2	U	78.4	U	78.4	U
87-68-3	Hexachlorobutadiene	NA *	µg/kg	87.2	U	87.2	U	71.9	U	71.9	U
59-50-7	4-Chloro-3-methylphenol	240	µg/kg	4900		4320		7290		7360	
77-47-4	Hexachlorocyclopentadiene	NA *	µg/kg	38.6	U	38.6	U	117	U	117	U
88-06-2	2,4,6-Trichlorophenol	NA *	µg/kg	76.7	U	76.7	U	78.5	U	78.5	U

TABLE 4-2
SOIL QC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04362-015**		**01-04362-016**		**00-08470-004**		**00-08470-004**	
	Sample Location:	**Soil Cleanup**		**SB-30 MS**		**SB-30 MSD**		**MW-6 MS**		**MW-6 MSD**	
	Depth:	**Objectives /**		**26' - 28'**		**26' - 28'**		**8.5'-9.5'**		**8.5'-9.5'**	
	Laboratory ID:	**Eastern USA**		**K9266-5M**		**K9266-5N**		**J6936-4M**		**J6936-4N**	
	Sampling Date:	**Background**		**06/20/2001**		**06/20/2001**		**08/31/2000**		**08/31/2000**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**								
95-95-4	2,4,5-Trichlorophenol	100	µg/kg	68.4	U	68.4	U	72.7	U	72.7	U
91-58-7	2-Chloronaphthalene	NA *	µg/kg	89.1	U	89.1	U	72.8	U	72.8	U
88-74-4	2-Nitroaniline	430	µg/kg	67	U	67	U	50.9	U	50.9	U
131-11-3	Dimethylphthalate	2000	µg/kg	89	U	89	U	65.1	U	65.1	U
606-20-2	2,6-Dinitrotoluene	1000	µg/kg	66.1	U	66.1	U	53.7	U	53.7	U
99-09-2	3-Nitroaniline	500	µg/kg	42.6	U	42.6	U	45.8	U	45.8	U
51-28-5	2,4-Dinitrophenol	200	µg/kg	63.2	U	63.2	U	64.2	U	64.2	U
100-02-7	4-Nitrophenol	100	µg/kg	4250		3630		7060		6800	
132-64-9	Dibenzofuran	6200	µg/kg	91.6	U	91.6	U	69.3	U	69.3	U
121-14-2	2,4-Dinitrotoluene	NA *	µg/kg	2350		2030		3230		3260	
84-66-2	Diethylphthalate	7100	µg/kg	60.9		58.5	U	51.1	U	51.1	U
7005-72-3	4-Chlorophenyl phenyl ether	NA *	µg/kg	105	U	105	U	71.1	U	71.1	U
100-01-6	4-Nitroaniline	NA *	µg/kg	49.1	U	49.1	U	68.2	U	68.2	U
534-52-1	4,6-Dinitro-2-methylphenol	NA *	µg/kg	82.9	U	82.9	U	70.1	U	70.1	U
86-30-6	N-Nitrosodiphenylamine	NA *	µg/kg	87.3	U	87.3	U	62.7	U	62.7	U
101-55-3	4-Bromophenyl phenyl ether	NA *	µg/kg	79.6	U	79.6	U	66.7	U	66.7	U
118-74-1	Hexachlorobenzene	410	µg/kg	78	U	78	U	60.8	U	60.8	U
87-86-5	Pentachlorophenol	1000	µg/kg	4590		4240		7900		5830	
86-74-8	Carbazole	NA *	µg/kg	62.1	U	62.1	U	49.3	U	49.3	U
84-74-2	Di-n-butylphthalate	8100	µg/kg	3230		2740		4400		3520	
85-68-7	Butylbenzylphthalate	50000	µg/kg	52	U	52	U	55.1	U	55.1	U
91-94-1	3,3'-Dichlorobenzidine	NA *	µg/kg	90	U	90	U	129	U	129	U
117-81-7	bis(2-Ethylhexyl)phthalate	50000	µg/kg	822	B	578	B	136	JB	123	JB
117-84-0	Di-n-octylphthalate	50000	µg/kg	67	U	67	U	57.2	U	57.2	U
	Non Carcinogenic PAHs										
83-32-9	Acenaphthene	50000*	µg/kg	2830		2480		4430		4460	
208-96-8	Acenaphthylene	41000	µg/kg	87.4	U	87.4	U	193		144	
120-12-7	Anthracene	50000*	µg/kg	28.3	J	78	U	729		601	
191-24-2	Benzo(g,h,i)perylene	50000*	µg/kg	57.6	U	57.6	U	216		214	
206-44-0	Fluoranthene	50000*	µg/kg	47.8	J	25	J	1000		881	
86-73-7	Fluorene	50000*	µg/kg	43.5	J	95.4	U	535		450	
91-57-6	2-Methylnaphthalene	36400	µg/kg	227		76.6	U	167		136	
91-20-3	Naphthalene	13000	µg/kg	80.4	J	90	U	261		254	
85-01-8	Phenanthrene	50000*	µg/kg	138		52.2	J	2140		1670	
129-00-0	Pyrene	50000*	µg/kg	3060		2680		5390		5020	
	Total Non Carcinogenic PAHs										
	Probable Carcinogenic PAHs										
56-55-3	Benzo(a)anthracene	224 or MDL	µg/kg	54.6	U	54.6	U	634		517	
205-99-2	Benzo(b)fluoranthene	1100	µg/kg	89.2	U	89.2	U	252		235	
207-08-9	Benzo(k)fluoranthene	1100	µg/kg	72.4	U	72.4	U	328		286	
50-32-8	Benzo(a)pyrene	61 or MDL	µg/kg	59.1	U	59.1	U	405		391	
218-01-9	Chrysene	400	µg/kg	54.3	U	54.3	U	617		507	
193-39-5	Indeno(1,2,3-cd)pyrene	3200	µg/kg	69.1	U	69.1	U	192		162	
53-70-3	Dibenz(a,h)anthracene	14 or MDL	µg/kg	65	U	65	U	72.5		55.4	
	Total Probable Carcinogenic PAHs										
	Total PAHs										
	Metals										
7429-90-5	Aluminum	SB / 33000	mg/kg	3190		3150		899		743	
7440-36-0	Antimony	SB / NA	mg/kg	4.11		3.83		7.09		6.63	
7440-38-2	Arsenic	7.5 or SB / 3-12	mg/kg	0.37		0.52		4.52		4.99	
7440-39-3	Barium	300 or SB / 15-600	mg/kg	120		115		187		189	
7440-41-7	Beryllium	0.16 or SB / 0-1.75	mg/kg	1.92		1.83		4.56		4.64	
7440-43-9	Cadmium	1 or SB / 0.1-1	mg/kg	0.071		0.06	J	0.57		0.62	
7440-70-2	Calcium	SB / 130-35000	mg/kg	11000		9550		253		226	
7440-47-3	Chromium	10 or SB / 1.5-40	mg/kg	15.3		15.5		19.8		19.7	
7440-48-4	Cobalt	30 or SB / 2.5-60	mg/kg	27.4		26.4		45.7		46.3	
7440-50-8	Copper	25 or SB / 1-50	mg/kg	20.9		20.7		30.6		30	
7439-89-6	Iron	2000 or SB/2000-550000	mg/kg	5770		5810		1460		1210	
7439-92-1	Lead	SB / 200-500	mg/kg	2.7		2.59		9.95		7.49	
7439-95-4	Magnesium	SB / 100-5000	mg/kg	8080		7130		268		215	
7439-96-5	Manganese	SB / 50-5000	mg/kg	110		110		65		66	
7439-97-6	Mercury	0.1 / 0.001-0.2	mg/kg	0.2		0.2		0.19		0.2	
7440-02-0	Nickel	13 or SB / 0.5-25	mg/kg	28.5		27.5		46.2		46.5	
7440-09-7	Potassium	SB / 8500-43000	mg/kg	1420		1350		66.4	J	49.9	J
7782-49-2	Selenium	2 or SB / 0.1-3.9	mg/kg	0.26	U	0.26	U	0.19	U	0.19	U
7440-22-4	Silver	SB / NA	mg/kg	0.082	U	0.082	U	5.56		5.89	
7440-23-5	Sodium	SB / 6000-8000	mg/kg	99.9		104		67.8	J	71.7	J

TABLE 4-2
SOIL QC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**TAGM 4046**		**01-04362-015**		**01-04362-016**		**00-08470-004**		**00-08470-004**	
	Sample Location:	**Soil Cleanup**		**SB-30 MS**		**SB-30 MSD**		**MW-6 MS**		**MW-6 MSD**	
	Depth:	**Objectives /**		**26' - 28'**		**26' - 28'**		**8.5'-9.5'**		**8.5'-9.5'**	
	Laboratory ID:	Eastern USA		**K9266-5M**		**K9266-5N**		**J6936-4M**		**J6936-4N**	
	Sampling Date:	**Background**		**06/20/2001**		**06/20/2001**		**08/31/2000**		**08/31/2000**	
	Matrix:	**Concentrations**		**Soil**		**Soil**		**Soil**		**Soil**	
	Validated:			**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**								
7440-28-0	Thallium	SB / NA	mg/kg	0.21	U	0.21	U	2.53		3	
7440-62-2	Vanadium	150 or SB / 1-300	mg/kg	29.7		28.8		47.9		48.3	
7440-66-6	Zinc	20 or SB / 9-50	mg/kg	45.7		44.9		55.4		55.2	
57-12-5	Cyanide		mg/kg	3.97		3.41		5.18		5.2	
	% Solids		%	92		92		93.8		93.8	
	Total Rec.Petr. Hydrocarbons		mg/kg	NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available
SB - Site background
MDL - Method Detection Limit
* - Total VOCs<10,000 mg/kg, total SVOCs<500,000 mg/kg

TABLE 4-2
SOIL QC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

Cas #:		Units:														
	Client Sample ID:		**00-08386-005**		**01-03882-014**		**01-04270-020**		**01-04272-009**		**01-04362-018**		**01-04388-011**		**00-08386-006**	
	Sample Location:		***Field***		***Field***		***Field***		***Field***		***Field***		***Field***		***Trip***	
	Depth:		**Blank**		**Blank**		**Blank**		**Blank**		**Blank**		**Blank**		**Blank**	
	Laboratory ID:		**J6935-5**		**K9162-5**		**K9231-2**		**K9228-9**		**K9266-7**		**K9286-9**		**J6935-6**	
	Sampling Date:		**08/30/2000**		**04/24/2001**		**06/01/2001**		**06/04/2001**		**06/20/2001**		**06/26/2001**		**08/30/2000**	
	Matrix:		**Water**		**Water**		**Water**		**Water**		**Water**		**Water**		**Water**	
	Validated:		**No**		**No**		**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**	**Units:**														
	PCBs															
12674-11-2	PCB 1016	µg/L	8	U	0.1	U	0.08	U	0.08	U	0.08	U	0.08	U	NR	
11104-28-2	PCB 1221	µg/L	3	U	0.07	U	0.06	U	0.06	U	0.06	U	0.06	U	NR	
11141-16-5	PCB 1232	µg/L	11	U	0.09	U	0.05	U	0.05	U	0.05	U	0.05	U	NR	
53469-21-9	PCB 1242	µg/L	2	U	0.01	U	0.06	U	0.06	U	0.06	U	0.06	U	NR	
12672-29-6	PCB 1248	µg/L	9	U	0.02	U	0.04	U	0.04	U	0.04	U	0.04	U	NR	
11097-69-1	PCB 1254	µg/L	4	U	0.03	U	0.03	U	0.03	U	0.03	U	0.03	U	NR	
11096-82-5	PCB 1260	µg/L	8	U	0.05	U	0.06	U	0.06	U	0.06	U	0.06	U	NR	
	Volatiles															
74-87-3	Chloromethane	µg/L	0.36	U	0.32	U	0.49	U	0.49	U	0.37	U	0.49	U	0.36	U
74-83-9	Bromomethane	µg/L	0.25	U	0.12	U	0.43	U	0.43	U	0.45	U	0.43	U	0.25	U
75-01-4	Vinyl Chloride	µg/L	0.35	U	0.25	U	0.1	U	0.1	U	0.07	U	0.1	U	0.35	U
75-00-3	Chloroethane	µg/L	0.33	U	0.3	U	0.61	U	0.61	U	0.18	U	0.61	U	0.33	U
75-09-2	Methylene Chloride	µg/L	4.6		0.41	U	0.54	U	0.54	U	0.15	U	4.2		5.6	
67-64-1	Acetone	µg/L	1.89	U	1.48	U	7.3		3.12	U	1.44	U	3.12	U	1.89	U
75-15-0	Carbon disulfide	µg/L	0.15	U	0.31	U	0.2	U	0.2	U	0.22	U	0.2	U	0.15	U
75-35-4	1,1-Dichloroethene	µg/L	0.21	U	0.18	U	0.3	U	0.3	U	0.14	U	0.3	U	0.21	U
75-34-3	1,1-Dichloroethane	µg/L	0.14	U	0.14	U	0.22	U	0.22	U	0.12	U	0.22	U	0.14	U
156-60-5	t-1,2-Dichloroethene	µg/L	0.27	U	0.22	U	0.2	U	0.2	U	0.14	U	0.2	U	0.27	U
156-59-2	c-1,2-Dichloroethene	µg/L	0.19	U	0.3	U	0.21	U	0.21	U	0.14	U	0.21	U	0.19	U
67-66-3	Chloroform	µg/L	0.13	U	0.15	U	0.2	U	0.2	U	0.15	U	0.2	U	0.13	U
107-06-2	1,2-Dichloroethane	µg/L	0.16	U	0.2	U	0.23	U	0.23	U	0.13	U	0.23	U	0.16	U
78-93-3	2-Butanone	µg/L	1.02	U	2.5	U	5	U	5	U	6.25	U	5	U	1.02	U
71-55-6	1,1,1-Trichloroethane	µg/L	0.11	U	0.2	U	0.22	U	0.22	U	0.16	U	0.22	U	0.11	U
56-23-5	Carbon Tetrachloride	µg/L	0.18	U	0.18	U	0.25	U	0.25	U	0.13	U	0.25	U	0.18	U
75-27-4	Bromodichloromethane	µg/L	0.18	U	0.13	U	0.15	U	0.15	U	0.07	U	0.15	U	0.18	U
78-87-5	1,2-Dichloropropane	µg/L	0.16	U	0.16	U	0.36	U	0.36	U	0.15	U	0.36	U	0.16	U
10061-01-5	cis-1,3-Dichloropropene	µg/L	0.18	U	0.15	U	0.16	U	0.16	U	0.07	U	0.16	U	0.18	U
79-01-6	Trichloroethene	µg/L	0.17	U	0.2	U	0.16	U	0.16	U	0.17	U	0.16	U	0.17	U
124-48-1	Dibromochloromethane	µg/L	0.08	U	0.14	U	0.11	U	0.11	U	0.12	U	0.11	U	0.08	U
79-00-5	1,1,2-Trichloroethane	µg/L	0.31	U	0.2	U	0.09	U	0.09	U	0.2	U	0.09	U	0.31	U
71-43-2	Benzene	µg/L	0.14	U	0.1	U	0.16	U	0.16	U	0.13	U	0.16	U	0.14	U
10061-02-6	trans-1,3-Dichloropropene	µg/L	0.18	U	0.15	U	0.08	U	0.08	U	0.06	U	0.08	U	0.18	U
75-25-2	Bromoform	µg/L	0.12	U	0.09	U	0.1	U	0.1	U	0.09	U	0.1	U	0.12	U
108-10-1	4-Methyl-2-pentanone	µg/L	0.51	U	0.5	U	5	U	5	U	0.97	U	5	U	0.51	U
591-78-6	2-Hexanone	µg/L	0.89	U	0.4	U	5	U	5	U	1.48	U	5	U	0.89	U
127-18-4	Tetrachloroethene	µg/L	0.08	U	0.11	U	0.24	U	0.24	U	0.2	U	0.24	U	0.08	U
108-88-3	Toluene	µg/L	0.16	U	0.15	U	0.14	U	0.14	U	0.14	U	0.14	U	0.16	U
79-34-5	1,1,2,2-Tetrachloroethane	µg/L	0.13	U	0.22	U	0.16	U	0.16	U	0.09	U	0.16	U	0.13	U
108-90-7	Chlorobenzene	µg/L	0.07	U	0.11	U	0.15	U	0.15	U	0.12	U	0.15	U	0.07	U
100-41-4	Ethylbenzene	µg/L	0.17	U	0.19	U	0.22	U	0.22	U	0.18	U	0.22	U	0.17	U
100-42-5	Styrene	µg/L	0.08	U	0.23	U	0.17	U	0.17	U	0.14	U	0.17	U	0.08	U
108-38-3	m,p-xylene	µg/L	0.17	U	0.28	U	0.42	U	0.42	U	0.31	U	0.42	U	0.17	U
95-47-6	o-xylene	µg/L	0.08	U	0.16	U	0.2	U	0.2	U	0.16	U	0.2	U	0.08	U
	Total BTEX															
	Semi-Volatiles															
108-95-2	Phenol	µg/L	0.56	U	0.52	U	0.41	U	0.41	U	0.9		0.52	U	NR	
111-44-4	bis(2-Chloroethyl)ether	µg/L	1.03	U	0.86	U	0.82	U	0.82	U	0.86	U	0.86	U	NR	
95-57-8	2-Chlorophenol	µg/L	0.96	U	1.03	U	0.76	U	0.76	U	1.03	U	1.03	U	NR	
541-73-1	1,3-Dichlorobenzene	µg/L	0.99	U	1	U	0.84	U	0.84	U	1	U	1	U	NR	
106-46-7	1,4-Dichlorobenzene	µg/L	0.89	U	1.08	U	0.85	U	0.85	U	1.08	U	1.08	U	NR	
95-50-1	1,2-Dichlorobenzene	µg/L	0.94	U	1.01	U	0.83	U	0.83	U	1.01	U	1.01	U	NR	
95-48-7	2-Methylphenol	µg/L	0.99	U	0.92	U	0.76	U	0.76	U	0.92	U	0.92	U	NR	
108-60-1	bis(2-Chloroisopropyl)ether	µg/L	1.12	U	2.21	U	1	U	1	U	2.21	U	2.21	U	NR	
106-44-5	3+4-Methylphenol	µg/L	0.83	U	0.88	U	0.72	U	0.72	U	0.88	U	0.88	U	NR	
621-64-7	N-Nitrosodi-n-propylamine	µg/L	0.8	U	0.78	U	0.86	U	0.86	U	0.78	U	0.78	U	NR	
67-72-1	Hexachloroethane	µg/L	0.73	U	1.07	U	0.9	U	0.9	U	1.07	U	1.07	U	NR	
98-95-3	Nitrobenzene	µg/L	0.93	U	1.17	U	0.89	U	0.89	U	1.17	U	1.17	U	NR	
78-59-1	Isophorone	µg/L	0.82	U	0.81	U	0.76	U	0.76	U	0.81	U	0.81	U	NR	
88-75-5	2-Nitrophenol	µg/L	0.88	U	0.85	U	0.65	U	0.65	U	0.85	U	0.85	U	NR	
105-67-9	2,4-Dimethylphenol	µg/L	1.13	U	1.16	U	0.95	U	0.95	U	1.16	U	1.16	U	NR	
111-91-1	bis(2-Chloroethoxy)methane	µg/L	0.76	U	0.82	U	0.78	U	0.78	U	0.82	U	0.82	U	NR	
120-83-2	2,4-Dichlorophenol	µg/L	0.72	U	0.88	U	0.62	U	0.62	U	0.88	U	0.88	U	NR	
120-82-1	1,2,4-Trichlorobenzene	µg/L	0.96	U	1.16	U	0.85	U	0.85	U	1.16	U	1.16	U	NR	
106-47-8	4-Chloroaniline	µg/L	0.63	U	1.03	U	0.52	U	0.52	U	1.03	U	1.03	U	NR	
87-68-3	Hexachlorobutadiene	µg/L	0.96	U	1.15	U	0.83	U	0.83	U	1.15	U	1.15	U	NR	
59-50-7	4-Chloro-3-methylphenol	µg/L	0.94	U	1.07	U	0.72	U	0.72	U	1.07	U	1.07	U	NR	
77-47-4	Hexachlorocyclopentadiene	µg/L	7.09	U	4.41	U	0.72	U	0.72	U	4.41	U	4.41	U	NR	
88-06-2	2,4,6-Trichlorophenol	µg/L	0.78	U	0.67	U	0.47	U	0.47	U	0.67	U	0.67	U	NR	

TABLE 4-2
SOIL QC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:		00-08386-005		01-03882-014		01-04270-020		01-04272-009		01-04362-018		01-04388-011		00-08386-006	
	Sample Location:		Field		Field		Field		Field		Field		Field		Trip	
	Depth:		Blank		Blank		Blank		Blank		Blank		Blank		Blank	
	Laboratory ID:		J6935-5		K9162-5		K9231-2		K9228-9		K9266-7		K9286-9		J6935-6	
	Sampling Date:		08/30/2000		04/24/2001		06/01/2001		06/04/2001		06/20/2001		06/26/2001		08/30/2000	
	Matrix:		Water		Water		Water		Water		Water		Water		Water	
	Validated:		No		No		No		No		No		No		No	
Cas #:	Analyte:	Units:														
95-95-4	2,4,5-Trichlorophenol	µg/L	0.54	U	1.15	U	0.58	U	0.58	U	1.15	U	1.15	U	NR	
91-58-7	2-Chloronaphthalene	µg/L	0.87	U	1.06	U	0.81	U	0.81	U	1.06	U	1.06	U	NR	
88-74-4	2-Nitroaniline	µg/L	0.95	U	0.54	U	0.56	U	0.56	U	0.54	U	0.54	U	NR	
131-11-3	Dimethylphthalate	µg/L	1.3	U	1.65	U	1.3	U	1.3	U	1.65	U	1.65	U	NR	
606-20-2	2,6-Dinitrotoluene	µg/L	0.84	U	0.54	U	0.78	U	0.78	U	0.54	U	0.54	U	NR	
99-09-2	3-Nitroaniline	µg/L	0.58	U	0.58	U	0.82	U	0.82	U	0.58	U	0.58	U	NR	
51-28-5	2,4-Dinitrophenol	µg/L	3.67	U	5.8	U	0.57	U	0.57	U	5.8	U	5.8	U	NR	
100-02-7	4-Nitrophenol	µg/L	2.12	U	2.12	U	0.36	U	0.36	U	2.12	U	2.12	U	NR	
132-64-9	Dibenzofuran	µg/L	0.83	U	0.85	U	0.67	U	0.67	U	0.85	U	0.85	U	NR	
121-14-2	2,4-Dinitrotoluene	µg/L	0.68	U	0.47	U	0.61	U	0.61	U	0.47	U	0.47	U	NR	
84-66-2	Diethylphthalate	µg/L	0.25	J	9.81	U	8.14	U	8.14	U	0.28	JB	0.25	JB	NR	
7005-72-3	4-Chlorophenyl phenyl ether	µg/L	0.76	U	1.11	U	0.68	U	0.68	U	1.11	U	1.11	U	NR	
100-01-6	4-Nitroaniline	µg/L	0.7	U	0.61	U	0.56	U	0.56	U	0.61	U	0.61	U	NR	
534-52-1	4,6-Dinitro-2-methylphenol	µg/L	5.7	U	0.5	U	0.58	U	0.58	U	0.5	U	0.5	U	NR	
86-30-6	N-Nitrosodiphenylamine	µg/L	0.67	U	0.94	U	0.63	U	0.63	U	0.94	U	0.94	U	NR	
101-55-3	4-Bromophenyl phenyl ether	µg/L	0.72	U	0.79	U	0.61	U	0.61	U	0.79	U	0.79	U	NR	
118-74-1	Hexachlorobenzene	µg/L	0.69	U	0.99	U	0.6	U	0.6	U	0.99	U	0.99	U	NR	
87-86-5	Pentachlorophenol	µg/L	0.33	U	0.7	U	0.59	U	0.59	U	0.7	U	0.7	U	NR	
86-74-8	Carbazole	µg/L	0.65	U	0.68	U	1.32	U	1.32	U	0.68	U	NA		NR	
84-74-2	Di-n-butylphthalate	µg/L	0.28	J	0.55	J	0.88	J	0.92	J	0.31	J	0.64	JB	NR	
85-68-7	Butylbenzylphthalate	µg/L	3.48	U	4.1	U	3.29	U	3.29	U	4.1	U	4.1	U	NR	
91-94-1	3,3'-Dichlorobenzidine	µg/L	0.52	U	0.41	U	1.2	U	1.2	U	0.41	U	0.41	U	NR	
117-81-7	bis(2-Ethylhexyl)phthalate	µg/L	2.8	B	3.2		1.1	J	1.3	J	2.4	JB	2.3	B	NR	
117-84-0	Di-n-octylphthalate	µg/L	1.04	U	0.98	U	0.5	U	0.5	U	0.98	U	0.98	U	NR	
	Non Carcinogenic PAHs															
83-32-9	Acenaphthene	µg/L	1	U	0.89	U	0.75	U	0.75	U	0.89	U	0.89	U	NR	
208-96-8	Acenaphthylene	µg/L	0.86	U	0.89	U	0.81	U	0.81	U	0.89	U	0.89	U	NR	
120-12-7	Anthracene	µg/L	0.67	U	0.92	U	0.53	U	0.53	U	0.92	U	0.92	U	NR	
191-24-2	Benzo(g,h,i)perylene	µg/L	0.62	U	0.52	U	0.4	U	0.4	U	0.52	U	0.52	U	NR	
206-44-0	Fluoranthene	µg/L	0.53	U	0.7	U	0.47	U	0.47	U	0.7	U	0.7	U	NR	
86-73-7	Fluorene	µg/L	0.82	U	0.91	U	0.69	U	0.69	U	0.91	U	0.91	U	NR	
91-57-6	2-Methylnaphthalene	µg/L	0.84	U	1.07	U	0.76	U	0.76	U	0.25	J	1.07	U	NR	
91-20-3	Naphthalene	µg/L	0.99	U	1.01	U	0.89	U	0.89	U	0.37	J	1.01	U	NR	
85-01-8	Phenanthrene	µg/L	0.64	U	0.21	J	0.59	U	0.59	U	0.83	U	0.21	J	NR	
129-00-0	Pyrene	µg/L	0.76	U	0.65	U	0.53	U	0.53	U	0.65	U	0.65	U	NR	
	Total Non Carcinogenic PAHs															
	Probable Carcinogenic PAHs															
56-55-3	Benzo(a)anthracene	µg/L	0.64	U	0.31	J	0.47	U	0.47	U	0.62	U	0.62	U	NR	
205-99-2	Benzo(b)fluoranthene	µg/L	0.81	U	1.54	U	0.45	U	0.45	U	1.54	U	1.54	U	NR	
207-08-9	Benzo(k)fluoranthene	µg/L	0.92	U	1.1	U	0.29	U	0.29	U	1.1	U	1.1	U	NR	
50-32-8	Benzo(a)pyrene	µg/L	0.7	U	0.77	U	0.36	U	0.36	U	0.77	U	0.77	U	NR	
218-01-9	Chrysene	µg/L	0.52	U	0.22	J	0.56	U	0.56	U	0.69	U	0.69	U	NR	
193-39-5	Indeno(1,2,3-cd)pyrene	µg/L	0.58	U	0.61	U	0.45	U	0.45	U	0.61	U	0.61	U	NR	
53-70-3	Dibenz(a,h)anthracene	µg/L	0.66	U	0.61	U	0.47	U	0.47	U	0.61	U	0.61	U	NR	
	Total Probable Carcinogenic PAHs															
	Total PAHs															
	Metals															
7429-90-5	Aluminum	mg/L	0.1	U	0.32		0.24		0.074	J	0.052	J	0.016	J	NR	
7440-36-0	Antimony	mg/L	0.008		0.004	U	0.011		0.0021	J	0.0034	J	0.0003	J	NR	
7440-38-2	Arsenic	mg/L	0.0038	U	0.01		0.0053	U	0.0053	U	0.0048	U	0.0048	U	NR	
7440-39-3	Barium	mg/L	0.001	J	0.00011	J	0.0016		0.00022	J	0.018		0.0001	J	NR	
7440-41-7	Beryllium	mg/L	0.0011	U	0.0021		0.0013	U	0.0013	U	0.0012	U	0.0012	U	NR	
7440-43-9	Cadmium	mg/L	0.0011	U	0.0013	U	0.00033	J	0.00033	J	0.0001	J	0.0002	J	NR	
7440-70-2	Calcium	mg/L	0.18	J	0.15	U	0.29		0.064	J	16.7		0.027	J	NR	
7440-47-3	Chromium	mg/L	0.0011	U	0.0024	U	0.0017	J	0.00089	J	0.0022	U	0.0001	J	NR	
7440-48-4	Cobalt	mg/L	0.0011	U	0.0022		0.0013	U	0.0013	U	0.0012	U	0.0012	U	NR	
7440-50-8	Copper	mg/L	0.022		0.0013	J	0.011		0.0053		0.0004	J	0.0007	J	NR	
7439-89-6	Iron	mg/L	0.043	J	0.0018	J	0.11		0.011	J	0.02	J	0.014	J	NR	
7439-92-1	Lead	mg/L	0.0014	U	0.00022	J	0.001	J	0.0024	U	0.0026		0.0022	U	NR	
7439-95-4	Magnesium	mg/L	0.017	J	0.00011	J	0.087	J	0.023	J	6.28		0.0057	J	NR	
7439-96-5	Manganese	mg/L	0.002		0.0013	U	0.0037		0.0023		0.0013		0.0003	J	NR	
7439-97-6	Mercury	mg/L	0.00005	U	0.00005	U	0.00005	U	0.00005	U	9.6E-06	J	6.2E-06	J	NR	
7440-02-0	Nickel	mg/L	0.002		0.00033	J	0.0011	J	0.00067	J	0.0008	J	0.0006	J	NR	
7440-09-7	Potassium	mg/L	0.019	J	1.31	U	1.31	U	1.31	U	0.72	J	0.027	J	NR	
7782-49-2	Selenium	mg/L	0.002	U	0.0052	U	0.0042	J	0.00089	J	0.0019	J	0.0043	J	NR	
7440-22-4	Silver	mg/L	0.0021	U	0.00011	J	0.00022	J	0.00011	J	0.0015	U	0.0015	U	NR	
7440-23-5	Sodium	mg/L	0.47		0.1	U	0.19		0.079	J	5.47		0.41		NR	

TABLE 4-2
SOIL OC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:		**00-08386-005**		**01-03882-014**		**01-04270-020**		**01-04272-009**		**01-04362-018**		**01-04388-011**		**00-08386-006**	
	Sample Location:		**Field**		**Field**		**Field**		**Field**		**Field**		**Field**		**Trip**	
	Depth:		**Blank**		**Blank**		**Blank**		**Blank**		**Blank**		**Blank**		**Blank**	
	Laboratory ID:		**J6935-5**		**K9162-5**		**K9231-2**		**K9228-9**		**K9266-7**		**K9286-9**		**J6935-6**	
	Sampling Date:		**08/30/2000**		**04/24/2001**		**06/01/2001**		**06/04/2001**		**06/20/2001**		**06/26/2001**		**08/30/2000**	
	Matrix:		**Water**		**Water**		**Water**		**Water**		**Water**		**Water**		**Water**	
	Validated:		**No**		**No**		**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**	**Units:**														
7440-28-0	Thallium	mg/L	0.002	U	0.016		0.0043	U	0.0043	U	0.0039	U	0.0039	U	NR	
7440-62-2	Vanadium	mg/L	0.0011	U	0.0031	U	0.0031	U	0.0031	U	0.0028	U	0.0004	J	NR	
7440-66-6	Zinc	mg/L	0.009		0.0041	U	0.04		0.032		0.016		0.01		NR	
57-12-5	Cyanide	mg/L	0.003	U	NR		0.003	U	0.003	U	0.003	U	0.003	U	NR	
	% Solids	%	NR		NR		NR		NR		NR		NR		NR	
	Total Rec.Petr. Hydrocarbons	mg/L	NR		NR		NR		NR		NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available

TABLE 4-2
SOIL QC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:		00-08386-005	01-03882-014	01-04270-020	01-04272-009	01-04362-018	01-04388-011	00-08386-006
	Sample Location:		Field	Field	Field	Field	Field	Field	Trip
	Depth:		Blank	Blank	Blank	Blank	Blank	Blank	Blank
	Laboratory ID:		J6935-5	K9162-5	K9231-2	K9228-9	K9266-7	K9286-9	J6935-6
	Sampling Date:		08/30/2000	04/24/2001	06/01/2001	06/04/2001	06/20/2001	06/26/2001	08/30/2000
	Matrix:		Water	Water	Water	Water	Water	Water	Water
	Validated:		No	No	No	No	No	No	No
Cas #:	Analyte:	Units:							
75-71-8	Dichlorodifluoromethane	µg/kg						0.49 U	
75-45-6	Chlorodifluoromethane	µg/kg						0.21 U	
75-69-4	Trichlorofluoromethane	µg/kg						0.24 U	
76-13-1	1,1,2-Trichlorotrifluoroethane	µg/kg						0.23 U	
1634-04-4	Methyl t-butyl ether	µg/kg						0.34 U	
590-20-7	2,2-Dichloropropane	µg/kg						0.18 U	
74-97-5	Bromochloromethane	µg/kg						0.27 U	
563-58-6	1,1-Dichloropropene	µg/kg						0.59 U	
74-95-3	Dibromomethane	µg/kg						0.18 U	
110-75-8	2-Chloroethylvinylether	µg/kg						0.13 U	
142-28-9	1,3-Dichloropropane	µg/kg						0.2 U	
106-93-4	1,2-Dibromoethane	µg/kg						0.1 U	
630-20-6	1,1,1,2-Tetrachloroethane	µg/kg						0.18 U	
98-82-8	Isopropylbenzene	µg/kg						0.25 U	
108-86-1	Bromobenzene	µg/kg						0.24 U	
103-65-1	n-Propylbenzene	µg/kg						0.21 U	
96-18-4	1,2,3-Trichloropropane	µg/kg						0.21 U	
622-96-8	p-Ethyltoluene	µg/kg						0.24 U	
108-67-8	1,3,5-Trimethylbenzene	µg/kg						0.2 U	
95-49-8	2-Chlorotoluene	µg/kg						0.27 U	
106-43-4	4-Chlorotoluene	µg/kg						0.35 U	
98-06-6	tert-Butylbenzene	µg/kg						0.24 U	
95-63-6	1,2,4-Trimethylbenzene	µg/kg						0.17 U	
135-98-8	sec-Butylbenzene	µg/kg						0.16 U	
99-87-6	4-Isopropyltoluene	µg/kg						0.24 U	
541-73-1	1,3-Dichlorobenzene	µg/kg						0.23 U	
106-46-7	1,4-Dichlorobenzene	µg/kg						0.23 U	
95-50-1	1,2-Dichlorobenzene	µg/kg						0.15 U	
105-05-5	p-Diethylbenzene	µg/kg						0.24 U	
104-51-8	n-Butylbenzene	µg/kg						0.14 U	
95-93-2	1,2,4,5-Tetramethylbenzene	µg/kg						0.26 U	
96-12-8	1,2-Dibromo-3-chloropropane	µg/kg						0.33 U	
120-82-1	1,2,4-Trichlorobenzene	µg/kg						0.22 U	
87-68-3	Hexachlorobutadiene	µg/kg						0.26 U	
91-20-3	Naphthalene	µg/kg						0.14 U	
87-61-6	1,2,3-Trichlorobenzene	µg/kg						0.17 U	
100-51-6	Benzyl alcohol	µg/kg						0.86 U	
65-85-0	Benzoic acid	µg/kg						3.41 U	

TABLE 4-2
SOIL QC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:		**00-08470-005**		**01-03882-015**		**01-04272-010**	
	Sample Location:		**Trip**		**Trip**		**Trip**	
	Depth:		**Blank**		**Blank**		**Blank**	
	Laboratory ID:		**J6936-5**		**K9162-6**		**K9228-10**	
	Sampling Date:		**08/31/2000**		**04/24/2001**		**06/04/2001**	
	Matrix:		**Water**		**Water**		**Water**	
	Validated:		**No**		**No**		**No**	
Cas #:	**Analyte:**	**Units:**						
	PCBs							
12674-11-2	PCB 1016	µg/L	NR		NR		NR	
11104-28-2	PCB 1221	µg/L	NR		NR		NR	
11141-16-5	PCB 1232	µg/L	NR		NR		NR	
53469-21-9	PCB 1242	µg/L	NR		NR		NR	
12672-29-6	PCB 1248	µg/L	NR		NR		NR	
11097-69-1	PCB 1254	µg/L	NR		NR		NR	
11096-82-5	PCB 1260	µg/L	NR		NR		NR	
	Volatiles							
74-87-3	Chloromethane	µg/L	0.38	U	0.32	U	0.49	U
74-83-9	Bromomethane	µg/L	0.37	U	0.12	U	0.43	U
75-01-4	Vinyl Chloride	µg/L	0.41	U	0.25	U	0.1	U
75-00-3	Chloroethane	µg/L	0.25	U	0.3	U	0.61	U
75-09-2	Methylene Chloride	µg/L	0.3	U	0.41	U	9.9	B
67-64-1	Acetone	µg/L	1.3	U	1.48	U	3.12	U
75-15-0	Carbon disulfide	µg/L	0.21	U	0.31	U	0.2	U
75-35-4	1,1-Dichloroethene	µg/L	0.48	U	0.18	U	0.3	U
75-34-3	1,1-Dichloroethane	µg/L	0.18	U	0.14	U	0.22	U
156-60-5	t-1,2-Dichloroethene	µg/L	0.28	U	0.22	U	0.2	U
156-59-2	c-1,2-Dichloroethene	µg/L	0.34	U	0.3	U	0.21	U
67-66-3	Chloroform	µg/L	0.26	U	0.15	U	0.2	U
107-06-2	1,2-Dichloroethane	µg/L	0.19	U	0.2	U	0.23	U
78-93-3	2-Butanone	µg/L	0.82	U	2.5	U	5	U
71-55-6	1,1,1-Trichloroethane	µg/L	0.31	U	0.2	U	0.22	U
56-23-5	Carbon Tetrachloride	µg/L	0.34	U	0.18	U	0.25	U
75-27-4	Bromodichloromethane	µg/L	0.12	U	0.13	U	0.15	U
78-87-5	1,2-Dichloropropane	µg/L	0.12	U	0.16	U	0.36	U
10061-01-5	cis-1,3-Dichloropropene	µg/L	0.19	U	0.15	U	0.16	U
79-01-6	Trichloroethene	µg/L	0.27	U	0.2	U	0.16	U
124-48-1	Dibromochloromethane	µg/L	0.18	U	0.14	U	0.11	U
79-00-5	1,1,2-Trichloroethane	µg/L	0.37	U	0.2	U	0.09	U
71-43-2	Benzene	µg/L	0.14	U	0.1	U	0.16	U
10061-02-6	trans-1,3-Dichloropropene	µg/L	0.16	U	0.15	U	0.08	U
75-25-2	Bromoform	µg/L	0.2	U	0.09	U	0.1	U
108-10-1	4-Methyl-2-pentanone	µg/L	0.45	U	0.5	U	5	U
591-78-6	2-Hexanone	µg/L	0.49	U	0.4	U	5	U
127-18-4	Tetrachloroethene	µg/L	0.28	U	0.11	U	0.24	U
108-88-3	Toluene	µg/L	0.16	U	0.15	U	0.14	U
79-34-5	1,1,2,2-Tetrachloroethane	µg/L	0.14	U	0.22	U	0.16	U
108-90-7	Chlorobenzene	µg/L	0.21	U	0.11	U	0.15	U
100-41-4	Ethylbenzene	µg/L	0.21	U	0.19	U	0.22	U
100-42-5	Styrene	µg/L	0.28	U	0.23	U	0.17	U
108-38-3	m,p-xylene	µg/L	0.45	U	0.28	U	0.42	U
95-47-6	o-xylene	µg/L	0.27	U	0.16	U	0.2	U
	Total BTEX							
	Semi-Volatiles							
108-95-2	Phenol	µg/L	NR		NR		NR	
111-44-4	bis(2-Chloroethyl)ether	µg/L	NR		NR		NR	
95-57-8	2-Chlorophenol	µg/L	NR		NR		NR	
541-73-1	1,3-Dichlorobenzene	µg/L	NR		NR		NR	
106-46-7	1,4-Dichlorobenzene	µg/L	NR		NR		NR	
95-50-1	1,2-Dichlorobenzene	µg/L	NR		NR		NR	
95-48-7	2-Methylphenol	µg/L	NR		NR		NR	
108-60-1	bis(2-Chloroisopropyl)ether	µg/L	NR		NR		NR	
106-44-5	3+4-Methylphenol	µg/L	NR		NR		NR	
621-64-7	N-Nitrosodi-n-propylamine	µg/L	NR		NR		NR	
67-72-1	Hexachloroethane	µg/L	NR		NR		NR	
98-95-3	Nitrobenzene	µg/L	NR		NR		NR	
78-59-1	Isophorone	µg/L	NR		NR		NR	
88-75-5	2-Nitrophenol	µg/L	NR		NR		NR	
105-67-9	2,4-Dimethylphenol	µg/L	NR		NR		NR	
111-91-1	bis(2-Chloroethoxy)methane	µg/L	NR		NR		NR	
120-83-2	2,4-Dichlorophenol	µg/L	NR		NR		NR	
120-82-1	1,2,4-Trichlorobenzene	µg/L	NR		NR		NR	
106-47-8	4-Chloroaniline	µg/L	NR		NR		NR	
87-68-3	Hexachlorobutadiene	µg/L	NR		NR		NR	
59-50-7	4-Chloro-3-methylphenol	µg/L	NR		NR		NR	
77-47-4	Hexachlorocyclopentadiene	µg/L	NR		NR		NR	
88-06-2	2,4,6-Trichlorophenol	µg/L	NR		NR		NR	

TABLE 4-2
SOIL OC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:		**00-08470-005**	**01-03882-015**	**01-04272-010**
	Sample Location:		**Trip**	**Trip**	**Trip**
	Depth:		**Blank**	**Blank**	**Blank**
	Laboratory ID:		**J6936-5**	**K9162-6**	**K9228-10**
	Sampling Date:		**08/31/2000**	**04/24/2001**	**06/04/2001**
	Matrix:		**Water**	**Water**	**Water**
	Validated:		**No**	**No**	**No**
Cas #:	**Analyte:**	**Units:**			
95-95-4	2,4,5-Trichlorophenol	µg/L	NR	NR	NR
91-58-7	2-Chloronaphthalene	µg/L	NR	NR	NR
88-74-4	2-Nitroaniline	µg/L	NR	NR	NR
131-11-3	Dimethylphthalate	µg/L	NR	NR	NR
606-20-2	2,6-Dinitrotoluene	µg/L	NR	NR	NR
99-09-2	3-Nitroaniline	µg/L	NR	NR	NR
51-28-5	2,4-Dinitrophenol	µg/L	NR	NR	NR
100-02-7	4-Nitrophenol	µg/L	NR	NR	NR
132-64-9	Dibenzofuran	µg/L	NR	NR	NR
121-14-2	2,4-Dinitrotoluene	µg/L	NR	NR	NR
84-66-2	Diethylphthalate	µg/L	NR	NR	NR
7005-72-3	4-Chlorophenyl phenyl ether	µg/L	NR	NR	NR
100-01-6	4-Nitroaniline	µg/L	NR	NR	NR
534-52-1	4,6-Dinitro-2-methylphenol	µg/L	NR	NR	NR
86-30-6	N-Nitrosodiphenylamine	µg/L	NR	NR	NR
101-55-3	4-Bromophenyl phenyl ether	µg/L	NR	NR	NR
118-74-1	Hexachlorobenzene	µg/L	NR	NR	NR
87-86-5	Pentachlorophenol	µg/L	NR	NR	NR
86-74-8	Carbazole	µg/L	NR	NR	NR
84-74-2	Di-n-butylphthalate	µg/L	NR	NR	NR
85-68-7	Butylbenzylphthalate	µg/L	NR	NR	NR
91-94-1	3,3'-Dichlorobenzidine	µg/L	NR	NR	NR
117-81-7	bis(2-Ethylhexyl)phthalate	µg/L	NR	NR	NR
117-84-0	Di-n-octylphthalate	µg/L	NR	NR	NR
	Non Carcinogenic PAHs				
83-32-9	Acenaphthene	µg/L	NR	NR	NR
208-96-8	Acenaphthylene	µg/L	NR	NR	NR
120-12-7	Anthracene	µg/L	NR	NR	NR
191-24-2	Benzo(g,h,i)perylene	µg/L	NR	NR	NR
206-44-0	Fluoranthene	µg/L	NR	NR	NR
86-73-7	Fluorene	µg/L	NR	NR	NR
91-57-6	2-Methylnaphthalene	µg/L	NR	NR	NR
91-20-3	Naphthalene	µg/L	NR	NR	NR
85-01-8	Phenanthrene	µg/L	NR	NR	NR
129-00-0	Pyrene	µg/L	NR	NR	NR
	Total Non Carcinogenic PAHs				
	Probable Carcinogenic PAHs				
56-55-3	Benzo(a)anthracene	µg/L	NR	NR	NR
205-99-2	Benzo(b)fluoranthene	µg/L	NR	NR	NR
207-08-9	Benzo(k)fluoranthene	µg/L	NR	NR	NR
50-32-8	Benzo(a)pyrene	µg/L	NR	NR	NR
218-01-9	Chrysene	µg/L	NR	NR	NR
193-39-5	Indeno(1,2,3-cd)pyrene	µg/L	NR	NR	NR
53-70-3	Dibenz(a,h)anthracene	µg/L	NR	NR	NR
	Total Probable Carcinogenic PAHs				
	Total PAHs				
	Metals				
7429-90-5	Aluminum	mg/L	NR	NR	NR
7440-36-0	Antimony	mg/L	NR	NR	NR
7440-38-2	Arsenic	mg/L	NR	NR	NR
7440-39-3	Barium	mg/L	NR	NR	NR
7440-41-7	Beryllium	mg/L	NR	NR	NR
7440-43-9	Cadmium	mg/L	NR	NR	NR
7440-70-2	Calcium	mg/L	NR	NR	NR
7440-47-3	Chromium	mg/L	NR	NR	NR
7440-48-4	Cobalt	mg/L	NR	NR	NR
7440-50-8	Copper	mg/L	NR	NR	NR
7439-89-6	Iron	mg/L	NR	NR	NR
7439-92-1	Lead	mg/L	NR	NR	NR
7439-95-4	Magnesium	mg/L	NR	NR	NR
7439-96-5	Manganese	mg/L	NR	NR	NR
7439-97-6	Mercury	mg/L	NR	NR	NR
7440-02-0	Nickel	mg/L	NR	NR	NR
7440-09-7	Potassium	mg/L	NR	NR	NR
7782-49-2	Selenium	mg/L	NR	NR	NR
7440-22-4	Silver	mg/L	NR	NR	NR
7440-23-5	Sodium	mg/L	NR	NR	NR

TABLE 4-2
SOIL QC SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:		**00-08470-005**		**01-03882-015**		**01-04272-010**	
	Sample Location:		**Trip**		**Trip**		**Trip**	
	Depth:		**Blank**		**Blank**		**Blank**	
	Laboratory ID:		**J6936-5**		**K9162-6**		**K9228-10**	
	Sampling Date:		**08/31/2000**		**04/24/2001**		**06/04/2001**	
	Matrix:		**Water**		**Water**		**Water**	
	Validated:		**No**		**No**		**No**	
Cas #:	**Analyte:**	**Units:**						
7440-28-0	Thallium	mg/L	NR		NR		NR	
7440-62-2	Vanadium	mg/L	NR		NR		NR	
7440-66-6	Zinc	mg/L	NR		NR		NR	
57-12-5	Cyanide	mg/L	NR		NR		NR	
	% Solids	%	NR		NR		NR	
	Total Rec.Petr. Hydrocarbons	mg/L	NR		NR		NR	

Notes

U - Below detection limit
J - Estimated value
NR - Not run
NA - Not available

TABLE 4-3
SUMMARY OF TCLP SAMPLE RESULTS
WHITE PLAINS FORMER MGP SITE

Client Sample ID:	Toxicity Characteristic Regulatory Level		GT-2, S-2	GT-3, S-3	GT-4, S-5	GT-5, S-6	GT-6, S-4	GT-7, S-8	GT-8, S-7	GT-8, S-9	GT-9, S-10	GT-10, S-11
Location:												
Depth			4'-5'	4'-5'	4'-5'	1'-5'	4'-5'	4'-5'	4'-5'	60'-62'	4'-5'	4'-5'
Laboratory ID:			99-11918-001	99-11918-002	99-120066-006	99-12066-004	99-12066-002	99-12142-002	99-12136-002	99-12143-001	99-12172-001	99-12172-002
Sampling Date:			11/11/99	11/11/99	11/16/99	11/16/99	11/16/99	11/18/99	11/18/99	11/18/99	11/19/99	11/19/99
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte:		Units:										
PCBs												
None Detected			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TCLP Volatiles												
None Detected			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TCLP Semi-Volatiles												
None Detected			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TCLP Metals												
Arsenic	5	mg/L	ND	0.027	0.1	0.32	ND	ND	ND	ND	ND	0.073
Barium	100	mg/L	0.21	0.67	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	1	mg/L	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	5	mg/L	0.007	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	5	mg/L	0.045	0.4	ND	ND	0.068	ND	ND	ND	ND	ND
Selenium	1	mg/L	0.01	ND	ND	ND	0.071	0.1	0.087	0.088	0.055	ND
Total Petroleum Hydrocarbons												
TPH		mg/kg	1220	402	29.7	5200	2590	451	18.9	NA	43.9	18.2

ND - Not Detected
NA - Not Analyzed

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	NYSDEC		00-03386-001		01-08096-001		00-03386-006		01-08096-005		00-03386-004		00-03386-0
	Sample Location:	Class GA		MW-1		MW-1		MW-2		MW-2		MW-3		MW-3 Du
	Depth:	Groundwater		-		-		-		-		-		-
	Laboratory ID:	Quality		201473.01		L4148-1		201473.06		L4148-3		201473.04		201473.0
	Sampling Date:	Standards		4/6/00		8/8/2001		4/6/00		8/8/2001		4/6/00		4/6/00
	Matrix:	and Guidance		Water		Water		Water		Water		Water		Water
	Validated:	Values (1)		No		No		No		No		No		No
Cas #:	Analyte:		Units:											
	PCBs													
12674-11-2	PCB 1016		µg/L	1	U	0.08	U	1	U	0.08	U	1	U	1
11104-28-2	PCB 1221		µg/L	1	U	0.06	U	1	U	0.06	U	1	U	1
11141-16-5	PCB 1232		µg/L	1	U	0.05	U	1	U	0.05	U	1	U	1
53469-21-9	PCB 1242		µg/L	1	U	0.06	U	1	U	0.06	U	1	U	1
12672-29-6	PCB 1248		µg/L	1	U	0.04	U	1	U	0.04	U	1	U	1
11097-69-1	PCB 1254		µg/L	1	U	0.03	U	1	U	0.03	U	1	U	1
11096-82-5	PCB 1260		µg/L	1	U	0.06	U	1	U	0.06	U	1	U	1
	Volatiles													
74-87-3	Chloromethane		µg/L	1	U	0.37	U	1	U	0.37	U	1	U	1
74-83-9	Bromomethane		µg/L	1	U	0.45	U	1	U	0.45	U	1	U	1
75-01-4	Vinyl Chloride		µg/L	1	U	0.07	U	1	U	0.07	U	1	U	1
75-00-3	Chloroethane		µg/L	1	U	0.18	U	1	U	0.18	U	1	U	1
75-09-2	Methylene Chloride	5	µg/L	1	U	0.15	U	1	U	0.15	U	1	U	1
67-64-1	Acetone		µg/L	10	U	1.44	U	10	U	1.44	U	10	U	10
75-15-0	Carbon disulfide		µg/L		U	0.22	U		U	0.22	U		U	
75-35-4	1,1-Dichloroethene		µg/L	1	U	0.14	U	1	U	0.14	U	1	U	1
75-34-3	1,1-Dichloroethane		µg/L	1	U	0.12	U	1	U	0.12	U	1	U	1
156-60-5	t-1,2-Dichloroethene		µg/L	1	U	0.14	U	1	U	0.14	U	1	U	1
156-59-2	c-1,2-Dichloroethene	5	µg/L	1	U	0.14	U	1	U	0.14	U	1	U	1
67-66-3	Chloroform		µg/L	1	U	1.7		1	U	0.15	U	1	U	10
107-06-2	1,2-Dichloroethane		µg/L	1	U	0.13	U	1	U	0.13	U	1	U	1
78-93-3	2-Butanone		µg/L	10	U	6.25	U	10	U	6.25	U	10	U	10
71-55-6	1,1,1-Trichloroethane		µg/L	1	U	0.16	U	1	U	0.16	U	1	U	1
56-23-5	Carbon Tetrachloride		µg/L	1	U	0.13	U	1	U	0.13	U	1	U	1
75-27-4	Bromodichloromethane		µg/L	1	U	0.07	U	1	U	0.07	U	1	U	1
78-87-5	1,2-Dichloropropane		µg/L	1	U	0.15	U	1	U	0.15	U	1	U	1
10061-01-5	cis-1,3-Dichloropropene		µg/L	1	U	0.07	U	1	U	0.07	U	1	U	1
79-01-6	Trichloroethene	5	µg/L	1	U	0.17	U	1	U	0.17	U	1	U	1
124-48-1	Dibromochloromethane		µg/L	1	U	0.12	U	1	U	0.12	U	1	U	1
79-00-5	1,1,2-Trichloroethane		µg/L	1	U	0.2	U	1	U	0.2	U	1	U	1
71-43-2	Benzene	1	µg/L	1	U	0.13	U	1	U	0.13	U	1	U	1
10061-02-6	trans-1,3-Dichloropropene		µg/L	1	U	0.06	U	1	U	0.06	U	1	U	1
75-25-2	Bromoform		µg/L	1	U	0.09	U	1	U	0.09	U	1	U	1
108-10-1	4-Methyl-2-pentanone		µg/L	10	U	0.97	U	10	U	0.97	U	10	U	10
591-78-6	2-Hexanone		µg/L	NA		1.48	U	NA		1.48	U	NA		NA
127-18-4	Tetrachloroethene	5	µg/L	1	U	0.2	U	1	U	0.2	U	1	U	1
108-88-3	Toluene	5	µg/L	1	U	0.14	U	1	U	0.14	U	1	U	1
79-34-5	1,1,2,2-Tetrachloroethane		µg/L	1	U	0.09	U	1	U	0.09	U	1	U	1
108-90-7	Chlorobenzene		µg/L	1	U	0.12	U	1	U	0.12	U	1	U	1
100-41-4	Ethylbenzene	5	µg/L	1	U	0.18	U	1	U	0.18	U	1	U	1
100-42-5	Styrene		µg/L	1	U	0.14	U	1	U	0.14	U	1	U	1
108-38-3	m,p-xylene	5	µg/L	2	U	0.31	U	2	U	0.31	U	2	U	2
95-47-6	o-xylene	5	µg/L	1	U	0.16	U	1	U	0.16	U	1	U	1
	Total BTEX		µg/L	ND		ND		ND		ND		ND		ND
	Semi-Volatiles													
108-95-2	Phenol		µg/L	NA		0.23	U	NA		0.23	U	NA		NA
111-44-4	bis(2-Chloroethyl)ether		µg/L	1	U	0.57	U	1	U	0.57	U	1	U	1
95-57-8	2-Chlorophenol		µg/L	NA		0.28	U	NA		0.28	U	NA		NA
541-73-1	1,3-Dichlorobenzene		µg/L	1	U	0.3	U	1	U	0.3	U	1	U	1
106-46-7	1,4-Dichlorobenzene		µg/L	1	U	0.36	U	1	U	0.36	U	1	U	1
95-50-1	1,2-Dichlorobenzene		µg/L	1	U	0.22	U	1	U	0.22	U	1	U	1
95-48-7	2-Methylphenol		µg/L	NA		0.54	U	NA		0.54	U	NA		NA
108-60-1	bis(2-Chloroisopropyl)ether		µg/L	1	U	0.81	U	1	U	0.81	U	1	U	1
106-44-5	3+4-Methylphenol		µg/L	NA		0.42	U	NA		0.42	U	NA		NA
621-64-7	N-Nitrosodi-n-propylamine		µg/L	1	U	0.48	U	1	U	0.48	U	1	U	1
67-72-1	Hexachloroethane		µg/L	1	U	0.48	U	1	U	0.48	U	1	U	1
98-95-3	Nitrobenzene		µg/L	1	U	0.54	U	1	U	0.54	U	1	U	1
78-59-1	Isophorone		µg/L	1	U	0.52	U	1	U	0.52	U	1	U	1
88-75-5	2-Nitrophenol		µg/L	NA		0.3	U	NA		0.3	U	NA		NA
105-67-9	2,4-Dimethylphenol		µg/L	NA		0.76	U	NA		0.76	U	NA		NA
111-91-1	bis(2-Chloroethoxy)methane		µg/L	1	U	0.41	U	1	U	0.41	U	1	U	1
120-83-2	2,4-Dichlorophenol		µg/L	NA		0.37	U	NA		0.37	U	NA		NA
120-82-1	1,2,4-Trichlorobenzene		µg/L	1	U	0.43	U	1	U	0.43	U	1	U	1
106-47-8	4-Chloroaniline		µg/L	NA		0.43	U	NA		0.43	U	NA		NA
87-68-3	Hexachlorobutadiene		µg/L	1	U	0.52	U	1	U	0.52	U	1	U	1
59-50-7	4-Chloro-3-methylphenol		µg/L	NA		0.28	U	NA		0.28	U	NA		NA
77-47-4	Hexachlorocyclopentadiene		µg/L	10	U	0.77	U	10	U	0.77	U	10	U	10
88-06-2	2,4,6-Trichlorophenol		µg/L	NA		0.56	U	NA		0.56	U	NA		NA
95-95-4	2,4,5-Trichlorophenol		µg/L	NA		0.44	U	NA		0.44	U	NA		NA

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	NYSDEC		00-03386-001		01-08096-001		00-03386-006		01-08096-005		00-03386-004		00-03386-(
	Sample Location:	Class GA		MW-1		MW-1		MW-2		MW-2		MW-3		MW-3 Du
	Depth:	Groundwater		-		-		-		-		-		-
	Laboratory ID:	Quality		201473.01		L4148-1		201473.06		L4148-3		201473.04		201473.0
	Sampling Date:	Standards		4/6/00		8/8/2001		4/6/00		8/8/2001		4/6/00		4/6/00
	Matrix:	and Guidance		Water		Water		Water		Water		Water		Water
	Validated:	Values (1)		No		No		No		No		No		No
Cas #:	Analyte:		Units:											
91-58-7	2-Chloronaphthalene		µg/L	1	U	0.34	U	1	U	0.34	U	1	U	1
88-74-4	2-Nitroaniline		µg/L	NA		0.4	U	NA		0.4	U	NA		NA
131-11-3	Dimethylphthalate		µg/L	1	U	1.37	U	1	U	1.37	U	1	U	1
606-20-2	2,6-Dinitrotoluene		µg/L	1	U	0.55	U	1	U	0.55	U	1	U	1
99-09-2	3-Nitroaniline		µg/L	NA		0.52	U	NA		0.52	U	NA		NA
51-28-5	2,4-Dinitrophenol		µg/L	NA		2.34	U	NA		2.34	U	NA		NA
100-02-7	4-Nitrophenol		µg/L	NA		0.9	U	NA		0.9	U	NA		NA
132-64-9	Dibenzofuran	NS	µg/L	NA		0.52	U	NA		0.52	U	NA		NA
121-14-2	2,4-Dinitrotoluene		µg/L	1	U	0.31	U	1	U	0.31	U	1	U	1
84-66-2	Diethylphthalate	50 (G)	µg/L	1	U	0.87	U	1	U	0.25	J	1	U	1
7005-72-3	4-Chlorophenyl phenyl ether		µg/L	1	U	0.51	U	1	U	0.51	U	1	U	1
100-01-6	4-Nitroaniline		µg/L	NA		0.6	U	NA		0.6	U	NA		NA
534-52-1	4,6-Dinitro-2-methylphenol		µg/L	NA		0.3	U	NA		0.3	U	NA		NA
86-30-6	N-Nitrosodiphenylamine		µg/L	1	U	0.72	U	1	U	0.72	U	1	U	1
101-55-3	4-Bromophenyl phenyl ether		µg/L	1	U	0.38	U	1	U	0.38	U	1	U	1
118-74-1	Hexachlorobenzene		µg/L	1	U	0.38	U	1	U	0.38	U	1	U	1
87-86-5	Pentachlorophenol		µg/L	NA		0.36	U	NA		0.36	U	NA		NA
86-74-8	Carbazole	NS	µg/L	NA		0.41	U	NA		2.1		NA		NA
84-74-2	Di-n-butylphthalate	NS	µg/L	1	U	0.26	J	1	U	0.42	U	1	U	1
85-68-7	Butylbenzylphthalate		µg/L	1	U	0.54	U	1	U	0.54	U	1	U	1
91-94-1	3,3'-Dichlorobenzidine		µg/L	10	U	1.01	U	10	U	1.01	U	10	U	10
117-81-7	bis(2-Ethylhexyl)phthalate	5	µg/L	1	U	0.63	J	1	U	3.8		1	U	1
117-84-0	Di-n-octylphthalate		µg/L	1	U	0.48	U	1	U	0.48	U	1	U	1
	Non Carcinogenic PAHs													
83-32-9	Acenaphthene	20 (G)	µg/L	1	U	0.51	U	1	U	13.2		1	U	1
208-96-8	Acenaphthylene	NS	µg/L	1	U	0.49	U	1	U	3.3		1	U	1
120-12-7	Anthracene	50 (G)	µg/L	1	U	0.41	U	1	U	1.2		1	U	1
191-24-2	Benzo(g,h,i)perylene	NS	µg/L	1	U	0.38	U	1	U	0.38	U	1	U	1
206-44-0	Fluoranthene	50 (G)	µg/L	1	U	0.54	U	1	U	2.6		1	U	1
86-73-7	Fluorene	50 (G)	µg/L	1	U	0.61	U	1	U	1.8		1	U	1
91-57-6	2-Methylnaphthalene	NS	µg/L	NA		0.35	U	NA		0.41		NA		NA
91-20-3	Naphthalene	10 (G)	µg/L	1	U	0.3	U	1	U	1.2		1	U	1
85-01-8	Phenanthrene	50 (G)	µg/L	1	U	0.36	U	1	U	1.1		1	U	1
129-00-0	Pyrene	50 (G)	µg/L	1	U	0.47	U	1	U	3.5		1	U	1
	Total Non Carcinogenic PAHs		µg/L	ND		ND		ND		28.31		ND		ND
	Probable Carcinogenic PAHs													
56-55-3	Benzo(a)anthracene	0.002	µg/L	1	U	0.44	U	1	U	1.9		1	U	1
205-99-2	Benzo(b)fluoranthene	0.002	µg/L	1	U	0.79	U	1	U	1.4		1	U	1
207-08-9	Benzo(k)fluoranthene	0.002	µg/L	1	U	0.7	U	1	U	2.3		1	U	1
50-32-8	Benzo(a)pyrene	ND	µg/L	1	U	0.33	U	1	U	3.2		1	U	1
218-01-9	Chrysene	0.002	µg/L	1	U	0.32	U	1	U	2		1	U	1
193-39-5	Indeno(1,2,3-cd)pyrene	0.002	µg/L	1	U	0.34	U	1	U	1.1		1	U	1
53-70-3	Dibenz(a,h)anthracene	NS	µg/L	1	U	0.42	U	1	U	0.42	U	1	U	1
	Total Probable Carcinogenic PAHs		µg/L	ND		ND		ND		11.9		ND		ND
	Total PAHs		**µg/L**	**ND**		**ND**		**ND**		**40.21**		**ND**		**ND**
	Metals													
7439-97-6	Mercury	0.0007	mg/L	0.00025	U	0.000031	J	0.00025	U	0.00029		0.00025	U	0.00025
7429-90-5	Aluminum	0.1	mg/L	11		17		**19**		10		**0.49**		**0.64**
7440-36-0	Antimony	0.003	mg/L	0.005	U	0.0091		0.005	U	0.008		0.005	U	0.005
7440-38-2	Arsenic	0.025	mg/L	0.005	U	0.0048	U	0.005	U	0.0048	U	0.005	U	0.005
7440-39-3	Barium	1	mg/L	0.23		0.27		0.69		0.63		0.19		0.19
7440-41-7	Beryllium	0.003	mg/L	0.001	U	0.0012	U	0.001	U	0.0012	U	0.001	U	0.001
7440-43-9	Cadmium	0.005 (G)	mg/L	0.005	U	0.0012	U	0.005	U	0.0001	J	0.005	U	0.005
7440-70-2	Calcium	NS	mg/L	150		92.8		250		161		160		160
7440-47-3	Chromium	0.05	mg/L	0.041		0.076		0.045		0.027		0.005	U	0.005
7440-48-4	Cobalt	NS	mg/L	0.01		0.018		0.024		0.012		0.005	U	0.005
7440-50-8	Copper	0.2	mg/L	0.04		0.046		0.08		0.031		0.02		0.03
7439-89-6	Iron	0.3	mg/L	**18**		32.2		**31**		25.2		**0.78**		**0.95**
7439-92-1	Lead	0.025	mg/L	0.005	U	0.01		0.021		0.017		0.005	U	0.005
7439-95-4	Magnesium	35 (G)	mg/L	**42**		35.6		**90**		51.8		**44**		**45**
7439-96-5	Manganese	0.3	mg/L	**0.75**		0.87		**2.7**		2.29		**0.89**		**0.92**
7440-02-0	Nickel	0.1	mg/L	0.03		0.028		0.06		0.018		0.01		0.02
7440-09-7	Potassium	NS	mg/L	24		19.5		36		19.8		14		10
7782-49-2	Selenium	0.01	mg/L	0.012		0.0047	U	0.005	U	0.0047	U	0.008		0.007
7440-22-4	Silver	0.05	mg/L	0.005	U	0.0015	U	0.005	U	0.0015	U	0.005	U	0.005
7440-23-5	Sodium	20	mg/L	**38**		23.9		**450**		757		**120**		**120**
7440-28-0	Thallium	0.0005 (G)	mg/L	0.005	U	0.0039	U	0.005	U	0.0039	U	0.005	U	0.005

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	NYSDEC		00-03386-001		01-08096-001		00-03386-006		01-08096-005		00-03386-004		00-03386-(
	Sample Location:	Class GA		MW-1		MW-1		MW-2		MW-2		MW-3		MW-3 Du
	Depth:	Groundwater		-		-		-		-		-		-
	Laboratory ID:	Quality		201473.01		L4148-1		201473.06		L4148-3		201473.04		201473.0
	Sampling Date:	Standards		4/6/00		8/8/2001		4/6/00		8/8/2001		4/6/00		4/6/00
	Matrix:	and Guidance		Water		Water		Water		Water		Water		Water
	Validated:	Values (1)		No		No		No		No		No		No
Cas #:	Analyte:		Units:											
7440-62-2	Vanadium	NS	mg/L	0.031		0.019		0.078		0.0094		0.005	U	0.005
7440-66-6	Zinc	2 (G)	mg/L	0.08		0.13		0.2		0.12		0.01	U	0.01
57-12-5	Cyanide	0.2	mg/L	0.12		0.008		0.02		0.003		0.02	U	0.17

(1) - Ambient Water Quality Standards and Guidance Values
TOGS 1.1.1 (October 1998)
U - Below detection limit
J - Estimated value
ND - Not detected
(G) - Guidance value
NS - No standard or guidance value
NR - Not run

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	NYSDEC		08	01-08096-004		00-03386-005		01-08096-007		00-03386-007		01-08096-008	
	Sample Location:	Class GA		p	MW-3		MW-4		MW-4		MW-5		MW-5	
	Depth:	Groundwater			-		-		-		-		-	
	Laboratory ID:	Quality		8	L4148-2		201473.05		L4148-5		201473.07		L4148-6	
	Sampling Date:	Standards			8/8/2001		4/6/00		8/9/2001		4/6/00		8/9/2001	
	Matrix:	and Guidance			Water		Water		Water		Water		Water	
	Validated:	Values (1)			No		No		No		No		No	
Cas #:	Analyte:		Units:											
	PCBs													
12674-11-2	PCB 1016		µg/L	U	0.08	U	1	U	0.08	U	1	U	0.08	U
11104-28-2	PCB 1221		µg/L	U	0.06	U	1	U	0.06	U	1	U	0.06	U
11141-16-5	PCB 1232		µg/L	U	0.05	U	1	U	0.05	U	1	U	0.05	U
53469-21-9	PCB 1242		µg/L	U	0.06	U	1	U	0.06	U	1	U	0.06	U
12672-29-6	PCB 1248		µg/L	U	0.04	U	1	U	0.04	U	1	U	0.04	U
11097-69-1	PCB 1254		µg/L	U	0.03	U	1	U	0.03	U	1	U	0.03	U
11096-82-5	PCB 1260		µg/L	U	0.06	U	1	U	0.06	U	1	U	0.06	U
	Volatiles													
74-87-3	Chloromethane		µg/L	U	0.37	U	1	U	0.37	U	1	U	0.37	U
74-83-9	Bromomethane		µg/L	U	0.45	U	1	U	0.45	U	1	U	0.45	U
75-01-4	Vinyl Chloride		µg/L	U	0.07	U	1	U	0.07	U	1	U	0.07	U
75-00-3	Chloroethane		µg/L	U	0.18	U	1	U	0.18	U	1	U	0.18	U
75-09-2	Methylene Chloride	5	µg/L	U	0.15	U	1	U	0.15	U	1	U	0.15	U
67-64-1	Acetone		µg/L	U	1.44	U	10	U	1.44	U	10	U	1.44	U
75-15-0	Carbon disulfide		µg/L	U	0.22	U		U	0.22	U		U	0.22	U
75-35-4	1,1-Dichloroethene		µg/L	U	0.14	U	1	U	0.14	U	1	U	0.14	U
75-34-3	1,1-Dichloroethane		µg/L	U	0.12	U	1	U	0.12	U	1	U	0.12	U
156-60-5	t-1,2-Dichloroethene		µg/L	U	0.14	U	1	U	0.14	U	1	U	0.14	U
156-59-2	c-1,2-Dichloroethene	5	µg/L	U	0.14	U	1	U	0.14	U	1	U	0.14	U
67-66-3	Chloroform		µg/L		0.15	U	1	U	0.15	U	1	U	0.15	U
107-06-2	1,2-Dichloroethane		µg/L	U	0.13	U	1	U	0.13	U	1	U	0.13	U
78-93-3	2-Butanone		µg/L	U	6.25	U	10	U	6.25	U	10	U	6.25	U
71-55-6	1,1,1-Trichloroethane		µg/L	U	0.16	U	1	U	0.16	U	1	U	0.16	U
56-23-5	Carbon Tetrachloride		µg/L	U	0.13	U	1	U	0.13	U	1	U	0.13	U
75-27-4	Bromodichloromethane		µg/L	U	0.07	U	1	U	0.07	U	1	U	0.07	U
78-87-5	1,2-Dichloropropane		µg/L	U	0.15	U	1	U	0.15	U	1	U	0.15	U
10061-01-5	cis-1,3-Dichloropropene		µg/L	U	0.07	U	1	U	0.07	U	1	U	0.07	U
79-01-6	Trichloroethene	5	µg/L	U	0.17	U	1	U	0.17	U	1	U	0.17	U
124-48-1	Dibromochloromethane		µg/L	U	0.12	U	1	U	0.12	U	1	U	0.12	U
79-00-5	1,1,2-Trichloroethane		µg/L	U	0.2	U	1	U	0.2	U	1	U	0.2	U
71-43-2	Benzene	1	µg/L	U	0.13	U	1	U	0.13	U	4		0.13	U
10061-02-6	trans-1,3-Dichloropropene		µg/L	U	0.06	U	1	U	0.06	U	1	U	0.06	U
75-25-2	Bromoform		µg/L	U	0.09	U	1	U	0.09	U	1	U	0.09	U
108-10-1	4-Methyl-2-pentanone		µg/L	U	0.97	U	10	U	0.97	U	10	U	0.97	U
591-78-6	2-Hexanone		µg/L		1.48	U	NA		1.48	U	NA		1.48	U
127-18-4	Tetrachloroethene	5	µg/L	U	0.2	U	1	U	0.2	U	1	U	0.2	U
108-88-3	Toluene	5	µg/L	U	0.14	U	1	U	0.14	U	47		5.8	
79-34-5	1,1,2,2-Tetrachloroethane		µg/L	U	0.09	U	1	U	0.09	U	1	U	0.09	U
108-90-7	Chlorobenzene		µg/L	U	0.12	U	1	U	0.12	U	1	U	0.12	U
100-41-4	Ethylbenzene	5	µg/L	U	0.18	U	1	U	0.18	U	270		60.8	
100-42-5	Styrene		µg/L	U	0.14	U	1	U	0.14	U	1	U	0.14	U
108-38-3	m,p-xylene	5	µg/L	U	0.31	U	2	U	0.31	U	210		13	
95-47-6	o-xylene	5	µg/L	U	0.16	U	1	U	0.16	U	170		48.6	
	Total BTEX		µg/L		ND		ND		ND		701		128.2	
	Semi-Volatiles													
108-95-2	Phenol		µg/L		0.23	U	NA		0.23	U	NA		0.23	U
111-44-4	bis(2-Chloroethyl)ether		µg/L	U	0.57	U	1	U	0.57	U	1	U	0.57	U
95-57-8	2-Chlorophenol		µg/L		0.28	U	NA		0.28	U	NA		0.28	U
541-73-1	1,3-Dichlorobenzene		µg/L	U	0.3	U	1	U	0.3	U	1	U	0.3	U
106-46-7	1,4-Dichlorobenzene		µg/L	U	0.36	U	1	U	0.36	U	1	U	0.36	U
95-50-1	1,2-Dichlorobenzene		µg/L	U	0.22	U	1	U	0.22	U	1	U	0.22	U
95-48-7	2-Methylphenol		µg/L		0.54	U	NA		0.54	U	NA		0.54	U
108-60-1	bis(2-Chloroisopropyl)ether		µg/L	U	0.81	U	1	U	0.81	U	1	U	0.81	U
106-44-5	3+4-Methylphenol		µg/L		0.42	U	NA		0.42	U	NA		0.42	U
621-64-7	N-Nitrosodi-n-propylamine		µg/L	U	0.48	U	1	U	0.48	U	1	U	0.48	U
67-72-1	Hexachloroethane		µg/L	U	0.48	U	1	U	0.48	U	1	U	0.48	U
98-95-3	Nitrobenzene		µg/L	U	0.54	U	1	U	0.54	U	1	U	0.54	U
78-59-1	Isophorone		µg/L	U	0.52	U	1	U	0.52	U	1	U	0.52	U
88-75-5	2-Nitrophenol		µg/L		0.3	U	NA		0.3	U	NA		0.3	U
105-67-9	2,4-Dimethylphenol		µg/L		0.76	U	NA		0.76	U	NA		0.76	U
111-91-1	bis(2-Chloroethoxy)methane		µg/L	U	0.41	U	1	U	0.41	U	1	U	0.41	U
120-83-2	2,4-Dichlorophenol		µg/L		0.37	U	NA		0.37	U	NA		0.37	U
120-82-1	1,2,4-Trichlorobenzene		µg/L	U	0.43	U	1	U	0.43	U	1	U	0.43	U
106-47-8	4-Chloroaniline		µg/L		0.43	U	NA		0.43	U	NA		0.43	U
87-68-3	Hexachlorobutadiene		µg/L	U	0.52	U	1	U	0.52	U	1	U	0.52	U
59-50-7	4-Chloro-3-methylphenol		µg/L		0.28	U	NA		0.28	U	NA		0.28	U
77-47-4	Hexachlorocyclopentadiene		µg/L	U	0.77	U	10	U	0.77	U	10	U	0.77	U
88-06-2	2,4,6-Trichlorophenol		µg/L		0.56	U	NA		0.56	U	NA		0.56	U
95-95-4	2,4,5-Trichlorophenol		µg/L		0.44	U	NA		0.44	U	NA		0.44	U

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	NYSDEC		08	01-08096-004		00-03386-005		01-08096-007		00-03386-007		01-08096-008	
	Sample Location:	Class GA		p	MW-3		MW-4		MW-4		MW-5		MW-5	
	Depth:	Groundwater			-		-		-		-		-	
	Laboratory ID:	Quality		8	L4148-2		201473.05		L4148-5		201473.07		L4148-6	
	Sampling Date:	Standards			8/8/2001		4/6/00		8/9/2001		4/6/00		8/9/2001	
	Matrix:	and Guidance			Water		Water		Water		Water		Water	
	Validated:	Values (1)			No		No		No		No		No	
Cas #:	Analyte:		Units:											
91-58-7	2-Chloronaphthalene		µg/L	U	0.34	U	1	U	0.34	U	1	U	0.34	U
88-74-4	2-Nitroaniline		µg/L		0.4	U	NA		0.4	U	NA		0.4	U
131-11-3	Dimethylphthalate		µg/L	U	1.37	U	1	U	1.37	U	1	U	1.37	U
606-20-2	2,6-Dinitrotoluene		µg/L	U	0.55	U	1	U	0.55	U	1	U	0.55	U
99-09-2	3-Nitroaniline		µg/L		0.52	U	NA		0.52	U	NA		0.52	U
51-28-5	2,4-Dinitrophenol		µg/L		2.34	U	NA		2.34	U	NA		2.34	U
100-02-7	4-Nitrophenol		µg/L		0.9	U	NA		0.9	U	NA		0.9	U
132-64-9	Dibenzofuran	NS	µg/L		0.52	U	NA		0.52	U	NA		0.52	U
121-14-2	2,4-Dinitrotoluene		µg/L	U	0.31	U	1	U	0.31	U	1	U	0.31	U
84-66-2	Diethylphthalate	50 (G)	µg/L	U	0.87	U	1	U	0.87	U	1	U	0.87	U
7005-72-3	4-Chlorophenyl phenyl ether		µg/L	U	0.51	U	1	U	0.51	U	1	U	0.51	U
100-01-6	4-Nitroaniline		µg/L		0.6	U	NA		0.6	U	NA		0.6	U
534-52-1	4,6-Dinitro-2-methylphenol		µg/L		0.3	U	NA		0.3	U	NA		0.3	U
86-30-6	N-Nitrosodiphenylamine		µg/L	U	0.72	U	1	U	0.72	U	1	U	0.72	U
101-55-3	4-Bromophenyl phenyl ether		µg/L	U	0.38	U	1	U	0.38	U	1	U	0.38	U
118-74-1	Hexachlorobenzene		µg/L	U	0.38	U	1	U	0.38	U	1	U	0.38	U
87-86-5	Pentachlorophenol		µg/L		0.36	U	NA		0.36	U	NA		0.36	U
86-74-8	Carbazole	NS	µg/L		0.41	U	NA		0.41	U	NA		0.41	U
84-74-2	Di-n-butylphthalate	NS	µg/L	U	0.24	J	1	U	0.21	J	1	U	0.22	J
85-68-7	Butylbenzylphthalate		µg/L	U	0.54	U	1	U	0.54	U	1	U	0.54	U
91-94-1	3,3'-Dichlorobenzidine		µg/L	U	1.01	U	10	U	1.01	U	10	U	1.01	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	µg/L	U	0.95		1	U	1.1		16		1.3	
117-84-0	Di-n-octylphthalate		µg/L	U	0.48	U	1	U	0.48	U	1	U	0.48	U
	Non Carcinogenic PAHs													
83-32-9	Acenaphthene	20 (G)	µg/L	U	0.51	U	1	U	0.51	U	**84**		0.51	U
208-96-8	Acenaphthylene	NS	µg/L	U	0.49	U	1	U	0.49	U	10		0.49	U
120-12-7	Anthracene	50 (G)	µg/L	U	0.41	U	1	U	0.41	U	11		0.41	U
191-24-2	Benzo(g,h,i)perylene	NS	µg/L	U	0.38	U	1	U	0.38	U	1	U	0.38	U
206-44-0	Fluoranthene	50 (G)	µg/L	U	0.54	U	1	U	0.54	U	7		0.54	U
86-73-7	Fluorene	50 (G)	µg/L	U	0.61	U	1	U	0.61	U	38		0.61	U
91-57-6	2-Methylnaphthalene	NS	µg/L		0.35	U	NA		0.35	U	NA		0.35	U
91-20-3	Naphthalene	10 (G)	µg/L	U	0.21	J	1	U	0.3	U	**2900**		0.88	
85-01-8	Phenanthrene	50 (G)	µg/L	U	0.36	U	1	U	0.36	U	36		0.36	U
129-00-0	Pyrene	50 (G)	µg/L	U	0.47	U	1	U	0.47	U	9		0.31	J
	Total Non Carcinogenic PAHs		µg/L		0.21		ND		ND		3095		1.19	
	Probable Carcinogenic PAHs													
56-55-3	Benzo(a)anthracene	0.002	µg/L	U	0.44	U	1	U	0.44	U	**3**		0.44	U
205-99-2	Benzo(b)fluoranthene	0.002	µg/L	U	0.79	U	1	U	0.79	U	2		0.79	U
207-08-9	Benzo(k)fluoranthene	0.002	µg/L	U	0.7	U	1	U	0.7	U	**100**		0.7	U
50-32-8	Benzo(a)pyrene	ND	µg/L	U	0.33	U	1	U	0.33	U	**100**		0.29	J
218-01-9	Chrysene	0.002	µg/L	U	0.32	U	1	U	0.32	U	**3**		0.32	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.002	µg/L	U	0.34	U	1	U	0.34	U	1	U	0.34	U
53-70-3	Dibenz(a,h)anthracene	NS	µg/L	U	0.42	U	1	U	0.42	U	1	U	0.42	U
	Total Probable Carcinogenic PAHs		µg/L		ND		ND		ND		208		0.29	
	Total PAHs		**µg/L**		**0.21**		**ND**		**ND**		**3303**		**1.48**	
	Metals													
7439-97-6	Mercury	0.0007	mg/L	U	0.00034	J	0.00025	U	0.000092		0.00025	U	0.00068	
7429-90-5	Aluminum	0.1	mg/L		10.2		**3.3**		11.8		**1.7**		4.3	
7440-36-0	Antimony	0.003	mg/L	U	0.012		0.005	U	0.0069		0.005	U	0.0058	
7440-38-2	Arsenic	0.025	mg/L	U	0.0048	U	0.005	U	0.0048	U	0.005	U	0.0048	U
7440-39-3	Barium	1	mg/L		0.19		0.092		0.43		0.18		0.28	
7440-41-7	Beryllium	0.003	mg/L	U	0.0012	U	0.001	U	0.0012	U	0.001	U	0.0012	U
7440-43-9	Cadmium	0.005 (G)	mg/L	U	0.0003	J	0.005	U	0.0009	J	0.005	U	0.001	J
7440-70-2	Calcium	NS	mg/L		96.8		24		187		38		67.2	
7440-47-3	Chromium	0.05	mg/L	U	0.022		0.01		0.028		0.005	U	0.018	
7440-48-4	Cobalt	NS	mg/L	U	0.013		0.006		0.03		0.005	U	0.0053	
7440-50-8	Copper	0.2	mg/L		0.031		0.02		0.043		**0.82**		0.024	
7439-89-6	Iron	0.3	mg/L		20.7		6		19.3		**3.9**		10.4	
7439-92-1	Lead	0.025	mg/L	U	0.0078		0.005	U	0.013		0.005	U	0.0072	
7439-95-4	Magnesium	35 (G)	mg/L		36.3		10		80.9		6.6		10.4	
7439-96-5	Manganese	0.3	mg/L		0.93		**0.59**		5.47		0.25		0.42	
7440-02-0	Nickel	0.1	mg/L		0.021		0.02		0.049		0.01	U	0.009	
7440-09-7	Potassium	NS	mg/L		8.69		7.7		26.1		10		7.63	
7782-49-2	Selenium	0.01	mg/L		0.0025	J	0.005	U	0.0047	U	0.005	U	0.0034	J
7440-22-4	Silver	0.05	mg/L	U	0.0089		0.005	U	0.0015	U	0.005	U	0.0015	U
7440-23-5	Sodium	20	mg/L		61.6		**86**		497		75		15.9	
7440-28-0	Thallium	0.0005 (G)	mg/L	U	0.0039	U	0.005	U	0.0039	U	0.005	U	0.0039	U

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	NYSDEC		08	01-08096-004		00-03386-005		01-08096-007		00-03386-007		01-08096-008	
	Sample Location:	Class GA		p	MW-3		MW-4		MW-4		MW-5		MW-5	
	Depth:	Groundwater			-		-		-		-		-	
	Laboratory ID:	Quality		8	L4148-2		201473.05		L4148-5		201473.07		L4148-6	
	Sampling Date:	Standards			8/8/2001		4/6/00		8/9/2001		4/6/00		8/9/2001	
	Matrix:	and Guidance			Water		Water		Water		Water		Water	
	Validated:	Values (1)			No		No		No		No		No	
Cas #:	Analyte:		Units:											
7440-62-2	Vanadium	NS	mg/L	U	0.0011	J	0.025		0.0045		0.007		0.0043	
7440-66-6	Zinc	2 (G)	mg/L	U	0.091		0.01	U	0.16		0.01	U	0.24	
57-12-5	Cyanide	0.2	mg/L		0.002	J	0.02	U	0.005		0.25		0.22	

(1) - Ambient Water Quality Standards and Guidance Values
TOGS 1.1.1 (October 1998)
U - Below detection limit
J - Estimated value
ND - Not detected
(G) - Guidance value
NS - No standard or guidance value
NR - Not run

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**NYSDEC**		**01-04484-001**		**01-04484-002**		**01-04484-003**		**01-04484-006**		**01-08096-006**		**00-02434-(**
	Sample Location:	**Class GA**		**MW-6**		**MW-7**		**MW-8**		**MW-8 (Dup)**		**MW-A**		**TW-1**
	Depth:	**Groundwater**		**-**		**-**		**-**		**-**		**-**		**-**
	Laboratory ID:	**Quality**		**L4113-1**		L4113-2		**L4113-3**		**L4113-4**		L4148-4		**J4459-3**
	Sampling Date:	**Standards**		**7/26/2001**		**7/26/2001**		**7/27/2001**		**7/27/2001**		**8/8/2001**		**3/14/00**
	Matrix:	**and Guidance**		**Water**		**Water**		**Water**		**Water**		**Water**		**Water**
	Validated:	**Values (1)**		**No**		**No**		**No**		**No**		**No**		**No**
Cas #:	**Analyte:**		**Units:**											
	PCBs													
12674-11-2	PCB 1016		µg/L	0.08	U	0.08	U	0.08	U	0.08	U	0.08	U	0.080
11104-28-2	PCB 1221		µg/L	0.06	U	0.06	U	0.06	U	0.06	U	0.06	U	0.030
11141-16-5	PCB 1232		µg/L	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.11
53469-21-9	PCB 1242		µg/L	0.06	U	0.06	U	0.06	U	0.06	U	0.06	U	0.020
12672-29-6	PCB 1248		µg/L	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U	0.090
11097-69-1	PCB 1254		µg/L	0.03	U	0.03	U	0.03	U	0.03	U	0.03	U	0.040
11096-82-5	PCB 1260		µg/L	0.06	U	0.06	U	0.06	U	0.06	U	0.06	U	0.080
	Volatiles													
74-87-3	Chloromethane		µg/L	0.98	U	0.49	U	0.49	U	0.49	U	0.37	U	1.90
74-83-9	Bromomethane		µg/L	0.86	U	0.43	U	0.43	U	0.43	U	0.45	U	1.85
75-01-4	Vinyl Chloride		µg/L	0.2	U	0.1	U	0.1	U	0.1	U	0.07	U	2.05
75-00-3	Chloroethane		µg/L	1.22	U	0.61	U	0.61	U	0.61	U	0.18	U	1.25
75-09-2	Methylene Chloride	5	µg/L	1.08	U	0.54	U	0.54	U	0.54	U	0.15	U	1.50
67-64-1	Acetone		µg/L	6.24	U	3.12	U	3.12	U	2.6		1.44	U	6.50
75-15-0	Carbon disulfide		µg/L	0.4	U	0.2	U	0.2	U	0.2	U	0.22	U	1.05
75-35-4	1,1-Dichloroethene		µg/L	0.6	U	0.3	U	0.3	U	0.3	U	0.14	U	2.40
75-34-3	1,1-Dichloroethane		µg/L	0.44	U	0.22	U	0.22	U	0.22	U	0.12	U	0.90
156-60-5	t-1,2-Dichloroethene		µg/L	0.4	U	0.2	U	0.2	U	0.2	U	0.14	U	1.40
156-59-2	c-1,2-Dichloroethene	5	µg/L	0.42	U	0.21	U	0.21	U	0.21	U	0.14	U	1.70
67-66-3	Chloroform		µg/L	0.4	U	3.5		0.2	U	0.79		1.5		1.30
107-06-2	1,2-Dichloroethane		µg/L	0.46	U	0.23	U	0.23	U	0.23	U	0.13	U	0.95
78-93-3	2-Butanone		µg/L	10	U	5	U	5	U	5	U	6.25	U	4.10
71-55-6	1,1,1-Trichloroethane		µg/L	0.44	U	0.22	U	0.22	U	0.22	U	0.16	U	1.55
56-23-5	Carbon Tetrachloride		µg/L	0.5	U	0.25	U	0.25	U	0.25	U	0.13	U	1.70
75-27-4	Bromodichloromethane		µg/L	0.3	U	0.15	U	0.15	U	0.15	U	0.07	U	1.30
78-87-5	1,2-Dichloropropane		µg/L	0.72	U	0.36	U	0.36	U	0.36	U	0.15	U	0.60
10061-01-5	cis-1,3-Dichloropropene		µg/L	0.32	U	0.16	U	0.16	U	0.16	U	0.07	U	0.95
79-01-6	Trichloroethene	5	µg/L	0.32	U	0.16	U	0.16	U	0.16	U	0.17	U	1.35
124-48-1	Dibromochloromethane		µg/L	0.22	U	0.11	U	0.11	U	0.11	U	0.12	U	0.90
79-00-5	1,1,2-Trichloroethane		µg/L	0.18	U	0.09	U	0.09	U	0.09	U	0.2	U	1.85
71-43-2	Benzene	1	µg/L	30.9		0.16	U	0.16	U	0.16	U	0.13	U	582
10061-02-6	trans-1,3-Dichloropropene		µg/L	0.16	U	0.08	U	0.08	U	0.08	U	0.06	U	0.80
75-25-2	Bromoform		µg/L	0.2	U	0.1	U	0.1	U	0.1	U	0.09	U	1.00
108-10-1	4-Methyl-2-pentanone		µg/L	10	U	5	U	5	U	5	U	0.97	U	2.25
591-78-6	2-Hexanone		µg/L	10	U	5	U	5	U	5	U	1.48	U	2.45
127-18-4	Tetrachloroethene	5	µg/L	0.48	U	0.24	U	1		0.76		0.2	U	1.40
108-88-3	Toluene	5	µg/L	7.2		0.14	U	0.14	U	0.14	U	0.14	U	12.7
79-34-5	1,1,2,2-Tetrachloroethane		µg/L	0.32	U	0.16	U	0.16	U	0.16	U	0.09	U	0.70
108-90-7	Chlorobenzene		µg/L	0.3	U	0.15	U	0.15	U	0.15	U	0.12	U	1.05
100-41-4	Ethylbenzene	5	µg/L	6.5		0.22	U	0.22	U	0.22	U	0.18	U	844
100-42-5	Styrene		µg/L	0.34	U	0.17	U	0.17	U	0.17	U	0.14	U	1.40
108-38-3	m,p-xylene	5	µg/L	113		0.42	U	1.7		0.42	U	0.31	U	521
95-47-6	o-xylene	5	µg/L	196		0.2	U	1.7		0.2	U	0.16	U	402
	Total BTEX		µg/L	**353.6**		**ND**		**3.4**		**ND**		**ND**		**2361.7**
	Semi-Volatiles													
108-95-2	Phenol		µg/L	0.23	U	0.23	U	0.23	U	0.23	U	0.23	U	1.90
111-44-4	bis(2-Chloroethyl)ether		µg/L	0.57	U	0.57	U	0.57	U	0.57	U	0.57	U	0.82
95-57-8	2-Chlorophenol		µg/L	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U	0.76
541-73-1	1,3-Dichlorobenzene		µg/L	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.84
106-46-7	1,4-Dichlorobenzene		µg/L	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	0.85
95-50-1	1,2-Dichlorobenzene		µg/L	0.22	U	0.22	U	0.22	U	0.22	U	0.22	U	0.83
95-48-7	2-Methylphenol		µg/L	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	2.60
108-60-1	bis(2-Chloroisopropyl)ether		µg/L	0.81	U	0.81	U	0.81	U	0.81	U	0.81	U	1.00
106-44-5	3+4-Methylphenol		µg/L	0.42	U	0.42	U	0.42	U	0.42	U	0.42	U	2.60
621-64-7	N-Nitrosodi-n-propylamine		µg/L	0.48	U	0.48	U	0.48	U	0.48	U	0.48	U	0.86
67-72-1	Hexachloroethane		µg/L	0.48	U	0.48	U	0.48	U	0.48	U	0.48	U	0.90
98-95-3	Nitrobenzene		µg/L	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	0.89
78-59-1	Isophorone		µg/L	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U	0.76
88-75-5	2-Nitrophenol		µg/L	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.65
105-67-9	2,4-Dimethylphenol		µg/L	0.76	U	0.76	U	0.76	U	0.76	U	0.76	U	0.95
111-91-1	bis(2-Chloroethoxy)methane		µg/L	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U	0.78
120-83-2	2,4-Dichlorophenol		µg/L	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U	0.62
120-82-1	1,2,4-Trichlorobenzene		µg/L	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U	0.85
106-47-8	4-Chloroaniline		µg/L	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U	0.52
87-68-3	Hexachlorobutadiene		µg/L	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U	0.83
59-50-7	4-Chloro-3-methylphenol		µg/L	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U	0.72
77-47-4	Hexachlorocyclopentadiene		µg/L	0.77	U	0.77	U	0.77	U	0.77	U	0.77	U	0.72
88-06-2	2,4,6-Trichlorophenol		µg/L	0.56	U	0.56	U	0.56	U	0.56	U	0.56	U	0.47
95-95-4	2,4,5-Trichlorophenol		µg/L	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.58

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	NYSDEC		01-04484-001		01-04484-002		01-04484-003		01-04484-006		01-08096-006		00-02434-(
	Sample Location:	Class GA		MW-6		MW-7		MW-8		MW-8 (Dup)		MW-A		TW-1
	Depth:	Groundwater		-		-		-		-		-		-
	Laboratory ID:	Quality		L4113-1		L4113-2		L4113-3		L4113-4		L4148-4		J4459-3
	Sampling Date:	Standards		7/26/2001		7/26/2001		7/27/2001		7/27/2001		8/8/2001		3/14/00
	Matrix:	and Guidance		Water		Water		Water		Water		Water		Water
	Validated:	Values (1)		No		No		No		No		No		No
Cas #:	Analyte:		Units:											
91-58-7	2-Chloronaphthalene		µg/L	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U	0.81
88-74-4	2-Nitroaniline		µg/L	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.56
131-11-3	Dimethylphthalate		µg/L	1.37	U	1.37	U	1.37	U	0.21	J	1.37	U	1.30
606-20-2	2,6-Dinitrotoluene		µg/L	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.78
99-09-2	3-Nitroaniline		µg/L	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U	0.82
51-28-5	2,4-Dinitrophenol		µg/L	2.34	U	2.34	U	2.34	U	2.34	U	2.34	U	0.57
100-02-7	4-Nitrophenol		µg/L	0.9	U	0.9	U	0.9	U	0.9	U	0.9	U	0.36
132-64-9	Dibenzofuran	NS	µg/L	3.2		0.52	U	0.52	U	0.37	J	0.52	U	3.90
121-14-2	2,4-Dinitrotoluene		µg/L	0.31	U	0.31	U	0.31	U	0.31	U	0.31	U	0.61
84-66-2	Diethylphthalate	50 (G)	µg/L	0.52	J	0.35	J	0.29	J	0.64	J	0.87	U	0.42
7005-72-3	4-Chlorophenyl phenyl ether		µg/L	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U	0.68
100-01-6	4-Nitroaniline		µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.56
534-52-1	4,6-Dinitro-2-methylphenol		µg/L	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.58
86-30-6	N-Nitrosodiphenylamine		µg/L	0.72	U	0.72	U	0.72	U	0.72	U	0.72	U	0.63
101-55-3	4-Bromophenyl phenyl ether		µg/L	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U	0.61
118-74-1	Hexachlorobenzene		µg/L	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U	0.60
87-86-5	Pentachlorophenol		µg/L	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	0.59
86-74-8	Carbazole	NS	µg/L	4.9		0.41	U	0.41	U	0.41	U	0.41	U	16.4
84-74-2	Di-n-butylphthalate	NS	µg/L	0.6		0.41	J	0.25	J	0.75		0.21	J	1.07
85-68-7	Butylbenzylphthalate		µg/L	0.22	J	0.54	U	0.21	J	0.54	U	0.54	U	3.29
91-94-1	3,3'-Dichlorobenzidine		µg/L	1.01	U	1.01	U	1.01	U	1.01	U	1.01	U	1.20
117-81-7	bis(2-Ethylhexyl)phthalate	5	µg/L	2.4	B	1.9	B	2.1	B	3.3	B	0.67	J	9.30
117-84-0	Di-n-octylphthalate		µg/L	0.48	U	0.48	U	0.48	U	0.48	U	0.48	U	0.50
	Non Carcinogenic PAHs													
83-32-9	Acenaphthene	20 (G)	µg/L	177		0.51	U	0.51	U	41.4		0.51	U	**245**
208-96-8	Acenaphthylene	NS	µg/L	4.5		0.49	U	0.2	J	3.1		0.49	U	9.8
120-12-7	Anthracene	50 (G)	µg/L	12.3		0.41	U	0.41	U	1.2		0.41	U	38
191-24-2	Benzo(g,h,i)perylene	NS	µg/L	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U	9.6
206-44-0	Fluoranthene	50 (G)	µg/L	4.3		0.54	U	0.54	U	5.1		0.54	U	**50.5**
86-73-7	Fluorene	50 (G)	µg/L	42.6		0.61	U	0.61	U	6.4		0.61	U	**53.8**
91-57-6	2-Methylnaphthalene	NS	µg/L	10.4		0.35	U	0.35	U	0.4		0.35	U	288
91-20-3	Naphthalene	10 (G)	µg/L	781		0.22	J	0.3	U	21.3		0.3	U	**2820**
85-01-8	Phenanthrene	50 (G)	µg/L	55.6		0.36	U	0.36	U	0.41		0.36	U	**98**
129-00-0	Pyrene	50 (G)	µg/L	5.4		0.47	U	0.47	U	8.3		0.47	U	**73.9**
	Total Non Carcinogenic PAHs		µg/L	1093.1		0.22		0.2		87.61		ND		3686.6
	Probable Carcinogenic PAHs													
56-55-3	Benzo(a)anthracene	0.002	µg/L	0.61		0.44	U	0.44	U	0.97		0.44	U	**24.2**
205-99-2	Benzo(b)fluoranthene	0.002	µg/L	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	**23.5**
207-08-9	Benzo(k)fluoranthene	0.002	µg/L	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	**10.3**
50-32-8	Benzo(a)pyrene	ND	µg/L	0.33	U	0.33	U	0.33	U	0.34		0.33	U	**13.3**
218-01-9	Chrysene	0.002	µg/L	0.63		0.32	U	0.32	U	0.81		0.32	U	**22.6**
193-39-5	Indeno(1,2,3-cd)pyrene	0.002	µg/L	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U	**2.2**
53-70-3	Dibenz(a,h)anthracene	NS	µg/L	0.42	U	0.42	U	0.42	U	0.42	U	0.42	U	**7.2**
	Total Probable Carcinogenic PAHs		µg/L	1.24		ND		ND		2.12		ND		103.3
	Total PAHs		**µg/L**	**1094.34**		**0.22**		**0.2**		**89.73**		ND		**3789.9**
	Metals													
7439-97-6	Mercury	0.0007	mg/L	0.0003		0.00041		0.00013	J	0.00013		0.00011		0.000048
7429-90-5	Aluminum	0.1	mg/L	12.3		107		0.64		0.13		39.4		**15.9**
7440-36-0	Antimony	0.003	mg/L	0.011		0.0061		0.0039	J	0.012		0.0079		
7440-38-2	Arsenic	0.025	mg/L	0.0053	U	0.0053	U	0.0053	U	0.0053	U	0.0048	U	0.018
7440-39-3	Barium	1	mg/L	1.09		2.36		0.099		0.088		0.48		0.84
7440-41-7	Beryllium	0.003	mg/L	0.00022	J	0.0013	U	0.0013	U	0.00056	J	0.0012	U	**0.003**
7440-43-9	Cadmium	0.005 (G)	mg/L	0.0017		0.00011	J	0.004		0.003		0.0012	U	0.009
7440-70-2	Calcium	NS	mg/L	288		200		81.8		68.8		122		487
7440-47-3	Chromium	0.05	mg/L	0.034		0.3		0.0021	J	0.0021	J	0.13		**0.15**
7440-48-4	Cobalt	NS	mg/L	0.01		0.13		0.0039		0.002		0.041		0.052
7440-50-8	Copper	0.2	mg/L	0.045		0.28		0.0089		0.003		0.11		
7439-89-6	Iron	0.3	mg/L	46.2		190		0.98		0.25		71.9		**95**
7439-92-1	Lead	0.025	mg/L	0.015		0.076		0.0016	J	0.0018	J	0.022		0.054
7439-95-4	Magnesium	35 (G)	mg/L	35.4		108		30		25.5		60.3		**155**
7439-96-5	Manganese	0.3	mg/L	5.19		4.64		0.29		0.26		1.5		6.25
7440-02-0	Nickel	0.1	mg/L	0.027		0.26		0.0028		0.0021		0.065		0.055
7440-09-7	Potassium	NS	mg/L	68.9		66.3		3.96		5.54		28.6		25.1
7782-49-2	Selenium	0.01	mg/L	0.0052	U	0.0052	U	0.0098		0.015		0.0047	U	
7440-22-4	Silver	0.05	mg/L	0.0017	U	0.0017	U	0.00056	J	0.0043		0.0015	U	
7440-23-5	Sodium	20	mg/L	2850	U	386		54.3		764		24.4		**54.5**
7440-28-0	Thallium	0.0005 (G)	mg/L	0.0043	U	0.0043	U	0.0043	U	0.0043	U	0.0039	U	

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**NYSDEC**		**01-04484-001**		**01-04484-002**		**01-04484-003**		**01-04484-006**		**01-08096-006**		**00-02434-(**
	Sample Location:	**Class GA**		**MW-6**		**MW-7**		**MW-8**		**MW-8 (Dup)**		**MW-A**		**TW-1**
	Depth:	**Groundwater**		-		-		-		-		-		-
	Laboratory ID:	**Quality**		**L4113-1**		**L4113-2**		**L4113-3**		**L4113-4**		**L4148-4**		**J4459-3**
	Sampling Date:	**Standards**		**7/26/2001**		**7/26/2001**		**7/27/2001**		**7/27/2001**		**8/8/2001**		**3/14/00**
	Matrix:	**and Guidance**		**Water**		**Water**		**Water**		**Water**		**Water**		**Water**
	Validated:	**Values (1)**		No		No		No		No		No		No
Cas #:	**Analyte:**		**Units:**											
7440-62-2	Vanadium	NS	mg/L	0.039		0.36		0.0031	U	0.0031	U	0.065		0.059
7440-66-6	Zinc	2 (G)	mg/L	0.098		0.68		0.058		0.053		0.26		0.3
57-12-5	Cyanide	0.2	mg/L	0.092		0.003		0.007		0.005		0.004		0.009

(1) - Ambient Water Quality Standards and Guidance Values
TOGS 1.1.1 (October 1998)
U - Below detection limit
J - Estimated value
ND - Not detected
(G) - Guidance value
NS - No standard or guidance value
NR - Not run

P:/736109/dbase/ph3data/Table 4-4.xls

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**NYSDEC**		**03**	**01-04367-004**		**01-04367-011**		**01-04367-012**	
	Sample Location:	**Class GA**			**TW-30**		**TW-30 B**		**TW-30 C**	
	Depth:	**Groundwater**			**NA**					
	Laboratory ID:	**Quality**			**K9270-4**		**K9271-2**		**K9271-3**	
	Sampling Date:	**Standards**			**6/22/2001**		**6/22/2001**		**6/22/2001**	
	Matrix:	**and Guidance**			**Water**		**Water**		**Water**	
	Validated:	**Values (1)**			**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**							
	PCBs									
12674-11-2	PCB 1016		µg/L	U	0.08	U	0.08	U	0.08	U
11104-28-2	PCB 1221		µg/L	U	0.06	U	0.06	U	0.06	U
11141-16-5	PCB 1232		µg/L	U	0.05	U	0.05	U	0.05	U
53469-21-9	PCB 1242		µg/L	U	0.06	U	0.06	U	0.06	U
12672-29-6	PCB 1248		µg/L	U	0.04	U	0.04	U	0.04	U
11097-69-1	PCB 1254		µg/L	U	0.03	U	0.03	U	0.03	U
11096-82-5	PCB 1260		µg/L	U	0.06	U	0.06	U	0.06	U
	Volatiles									
74-87-3	Chloromethane		µg/L	U	0.49	U	0.49	U	0.49	U
74-83-9	Bromomethane		µg/L	U	0.43	U	0.43	U	0.43	U
75-01-4	Vinyl Chloride		µg/L	U	0.1	U	0.1	U	0.1	U
75-00-3	Chloroethane		µg/L	U	0.61	U	0.61	U	0.61	U
75-09-2	Methylene Chloride	5	µg/L	U	0.54	U	0.54	U	0.54	U
67-64-1	Acetone		µg/L	U	9.4		3.12	U	6.5	
75-15-0	Carbon disulfide		µg/L	U	0.2	U	0.2	U	0.2	U
75-35-4	1,1-Dichloroethene		µg/L	U	0.3	U	0.3	U	0.3	U
75-34-3	1,1-Dichloroethane		µg/L	U	0.22	U	0.22	U	0.22	U
156-60-5	t-1,2-Dichloroethene		µg/L	U	0.2	U	0.2	U	0.2	U
156-59-2	c-1,2-Dichloroethene	5	µg/L	U	0.21	U	0.21	U	0.21	U
67-66-3	Chloroform		µg/L	U	0.2	U	0.2	U	0.2	U
107-06-2	1,2-Dichloroethane		µg/L	U	0.23	U	0.23	U	0.23	U
78-93-3	2-Butanone		µg/L	U	5	U	5	U	5	U
71-55-6	1,1,1-Trichloroethane		µg/L	U	0.22	U	0.22	U	0.22	U
56-23-5	Carbon Tetrachloride		µg/L	U	0.25	U	0.25	U	0.25	U
75-27-4	Bromodichloromethane		µg/L	U	0.15	U	0.15	U	0.15	U
78-87-5	1,2-Dichloropropane		µg/L	U	0.36	U	0.36	U	0.36	U
10061-01-5	cis-1,3-Dichloropropene		µg/L	U	0.16	U	0.16	U	0.16	U
79-01-6	Trichloroethene	5	µg/L	U	0.16	U	0.16	U	0.16	U
124-48-1	Dibromochloromethane		µg/L	U	0.11	U	0.11	U	0.11	U
79-00-5	1,1,2-Trichloroethane		µg/L	U	0.09	U	0.09	U	0.09	U
71-43-2	Benzene	1	µg/L		2.2		38.9		42.1	
10061-02-6	trans-1,3-Dichloropropene		µg/L	U	0.08	U	0.08	U	0.08	U
75-25-2	Bromoform		µg/L	U	0.1	U	0.1	U	0.1	U
108-10-1	4-Methyl-2-pentanone		µg/L	U	5	U	5	U	5	U
591-78-6	2-Hexanone		µg/L	U	5	U	5	U	5	U
127-18-4	Tetrachloroethene	5	µg/L	U	0.24	U	0.24	U	0.24	U
108-88-3	Toluene	5	µg/L		0.14	U	9.3		9	
79-34-5	1,1,2,2-Tetrachloroethane		µg/L	U	0.16	U	0.16	U	0.16	U
108-90-7	Chlorobenzene		µg/L	U	0.15	U	0.15	U	0.15	U
100-41-4	Ethylbenzene	5	µg/L		3.8		476		516	
100-42-5	Styrene		µg/L	U	0.17	U	0.17	U	0.17	U
108-38-3	m,p-xylene	5	µg/L		1		155		147	
95-47-6	o-xylene	5	µg/L		1.5		199		211	
	Total BTEX		µg/L		**8.5**		**878.2**		**925.1**	
	Semi-Volatiles									
108-95-2	Phenol		µg/L		0.23	U	0.52	U	0.52	U
111-44-4	bis(2-Chloroethyl)ether		µg/L	U	0.57	U	0.86	U	0.86	U
95-57-8	2-Chlorophenol		µg/L	U	0.28	U	1.03	U	1.03	U
541-73-1	1,3-Dichlorobenzene		µg/L	U	0.3	U	1	U	1	U
106-46-7	1,4-Dichlorobenzene		µg/L	U	0.36	U	1.08	U	1.08	U
95-50-1	1,2-Dichlorobenzene		µg/L	U	0.22	U	1.01	U	1.01	U
95-48-7	2-Methylphenol		µg/L		0.54	U	0.92	U	0.92	U
108-60-1	bis(2-Chloroisopropyl)ether		µg/L	U	0.81	U	2.21	U	2.21	U
106-44-5	3+4-Methylphenol		µg/L		0.42	U	0.88	U	0.88	U
621-64-7	N-Nitrosodi-n-propylamine		µg/L	U	0.48	U	0.78	U	0.78	U
67-72-1	Hexachloroethane		µg/L	U	0.48	U	1.07	U	1.07	U
98-95-3	Nitrobenzene		µg/L	U	0.54	U	1.17	U	1.17	U
78-59-1	Isophorone		µg/L	U	0.52	U	0.81	U	0.81	U
88-75-5	2-Nitrophenol		µg/L	U	0.3	U	0.85	U	0.85	U
105-67-9	2,4-Dimethylphenol		µg/L	U	0.76	U	1.1	J	1.16	U
111-91-1	bis(2-Chloroethoxy)methane		µg/L	U	0.41	U	0.82	U	0.82	U
120-83-2	2,4-Dichlorophenol		µg/L	U	0.37	U	0.88	U	0.88	U
120-82-1	1,2,4-Trichlorobenzene		µg/L	U	0.43	U	1.16	U	1.16	U
106-47-8	4-Chloroaniline		µg/L	U	0.43	U	1.03	U	1.03	U
87-68-3	Hexachlorobutadiene		µg/L	U	0.52	U	1.15	U	1.15	U
59-50-7	4-Chloro-3-methylphenol		µg/L	U	0.28	U	1.07	U	1.07	U
77-47-4	Hexachlorocyclopentadiene		µg/L	U	0.77	U	4.41	U	4.41	U
88-06-2	2,4,6-Trichlorophenol		µg/L	U	0.56	U	0.67	U	0.67	U
95-95-4	2,4,5-Trichlorophenol		µg/L	U	0.44	U	1.15	U	1.15	U

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	NYSDEC		03	01-04367-004		01-04367-011		01-04367-012	
	Sample Location:	Class GA			TW-30		TW-30 B		TW-30 C	
	Depth:	Groundwater			NA					
	Laboratory ID:	Quality			K9270-4		K9271-2		K9271-3	
	Sampling Date:	Standards			6/22/2001		6/22/2001		6/22/2001	
	Matrix:	and Guidance			Water		Water		Water	
	Validated:	Values (1)			No		No		No	
Cas #:	Analyte:		Units:							
91-58-7	2-Chloronaphthalene		µg/L	U	0.34	U	1.06	U	1.06	U
88-74-4	2-Nitroaniline		µg/L	U	0.4	U	0.54	U	0.54	U
131-11-3	Dimethylphthalate		µg/L	U	1.37	U	1.65	U	1.65	U
606-20-2	2,6-Dinitrotoluene		µg/L	U	0.55	U	0.54	U	0.54	U
99-09-2	3-Nitroaniline		µg/L	U	0.52	U	0.58	U	0.58	U
51-28-5	2,4-Dinitrophenol		µg/L	U	2.34	U	5.8	U	5.8	U
100-02-7	4-Nitrophenol		µg/L	U	0.9	U	2.12	U	2.12	U
132-64-9	Dibenzofuran	NS	µg/L		0.52	U	11.3		2.8	
121-14-2	2,4-Dinitrotoluene		µg/L	U	0.31	U	0.47	U	0.47	U
84-66-2	Diethylphthalate	50 (G)	µg/L	J	0.87	U	9.81	U	1.2	JB
7005-72-3	4-Chlorophenyl phenyl ether		µg/L	U	0.51	U	1.11	U	1.11	U
100-01-6	4-Nitroaniline		µg/L	U	0.6	U	0.61	U	0.61	U
534-52-1	4,6-Dinitro-2-methylphenol		µg/L	U	0.3	U	0.5	U	0.5	U
86-30-6	N-Nitrosodiphenylamine		µg/L	U	0.72	U	0.94	U	0.94	U
101-55-3	4-Bromophenyl phenyl ether		µg/L	U	0.38	U	0.79	U	0.79	U
118-74-1	Hexachlorobenzene		µg/L	U	0.38	U	0.99	U	0.99	U
87-86-5	Pentachlorophenol		µg/L	U	0.36	U	0.7	U	0.7	U
86-74-8	Carbazole	NS	µg/L		1.3		50.2		16.8	
84-74-2	Di-n-butylphthalate	NS	µg/L	U	0.66	JB	0.56	B	2.2	B
85-68-7	Butylbenzylphthalate		µg/L	U	0.54	U	4.1	U	4.1	U
91-94-1	3,3'-Dichlorobenzidine		µg/L	U	1.01	U	0.41	U	0.41	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	µg/L	B	2.1	B	82	B	2.2	B
117-84-0	Di-n-octylphthalate		µg/L	U	0.48	U	0.98	U	0.98	U
	Non Carcinogenic PAHs									
83-32-9	Acenaphthene	20 (G)	µg/L		1.4		72.6		30.4	
208-96-8	Acenaphthylene	NS	µg/L		0.29	J	2.6		1.9	
120-12-7	Anthracene	50 (G)	µg/L		0.27	J	1.2		0.48	J
191-24-2	Benzo(g,h,i)perylene	NS	µg/L		0.38	U	0.52	U	0.52	U
206-44-0	Fluoranthene	50 (G)	µg/L		0.54	U	1		0.48	J
86-73-7	Fluorene	50 (G)	µg/L		0.44	J	33.6		11.1	
91-57-6	2-Methylnaphthalene	NS	µg/L		0.35	U	73.7		17.1	
91-20-3	Naphthalene	10 (G)	µg/L		0.3	U	1360		341	
85-01-8	Phenanthrene	50 (G)	µg/L		0.74		30		10.7	
129-00-0	Pyrene	50 (G)	µg/L		0.47	U	0.65	U	0.65	U
	Total Non Carcinogenic PAHs		µg/L		3.14		1574.7		413.16	
	Probable Carcinogenic PAHs									
56-55-3	Benzo(a)anthracene	0.002	µg/L		0.44	U	0.62	U	0.62	U
205-99-2	Benzo(b)fluoranthene	0.002	µg/L		0.79	U	1.54	U	1.54	U
207-08-9	Benzo(k)fluoranthene	0.002	µg/L		0.7	U	1.1	U	1.1	U
50-32-8	Benzo(a)pyrene	ND	µg/L		0.33	U	0.77	U	0.77	U
218-01-9	Chrysene	0.002	µg/L		0.32	U	0.69	U	0.69	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.002	µg/L		0.34	U	0.61	U	0.61	U
53-70-3	Dibenz(a,h)anthracene	NS	µg/L		0.42	U	0.61	U	0.61	U
	Total Probable Carcinogenic PAHs		µg/L		ND		ND		ND	
	Total PAHs		**µg/L**		**3.14**		**1574.7**		**413.16**	
	Metals									
7439-97-6	Mercury	0.0007	mg/L	J	0.000052		0.000039	J	0.000032	J
7429-90-5	Aluminum	0.1	mg/L		13.7		23		29.4	
7440-36-0	Antimony	0.003	mg/L		0.0008	J	0.0028	J	0.0006	J
7440-38-2	Arsenic	0.025	mg/L		0.0048	U	0.0048	U	0.0048	U
7440-39-3	Barium	1	mg/L		0.32		1.19		1.38	
7440-41-7	Beryllium	0.003	mg/L		0.0012	U	0.0012	U	0.0012	U
7440-43-9	Cadmium	0.005 (G)	mg/L		0.0003	J	0.0001	J	0.0001	J
7440-70-2	Calcium	NS	mg/L		204		219		263	
7440-47-3	Chromium	0.05	mg/L		0.09		0.078		0.1	
7440-48-4	Cobalt	NS	mg/L		0.027		0.024		0.032	
7440-50-8	Copper	0.2	mg/L	U	0.076		0.078		0.1	
7439-89-6	Iron	0.3	mg/L		35.7		52.1		74.4	
7439-92-1	Lead	0.025	mg/L		0.016		0.019		0.024	
7439-95-4	Magnesium	35 (G)	mg/L		56.1		97.8		111	
7439-96-5	Manganese	0.3	mg/L		2.74		1.32		2.07	
7440-02-0	Nickel	0.1	mg/L		0.038		0.045		0.059	
7440-09-7	Potassium	NS	mg/L		14.9		26.6		30.5	
7782-49-2	Selenium	0.01	mg/L	U	0.0047	U	0.0047	U	0.0047	U
7440-22-4	Silver	0.05	mg/L		0.0015	U	0.0015	U	0.0015	U
7440-23-5	Sodium	20	mg/L		74.6		135		140	
7440-28-0	Thallium	0.0005 (G)	mg/L		0.0039	U	0.0039	U	0.0039	U

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**NYSDEC**		**)03**	**01-04367-004**		**01-04367-011**		**01-04367-012**	
	Sample Location:	**Class GA**			**TW-30**		**TW-30 B**		**TW-30 C**	
	Depth:	**Groundwater**			**NA**					
	Laboratory ID:	**Quality**			**K9270-4**		**K9271-2**		**K9271-3**	
	Sampling Date:	**Standards**			**6/22/2001**		**6/22/2001**		**6/22/2001**	
	Matrix:	**and Guidance**			**Water**		**Water**		**Water**	
	Validated:	**Values (1)**			No		**No**		No	
Cas #:	**Analyte:**		**Units:**							
7440-62-2	Vanadium	NS	mg/L		0.0028	U	0.016		0.036	
7440-66-6	Zinc	2 (G)	mg/L		0.096		0.14		0.2	
57-12-5	Cyanide	0.2	mg/L		0.003	U	0.002	J	0.006	
(1) - Ambient Water Quality Standards and Guidance Values										
TOGS 1.1.1 (October 1998)										
U - Below detection limit										
J - Estimated value										
ND - Not detected										
(G) - Guidance value										
NS - No standard or guidance value										
NR - Not run										

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	NYSDEC		Trip Blank		01-04367-013		01-04484-007		01-08096-009		01-04484-008	
	Sample Location:	Class GA		Trip		Trip		Trip		Trip		Field	
	Depth:	Groundwater		Blank		Blank		Blank		Blank		Blank	
	Laboratory ID:	Quality		201473.07		K9271-4		L4113-5		L4148-7		L4113-6	
	Sampling Date:	Standards		4/6/00		6/22/2001		7/27/2001		8/9/2001		7/27/2001	
	Matrix:	and Guidance		Water		Water		Water		Water		Water	
	Validated:	Values (1)		No		No		No		No		No	
Cas #:	Analyte:		Units:										
	PCBs												
12674-11-2	PCB 1016		µg/L	NR		NR		NR		NR		0.08	U
11104-28-2	PCB 1221		µg/L	NR		NR		NR		NR		0.06	U
11141-16-5	PCB 1232		µg/L	NR		NR		NR		NR		0.05	U
53469-21-9	PCB 1242		µg/L	NR		NR		NR		NR		0.06	U
12672-29-6	PCB 1248		µg/L	NR		NR		NR		NR		0.04	U
11097-69-1	PCB 1254		µg/L	NR		NR		NR		NR		0.03	U
11096-82-5	PCB 1260		µg/L	NR		NR		NR		NR		0.06	U
	Volatiles												
74-87-3	Chloromethane		µg/L	1	U	0.49	U	0.49	U	0.37	U	0.49	U
74-83-9	Bromomethane		µg/L	1	U	0.43	U	0.43	U	0.45	U	0.43	U
75-01-4	Vinyl Chloride		µg/L	1	U	0.1	U	0.1	U	0.07	U	0.1	U
75-00-3	Chloroethane		µg/L	1	U	0.61	U	0.61	U	0.18	U	0.61	U
75-09-2	Methylene Chloride	5	µg/L	1	U	0.54	U	0.54	U	0.15	U	0.54	U
67-64-1	Acetone		µg/L	10	U	3.12	U	3.12	U	1.44	U	3.12	U
75-15-0	Carbon disulfide		µg/L		U	0.2	U	0.2	U	0.22	U	0.2	U
75-35-4	1,1-Dichloroethene		µg/L	1	U	0.3	U	0.3	U	0.14	U	0.3	U
75-34-3	1,1-Dichloroethane		µg/L	1	U	0.22	U	0.22	U	0.12	U	0.22	U
156-60-5	t-1,2-Dichloroethene		µg/L	1	U	0.2	U	0.2	U	0.14	U	0.2	U
156-59-2	c-1,2-Dichloroethene	5	µg/L	1	U	0.21	U	0.21	U	0.14	U	0.21	U
67-66-3	Chloroform		µg/L	1	U	0.2	U	0.2	U	0.15	U	0.2	U
107-06-2	1,2-Dichloroethane		µg/L	1	U	0.23	U	0.23	U	0.13	U	0.23	U
78-93-3	2-Butanone		µg/L	10	U	5	U	5	U	6.25	U	5	U
71-55-6	1,1,1-Trichloroethane		µg/L	1	U	0.22	U	0.22	U	0.16	U	0.22	U
56-23-5	Carbon Tetrachloride		µg/L	1	U	0.25	U	0.25	U	0.13	U	0.25	U
75-27-4	Bromodichloromethane		µg/L	1	U	0.15	U	0.15	U	0.07	U	0.15	U
78-87-5	1,2-Dichloropropane		µg/L	1	U	0.36	U	0.36	U	0.15	U	0.36	U
10061-01-5	cis-1,3-Dichloropropene		µg/L	1	U	0.16	U	0.16	U	0.07	U	0.16	U
79-01-6	Trichloroethene	5	µg/L	1	U	0.16	U	0.16	U	0.17	U	0.16	U
124-48-1	Dibromochloromethane		µg/L	1	U	0.11	U	0.11	U	0.12	U	0.11	U
79-00-5	1,1,2-Trichloroethane		µg/L	1	U	0.09	U	0.09	U	0.2	U	0.09	U
71-43-2	Benzene	1	µg/L	1	U	0.16	U	0.16	U	0.13	U	0.16	U
10061-02-6	trans-1,3-Dichloropropene		µg/L	1	U	0.08	U	0.08	U	0.06	U	0.08	U
75-25-2	Bromoform		µg/L	1	U	0.1	U	0.1	U	0.09	U	0.1	U
108-10-1	4-Methyl-2-pentanone		µg/L	10	U	5	U	5	U	0.97	U	5	U
591-78-6	2-Hexanone		µg/L	NA		5	U	5	U	1.48	U	5	U
127-18-4	Tetrachloroethene	5	µg/L	1	U	0.24	U	0.24	U	0.2	U	0.24	U
108-88-3	Toluene	5	µg/L	1	U	0.14	U	0.14	U	0.14	U	0.14	U
79-34-5	1,1,2,2-Tetrachloroethane		µg/L	1	U	0.16	U	0.16	U	0.09	U	0.16	U
108-90-7	Chlorobenzene		µg/L	1	U	0.15	U	0.15	U	0.12	U	0.15	U
100-41-4	Ethylbenzene	5	µg/L	1	U	0.22	U	0.22	U	0.18	U	0.22	U
100-42-5	Styrene		µg/L	1	U	0.17	U	0.17	U	0.14	U	0.17	U
108-38-3	m,p-xylene	5	µg/L	2	U	0.42	U	0.42	U	0.31	U	0.42	U
95-47-6	o-xylene	5	µg/L	1	U	0.2	U	0.2	U	0.16	U	0.2	U
	Total BTEX		µg/L										
	Semi-Volatiles												
108-95-2	Phenol		µg/L	NR		NR		NR		NR		0.23	U
111-44-4	bis(2-Chloroethyl)ether		µg/L	NR		NR		NR		NR		0.57	U
95-57-8	2-Chlorophenol		µg/L	NR		NR		NR		NR		0.28	U
541-73-1	1,3-Dichlorobenzene		µg/L	NR		NR		NR		NR		0.3	U
106-46-7	1,4-Dichlorobenzene		µg/L	NR		NR		NR		NR		0.36	U
95-50-1	1,2-Dichlorobenzene		µg/L	NR		NR		NR		NR		0.22	U
95-48-7	2-Methylphenol		µg/L	NR		NR		NR		NR		0.54	U
108-60-1	bis(2-Chloroisopropyl)ether		µg/L	NR		NR		NR		NR		0.81	U
106-44-5	3+4-Methylphenol		µg/L	NR		NR		NR		NR		0.42	U
621-64-7	N-Nitrosodi-n-propylamine		µg/L	NR		NR		NR		NR		0.48	U
67-72-1	Hexachloroethane		µg/L	NR		NR		NR		NR		0.48	U
98-95-3	Nitrobenzene		µg/L	NR		NR		NR		NR		0.54	U
78-59-1	Isophorone		µg/L	NR		NR		NR		NR		0.52	U
88-75-5	2-Nitrophenol		µg/L	NR		NR		NR		NR		0.3	U
105-67-9	2,4-Dimethylphenol		µg/L	NR		NR		NR		NR		0.76	U
111-91-1	bis(2-Chloroethoxy)methane		µg/L	NR		NR		NR		NR		0.41	U
120-83-2	2,4-Dichlorophenol		µg/L	NR		NR		NR		NR		0.37	U
120-82-1	1,2,4-Trichlorobenzene		µg/L	NR		NR		NR		NR		0.43	U
106-47-8	4-Chloroaniline		µg/L	NR		NR		NR		NR		0.43	U
87-68-3	Hexachlorobutadiene		µg/L	NR		NR		NR		NR		0.52	U
59-50-7	4-Chloro-3-methylphenol		µg/L	NR		NR		NR		NR		0.28	U
77-47-4	Hexachlorocyclopentadiene		µg/L	NR		NR		NR		NR		0.77	U
88-06-2	2,4,6-Trichlorophenol		µg/L	NR		NR		NR		NR		0.56	U
95-95-4	2,4,5-Trichlorophenol		µg/L	NR		NR		NR		NR		0.44	U

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	NYSDEC		**Trip Blank**		**01-04367-013**		**01-04484-007**		**01-08096-009**		**01-04484-008**	
	Sample Location:	**Class GA**		**Trip**		**Trip**		**Trip**		**Trip**		**Field**	
	Depth:	**Groundwater**		**Blank**		**Blank**		**Blank**		**Blank**		**Blank**	
	Laboratory ID:	**Quality**		**201473.07**		**K9271-4**		**L4113-5**		**L4148-7**		**L4113-6**	
	Sampling Date:	**Standards**		**4/6/00**		**6/22/2001**		**7/27/2001**		**8/9/2001**		**7/27/2001**	
	Matrix:	**and Guidance**		**Water**		**Water**		**Water**		**Water**		**Water**	
	Validated:	**Values (1)**		**No**		**No**		**No**		**No**		**No**	
Cas #:	**Analyte:**		**Units:**										
91-58-7	2-Chloronaphthalene		µg/L	NR		NR		NR		NR		0.34	U
88-74-4	2-Nitroaniline		µg/L	NR		NR		NR		NR		0.4	U
131-11-3	Dimethylphthalate		µg/L	NR		NR		NR		NR		1.37	U
606-20-2	2,6-Dinitrotoluene		µg/L	NR		NR		NR		NR		0.55	U
99-09-2	3-Nitroaniline		µg/L	NR		NR		NR		NR		0.52	U
51-28-5	2,4-Dinitrophenol		µg/L	NR		NR		NR		NR		2.34	U
100-02-7	4-Nitrophenol		µg/L	NR		NR		NR		NR		0.9	U
132-64-9	Dibenzofuran	NS	µg/L	NR		NR		NR		NR		0.52	U
121-14-2	2,4-Dinitrotoluene		µg/L	NR		NR		NR		NR		0.31	U
84-66-2	Diethylphthalate	50 (G)	µg/L	NR		NR		NR		NR		0.36	J
7005-72-3	4-Chlorophenyl phenyl ether		µg/L	NR		NR		NR		NR		0.51	U
100-01-6	4-Nitroaniline		µg/L	NR		NR		NR		NR		0.6	U
534-52-1	4,6-Dinitro-2-methylphenol		µg/L	NR		NR		NR		NR		0.3	U
86-30-6	N-Nitrosodiphenylamine		µg/L	NR		NR		NR		NR		0.72	U
101-55-3	4-Bromophenyl phenyl ether		µg/L	NR		NR		NR		NR		0.38	U
118-74-1	Hexachlorobenzene		µg/L	NR		NR		NR		NR		0.38	U
87-86-5	Pentachlorophenol		µg/L	NR		NR		NR		NR		0.36	U
86-74-8	Carbazole	NS	µg/L	NR		NR		NR		NR		0.41	U
84-74-2	Di-n-butylphthalate	NS	µg/L	NR		NR		NR		NR		0.42	
85-68-7	Butylbenzylphthalate		µg/L	NR		NR		NR		NR		0.54	U
91-94-1	3,3'-Dichlorobenzidine		µg/L	NR		NR		NR		NR		1.01	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	µg/L	NR		NR		NR		NR		1.7	B
117-84-0	Di-n-octylphthalate		µg/L	NR		NR		NR		NR		0.48	U
	Non Carcinogenic PAHs												
83-32-9	Acenaphthene	20 (G)	µg/L	NR		NR		NR		NR		0.51	U
208-96-8	Acenaphthylene	NS	µg/L	NR		NR		NR		NR		0.49	U
120-12-7	Anthracene	50 (G)	µg/L	NR		NR		NR		NR		0.41	U
191-24-2	Benzo(g,h,i)perylene	NS	µg/L	NR		NR		NR		NR		0.38	U
206-44-0	Fluoranthene	50 (G)	µg/L	NR		NR		NR		NR		0.54	U
86-73-7	Fluorene	50 (G)	µg/L	NR		NR		NR		NR		0.61	U
91-57-6	2-Methylnaphthalene	NS	µg/L	NR		NR		NR		NR		0.35	U
91-20-3	Naphthalene	10 (G)	µg/L	NR		NR		NR		NR		0.3	U
85-01-8	Phenanthrene	50 (G)	µg/L	NR		NR		NR		NR		0.36	U
129-00-0	Pyrene	50 (G)	µg/L	NR		NR		NR		NR		0.47	U
	Total Non Carcinogenic PAHs		µg/L										
	Probable Carcinogenic PAHs												
56-55-3	Benzo(a)anthracene	0.002	µg/L	NR		NR		NR		NR		0.44	U
205-99-2	Benzo(b)fluoranthene	0.002	µg/L	NR		NR		NR		NR		0.79	U
207-08-9	Benzo(k)fluoranthene	0.002	µg/L	NR		NR		NR		NR		0.7	U
50-32-8	Benzo(a)pyrene	ND	µg/L	NR		NR		NR		NR		0.33	U
218-01-9	Chrysene	0.002	µg/L	NR		NR		NR		NR		0.32	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.002	µg/L	NR		NR		NR		NR		0.34	U
53-70-3	Dibenz(a,h)anthracene	NS	µg/L	NR		NR		NR		NR		0.42	U
	Total Probable Carcinogenic PAHs		µg/L										
	Total PAHs		**µg/L**										
	Metals												
7439-97-6	Mercury	0.0007	mg/L	NR		NR		NR		NR		0.000086	
7429-90-5	Aluminum	0.1	mg/L	NR		NR		NR		NR		0.096	U
7440-36-0	Antimony	0.003	mg/L	NR		NR		NR		NR		0.0084	
7440-38-2	Arsenic	0.025	mg/L	NR		NR		NR		NR		0.0053	U
7440-39-3	Barium	1	mg/L	NR		NR		NR		NR		0.00067	J
7440-41-7	Beryllium	0.003	mg/L	NR		NR		NR		NR		0.0013	U
7440-43-9	Cadmium	0.005 (G)	mg/L	NR		NR		NR		NR		0.00033	J
7440-70-2	Calcium	NS	mg/L	NR		NR		NR		NR		0.15	
7440-47-3	Chromium	0.05	mg/L	NR		NR		NR		NR		0.00078	J
7440-48-4	Cobalt	NS	mg/L	NR		NR		NR		NR		0.0013	U
7440-50-8	Copper	0.2	mg/L	NR		NR		NR		NR		0.0048	
7439-89-6	Iron	0.3	mg/L	NR		NR		NR		NR		0.012	J
7439-92-1	Lead	0.025	mg/L	NR		NR		NR		NR		0.0012	J
7439-95-4	Magnesium	35 (G)	mg/L	NR		NR		NR		NR		0.015	J
7439-96-5	Manganese	0.3	mg/L	NR		NR		NR		NR		0.00056	J
7440-02-0	Nickel	0.1	mg/L	NR		NR		NR		NR		0.00056	J
7440-09-7	Potassium	NS	mg/L	NR		NR		NR		NR		0.13	J
7782-49-2	Selenium	0.01	mg/L	NR		NR		NR		NR		0.0043	J
7440-22-4	Silver	0.05	mg/L	NR		NR		NR		NR		0.00011	J
7440-23-5	Sodium	20	mg/L	NR		NR		NR		NR		0.83	
7440-28-0	Thallium	0.0005 (G)	mg/L	NR		NR		NR		NR		0.0043	U

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**NYSDEC**		**Trip Blank**	**01-04367-013**	**01-04484-007**	**01-08096-009**	**01-04484-008**
	Sample Location:	**Class GA**		**Trip**	**Trip**	**Trip**	**Trip**	**Field**
	Depth:	**Groundwater**		**Blank**	**Blank**	**Blank**	**Blank**	**Blank**
	Laboratory ID:	**Quality**		**201473.07**	**K9271-4**	**L4113-5**	**L4148-7**	**L4113-6**
	Sampling Date:	**Standards**		**4/6/00**	**6/22/2001**	**7/27/2001**	**8/9/2001**	**7/27/2001**
	Matrix:	**and Guidance**		**Water**	**Water**	**Water**	**Water**	**Water**
	Validated:	**Values (1)**		**No**	**No**	**No**	**No**	**No**
Cas #:	**Analyte:**		**Units:**					
7440-62-2	Vanadium	NS	mg/L	NR	NR	NR	NR	0.00044 J
7440-66-6	Zinc	2 (G)	mg/L	NR	NR	NR	NR	0.061
57-12-5	Cyanide	0.2	mg/L	NR	NR	NR	NR	0.002 J

(1) - Ambient Water Quality Standards and Guidance Values
TOGS 1.1.1 (October 1998)
U - Below detection limit
J - Estimated value
ND - Not detected
(G) - Guidance value
NS - No standard or guidance value
NR - Not run

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	NYSDEC		00-03386-002		00-03386-002		01-08096-002		01-08096-003		01-04484-004		01-04484-(
	Sample Location:	Class GA		MW-1 MS		MW-1 MSD		MW-1 MS		MW-1 MSD		MW-8 MS		MW-8 MS
	Depth:	Groundwater		-		-		-		-		-		-
	Laboratory ID:	Quality		201473.02		201473.03		L4148-1M		L4148-1N		L4113-3M		L4113-3I
	Sampling Date:	Standards		4/6/2000		4/6/2000		8/8/2001		8/8/2001		7/27/2001		7/27/200
	Matrix:	and Guidance		Water		Water		Water		Water		Water		Water
	Validated:	Values (1)		No		No		No		No		No		No
Cas #:	Analyte:		Units:											
	PCBs													
12674-11-2	PCB 1016		µg/L	1	U	1	U	1.11		1.09		0.88		0.89
11104-28-2	PCB 1221		µg/L	1	U	1	U	0.06	U	0.06	U	0.06	U	0.06
11141-16-5	PCB 1232		µg/L	1	U	1	U	0.05	U	0.05	U	0.05	U	0.05
53469-21-9	PCB 1242		µg/L	1	U	1	U	0.06	U	0.06	U	0.06	U	0.06
12672-29-6	PCB 1248		µg/L	1	U	1	U	0.04	U	0.04	U	0.04	U	0.04
11097-69-1	PCB 1254		µg/L	1	U	1	U	0.03	U	0.03	U	0.03	U	0.03
11096-82-5	PCB 1260		µg/L	1	U	1	U	1.04		1.08		0.98		0.82
	Volatiles													
74-87-3	Chloromethane		µg/L	1	U	1	U	0.37	U	0.37	U	0.49	U	0.49
74-83-9	Bromomethane		µg/L	1	U	1	U	0.45	U	0.45	U	0.43	U	0.43
75-01-4	Vinyl Chloride		µg/L	1	U	1	U	0.07	U	0.07	U	0.1	U	0.1
75-00-3	Chloroethane		µg/L	1	U	1	U	0.18	U	0.18	U	0.61	U	0.61
75-09-2	Methylene Chloride	5	µg/L	1	U	1	U	0.15	U	0.15	U	0.54	U	0.54
67-64-1	Acetone		µg/L	10	U	10	U	1.44	U	1.44	U	3.12	U	3.12
75-15-0	Carbon disulfide		µg/L		U		U	0.22	U	0.22	U	0.2	U	0.2
75-35-4	1,1-Dichloroethene		µg/L	1	U	1	U	46.9		51		44.8		47
75-34-3	1,1-Dichloroethane		µg/L	1	U	1	U	0.12	U	0.12	U	0.22	U	0.22
156-60-5	t-1,2-Dichloroethene		µg/L	1	U	1	U	0.14	U	0.14	U	0.2	U	0.2
156-59-2	c-1,2-Dichloroethene	5	µg/L	1	U	1	U	0.14	U	0.14	U	0.21	U	0.21
67-66-3	Chloroform		µg/L	1	U	1		1.3		1.4		0.2	U	0.2
107-06-2	1,2-Dichloroethane		µg/L	1	U	1	U	0.13	U	0.13	U	0.23	U	0.23
78-93-3	2-Butanone		µg/L	10	U	10	U	6.25	U	6.25	U	5	U	5
71-55-6	1,1,1-Trichloroethane		µg/L	1	U	1	U	0.16	U	0.16	U	0.22	U	0.22
56-23-5	Carbon Tetrachloride		µg/L	1	U	1	U	0.13	U	0.13	U	0.25	U	0.25
75-27-4	Bromodichloromethane		µg/L	1	U	1	U	0.07	U	0.07	U	0.15	U	0.15
78-87-5	1,2-Dichloropropane		µg/L	1	U	1	U	0.15	U	0.15	U	0.36	U	0.36
10061-01-5	cis-1,3-Dichloropropene		µg/L	1	U	1	U	0.07	U	0.07	U	0.16	U	0.16
79-01-6	Trichloroethene	5	µg/L	1	U	1	U	46.7	B	49.4	B	50.7		52.3
124-48-1	Dibromochloromethane		µg/L	1	U	1	U	0.12	U	0.12	U	0.11	U	0.11
79-00-5	1,1,2-Trichloroethane		µg/L	1	U	1	U	0.2	U	0.2	U	0.09	U	0.09
71-43-2	Benzene	1	µg/L	1	U	1	U	46.6		49.3		49.5		50.4
10061-02-6	trans-1,3-Dichloropropene		µg/L	1	U	1	U	0.06	U	0.06	U	0.08	U	0.08
75-25-2	Bromoform		µg/L	1	U	1	U	0.09	U	0.09	U	0.1	U	0.1
108-10-1	4-Methyl-2-pentanone		µg/L	10	U	10	U	0.97	U	0.97	U	5	U	5
591-78-6	2-Hexanone		µg/L	NA		NA		1.48	U	1.48	U	5	U	5
127-18-4	Tetrachloroethene	5	µg/L	1	U	1	U	0.2	U	0.2	U	0.97		0.89
108-88-3	Toluene	5	µg/L	1	U	1	U	48.1		50.6		48.4		46.6
79-34-5	1,1,2,2-Tetrachloroethane		µg/L	1	U	1	U	0.09	U	0.09	U	0.16	U	0.16
108-90-7	Chlorobenzene		µg/L	1	U	1	U	46.9		50		51		51.1
100-41-4	Ethylbenzene	5	µg/L	1	U	1	U	0.18	U	0.18	U	0.22	U	0.22
100-42-5	Styrene		µg/L	1	U	1	U	0.14	U	0.14	U	0.17	U	0.17
108-38-3	m,p-xylene	5	µg/L	2	U	2	U	0.31	U	0.31	U	1.1		0.42
95-47-6	o-xylene	5	µg/L	1	U	1	U	0.16	U	0.16	U	1.2		0.2
	Total BTEX		µg/L											
	Semi-Volatiles													
108-95-2	Phenol		µg/L	NA		NA		27		26.4		69.6		65.4
111-44-4	bis(2-Chloroethyl)ether		µg/L	1	U	1	U	0.57	U	0.57	U	0.57	U	0.57
95-57-8	2-Chlorophenol		µg/L	NA		NA		64.7		67.8		73.6		69.7
541-73-1	1,3-Dichlorobenzene		µg/L	1	U	1	U	0.3	U	0.3	U	0.3	U	0.3
106-46-7	1,4-Dichlorobenzene		µg/L	1	U	1	U	36.9		37.3		41.5		40
95-50-1	1,2-Dichlorobenzene		µg/L	1	U	1	U	0.22	U	0.22	U	0.22	U	0.22
95-48-7	2-Methylphenol		µg/L	NA		NA		0.54	U	0.54	U	0.54	U	0.54
108-60-1	bis(2-Chloroisopropyl)ether		µg/L	1	U	1	U	0.81	U	0.81	U	0.81	U	0.81
106-44-5	3+4-Methylphenol		µg/L	NA		NA		0.42	U	0.42	U	0.42	U	0.42
621-64-7	N-Nitrosodi-n-propylamine		µg/L	1	U	1	U	36.3		39.8		42.3		39.1
67-72-1	Hexachloroethane		µg/L	1	U	1	U	0.48	U	0.48	U	0.48	U	0.48
98-95-3	Nitrobenzene		µg/L	1	U	1	U	0.54	U	0.54	U	0.54	U	0.54
78-59-1	Isophorone		µg/L	1	U	1	U	0.52	U	0.52	U	0.52	U	0.52
88-75-5	2-Nitrophenol		µg/L	NA		NA		2.27		1.17		0.3	U	0.3
105-67-9	2,4-Dimethylphenol		µg/L	NA		NA		0.76	U	0.76	U	0.76	U	0.76
111-91-1	bis(2-Chloroethoxy)methane		µg/L	1	U	1	U	0.41	U	0.41	U	0.41	U	0.41
120-83-2	2,4-Dichlorophenol		µg/L	NA		NA		0.37	U	0.37	U	0.37	U	0.37
120-82-1	1,2,4-Trichlorobenzene		µg/L	1	U	1	U	42.5		42.6		47.5		45.1
106-47-8	4-Chloroaniline		µg/L	NA		NA		0.43	U	0.43	U	0.43	U	0.43
87-68-3	Hexachlorobutadiene		µg/L	1	U	1	U	0.52	U	0.52	U	0.52	U	0.52
59-50-7	4-Chloro-3-methylphenol		µg/L	NA		NA		73.4		75.5		77.5		73.6
77-47-4	Hexachlorocyclopentadiene		µg/L	10	U	10	U	0.77	U	0.77	U	0.77	U	0.77
88-06-2	2,4,6-Trichlorophenol		µg/L	NA		NA		0.56	U	0.56	U	0.56	U	0.56
95-95-4	2,4,5-Trichlorophenol		µg/L	NA		NA		0.44	U	0.44	U	0.44	U	0.44

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	NYSDEC		**00-03386-002**		**00-03386-002**		**01-08096-002**		**01-08096-003**		**01-04484-004**		**01-04484-(**
	Sample Location:	**Class GA**		**MW-1 MS**		**MW-1 MSD**		**MW-1 MS**		**MW-1 MSD**		**MW-8 MS**		**MW-8 MS**
	Depth:	**Groundwater**		-		-		-		-		-		-
	Laboratory ID:	**Quality**		**201473.02**		**201473.03**		**L4148-1M**		**L4148-1N**		**L4113-3M**		**L4113-3I**
	Sampling Date:	**Standards**		**4/6/2000**		**4/6/2000**		**8/8/2001**		**8/8/2001**		**7/27/2001**		**7/27/200**
	Matrix:	**and Guidance**		**Water**		**Water**		**Water**		**Water**		**Water**		**Water**
	Validated:	**Values (1)**		No		No		No		No		No		No
Cas #:	**Analyte:**		**Units:**											
91-58-7	2-Chloronaphthalene		µg/L	1	U	1	U	0.34	U	0.34	U	0.34	U	0.34
88-74-4	2-Nitroaniline		µg/L	NA		NA		0.4	U	0.4	U	0.4	U	0.4
131-11-3	Dimethylphthalate		µg/L	1	U	1	U	1.37	U	1.37	U	1.37	U	1.37
606-20-2	2,6-Dinitrotoluene		µg/L	1	U	1	U	0.55	U	0.38	J	0.55	U	0.55
99-09-2	3-Nitroaniline		µg/L	NA		NA		0.52	U	0.52	U	0.52	U	0.52
51-28-5	2,4-Dinitrophenol		µg/L	NA		NA		2.34	U	2.34	U	2.34	U	2.34
100-02-7	4-Nitrophenol		µg/L	NA		NA		22.5		27.8		72.4		69.9
132-64-9	Dibenzofuran	NS	µg/L	NA		NA		0.52	U	0.52	U	0.52	U	0.52
121-14-2	2,4-Dinitrotoluene		µg/L	1	U	1	U	43.1		45		41.2		38.5
84-66-2	Diethylphthalate	50 (G)	µg/L	1	U	1	U	0.87	U	0.87	U	0.28	J	0.24
7005-72-3	4-Chlorophenyl phenyl ether		µg/L	1	U	1	U	0.51	U	0.51	U	0.51	U	0.51
100-01-6	4-Nitroaniline		µg/L	NA		NA		0.6	U	0.6	U	0.6	U	0.6
534-52-1	4,6-Dinitro-2-methylphenol		µg/L	NA		NA		0.3	U	0.3	U	0.3	U	0.3
86-30-6	N-Nitrosodiphenylamine		µg/L	1	U	1	U	0.72	U	0.72	U	0.72	U	0.72
101-55-3	4-Bromophenyl phenyl ether		µg/L	1	U	1	U	0.38	U	0.38	U	0.38	U	0.38
118-74-1	Hexachlorobenzene		µg/L	1	U	1	U	0.38	U	0.38	U	0.38	U	0.38
87-86-5	Pentachlorophenol		µg/L	NA		NA		33.2		20.8		86.2		84.2
86-74-8	Carbazole	NS	µg/L	NA		NA		0.41	U	0.41	U	0.41	U	0.41
84-74-2	Di-n-butylphthalate	NS	µg/L	1	U	1	U	50.3		51		47.3		45.7
85-68-7	Butylbenzylphthalate		µg/L	1	U	1	U	0.54	U	0.54	U	0.54	U	0.54
91-94-1	3,3'-Dichlorobenzidine		µg/L	10	U	10	U	1.01	U	1.01	U	1.01	U	1.01
117-81-7	bis(2-Ethylhexyl)phthalate	5	µg/L	1	U	2		0.85		0.72	J	1.58	B	1.74
117-84-0	Di-n-octylphthalate		µg/L	1	U	1	U	0.48	U	0.48	U	0.48	U	0.48
	Non Carcinogenic PAHs													
83-32-9	Acenaphthene	20 (G)	µg/L	1	U	1	U	42.4		41.9		43.9		39.5
208-96-8	Acenaphthylene	NS	µg/L	1	U	1	U	0.49	U	0.49	U	0.29	J	0.33
120-12-7	Anthracene	50 (G)	µg/L	1	U	1	U	0.41	U	0.41	U	0.41	U	0.41
191-24-2	Benzo(g,h,i)perylene	NS	µg/L	1	U	1	U	0.38	U	0.38	U	0.38	U	0.38
206-44-0	Fluoranthene	50 (G)	µg/L	1	U	1	U	0.54	U	0.54	U	0.54	U	0.54
86-73-7	Fluorene	50 (G)	µg/L	1	U	1	U	0.61	U	0.61	U	0.61	U	0.61
91-57-6	2-Methylnaphthalene	NS	µg/L	NA		NA		0.35	U	0.35	U	0.35	U	0.35
91-20-3	Naphthalene	10 (G)	µg/L	1	U	1	U	0.3	U	0.3	U	0.3	U	0.3
85-01-8	Phenanthrene	50 (G)	µg/L	1	U	1	U	0.36	U	0.36	U	0.36	U	0.36
129-00-0	Pyrene	50 (G)	µg/L	1	U	1	U	46.8		47.2		45.6		43.6
	Total Non Carcinogenic PAHs		µg/L											
	Probable Carcinogenic PAHs													
56-55-3	Benzo(a)anthracene	0.002	µg/L	1	U	1	U	0.44	U	0.44	U	0.44	U	0.44
205-99-2	Benzo(b)fluoranthene	0.002	µg/L	1	U	1	U	0.79	U	0.79	U	0.79	U	0.79
207-08-9	Benzo(k)fluoranthene	0.002	µg/L	1	U	1	U	0.7	U	0.7	U	0.7	U	0.7
50-32-8	Benzo(a)pyrene	ND	µg/L	1	U	1	U	0.33	U	0.33	U	0.31	J	0.43
218-01-9	Chrysene	0.002	µg/L	1	U	1	U	0.32	U	0.32	U	0.32	U	0.32
193-39-5	Indeno(1,2,3-cd)pyrene	0.002	µg/L	1	U	1	U	0.34	U	0.34	U	0.34	U	0.34
53-70-3	Dibenz(a,h)anthracene	NS	µg/L	1	U	1	U	0.42	U	0.42	U	0.42	U	0.42
	Total Probable Carcinogenic PAHs		µg/L											
	Total PAHs		µg/L											
	Metals													
7439-97-6	Mercury	0.0007	mg/L	0.00025	U	0.00025	U	0.00081		0.00082		0.0012		0.0012
7429-90-5	Aluminum	0.1	mg/L	13		6.8		27.5		27.2		2.8		2.72
7440-36-0	Antimony	0.003	mg/L	0.005	U	0.005	U	0.38		0.37		0.58		0.57
7440-38-2	Arsenic	0.025	mg/L	0.005	U	0.005	U	1.81		1.86		2.39		2.29
7440-39-3	Barium	1	mg/L	0.26		0.19		2.13		2.2		2.35		2.24
7440-41-7	Beryllium	0.003	mg/L	0.005	U	0.001	U	0.045		0.047		0.061		0.057
7440-43-9	Cadmium	0.005 (G)	mg/L	0.005	U	0.005	U	0.082		0.084		0.11		0.1
7440-70-2	Calcium	NS	mg/L	160		140		101		102		82.2		78.8
7440-47-3	Chromium	0.05	mg/L	0.044		0.031		0.27		0.28		0.24		0.23
7440-48-4	Cobalt	NS	mg/L	0.013		0.007		0.48		0.49		0.59		0.56
7440-50-8	Copper	0.2	mg/L	0.05		0.04		0.31		0.32		0.3		0.29
7439-89-6	Iron	0.3	mg/L	21		11		47.3		46		1.91		1.87
7439-92-1	Lead	0.025	mg/L	0.005		0.005	U	0.46		0.47		0.58		0.55
7439-95-4	Magnesium	35 (G)	mg/L	47		37		45.2		45.5		30.1		28.9
7439-96-5	Manganese	0.3	mg/L	0.92		0.76		1.73		1.72		0.87		0.83
7440-02-0	Nickel	0.1	mg/L	0.03		0.02		0.47		0.48		0.57		0.54
7440-09-7	Potassium	NS	mg/L	25		22		22.4		23.5		3.77		3.57
7782-49-2	Selenium	0.01	mg/L	0.006		0.007		1.76		1.81		2.34		2.26
7440-22-4	Silver	0.05	mg/L	0.005	U	0.005	U	0.043		0.045		0.063		0.06
7440-23-5	Sodium	20	mg/L	38		37		22.5		23.9		53.5		50.8
7440-28-0	Thallium	0.0005 (G)	mg/L	0.005	U	0.005	U	1.7		1.77		2.15		2.05

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sampie ID:	**NYSDEC**		**00-03386-002**	**00-03386-002**	**01-08096-002**	**01-08096-003**	**01-04484-004**	**01-04484-(**
	Sample Location:	**Class GA**		**MW-1 MS**	**MW-1 MSD**	**MW-1 MS**	**MW-1 MSD**	**MW-8 MS**	**MW-8 MS**
	Depth:	**Groundwater**		-	-	-	-	-	-
	Laboratory ID:	**Quality**		**201473.02**	**201473.03**	**L4148-1M**	**L4148-1N**	**L4113-3M**	**L4113-3**
	Sampling Date:	**Standards**		**4/6/2000**	**4/6/2000**	**8/8/2001**	**8/8/2001**	**7/27/2001**	**7/27/200**
	Matrix:	**and Guidance**		**Water**	**Water**	**Water**	**Water**	**Water**	**Water**
	Validated:	**Values (1)**		**No**	**No**	**No**	**No**	**No**	**No**
Cas #:	**Analyte:**		**Units:**						
7440-62-2	Vanadium	NS	mg/L	0.038	0.02	0.49	0.51	0.56	0.53
7440-66-6	Zinc	2 (G)	mg/L	0.11	0.04	0.63	0.63	0.67	0.63
57-12-5	Cyanide	0.2	mg/L	0.02 U	0.02 U	0.13	0.12	0.12	0.12

(1) - Ambient Water Quality Standards and Guidance Values
TOGS 1.1.1 (October 1998)
U - Below detection limit
J - Estimated value
ND - Not detected
(G) - Guidance value
NS - No standard or guidance value
NR - Not run

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**NYSDEC**		**)05**
	Sample Location:	**Class GA**		**D**
	Depth:	**Groundwater**		
	Laboratory ID:	**Quality**		**N**
	Sampling Date:	**Standards**		**1**
	Matrix:	**and Guidance**		
	Validated:	**Values (1)**		
Cas #:	**Analyte:**		**Units:**	
	PCBs			
12674-11-2	PCB 1016		µg/L	
11104-28-2	PCB 1221		µg/L	U
11141-16-5	PCB 1232		µg/L	U
53469-21-9	PCB 1242		µg/L	U
12672-29-6	PCB 1248		µg/L	U
11097-69-1	PCB 1254		µg/L	U
11096-82-5	PCB 1260		µg/L	
	Volatiles			
74-87-3	Chloromethane		µg/L	U
74-83-9	Bromomethane		µg/L	U
75-01-4	Vinyl Chloride		µg/L	U
75-00-3	Chloroethane		µg/L	U
75-09-2	Methylene Chloride	5	µg/L	U
67-64-1	Acetone		µg/L	U
75-15-0	Carbon disulfide		µg/L	U
75-35-4	1,1-Dichloroethene		µg/L	
75-34-3	1,1-Dichloroethane		µg/L	U
156-60-5	t-1,2-Dichloroethene		µg/L	U
156-59-2	c-1,2-Dichloroethene	5	µg/L	U
67-66-3	Chloroform		µg/L	U
107-06-2	1,2-Dichloroethane		µg/L	U
78-93-3	2-Butanone		µg/L	U
71-55-6	1,1,1-Trichloroethane		µg/L	U
56-23-5	Carbon Tetrachloride		µg/L	U
75-27-4	Bromodichloromethane		µg/L	U
78-87-5	1,2-Dichloropropane		µg/L	U
10061-01-5	cis-1,3-Dichloropropene		µg/L	U
79-01-6	Trichloroethene	5	µg/L	
124-48-1	Dibromochloromethane		µg/L	U
79-00-5	1,1,2-Trichloroethane		µg/L	U
71-43-2	Benzene	1	µg/L	
10061-02-6	trans-1,3-Dichloropropene		µg/L	U
75-25-2	Bromoform		µg/L	U
108-10-1	4-Methyl-2-pentanone		µg/L	U
591-78-6	2-Hexanone		µg/L	U
127-18-4	Tetrachloroethene	5	µg/L	
108-88-3	Toluene	5	µg/L	
79-34-5	1,1,2,2-Tetrachloroethane		µg/L	U
108-90-7	Chlorobenzene		µg/L	
100-41-4	Ethylbenzene	5	µg/L	U
100-42-5	Styrene		µg/L	U
108-38-3	m,p-xylene	5	µg/L	U
95-47-6	o-xylene	5	µg/L	U
	Total BTEX		µg/L	
	Semi-Volatiles			
108-95-2	Phenol		µg/L	
111-44-4	bis(2-Chloroethyl)ether		µg/L	U
95-57-8	2-Chlorophenol		µg/L	
541-73-1	1,3-Dichlorobenzene		µg/L	U
106-46-7	1,4-Dichlorobenzene		µg/L	
95-50-1	1,2-Dichlorobenzene		µg/L	U
95-48-7	2-Methylphenol		µg/L	U
108-60-1	bis(2-Chloroisopropyl)ether		µg/L	U
106-44-5	3+4-Methylphenol		µg/L	U
621-64-7	N-Nitrosodi-n-propylamine		µg/L	
67-72-1	Hexachloroethane		µg/L	U
98-95-3	Nitrobenzene		µg/L	U
78-59-1	Isophorone		µg/L	U
88-75-5	2-Nitrophenol		µg/L	U
105-67-9	2,4-Dimethylphenol		µg/L	U
111-91-1	bis(2-Chloroethoxy)methane		µg/L	U
120-83-2	2,4-Dichlorophenol		µg/L	U
120-82-1	1,2,4-Trichlorobenzene		µg/L	
106-47-8	4-Chloroaniline		µg/L	U
87-68-3	Hexachlorobutadiene		µg/L	U
59-50-7	4-Chloro-3-methylphenol		µg/L	
77-47-4	Hexachlorocyclopentadiene		µg/L	U
88-06-2	2,4,6-Trichlorophenol		µg/L	U
95-95-4	2,4,5-Trichlorophenol		µg/L	U

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	NYSDEC		05
	Sample Location:	**Class GA**		D
	Depth:	**Groundwater**		
	Laboratory ID:	**Quality**		N
	Sampling Date:	**Standards**		1
	Matrix:	**and Guidance**		
	Validated:	**Values (1)**		
Cas #:	**Analyte:**		Units:	
91-58-7	2-Chloronaphthalene		µg/L	U
88-74-4	2-Nitroaniline		µg/L	U
131-11-3	Dimethylphthalate		µg/L	U
606-20-2	2,6-Dinitrotoluene		µg/L	U
99-09-2	3-Nitroaniline		µg/L	U
51-28-5	2,4-Dinitrophenol		µg/L	U
100-02-7	4-Nitrophenol		µg/L	
132-64-9	Dibenzofuran	NS	µg/L	U
121-14-2	2,4-Dinitrotoluene		µg/L	
84-66-2	Diethylphthalate	50 (G)	µg/L	J
7005-72-3	4-Chlorophenyl phenyl ether		µg/L	U
100-01-6	4-Nitroaniline		µg/L	U
534-52-1	4,6-Dinitro-2-methylphenol		µg/L	U
86-30-6	N-Nitrosodiphenylamine		µg/L	U
101-55-3	4-Bromophenyl phenyl ether		µg/L	U
118-74-1	Hexachlorobenzene		µg/L	U
87-86-5	Pentachlorophenol		µg/L	
86-74-8	Carbazole	NS	µg/L	U
84-74-2	Di-n-butylphthalate	NS	µg/L	
85-68-7	Butylbenzylphthalate		µg/L	U
91-94-1	3,3'-Dichlorobenzidine		µg/L	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	µg/L	B
117-84-0	Di-n-octylphthalate		µg/L	U
	Non Carcinogenic PAHs			
83-32-9	Acenaphthene	20 (G)	µg/L	
208-96-8	Acenaphthylene	NS	µg/L	J
120-12-7	Anthracene	50 (G)	µg/L	U
191-24-2	Benzo(g,h,i)perylene	NS	µg/L	U
206-44-0	Fluoranthene	50 (G)	µg/L	U
86-73-7	Fluorene	50 (G)	µg/L	U
91-57-6	2-Methylnaphthalene	NS	µg/L	U
91-20-3	Naphthalene	10 (G)	µg/L	U
85-01-8	Phenanthrene	50 (G)	µg/L	U
129-00-0	Pyrene	50 (G)	µg/L	
	Total Non Carcinogenic PAHs		µg/L	
	Probable Carcinogenic PAHs			
56-55-3	Benzo(a)anthracene	0.002	µg/L	U
205-99-2	Benzo(b)fluoranthene	0.002	µg/L	U
207-08-9	Benzo(k)fluoranthene	0.002	µg/L	U
50-32-8	Benzo(a)pyrene	ND	µg/L	
218-01-9	Chrysene	0.002	µg/L	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.002	µg/L	U
53-70-3	Dibenz(a,h)anthracene	NS	µg/L	U
	Total Probable Carcinogenic PAHs		µg/L	
	Total PAHs		**µg/L**	
	Metals			
7439-97-6	Mercury	0.0007	mg/L	
7429-90-5	Aluminum	0.1	mg/L	
7440-36-0	Antimony	0.003	mg/L	
7440-38-2	Arsenic	0.025	mg/L	
7440-39-3	Barium	1	mg/L	
7440-41-7	Beryllium	0.003	mg/L	
7440-43-9	Cadmium	0.005 (G)	mg/L	
7440-70-2	Calcium	NS	mg/L	
7440-47-3	Chromium	0.05	mg/L	
7440-48-4	Cobalt	NS	mg/L	
7440-50-8	Copper	0.2	mg/L	
7439-89-6	Iron	0.3	mg/L	
7439-92-1	Lead	0.025	mg/L	
7439-95-4	Magnesium	35 (G)	mg/L	
7439-96-5	Manganese	0.3	mg/L	
7440-02-0	Nickel	0.1	mg/L	
7440-09-7	Potassium	NS	mg/L	
7782-49-2	Selenium	0.01	mg/L	
7440-22-4	Silver	0.05	mg/L	
7440-23-5	Sodium	20	mg/L	
7440-28-0	Thallium	0.0005 (G)	mg/L	

TABLE 4-4
GROUNDWATER SAMPLE ANALYTICAL RESULTS
WHITE PLAINS FORMER MGP SITE

	Client Sample ID:	**NYSDEC**		**)05**
	Sample Location:	**Class GA**		**D**
	Depth:	**Groundwater**		
	Laboratory ID:	**Quality**		**N**
	Sampling Date:	**Standards**		**1**
	Matrix:	**and Guidance**		
	Validated:	**Values (1)**		
Cas #:	**Analyte:**		**Units:**	
7440-62-2	Vanadium	NS	mg/L	
7440-66-6	Zinc	2 (G)	mg/L	
57-12-5	Cyanide	0.2	mg/L	
(1) - Ambient Water Quality Standards and Guidance Values				
TOGS 1.1.1 (October 1998)				
U - Below detection limit				
J - Estimated value				
ND - Not detected				
(G) - Guidance value				
NS - No standard or guidance value				
NR - Not run				

TABLE 4-5
SUMMARY OF SOIL GAS SAMPLE RESULTS
WHITE PLAINS SUBSTATION

Client Sample ID:		**SG-X1A**	**SG-X1B**	**SG-X2A**	**SG-X2B**	**SG-X3**	**SB-Basement 1**
Location:							
Depth:		5'	5'	11'	8'	5'	2'
Laboratory ID:							
Sampling Date:		5/28/02	5/28/02	5/28/02	5/28/02	5/28/02	6/4/02
Matrix		Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Validated		No	No	No	No	No	No
Analyte:	**Units:**						
Volatiles							
1,1,1-trichloroethane	ppbv	ND	ND	ND	1.1	ND	0.65
1,1-dichloroethene	ppbv	ND	ND	ND	0.45	ND	ND
2-Butanone	ppbv	ND	0.49	0.61	0.43	ND	ND
Acetone	ppbv	ND	2.4	1.8	5.7	1.5	2
Bromodichloromethane	ppbv	ND	ND	ND	ND	ND	0.86
Carbon Disulfide	ppbv	ND	ND	0.68	0.51	ND	ND
Chloroform	ppbv	0.84	ND	0.43	0.34	0.37	0.8
m,p Xylene	ppbv	ND	ND	0.37	0.43	ND	ND
Methyl ter-Butyl Ether (MTBE)	ppbv	ND	ND	0.38	ND	ND	ND
Methylene chloride	ppbv	ND	ND	ND	ND	ND	0.86
Tetrachloroethene	ppbv	ND	ND	ND	0.37	ND	0.65
Toluene	ppbv	1.5	0.75	1.4	1.2	0.87	ND
Trichloroethene	ppbv	ND	ND	0.26	0.28	ND	0.76
Trichlorofluoroethane	ppbv	ND	ND	ND	0.45	ND	ND
Trichlorofluoromethane	ppbv	ND	0.27	0.26	0.27	0.27	0.26

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TABLE 4-6
AIR SAMPLE RESULTS

Compound	Sample Location	
	Outdoors Northeast Corner (ppb)	Basement Center of Space (ppb)
Dichlorofluoromethane	0.44	0.45
Chloromethane	---	0.63
Ethanol	6.3	2.7
Acetone	7.0	22
Trichlorofluoromethane	0.30	0.31
Methyl tert-Butyl Ether	1.2	0.88
Vinyl Acetate	---	0.47
n-Hexane	0.39	0.60
Benzene	0.50	0.45
Toluene	0.79	0.67
m,p-Xylenes	0.39	0.39
Tentatively Identified VOCs		
Propene + Propane	6	6
Isobutane	4	4
n-Butane	6	6
n-Pentane	4	4
C5H8 Compound	4	20
Unidentified Compound	---	5
Acetic Acid	10	20
Propanoic Acid	5	---
Hexamethylcyclotrisiloxane	10	20
Benzaldehyde	---	4
Octanal	---	4
n-Decane	---	3
2-Butoxyethanol	3	---
2-Ethyl-1-hexanol	7	6
Nonanal	3	---
n-Undecane	---	4
Decanal	---	4
TVOC as Toluene	200	300

Table 4-7

Summary of Southern Gasholder Soil Boring Observations

White Plains Former MGP Site

Soil Boring	Approximate Location	Depth of Boring	Depth to Groundwater	Depth Intervals with Visible NAPL
SB-17	Outside and 30 feet NW of Gasholder	56’	26’	54.5–55’
SB-18	Outside and 25 feet West of Gasholder	60’	26’	None
TB-1	Outside and 5 feet NE of Gasholder	39’	24’	36–39’
TB-2	Inside NE Corner of Gasholder	18.5’	8’	17.5-18’
TB-3	Outside and 7 feet SE of Gasholder	12’	NA	None
SB-101	Outside and 5 feet North of Gasholder	45’	24’	27–28’ and 40-44’
SB-102	Inside in SE Corner of Gasholder	13’	NA	9.5-13’
SB-103	Outside and 15 feet SE of Gasholder	40’	24’	None
SB-104	Outside and 17 feet SE of Gasholder	40’	23’	None
SB-105	Outside and 5 feet South of Gasholder	40’	27’	None
SB-106	Outside and 32 feet South of Gasholder (transformer #6 area)	40’	24’	None
SB-107	Outside and 45 feet South of Gasholder (transformer #6 area)	40’	24’	None

Table 4-8

Summary of Southern Gasholder Soil Analytical Results

White Plains Former MGP Site

Consolidated Edison White Plains Former MGP Site Preliminary Soil Analytical Data May 2003		Sample ID:	SB101A	SB101B	SB101C	SB103A	SB103B	SB104A	SB104B
		Lab Sample Id:	R2561-01	R2561-02	R2561-03	R2561-04	R2561-05	R2561-06	R2561-07
		Depth:	23-25'	40-42'	44-45'	26-27'	35-40'	26-30'	35-40'
		Source:	Chemtech	Chemtech	Chemtech	Chemtech	Chemtech	Chemtech	Chemtech
		SDG:	R2561	R2561	R2561	R2561	R2561	R2561	R2561
		Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled:	5/16/2003	5/16/2003	5/16/2003	5/15/2003	5/15/2003	5/15/2003	5/15/2003
		Validated:							
CAS NO.	COMPOUND	UNITS:							
	VOLATILES								
75-09-2	Methylene Chloride	ug/Kg	ND	ND	3.5 JB	ND	3.5 JB	9.7	3.6 JB
108-88-3	Toluene	ug/Kg	ND	1100 J	2.2 J	ND	ND	ND	ND
100-41-4	Ethyl Benzene	ug/Kg	100000	65000	50	13000	ND	ND	ND
136777-61-2	m/p-Xylenes	ug/Kg	20000	160000	100	8900	ND	ND	ND
1330-20-7	o-Xylene	ug/Kg	15000	59000	45	10000	ND	ND	ND
	Total VOCs	**ug/Kg**	**135000**	**285100**	**200.7**	**31900**	**3.5**	**9.7**	**3.6**
	SEMIVOLATILES								
91-20-3	Naphthalene	ug/Kg	330000 D	860000 D	280 J	560000 D	ND	ND	ND
91-57-6	2-Methylnaphthalene	ug/Kg	88000 D	290000 D	ND	200000 D	ND	48 J	ND
208-96-8	Acenaphthylene	ug/Kg	16000 JD	29000 JD	ND	14000 JD	ND	1400	ND
83-32-9	Acenaphthene	ug/Kg	120000 D	190000 D	ND	160000 D	ND	690	ND
100-02-7	4-Nitrophenol	ug/Kg	ND	ND	ND	ND	ND	ND	ND
132-64-9	Dibenzofuran	ug/Kg	5200	32000 JD	ND	ND	ND	ND	ND
86-73-7	Fluorene	ug/Kg	48000 D	97000 JD	ND	67000 D	ND	770	ND
85-01-8	Phenanthrene	ug/Kg	130000 JD	640000 D	58 J	270000 D	ND	11000 D	ND
120-12-7	Anthracene	ug/Kg	4800	89000 JD	ND	3800	ND	3100 JD	ND
86-74-8	Carbazole	ug/Kg	ND	8600	ND	ND	ND	ND	ND
206-44-0	Fluoranthene	ug/Kg	75000 D	16000	ND	120000 D	ND	4700 D	ND
129-00-0	Pyrene	ug/Kg	15000	12000	ND	74000 JD	ND	1900	ND
120-12-7	Benzo(a)anthracene	ug/Kg	36000 D	60000 JD	ND	49000 D	ND	3200 JD	ND
218-01-9	Chrysene	ug/Kg	25000 D	30000 JD	ND	30000 D	ND	1900 JD	ND
117-81-7	Bis(2-ethylhexyl)phthalate	ug/Kg	240 J	270 J	ND	260 J	ND	58 J	ND
205-99-2	Benzo(b)fluoranthene	ug/Kg	5500 JD	15000 JD	ND	8100 JD	ND	1000 JD	ND
207-08-9	Benzo(k)fluoranthene	ug/Kg	5000 JD	ND	ND	8700 JD	ND	ND	ND
50-32-8	Benzo(a)pyrene	ug/Kg	15000 JD	31000 JD	ND	26000 D	ND	2000 JD	ND
193-39-5	Indeno(1,2,3-cd)pyrene	ug/Kg	700 J	570 J	ND	520 J	ND	230 J	ND
53-70-3	Dibenz(a,h)anthracene	ug/Kg	940 J	830 J	ND	ND	ND	ND	ND
191-24-2	Benzo(g,h,i)perylene	ug/Kg	1800 J	1200 J	ND	2500	ND	780	ND
	Total SVOCs	**ug/Kg**	**922180**	**2402470**	**338**	**1593880**	**ND**	**32776**	**ND**

J = Indicates an estimated value.
ND = Indicates constituent was not detected.
NA = Indicates constituent was not analyzed for.

Table 4-8

Summary of Southern Gasholder Soil Analytical Results

White Plains Former MGP Site

Consolidated Edison White Plains Former MGP Site Preliminary Soil Analytical Data May 2003		Sample ID: Lab Sample Id: Depth: Source: SDG: Matrix: Sampled: Validated:	SB101A R2561-01 23-25' Chemtech R2561 SOIL 5/16/2003	SB101B R2561-02 40-42' Chemtech R2561 SOIL 5/16/2003	SB101C R2561-03 44-45' Chemtech R2561 SOIL 5/16/2003	SB103A R2561-04 26-27' Chemtech R2561 SOIL 5/15/2003	SB103B R2561-05 35-40' Chemtech R2561 SOIL 5/15/2003	SB104A R2561-06 26-30' Chemtech R2561 SOIL 5/15/2003	SB104B R2561-07 35-40' Chemtech R2561 SOIL 5/15/2003
CAS NO.	COMPOUND	UNITS:							
	METALS								
7429-90-5	Aluminum	mg/Kg	3290	1710	13200	3430	2830	2740	2280
7440-36-0	Antimony	mg/Kg	0.33 J	0.35 J	0.4 J	0.34 J	0.32 J	0.39 J	0.37 J
7440-38-2	Arsenic	mg/Kg	0.38 J	0.59 J	0.8 J	0.47 J	ND	ND	0.31 J
7440-39-3	Barium	mg/Kg	29.7	18.3 J	203	28.5	33.8	25.5	26.5
7440-41-7	Beryllium	mg/Kg	0.14 J	0.07 J	0.32 J	0.13 J	0.12 J	0.12 J	0.09 J
7440-70-2	Calcium	mg/Kg	4280	20400	24800	7670	19500	16800	18700
7440-47-3	Chromium	mg/Kg	6.9	2.4	29.9	7.2	5.2	4.2	3.8
7440-48-4	Cobalt	mg/Kg	4.3 J	3.3 J	13.7	3.9 J	4 J	3.5 J	3.2 J
7440-50-8	Copper	mg/Kg	9.2	7.2	26	10.5	10.7	7.2	9
7439-89-6	Iron	mg/Kg	5560	3510	19900	5820	5450	6040	4170
7439-92-1	Lead	mg/Kg	1.6	1.3	2.8	2.3	1.5	1.3	1.4
7439-95-4	Magnesium	mg/Kg	4280	10600	19600	6020	11900	11600	10200
7439-96-5	Manganese	mg/Kg	99.2	50.6	321	73	82.5	97.6	65.7
7440-02-0	Nickel	mg/Kg	5.3	4.3 J	21.2	5.4	5.5	3.9 J	3.8 J
7440-09-7	Potassium	mg/Kg	975	706	8980	1170	1260	1110	1030
7440-23-5	Sodium	mg/Kg	125 J	252 J	301 J	135 J	394 J	87.7 J	276 J
7440-62-2	Vanadium	mg/Kg	11.2	5.7 J	43.7	10	10.3	8.9	7.9
7440-66-6	Zinc	mg/Kg	6.7	0.07 U	60.1	5.6	0.07 U	0.07 U	0.07 U
	OTHER								
	TPH	mg/Kg	5800	13000	160	5800	220	210	89

J = Indicates an estimated value.
ND = Indicates constituent was not detected.
NA = Indicates constituent was not analyzed for.

Table 4-8

Summary of Southern Gasholder Soil Analytical Results

White Plains Former MGP Site

Consolidated Edison White Plains Former MGP Site Preliminary Soil Analytical Data May 2003		Sample ID: Lab Sample Id: Depth: Source: SDG: Matrix: Sampled: Validated:	SB105A R2561-08 26-27' Chemtech R2561 SOIL 5/15/2003	SB105B R2561-09 38-40' Chemtech R2561 SOIL 5/15/2003	SB106A R2561-10 29-29.6' Chemtech R2561 SOIL 5/16/2003	SB106B R2561-11 37-39' Chemtech R2561 SOIL 5/16/2003	SB107A R2561-12 34-34.6' Chemtech R2561 SOIL 5/16/2003	SB107B R2561-16 35-40' Chemtech R2561 SOIL 5/16/2003	SB107B DUP R2561-15 35-40' Chemtech R2561 SOIL 5/16/2003
CAS NO.	COMPOUND	UNITS:							
	VOLATILES								
75-09-2	Methylene Chloride	ug/Kg	ND	3.3 JB	4.7 JB	3.1 JB	15	5.5 JB	8 B
108-88-3	Toluene	ug/Kg	ND	ND	ND	ND	ND	ND	ND
100-41-4	Ethyl Benzene	ug/Kg	35000	ND	ND	ND	ND	ND	ND
136777-61-2	m/p-Xylenes	ug/Kg	36000	ND	ND	ND	ND	ND	ND
1330-20-7	o-Xylene	ug/Kg	21000	ND	ND	ND	ND	ND	ND
	Total VOCs	**ug/Kg**	**92000**	**3.3**	**4.7**	**3.1**	**15**	**5.5**	**8**
	SEMIVOLATILES								
91-20-3	Naphthalene	ug/Kg	720000 D	ND	NA	ND	NA	ND	ND
91-57-6	2-Methylnaphthalene	ug/Kg	250000 D	ND	NA	ND	NA	ND	ND
208-96-8	Acenaphthylene	ug/Kg	14000 JD	ND	NA	ND	NA	ND	ND
83-32-9	Acenaphthene	ug/Kg	190000 D	ND	NA	ND	NA	ND	ND
100-02-7	4-Nitrophenol	ug/Kg	ND	ND	NA	ND	NA	ND	ND
132-64-9	Dibenzofuran	ug/Kg	7200	ND	NA	ND	NA	ND	ND
86-73-7	Fluorene	ug/Kg	67000 D	ND	NA	ND	NA	ND	ND
85-01-8	Phenanthrene	ug/Kg	320000 D	ND	NA	ND	NA	41 J	ND
120-12-7	Anthracene	ug/Kg	5200	ND	NA	ND	NA	57 J	ND
86-74-8	Carbazole	ug/Kg	ND	ND	NA	ND	NA	ND	ND
206-44-0	Fluoranthene	ug/Kg	120000 D	ND	NA	ND	NA	ND	ND
129-00-0	Pyrene	ug/Kg	96000 D	ND	NA	ND	NA	ND	ND
120-12-7	Benzo(a)anthracene	ug/Kg	51000 D	ND	NA	ND	NA	ND	ND
218-01-9	Chrysene	ug/Kg	32000 D	ND	NA	ND	NA	ND	ND
117-81-7	Bis(2-ethylhexyl)phthalate	ug/Kg	280 J	ND	NA	ND	NA	ND	ND
205-99-2	Benzo(b)fluoranthene	ug/Kg	6900 JD	ND	NA	ND	NA	ND	ND
207-08-9	Benzo(k)fluoranthene	ug/Kg	8000 JD	ND	NA	ND	NA	ND	ND
50-32-8	Benzo(a)pyrene	ug/Kg	31000 D	ND	NA	ND	NA	ND	ND
193-39-5	Indeno(1,2,3-cd)pyrene	ug/Kg	ND	ND	NA	ND	NA	ND	ND
53-70-3	Dibenz(a,h)anthracene	ug/Kg	910 J	ND	NA	ND	NA	ND	ND
191-24-2	Benzo(g,h,i)perylene	ug/Kg	1500 J	ND	NA	ND	NA	ND	ND
	Total SVOCs	**ug/Kg**	**1920990**	**ND**	**NA**	**ND**	**NA**	**98**	**ND**

J = Indicates an estimated value.
ND = Indicates constituent was not detected.
NA = Indicates constituent was not analyzed for.

Table 4-8

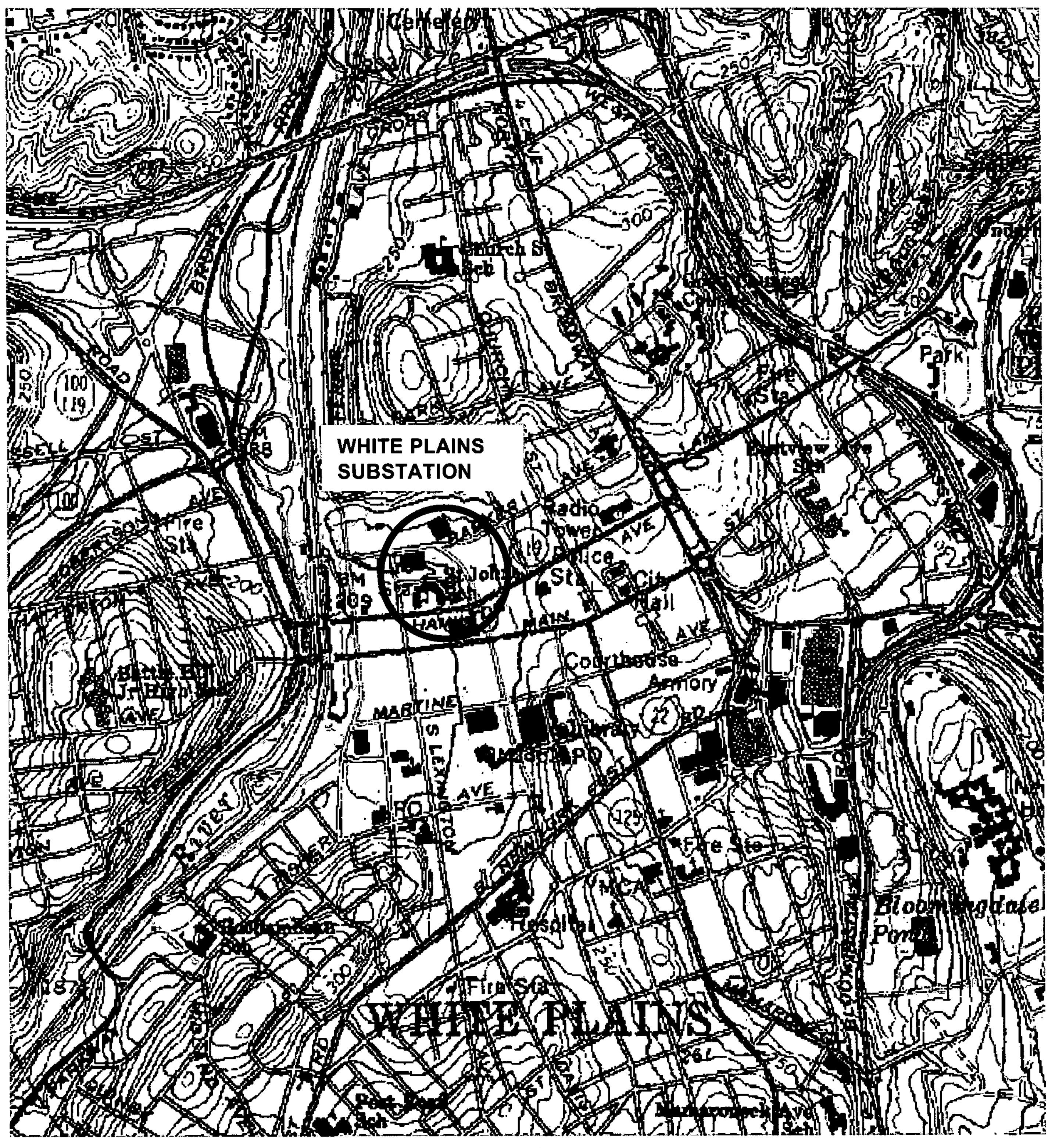
Summary of Southern Gasholder Soil Analytical Results

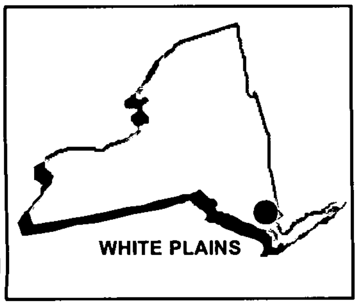
White Plains Former MGP Site

Consolidated Edison White Plains Former MGP Site Preliminary Soil Analytical Data May 2003		Sample ID: Lab Sample Id: Depth: Source: SDG: Matrix: Sampled: Validated:	SB105A R2561-08 26-27' Chemtech R2561 SOIL 5/15/2003	SB105B R2561-09 38-40' Chemtech R2561 SOIL 5/15/2003	SB106A R2561-10 29-29.6' Chemtech R2561 SOIL 5/16/2003	SB106B R2561-11 37-39' Chemtech R2561 SOIL 5/16/2003	SB107A R2561-12 34-34.6' Chemtech R2561 SOIL 5/16/2003	SB107B R2561-16 35-40' Chemtech R2561 SOIL 5/16/2003	SB107B DUP R2561-15 35-40' Chemtech R2561 SOIL 5/16/2003
CAS NO.	COMPOUND	UNITS:							
	METALS								
7429-90-5	Aluminum	mg/Kg	2230	2470	NA	3840	NA	3060	2800
7440-36-0	Antimony	mg/Kg	ND	ND	NA	0.42 J	NA	0.59 J	ND
7440-38-2	Arsenic	mg/Kg	0.4 J	0.33 J	NA	ND	NA	ND	0.39 J
7440-39-3	Barium	mg/Kg	19.5 J	26.7	NA	47	NA	36.5	31.8
7440-41-7	Beryllium	mg/Kg	0.1 J	0.11 J	NA	0.14 J	NA	0.13 J	0.12 J
7440-70-2	Calcium	mg/Kg	1340	17500	NA	22700	NA	20200	21100
7440-47-3	Chromium	mg/Kg	3.8	4.7	NA	5.7	NA	4.9	4.4
7440-48-4	Cobalt	mg/Kg	3 J	3.5 J	NA	4.5 J	NA	3.7 J	3.4 J
7440-50-8	Copper	mg/Kg	21.9	8.2	NA	9.7	NA	11.5	9
7439-89-6	Iron	mg/Kg	3800	5200	NA	5500	NA	5070	4900
7439-92-1	Lead	mg/Kg	2.5	1.3	NA	1.4	NA	1.4	1.2
7439-95-4	Magnesium	mg/Kg	1780	10300	NA	13400	NA	11800	12100
7439-96-5	Manganese	mg/Kg	38.8	79.4	NA	78.9	NA	68.6	64.9
7440-02-0	Nickel	mg/Kg	3.8 J	4.1 J	NA	5.7	NA	4.7 J	4.2 J
7440-09-7	Potassium	mg/Kg	687	1040	NA	2310	NA	1580	1410
7440-23-5	Sodium	mg/Kg	113 J	302 J	NA	329 J	NA	280 J	247 J
7440-62-2	Vanadium	mg/Kg	6.9	9.4	NA	11.8	NA	9.8	9.4
7440-66-6	Zinc	mg/Kg	0.07 U	0.07 U	NA	3.6	NA	0.67 J	0.77 J
	OTHER								
	TPH	mg/Kg	7800	98	NA	100	NA	140	110

J = Indicates an estimated value.
ND = Indicates constituent was not detected.
NA = Indicates constituent was not analyzed for.

FIGURES





New York
Quadrangle

LATITUDE: N42° 02' 00"
LONGITUDE: W73° 46' 16"

N

SOURCE: DeLORME 3-D
TOPOQUAD PROGRAM

FIGURE 1-1

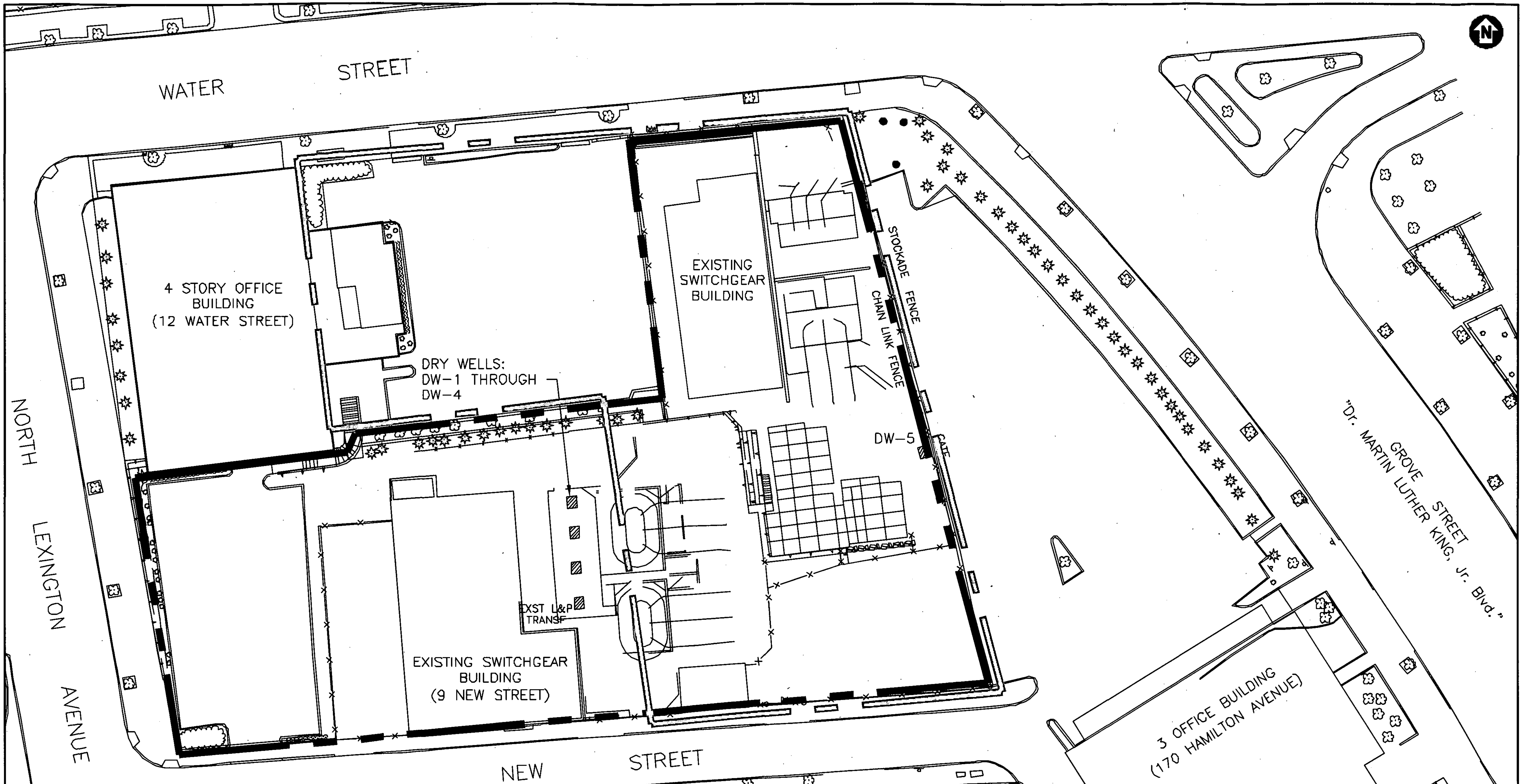
CONSOLIDATED EDISON
WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

SITE LOCATION MAP

PARSONS

290 ELWOOD DAVIS ROAD, SUITE 312, LIVERPOOL, NY 13088 PHONE: (315) 451-9560

P:\736109\GRAPHICS\SITE LOC.PPT 4\24\02 STEV



LEGEND

DW-1 DRY WELL LOCATION

CON EDISON PROPERTY LINE

FORMER MGP SITE BOUNDARY

40 20 0 40 80

SCALE: 1"=40'

ORIGINAL BASE MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

PARSONS
OFFICES IN PRINCIPAL CITIES
290 ELWOOD DAVIS ROAD, SUITE 312
LIVERPOOL, N.Y. 13088
PHONE: (315) 451-9560
FAX: (315) 451-9570

Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

SUBSTATION SITE PLAN

FIGURE NO.
1-2

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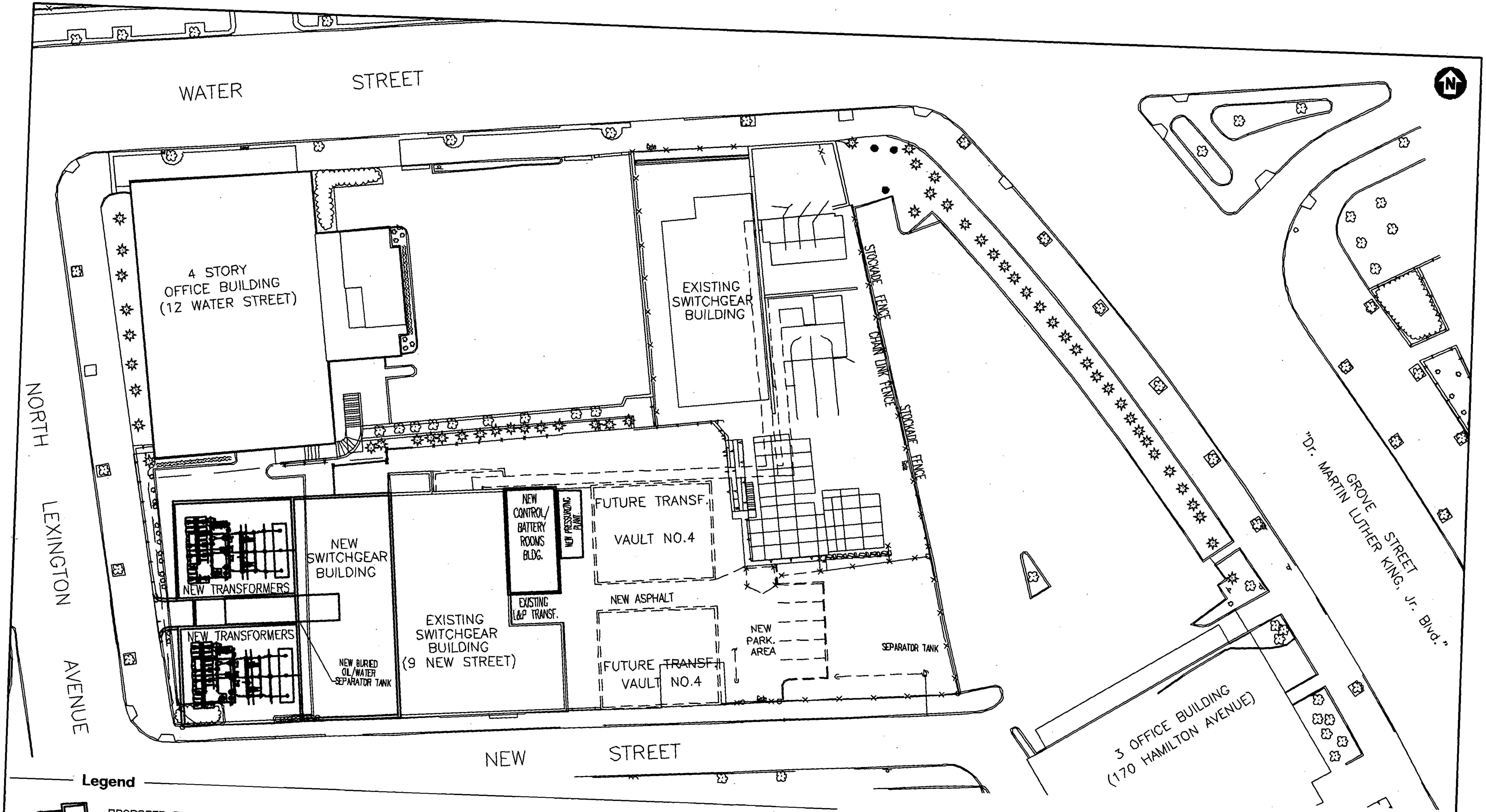

Legend

PROPOSED PHASE I STRUCTURES

PROPOSED PHASE II STRUCTURES

40 20 0 40 80

SCALE: 1"=40'

ORIGINAL BASE MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

No XREFs
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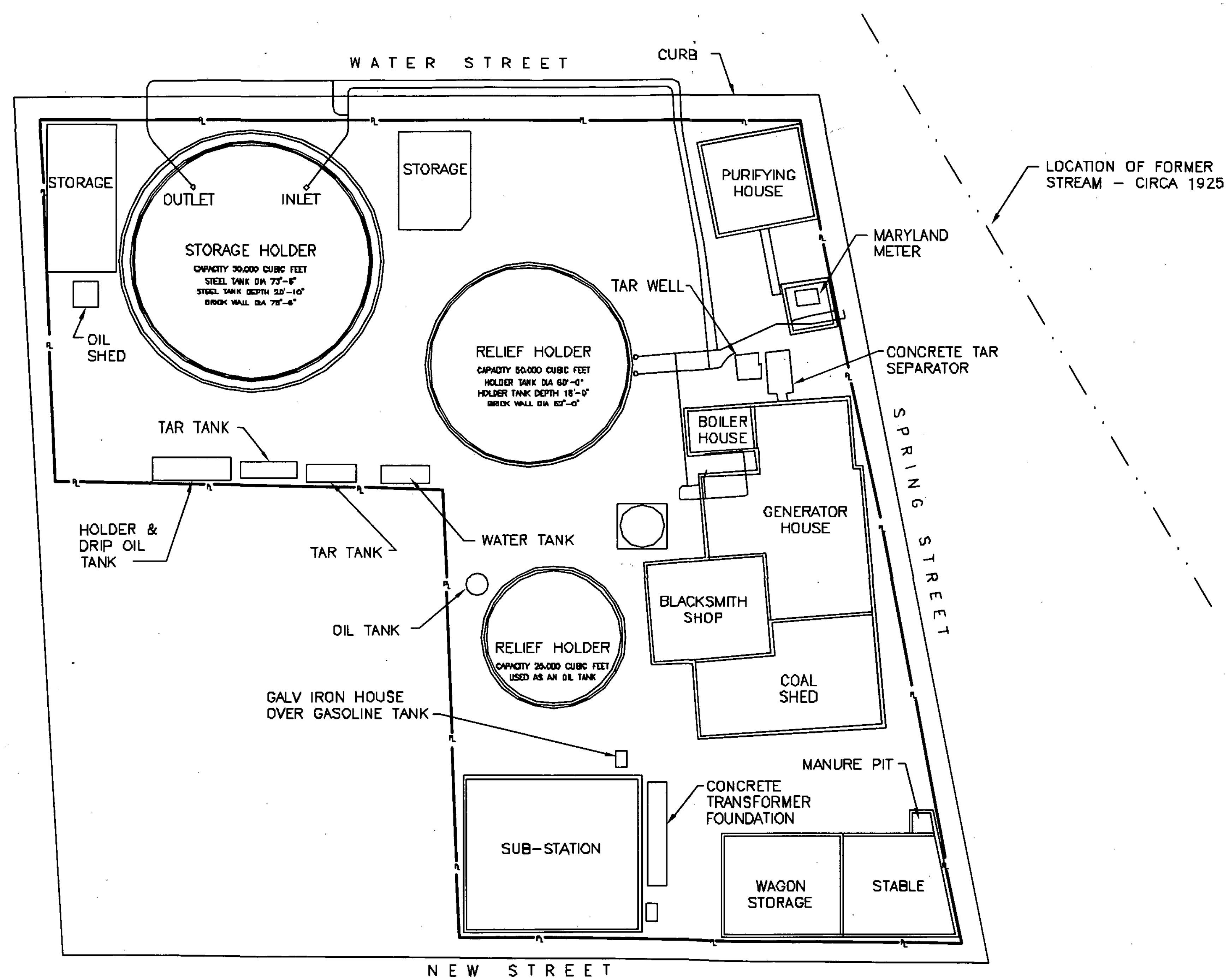
PARSONS

Con Edison

WHITE PLAINS FORMER MGP SITE WHITE PLAINS, NEW YORK	FIGURE NO.	
SUBSTATION RECONSTRUCTION PLAN	1–3	



40 20 0 40 80

SCALE: 1"=40'

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LIVERPOOL, N.Y. 13088
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FAX: (315) 451-9570

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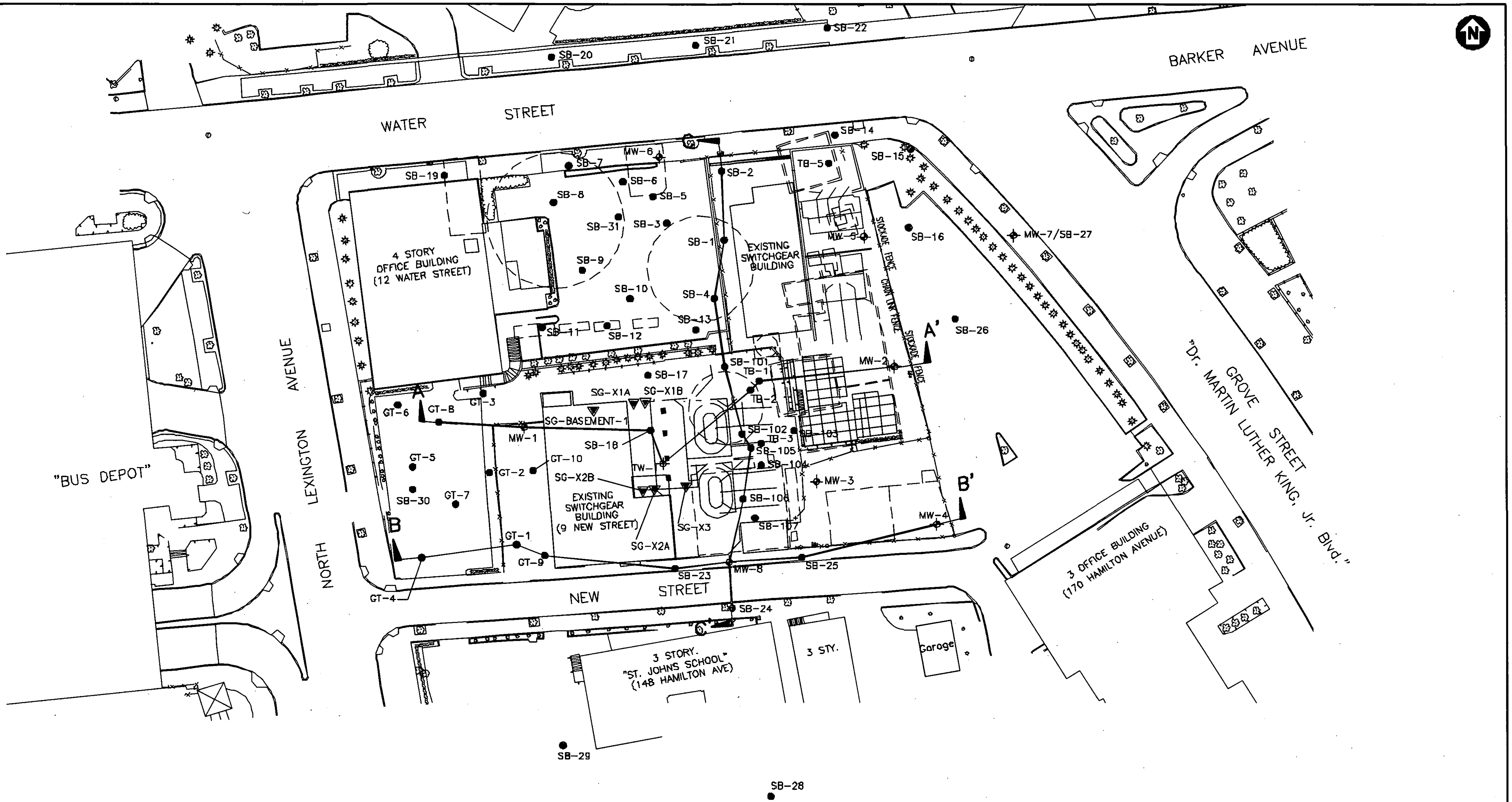
WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

HISTORICAL LAYOUT OF
MGP CIRCA 1911

FIGURE NO.
1-4



Legend

- SB-1 ● SOIL BORING
- TB-1 ● TEST BORING
- GT-1 ● GEOTECHNICAL BORING (CONDUCTED IN 1999)
- MW-3 MONITORING WELL
- TW-1 TEMPORARY WELL
- ■ DRY WELL
- FORMER MGP STRUCTURES
- SG-X1A ▼ SOIL GAS SAMPLING LOCATION
- A ——— A' GEOLOGIC CROSS SECTION

60 30 0 60 120

SCALE: 1"=60'

ORIGINAL BASE MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

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WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

SOIL BORINGS AND MONITORING WELL LOCATIONS

FIGURE NO. 2-1

No XREFs
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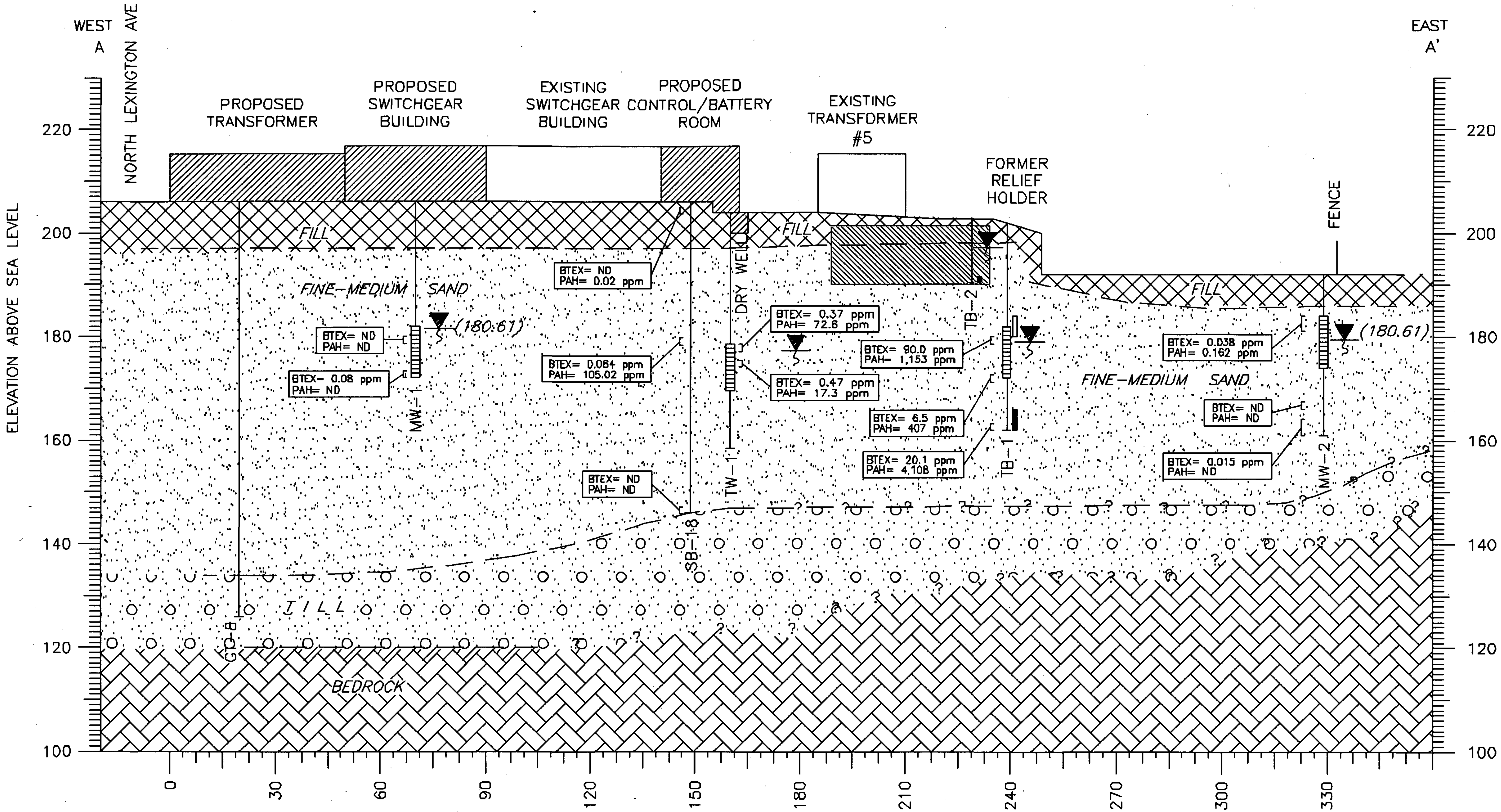

ABBREVIATIONS:

GT GEOTECHNICAL BORING
MW MONITORING WELL
ND NOT DETECTED
PAH POLYNUCLEAR AROMATIC HYDROCARBONS
ppm PARTS PER MILLION
VOC VOLATILE ORGANIC COMPOUNDS
TB PARTS PER MILLION
TW TEMPORARY WELL

SYMBOLS:

EXISTING STRUCTURE
PROPOSED STRUCTURE
FORMER MGP STRUCTURE
VISUAL DNAPL
VISUAL STAINING

LEGEND:

SOIL BORING LOCATION
SCREENED INTERVAL
GROUNDWATER LEVEL
SOIL SAMPLE INTERVAL

20 10 0 20
VERTICAL SCALE: 1"=20'

30 15 0 30
HORIZONTAL SCALE: 1"=30'

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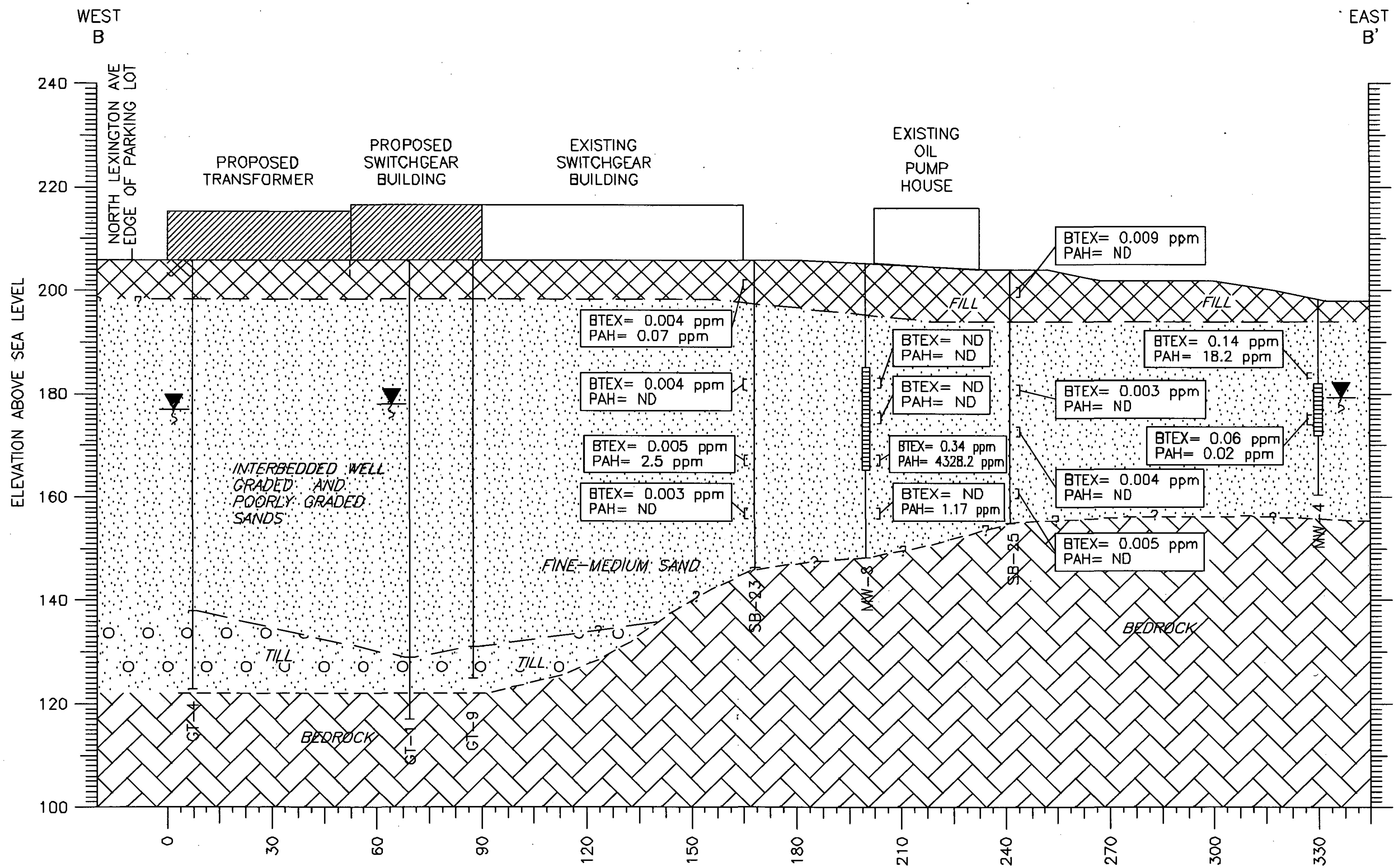
Con Edison

WHITE PLAINS SUBSTATION
WHITE PLAINS, NEW YORK

CROSS SECTION A-A'

FIGURE NO.
3-1



ABBREVIATIONS:

GT GEOTECHNICAL BORING
MW MONITORING WELL
ND NOT DETECTED
PAH POLYNUCLEAR AROMATIC HYDROCARBONS
ppm PARTS PER MILLION
VOC VOLATILE ORGANIC COMPOUNDS

SYMBOLS:

EXISTING STRUCTURE
PROPOSED STRUCTURE

LEGEND:

SOIL BORING LOCATION
SCREENED INTERVAL
GROUNDWATER LEVEL
SOIL SAMPLE INTERVAL

20 10 0 20
VERTICAL SCALE: 1"=20'

30 15 0 30
HORIZONTAL SCALE: 1"=30'

PARSONS
PARSONS INFRASTRUCTURE & TECHNOLOGY GROUP INC.
OFFICES IN PRINCIPAL CITIES
PARSONS ENGINEERING SCIENCE, INC.
290 ELWOOD DAVIS ROAD, SUITE 312
LIVERPOOL, N.Y. 13088
PHONE: (315) 451-9560
FAX: (315) 451-9570

Con Edison

WHITE PLAINS SUBSTATION
WHITE PLAINS, NEW YORK

CROSS SECTION B-B'

FIGURE NO.
3-2

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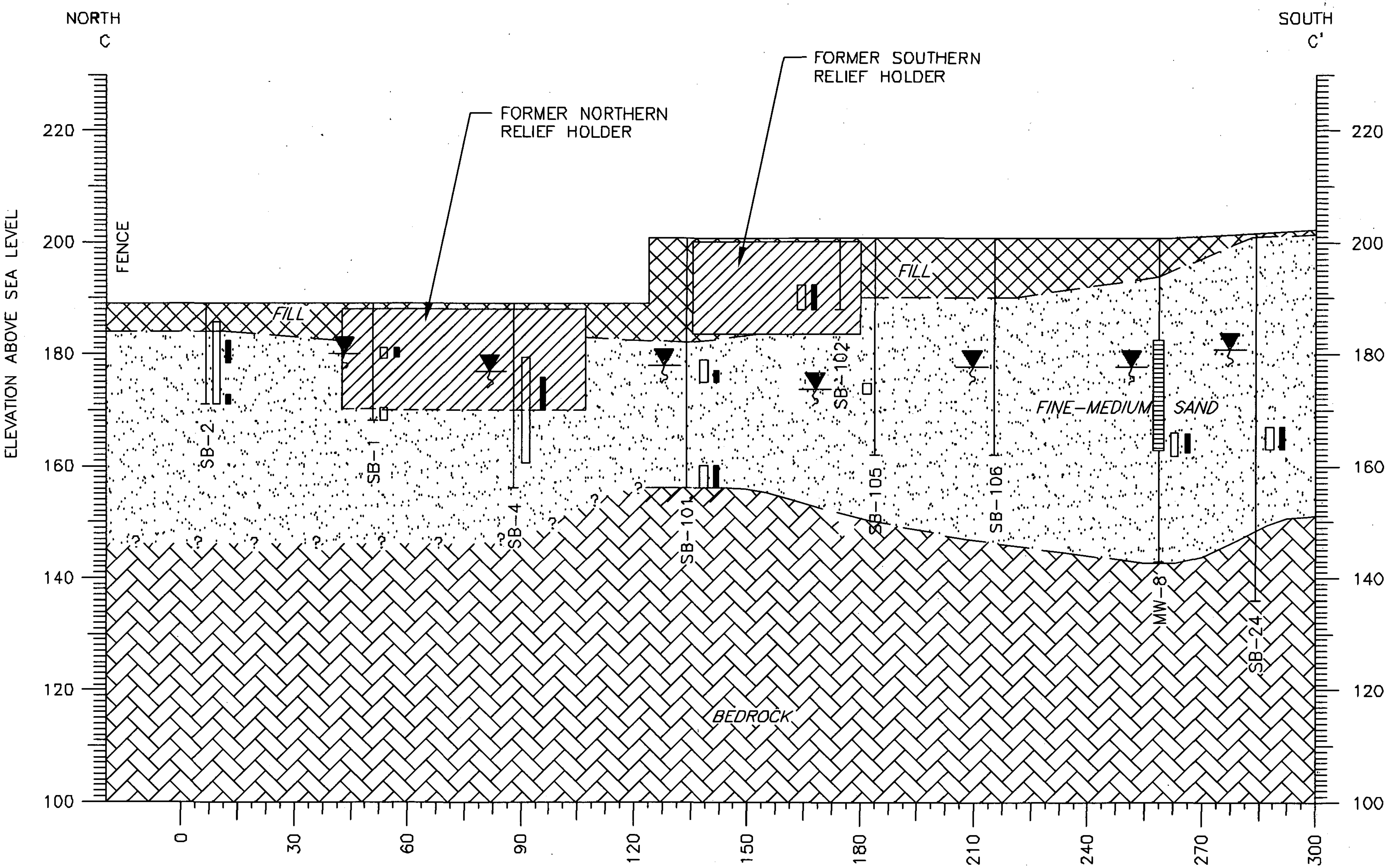

LEGEND:

- FORMER MGP STRUCTURE
- VISUAL DNAPL
- VISUAL STAINING
- SOIL BORING / MONITORING WELL LOCATION
- SCREENED INTERVAL

20 10 0 20
VERTICAL SCALE: 1"=20'

30 15 0 30
HORIZONTAL SCALE: 1"=30'

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FAX: (315) 451-9570

Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

CROSS SECTION C–C'

FIGURE NO.
3–3

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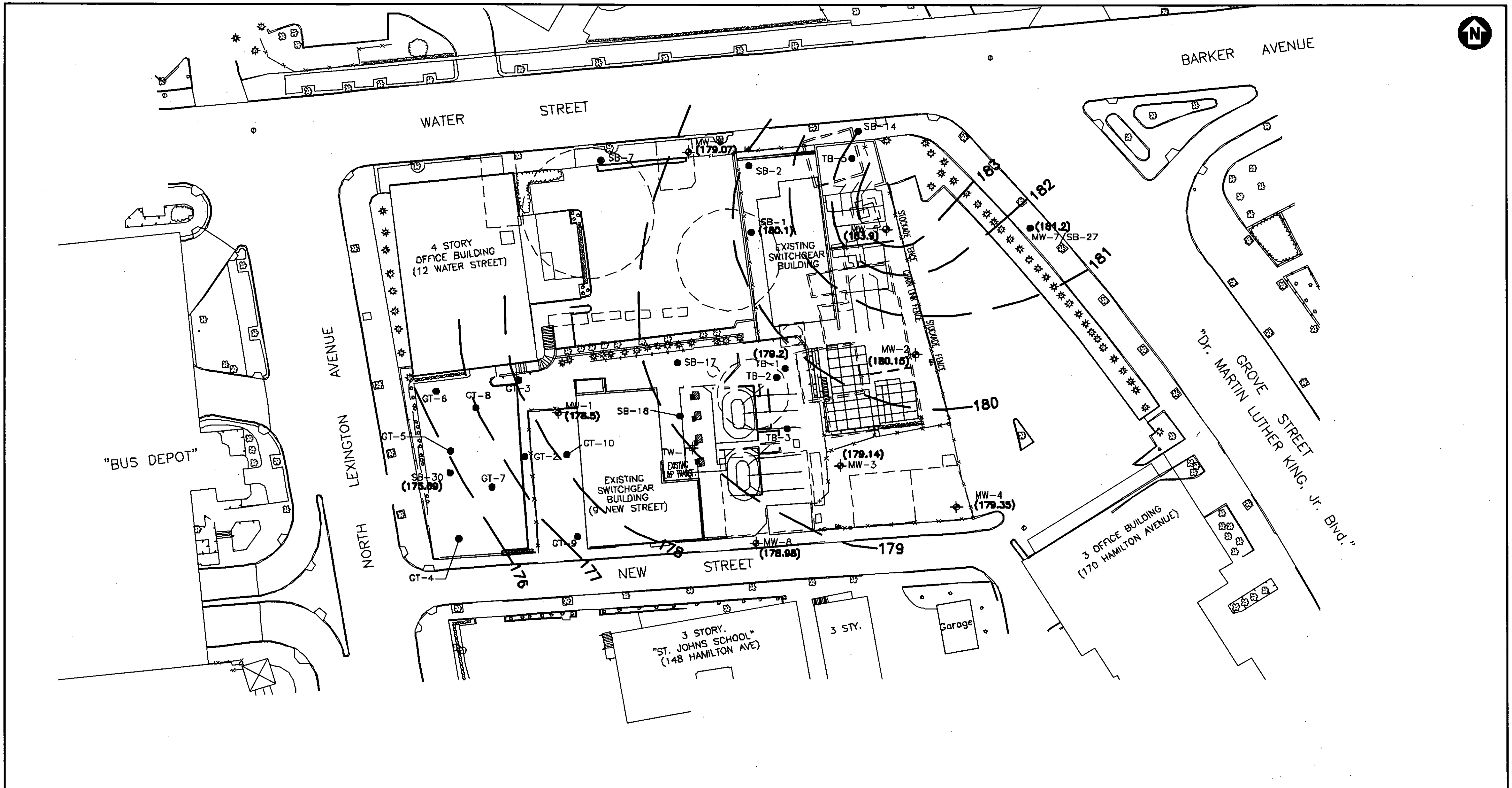

Legend

SB-1 ●	SOIL BORING
TB-1 ●	TEST BORING
GT-1 ●	GEOTECHNICAL BORING (CONDUCTED IN 1999)
MW-3	MONITORING WELL
TW-1	TEMPORARY WELL
■	DRY WELL
	FORMER MGP STRUCTURES
(NAPL)	NONAQUEOUS PHASE LIQUIDS
———	GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL

60 30 0 60 120

SCALE: 1"=60'

ORIGINAL BASE MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

PARSONS
OFFICES IN PRINCIPAL CITIES
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LIVERPOOL, N.Y. 13088
PHONE: (315) 451-9560
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Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

GROUNDWATER ELEVATION CONTOUR MAP
JULY 26, 2001

FIGURE NO. 3-4

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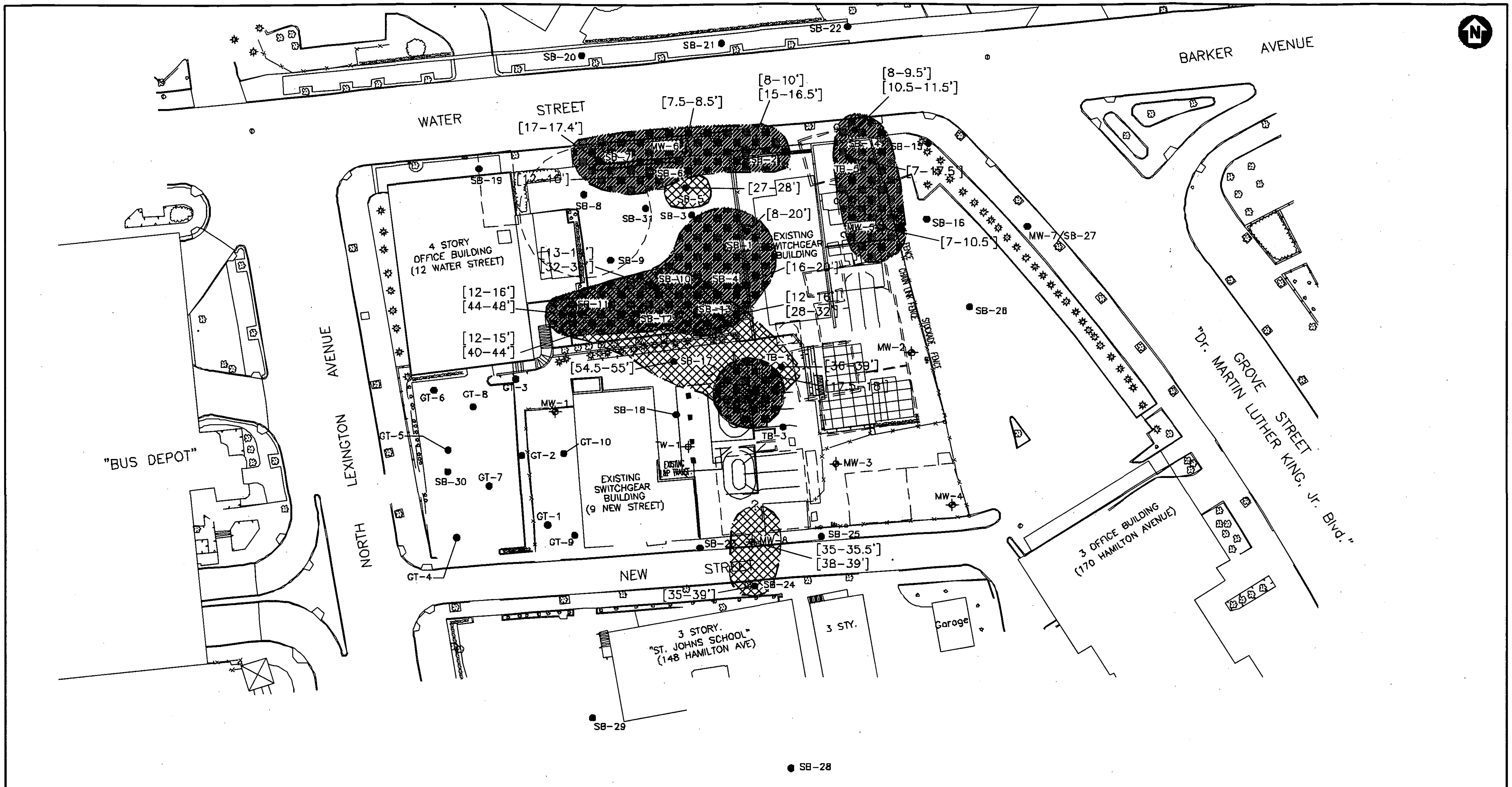

Legend

- SB-1 ● SOIL BORING
- TB-1 ● TEST BORING
- GT-1 ● GEOTECHNICAL BORING (CONDUCTED IN 1999)
- MW-3 ⊕ MONITORING WELL
- TW-1 ⊕ TEMPORARY WELL
- ■ DRY WELL
- FORMER MGP STRUCTURES
- (NAPL) NONAQUEOUS PHASE LIQUIDS
- VISIBLE NAPL IN SOILS AT DEPTHS OF 0-20 FT.
- VISIBLE NAPL IN SOILS AT DEPTHS > 20 FT.
- [7.5-8.5'] DEPTH INTERVAL WITH VISIBLE NAPL

60 30 0 60 120

SCALE: 1"=60'

ORIGINAL BASE MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

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WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

DISTRIBUTION OF VISIBLE NAPL IN SUBSURFACE SOIL

FIGURE NO. 4-1

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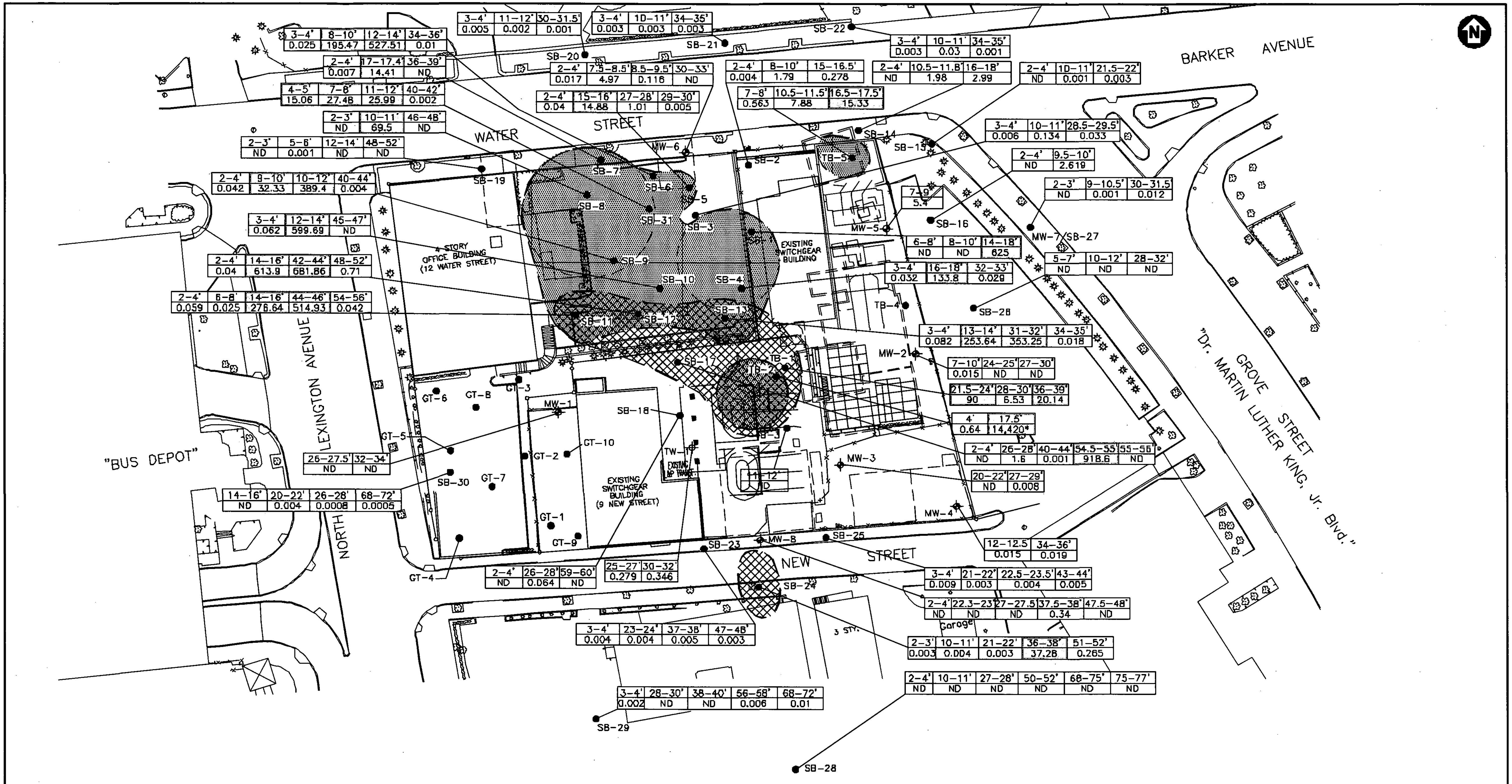

Legend

SB-1 ●	SOIL BORING	■	DRY WELL	(NAPL)	NONAQUEOUS PHASE LIQUIDS
TB-1 ●	TEST BORING		FORMER MGP STRUCTURES	11-12' / 0.011	SAMPLE DEPTH IN FEET / TOTAL BTEX CONCENTRATION IN SOIL (mg/kg)
GT-1 ●	GEOTECHNICAL BORING (CONDUCTED IN 1999)		AREAS WHERE SOIL CONCENTRATIONS EXCEED 10 mg/kg TOTAL VOCs AT DEPTHS <20 FT	ND	NOT DETECTED
MW-3	MONITORING WELL		AREAS WHERE SOIL CONCENTRATIONS EXCEED 10 mg/kg TOTAL VOCs AT DEPTHS >20 FT	*	FROM FINGERPRINT RESULTS
TW-1	TEMPORARY WELL			276.64	SAMPLES WITH TOTAL BTEX CONCENTRATIONS > 10 mg/kg

60 30 0 60 120

SCALE: 1"=60'

ORIGINAL BASE MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

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WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

DISTRIBUTION OF TOTAL BTEX CONCENTRATIONS IN SOIL

FIGURE NO. 4-2

No XREFs
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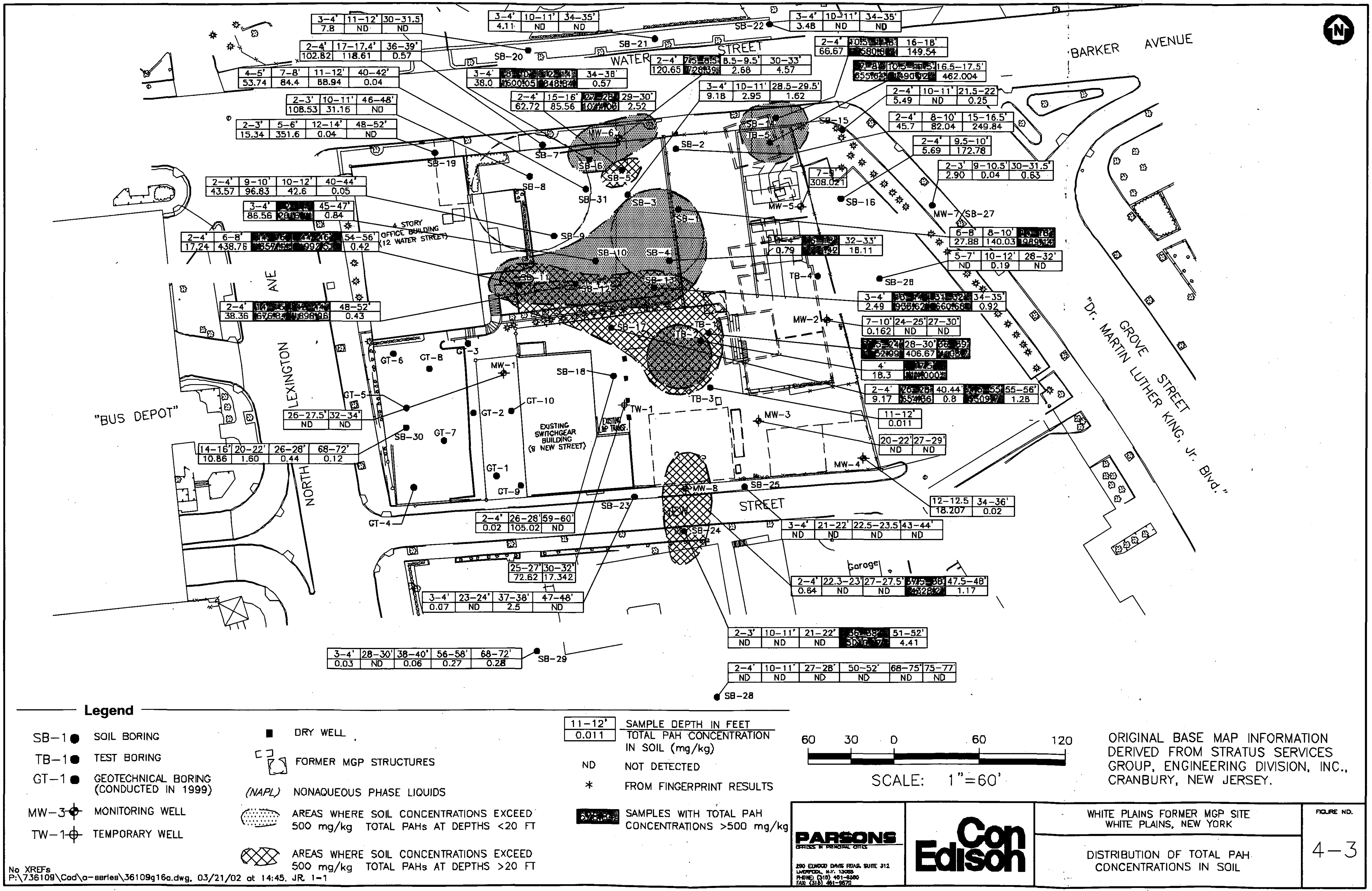

WATER STREET
BARKER AVENUE
GROVE STREET
"Dr. MARTIN LUTHER KING, Jr. Blvd."
NORTH LEXINGTON AVE
NEW STREET
"BUS DEPOT"
4 STORY OFFICE BUILDING (12 WATER STREET)
EXISTING SWITCHGEAR BUILDING (8 NEW STREET)
EXISTING MP TRANS.
Garage
SB-1 SB-2 SB-3 SB-4 SB-5 SB-6 SB-7 SB-8 SB-9 SB-10 SB-11 SB-12 SB-13 SB-15 SB-16 SB-17 SB-18 SB-19 SB-20 SB-21 SB-22 SB-23 SB-24 SB-25 SB-26 SB-28 SB-29 SB-30 SB-31
TB-1 TB-2 TB-3 TB-4 TB-5
GT-1 GT-2 GT-3 GT-4 GT-5 GT-6 GT-7 GT-8 GT-9 GT-10
MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 MW-7/SB-27 MW-8
TW-1
Legend
SB-1 SOIL BORING
TB-1 TEST BORING
GT-1 GEOTECHNICAL BORING (CONDUCTED IN 1999)
MW-3 MONITORING WELL
TW-1 TEMPORARY WELL
DRY WELL
FORMER MGP STRUCTURES
(NAPL) NONAQUEOUS PHASE LIQUIDS
AREAS WHERE SOIL CONCENTRATIONS EXCEED 500 mg/kg TOTAL PAHs AT DEPTHS <20 FT
AREAS WHERE SOIL CONCENTRATIONS EXCEED 500 mg/kg TOTAL PAHs AT DEPTHS >20 FT
11-12' SAMPLE DEPTH IN FEET
0.011 TOTAL PAH CONCENTRATION IN SOIL (mg/kg)
ND NOT DETECTED
* FROM FINGERPRINT RESULTS
SAMPLES WITH TOTAL PAH CONCENTRATIONS >500 mg/kg
60 30 0 60 120
SCALE: 1"=60'
ORIGINAL BASE MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.
PARSONS
Con Edison
WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK
DISTRIBUTION OF TOTAL PAH CONCENTRATIONS IN SOIL
FIGURE NO.
4-3
No XREFs
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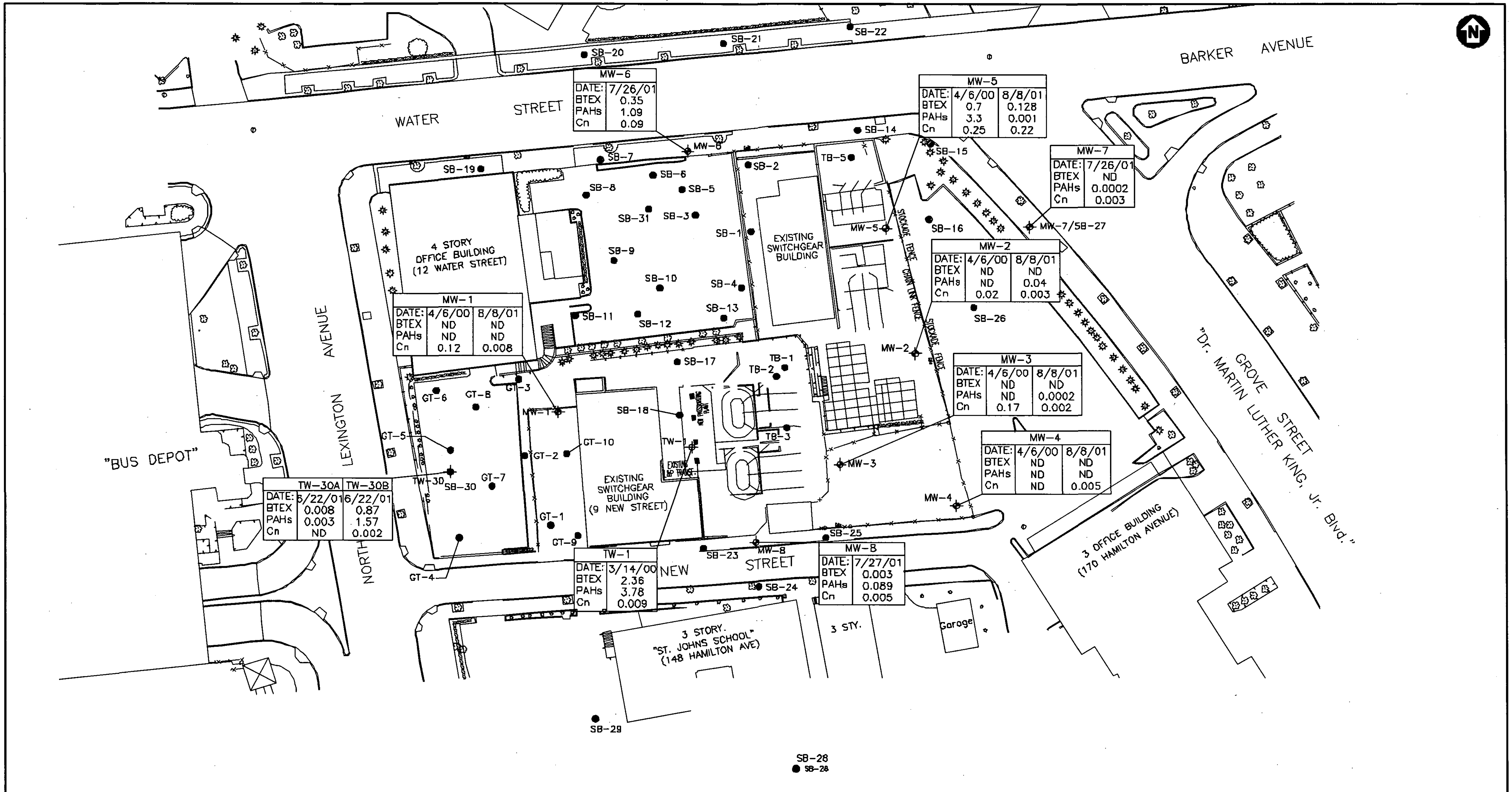

Legend

- SB-1 ● SOIL BORING
- TB-1 ● TEST BORING
- GT-1 ● GEOTECHNICAL BORING (CONDUCTED IN 1999)
- MW-3 MONITORING WELL
- TW-1 TEMPORARY WELL
- ■ DRY WELL
- FORMER MGP STRUCTURES

MW-6	
DATE:	7/26/01
BTEX	0.35
PAHs	1.09
Cn	0.09

DATE SAMPLED
TOTAL BTEX CONCENTRATION IN mg/L
TOTAL PAH CONCENTRATION IN mg/L
TOTAL Cn CONCENTRATION IN mg/L

ND NOT DETECTED

60 30 0 60 120

SCALE: 1"=60'

ORIGINAL BASE MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

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WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

TOTAL BTEX, PAH AND CYANIDE CONCENTRATIONS IN GROUNDWATER

FIGURE NO. 4-4

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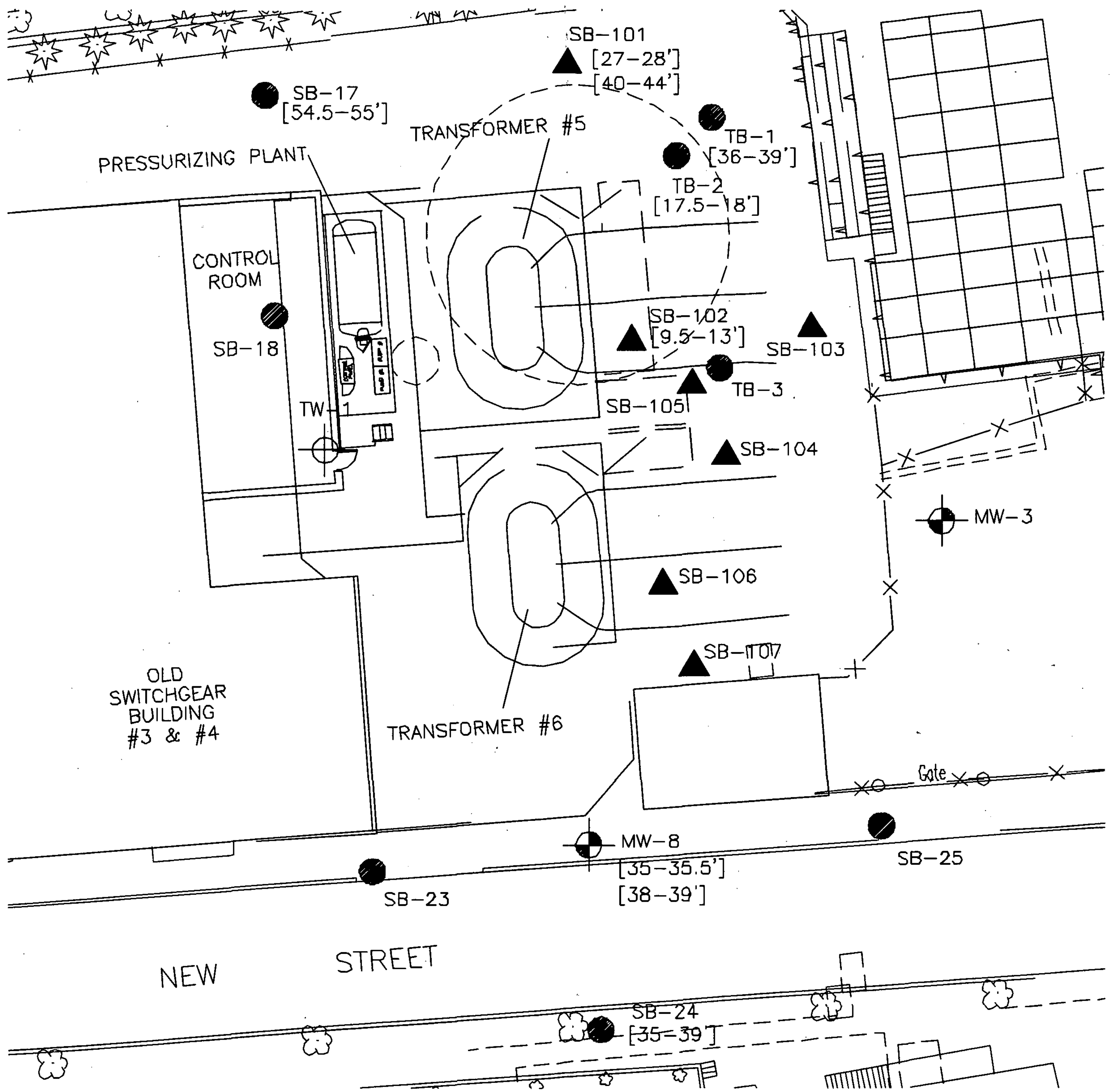

Legend

SB-1 ● SOIL BORING

TB-1 ● TEST BORING

FORMER MGP STRUCTURES

MW-3 MONITORING WELL

TW-1 TEMPORARY WELL

▲ NEW SOIL BORING (MAY 2003)

[38-39'] DEPTH INTERVAL WITH VISIBLE NAPL

20 10 0 20 40

SCALE: 1"=20'

ORIGINAL BASE MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

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Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

DISTRIBUTION OF VISIBLE NAPL
IN VICINITY OF SOUTHERN
GASHOLDER

FIGURE NO.
4-5

SITE CONCEPTUAL MODEL

Potential Sources: **Former MGP Structures**
- Gas Holders
- Tar Well
- Tar Separator
- Purifier House
- Oil and Tar Tanks
- Underground Piping

Impacted Media Constituents of Concern	Pathway Description	Potential Exposure Route	Potential Receptors (current/future)
Surface Soils None	Most of the site is covered by asphalt or buildings, therefore, no exposure pathway exists.	No pathway exists.	No pathway exists. No flora or fauna are present onsite.
Subsurface Soils BTEX, PAHs, and DNAPL near former MGP structures.	Excavation for building foundation, transformers, and subsurface utilities will expose impacted soils.	Direct dermal contact, ingestion, or inhalation (dust and volatilization).	No current receptors. The site is covered with asphalt or buildings. Future building construction workers and utility workers.
Groundwater BTEX, PAHs detected near the NW corner of the holder. Minor chlorinated solvents	Groundwater is not used as a sourceof potable water, therefore, it is not a complete pathway.	There are no groundwater users, therefore, no exposure route exists.	There are no current or future users of groundwater. Excavation for construction will not reach the water table.
Surface Water No surface water is present onsite	Surface water is not present onsite, therefore no exposure pathway exists.	Surface water is not present onsite, therefore no exposure route exists.	Surface water is not present onsite, therefore there are no receptors.
Sediments No sediments are present onsite	Sediments are not present onsite, therefore no exposure pathway exists.	Sediments are not present onsite, therefore no exposure route exists.	Sediments are not present onsite, therefore there are no receptors.
Air BTEX	Excavation for the building foundation, transformers, and subsurface utilities will expose impacted soil.	Releases to the air via volatilization.	No current receptors. The site is covered with asphalt or buildings. Future building construction workers and utility workers.

Current site use:
- Substation

Future site use:
- Substation

FIGURE 4-6

SITE INVESTIGATION REPORT
WHITE PLAINS FORMER MGP SITE
White Plains, New York

Prepared For:

Consolidated Edison Company of NY, Inc.

31-01 20th Ave, Building 138
Long Island City, NY 11105

Prepared By:

PARSONS

290 Elwood Davis Road, Suite 312
Liverpool, New York 13088
Phone: (315) 451-9560
Fax: (315) 451-9570

REVIEWED AND APPROVED BY:

Project Manager: ______________________________ ______________
Date

Technical Manager: ______________________________ ______________
Date

FEBRUARY 2004

SITE INVESTIGATION REPORT
WHITE PLAINS FORMER MGP SITE
White Plains, New York

Prepared For:

Consolidated Edison Company of NY, Inc.

31-01 20th Ave, Building 138
Long Island City, NY 11105

Prepared By.

PARSONS

290 Elwood Davis Road, Suite 312
Liverpool, New York 13088
Phone: (315) 451-9560
Fax: (315) 451-9570

REVIEWED AND APPROVED BY:

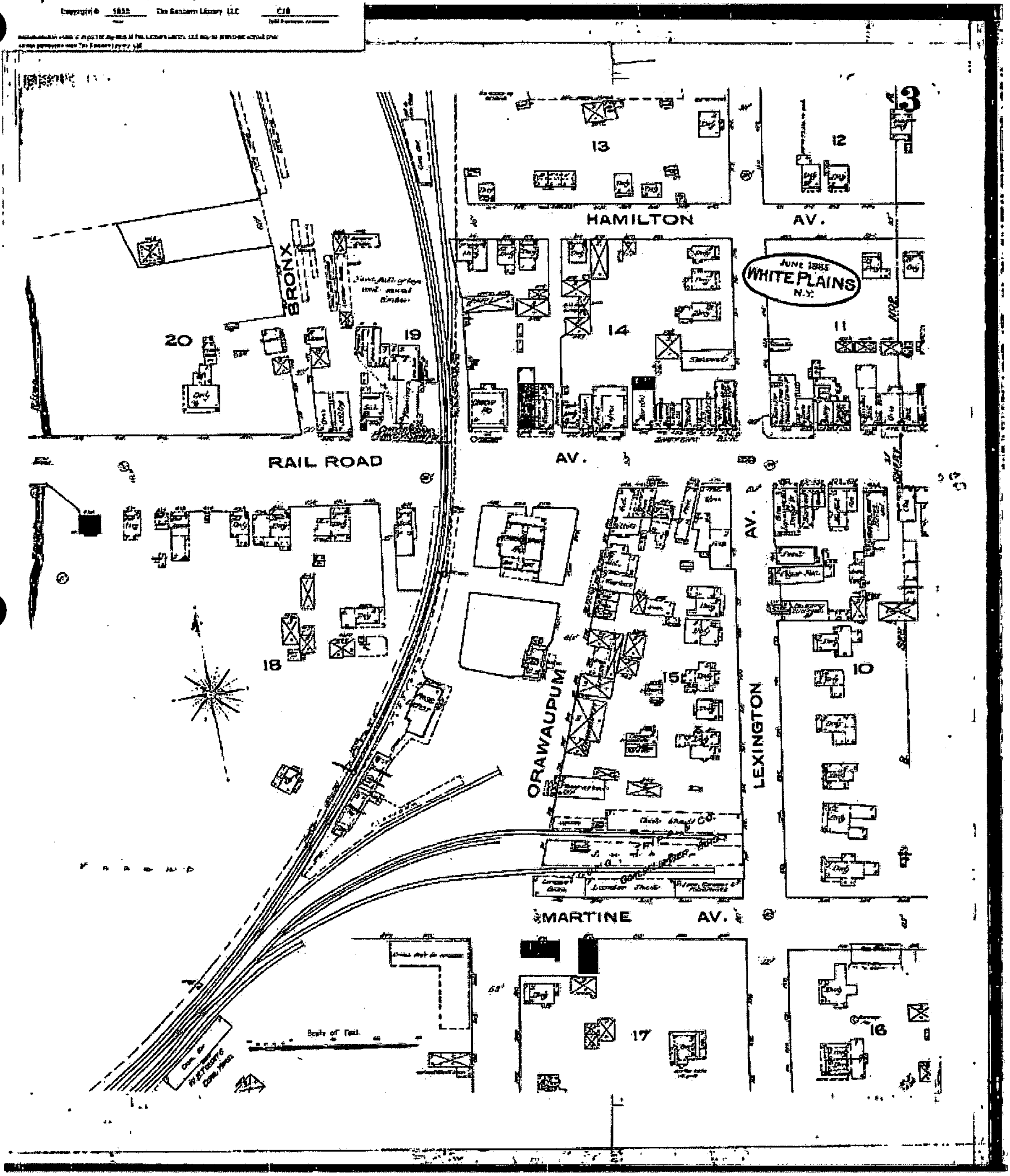
Project Manager: Megan A. Miller 2/6/04
Date

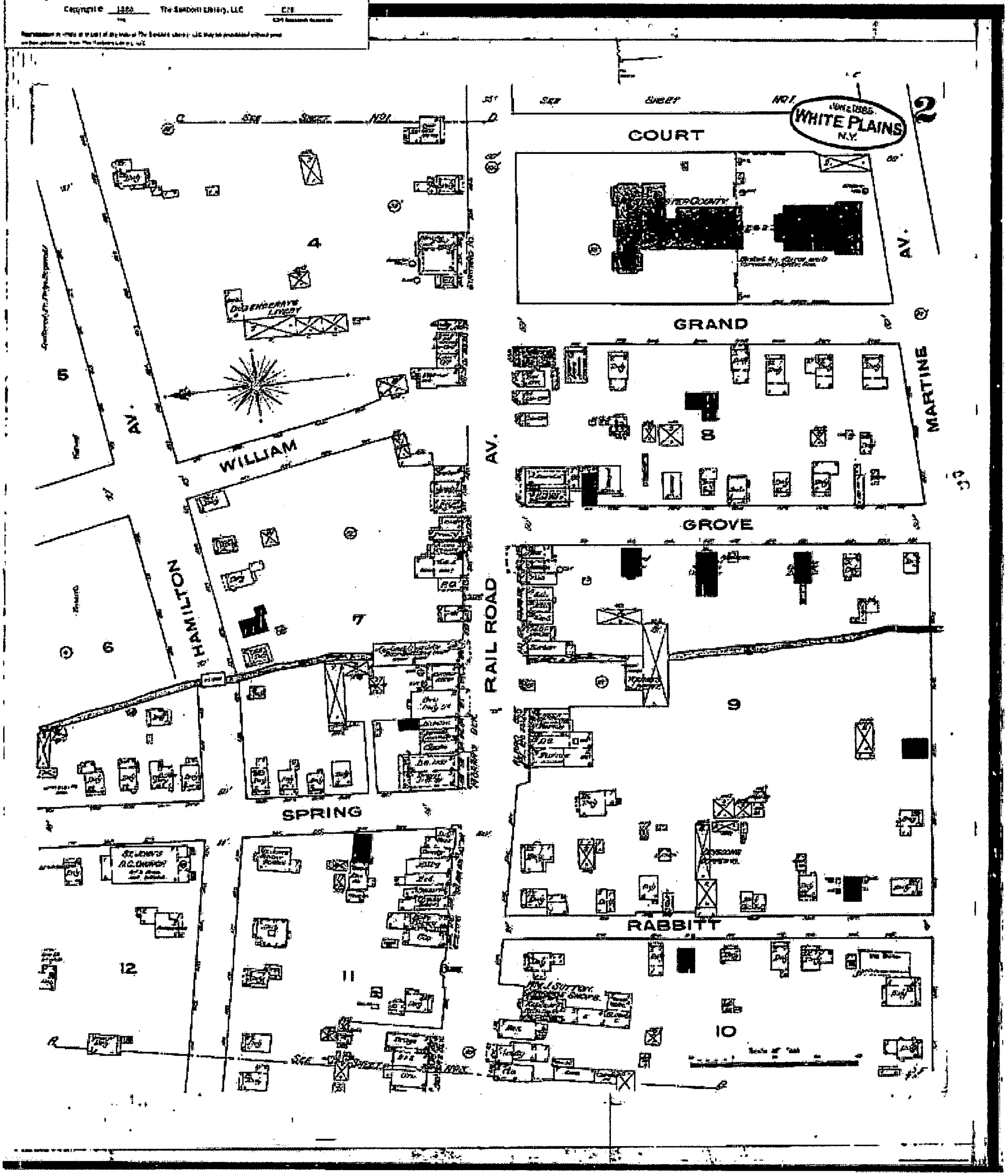
Technical Manager: [illegible] 2/9/04
Date

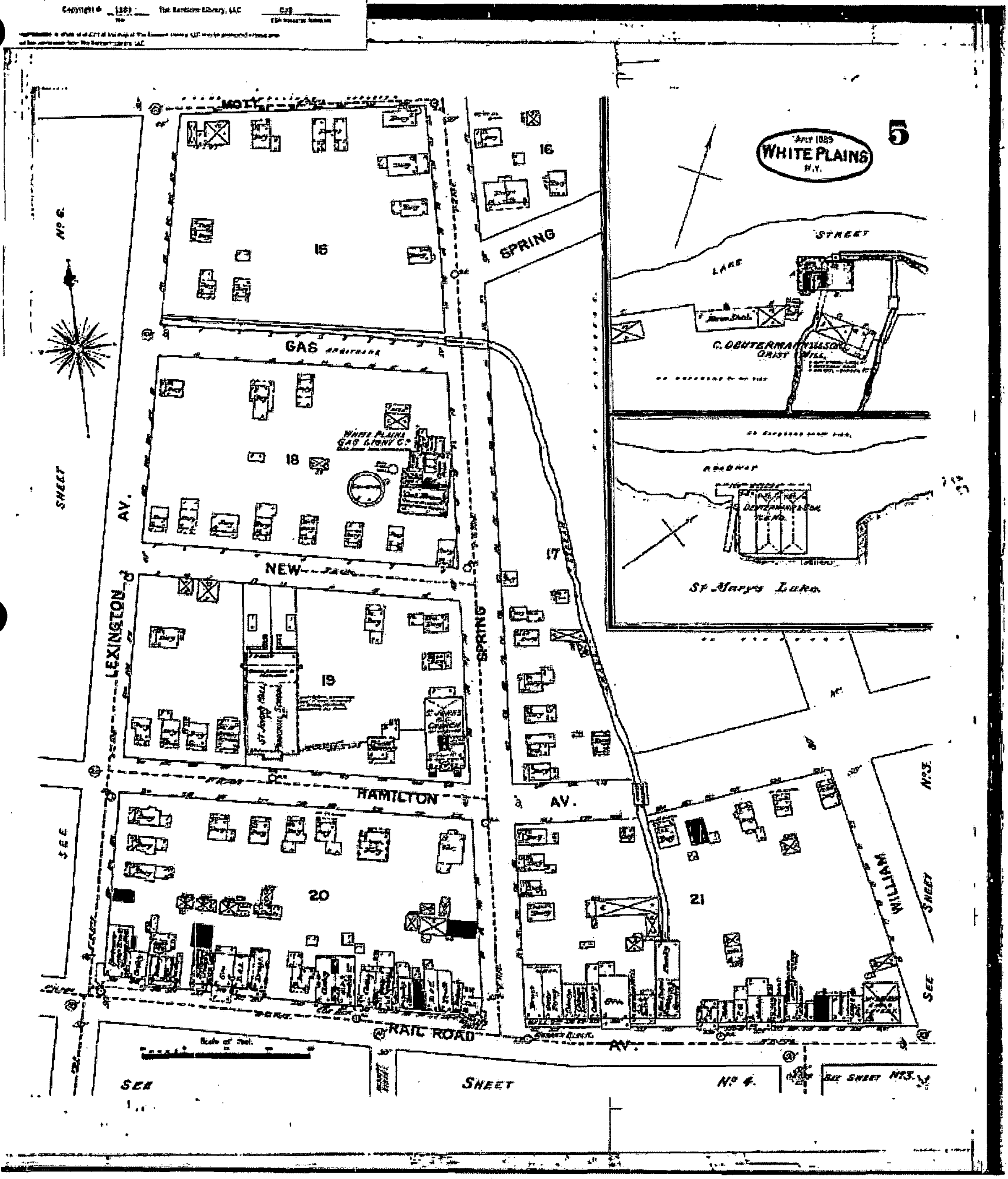
FEBRUARY 2004

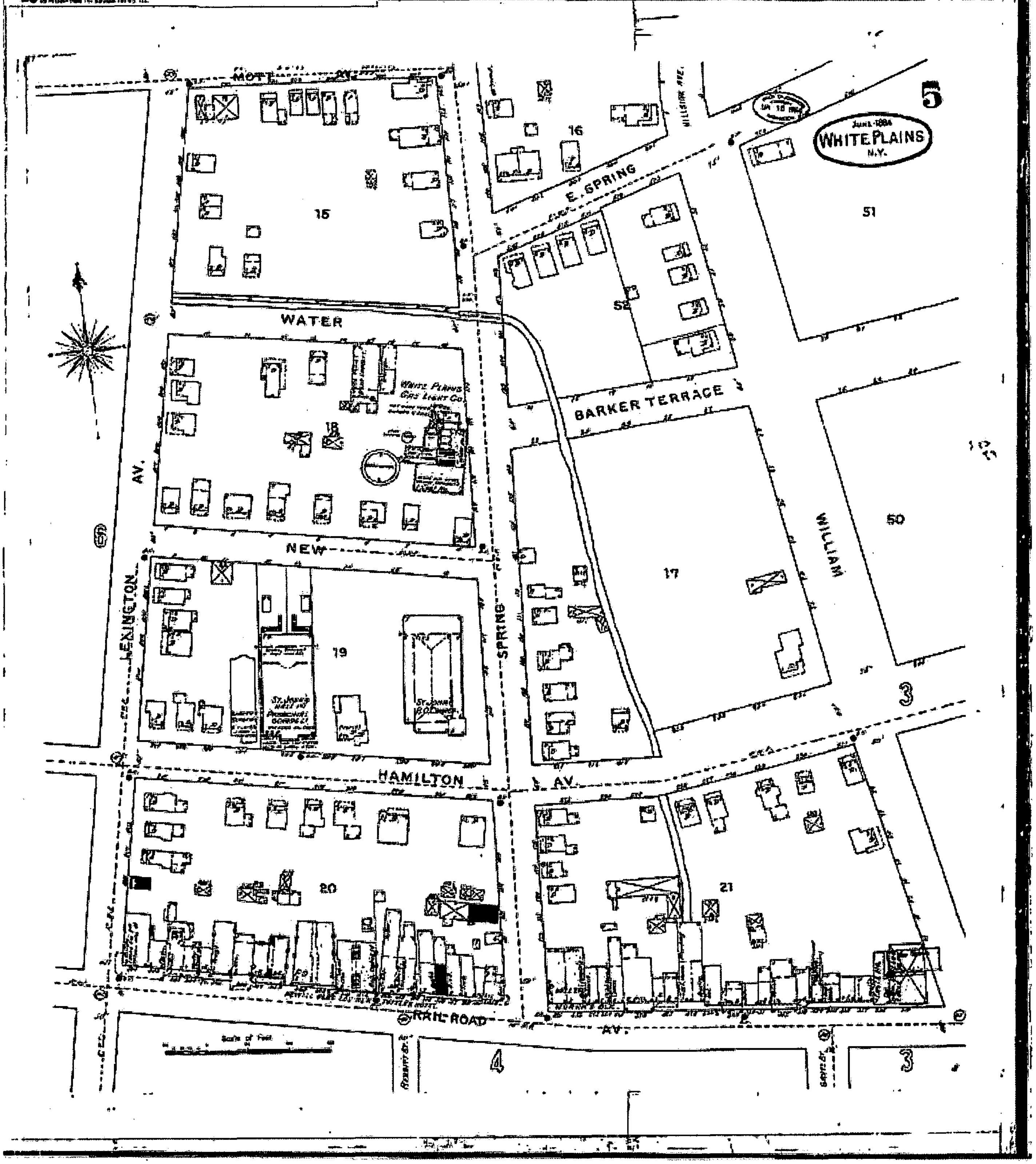
VOLUME II
LIST OF APPENDICES

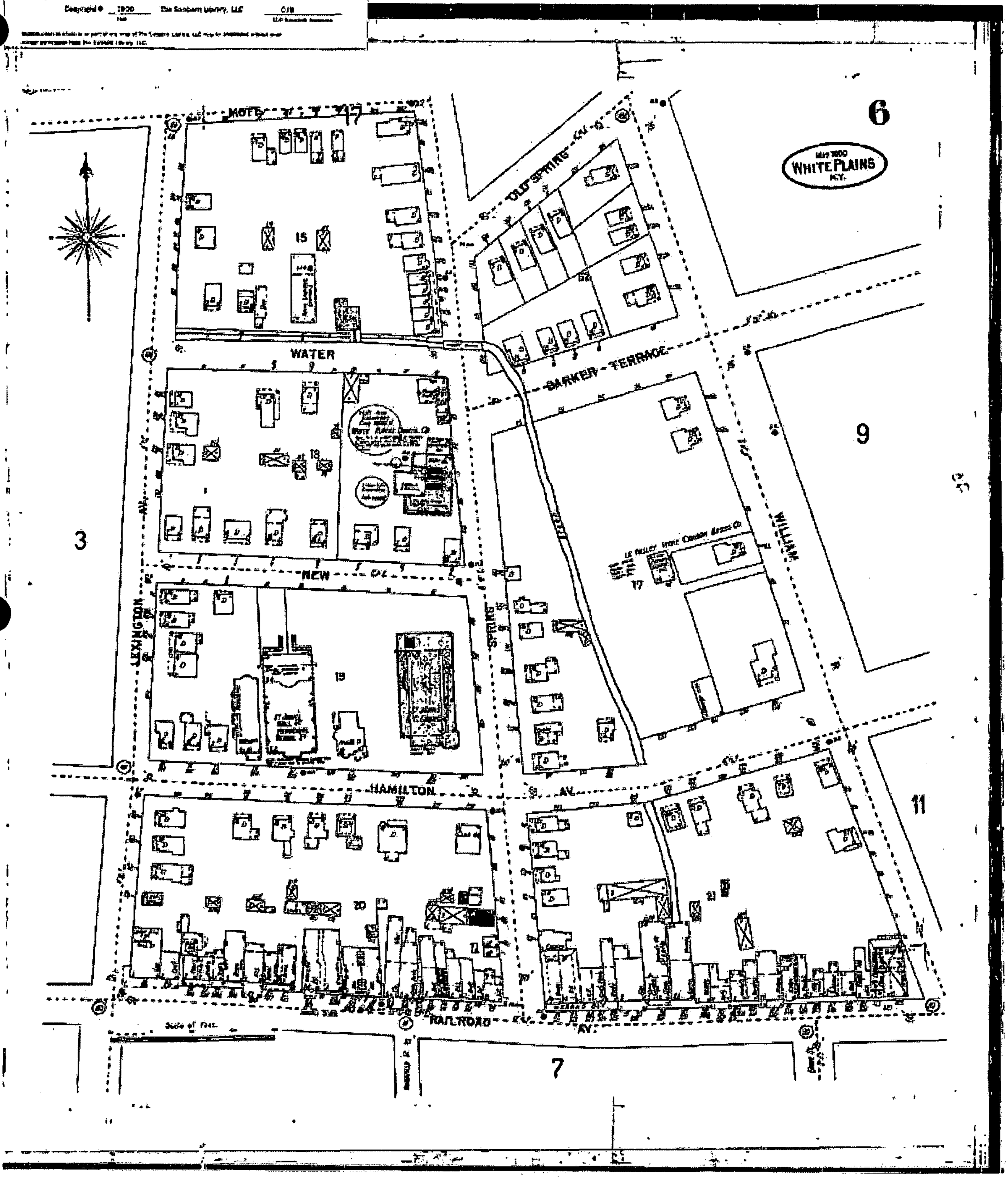
APPENDIX A
SANBORN MAPS

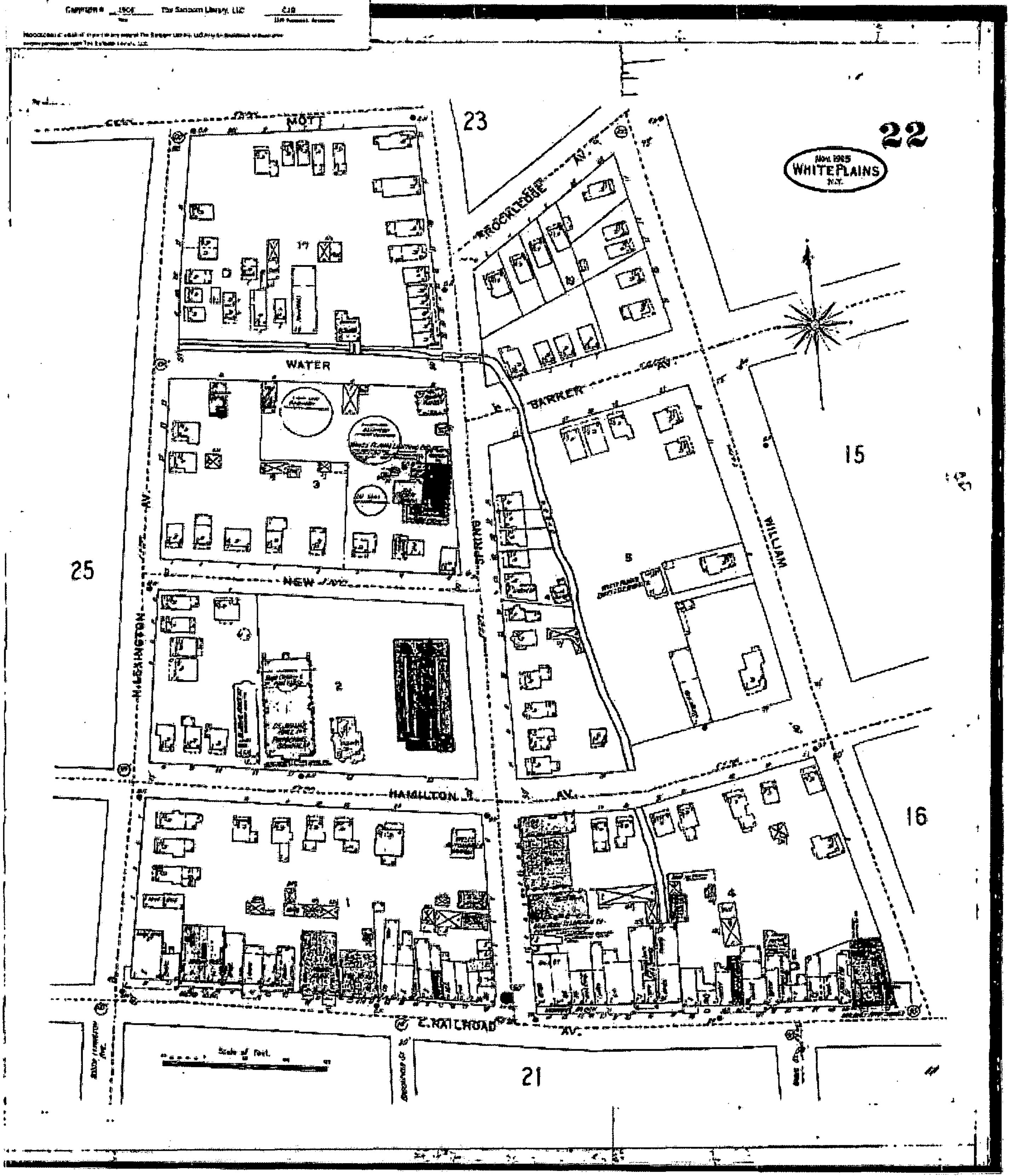

3
HAMILTON AV.
RAIL ROAD AV.
BRONX
ORAWAUPUM
LEXINGTON AV.
MARTINE AV.
JUNE 1885
WHITE PLAINS
N.Y.
10
11
12
13
14
15
16
17
18
19
20
Scale of Feet

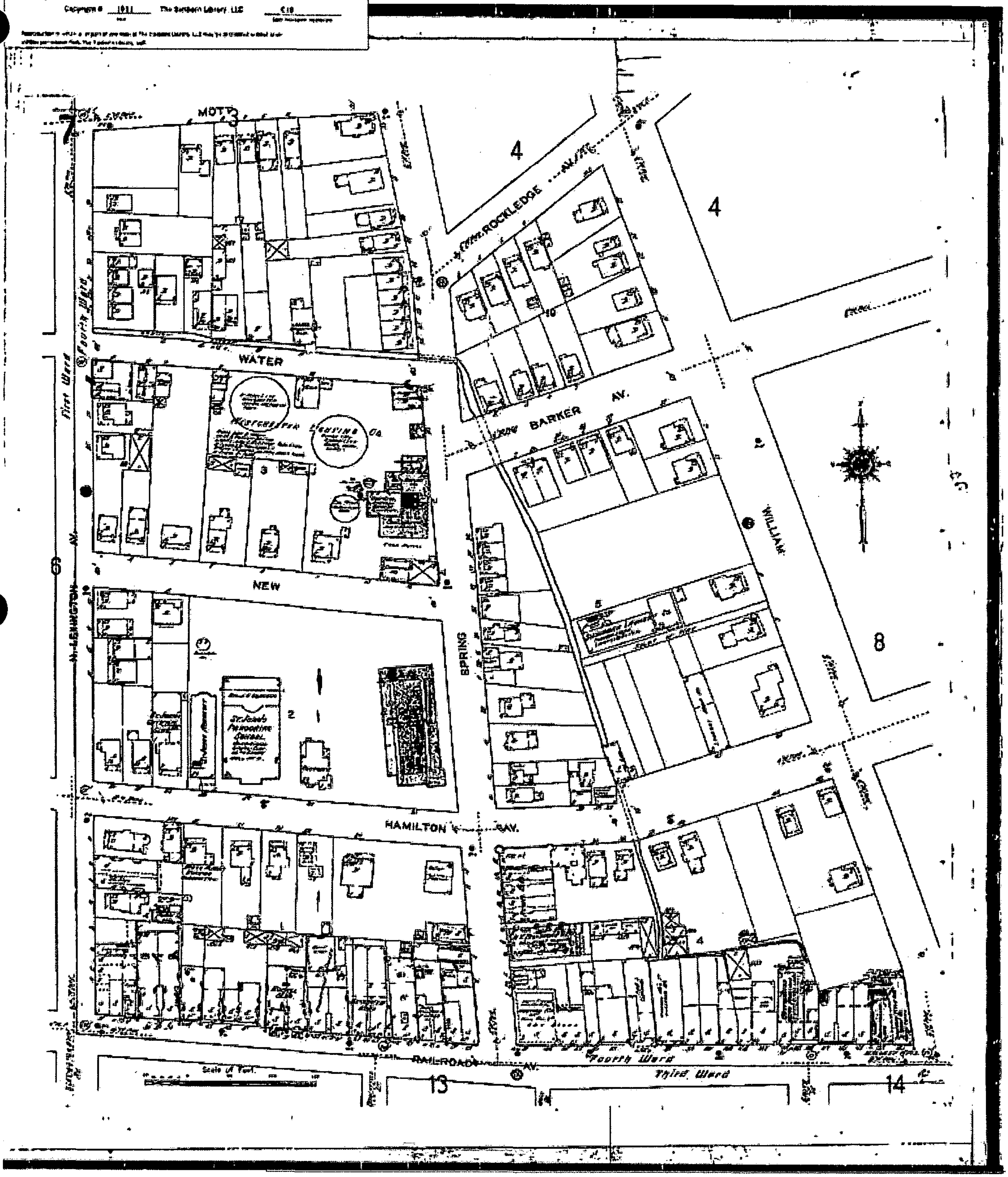

WHITE PLAINS N.Y.
2
COURT
GRAND
GROVE
RABBITT
SPRING
WILLIAM
HAMILTON AV.
RAIL ROAD AV.
MARTINE AV.
4
5
6
7
8
9
10
11
12

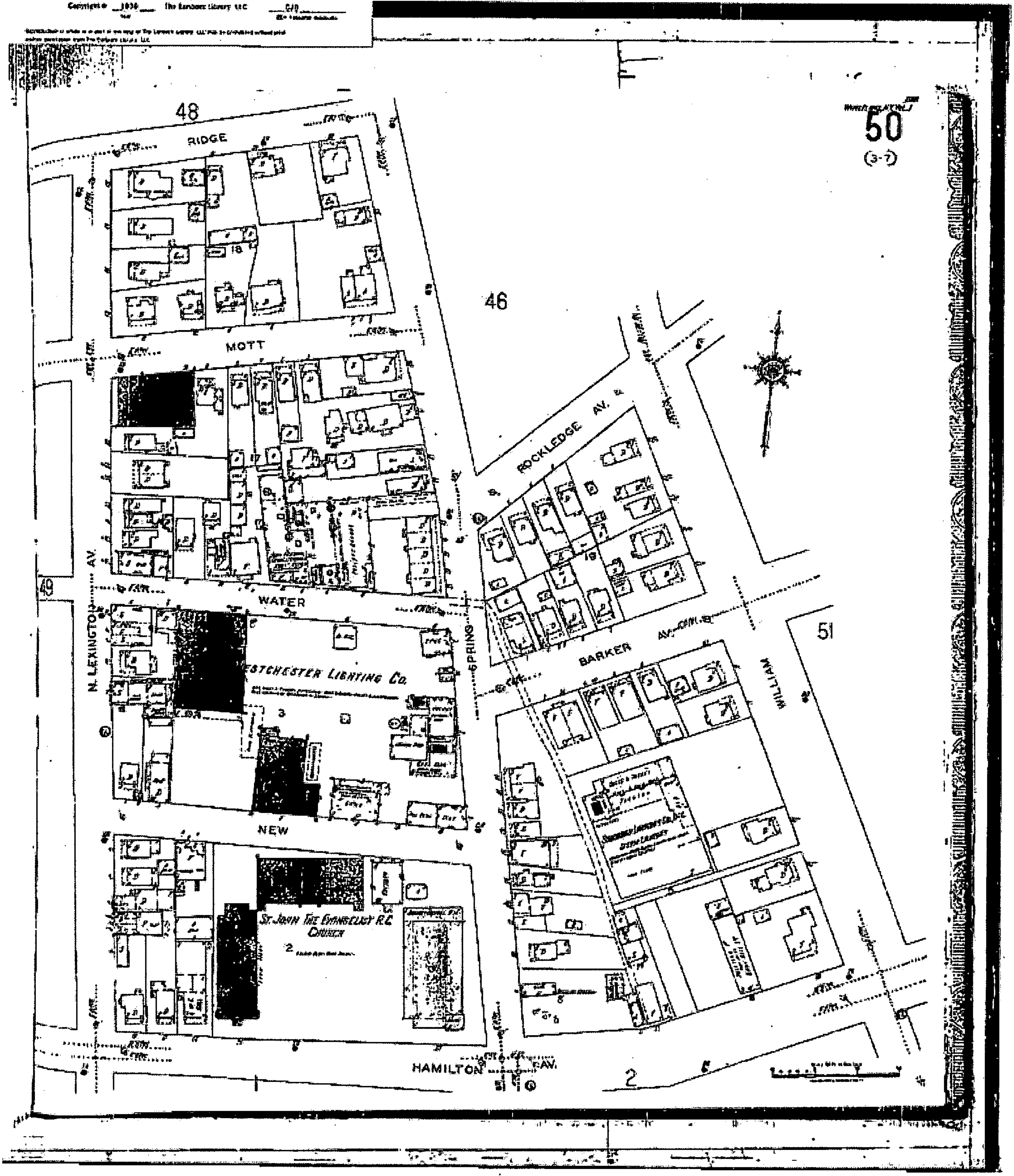

5
WHITE PLAINS
N.Y.
MOTT
SPRING
GAS
NEW
HAMILTON
AV.
LEXINGTON
AV.
RAIL ROAD
AV.
WILLIAM
15
16
17
18
19
20
21
WHITE PLAINS GAS LIGHT Co
STREET
LAKE
C. DEUTERMANN & SON
GRIST MILL
ROADWAY
St Mary's Lake
SEE SHEET No 6
SEE SHEET No 4
SEE SHEET No 3
SEE SHEET No 3
Scale of Feet

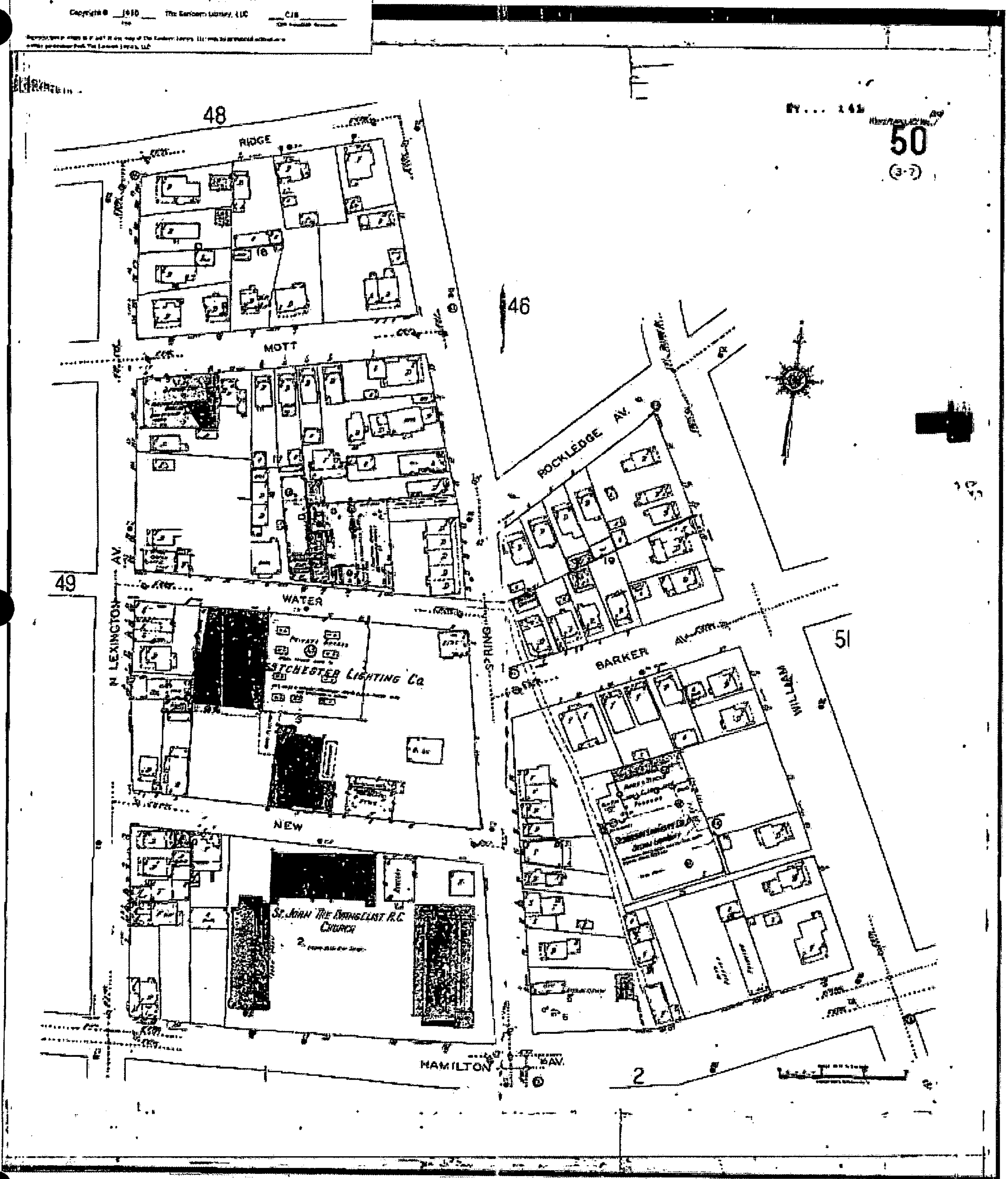

5
June 1884
WHITE PLAINS
N.Y.
MOTT
WATER
NEW
HAMILTON
AV.
RAIL ROAD
AV.
LEXINGTON
AV.
SPRING
E. SPRING
BARKER TERRACE
WILLIAM
15
16
17
18
19
20
21
50
51
52
White Plains Gas Light Co.
St. John's R.C. Church
Scale of Feet
6
4
3
3

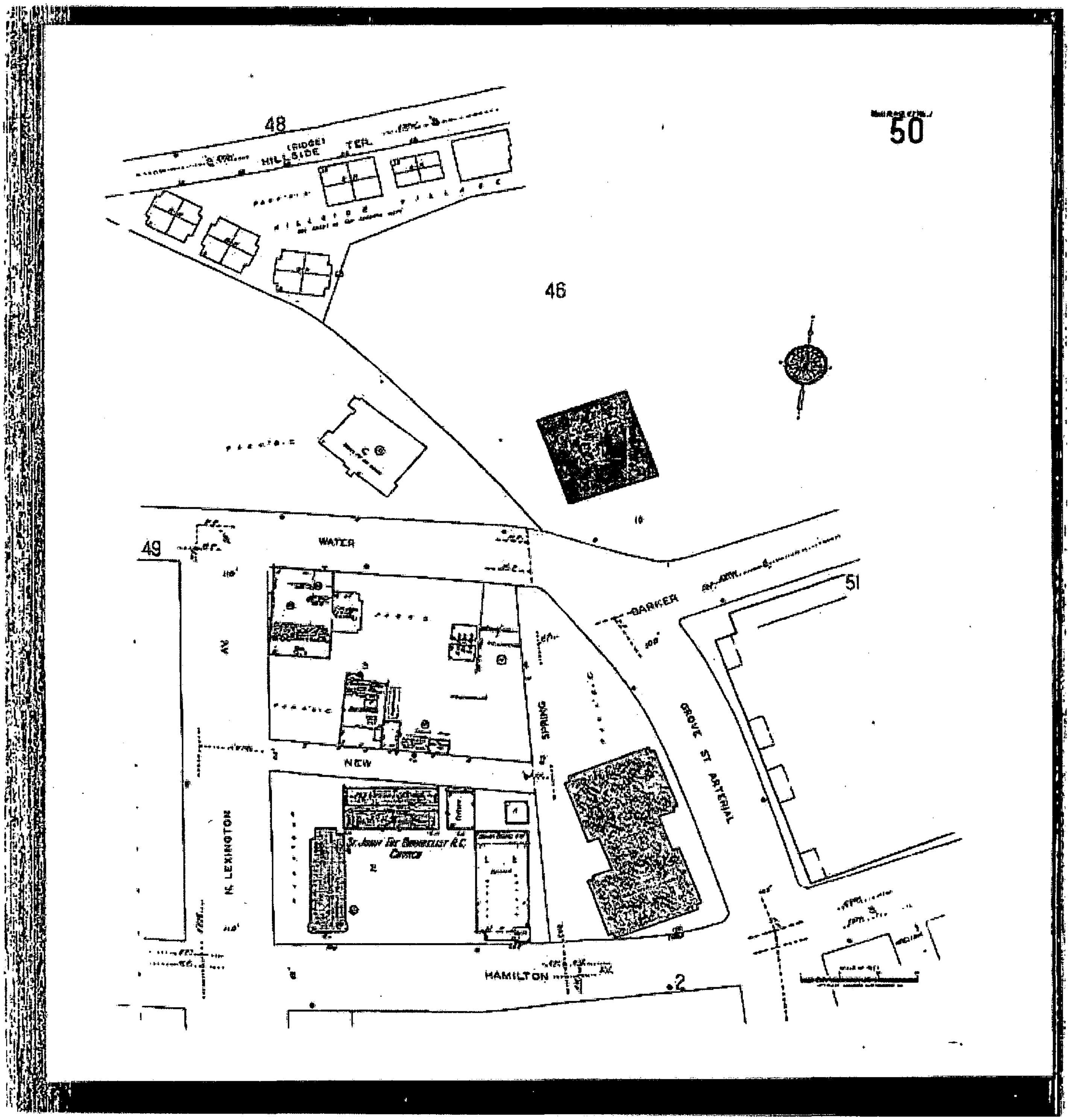

6
WHITE PLAINS
N.Y.
MOTT
OLD SPRING
WATER
BARKER TERRACE
NEW
LEXINGTON
SPRING
WILLIAM
HAMILTON AV.
RAILROAD AV.
3
9
11
7
15
17
19
20
21

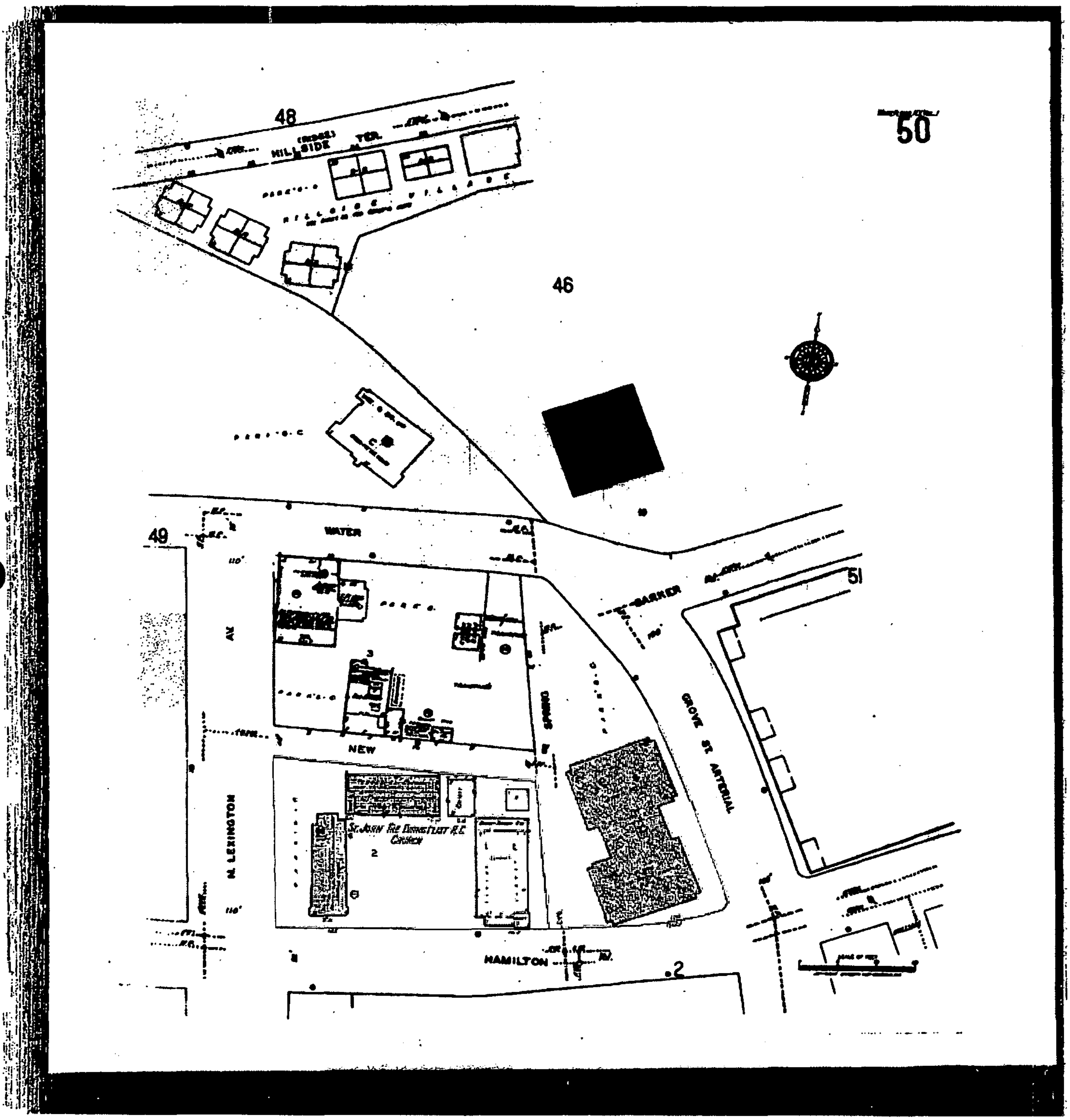

22
WHITE PLAINS
N.Y.
MOTT
23
ROCKLEDGE AV.
WATER
BARKER AV.
15
WILLIAM
SPRING
NEW
N. LEXINGTON AV.
25
HAMILTON AV.
16
E. RAILROAD AV.
21
Scale of Feet.

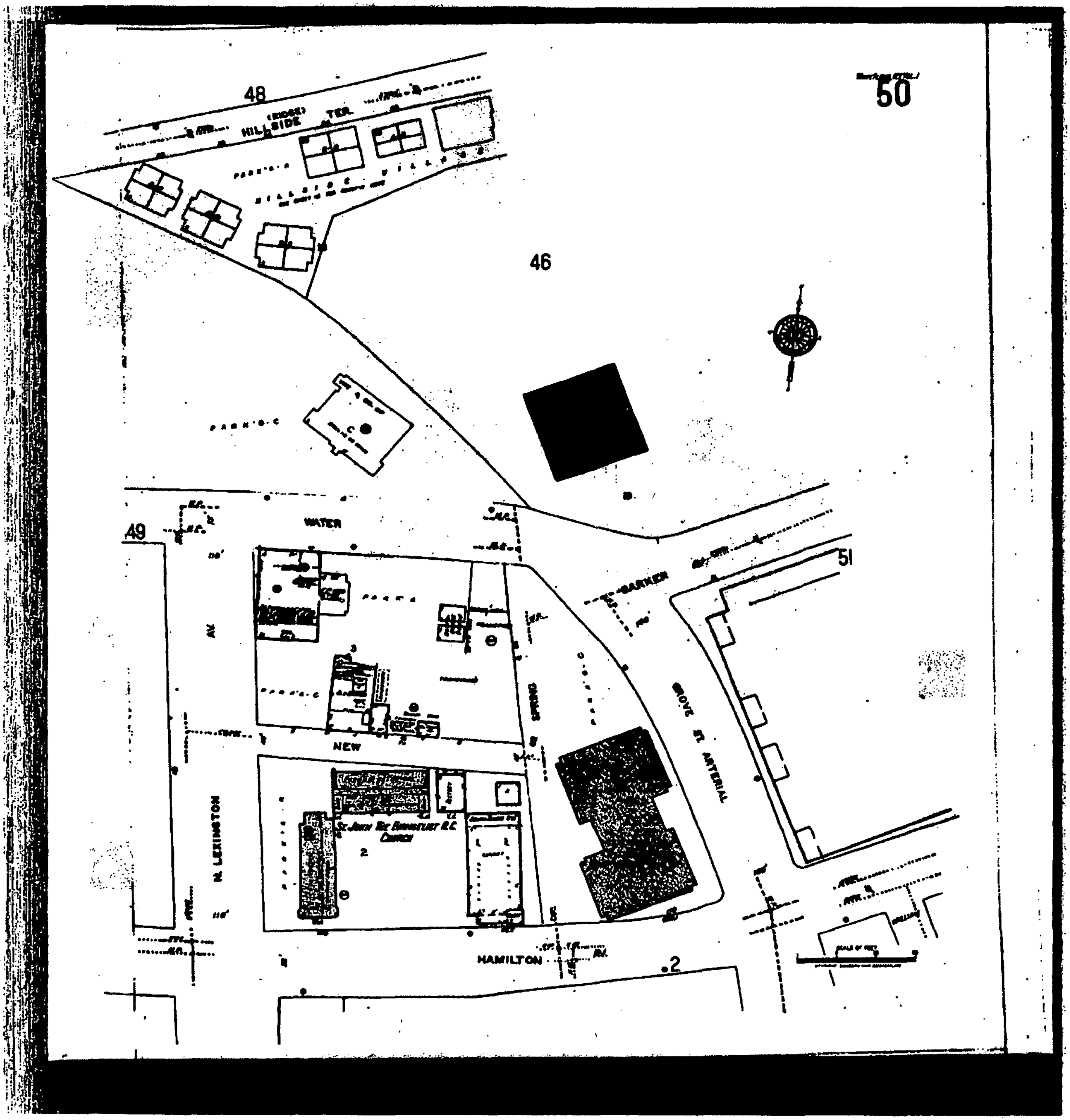

MOTT
WATER
NEW
HAMILTON AV.
RAILROAD AV.
ROCKLEDGE AV.
BARKER AV.
SPRING
WILLIAM
N. LEXINGTON AV.
Fourth Ward
First Ward
Third Ward
WESTCHESTER LIGHTING CO.
St. John's Parochial School
4
4
7
6
8
13
14

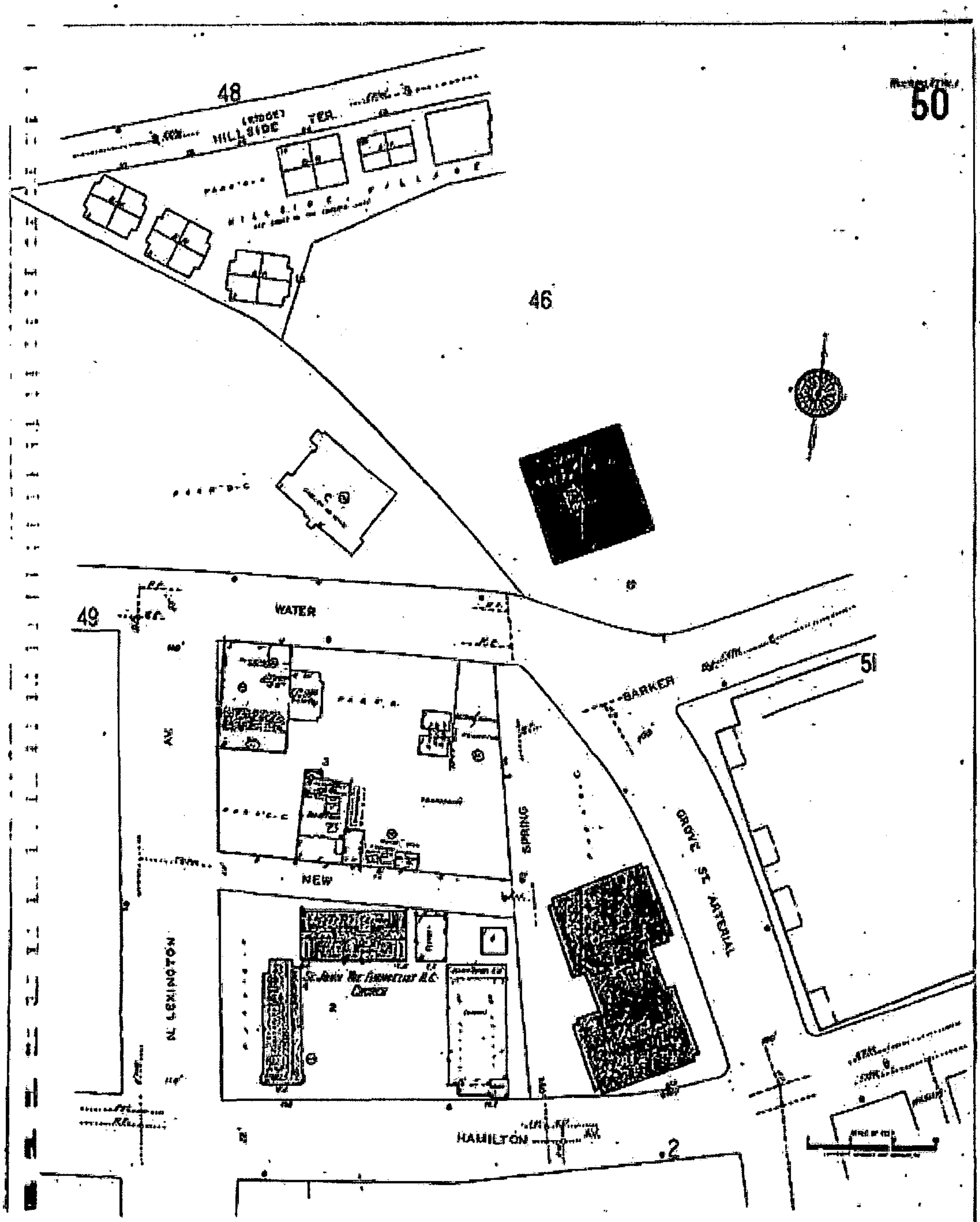

48
50
(3-7)
RIDGE
MOTT
46
ROCKLEDGE AV.
WATER
N. LEXINGTON AV.
49
SPRING
BARKER AV.
51
WILLIAM
WESTCHESTER LIGHTING CO.
3
NEW
ST. JOHN THE EVANGELIST R.C. CHURCH
2
HAMILTON AV.
2


50
(3-7)
48
RIDGE
MOTT
46
ROCKLEDGE AV.
49
N. LEXINGTON AV.
WATER
SPRING
BARKER AV.
STCHESTER LIGHTING Co.
51
WILLIAM
NEW
ST. JOHN THE EVANGELIST R.C. CHURCH
HAMILTON AV.
2

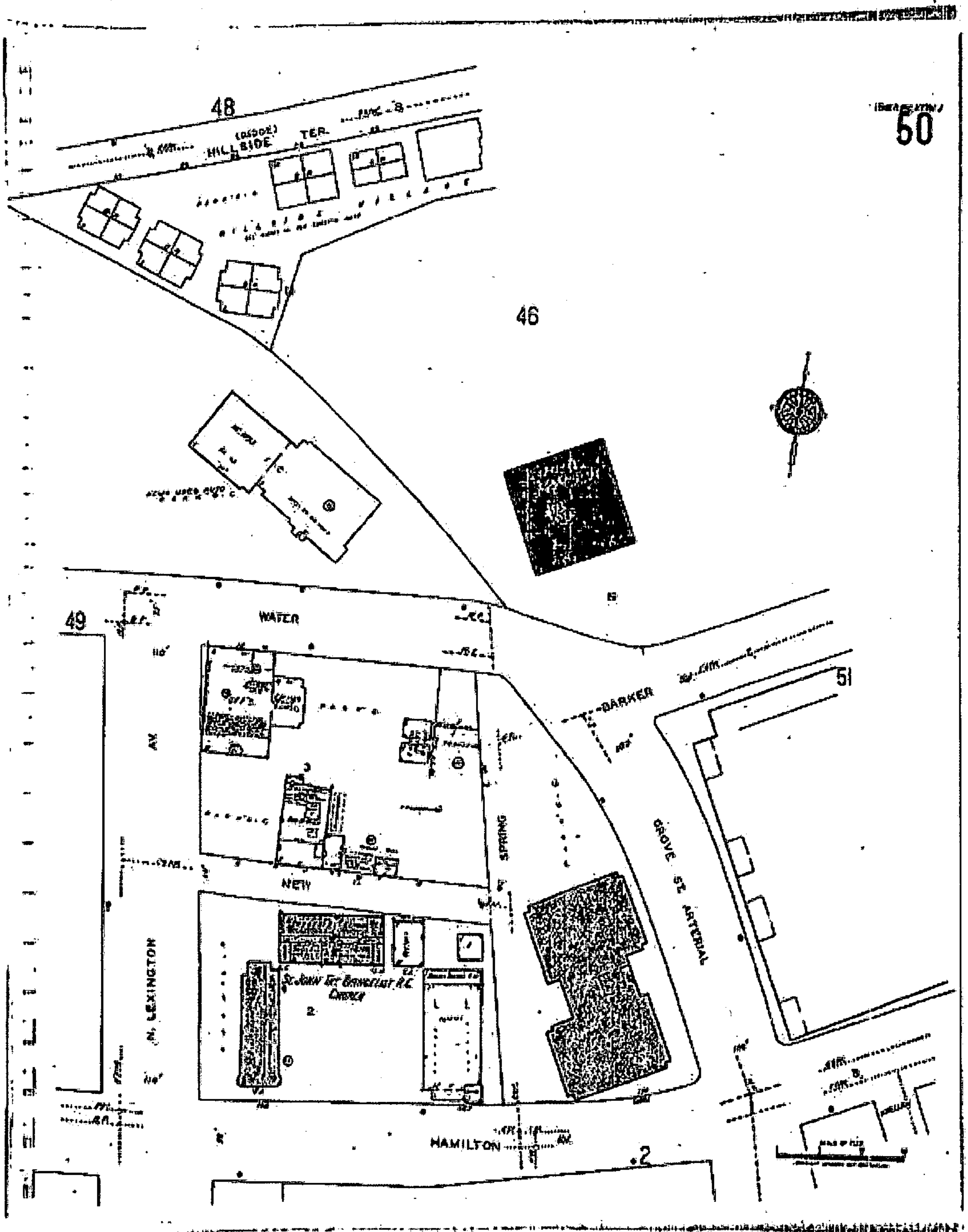

48
HILLSIDE TER.
(RIDGE)
HILLSIDE VILLAGE
50
46
49
WATER
BARKER
51
SPRING
GROVE ST ARTERIAL
NEW
AV.
N. LEXINGTON
HAMILTON
AV.
2

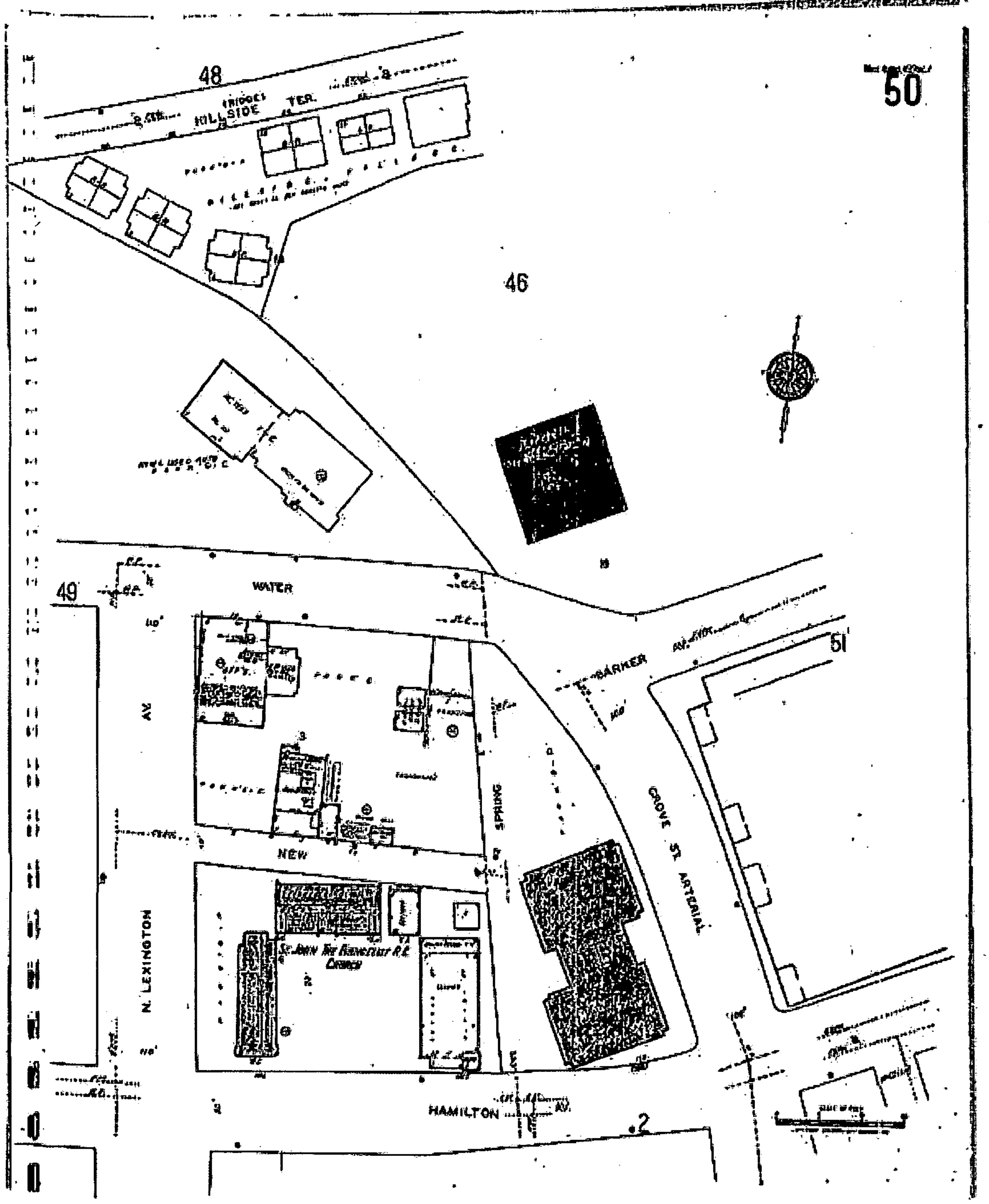

50
48
HILLSIDE TER.
46
49
WATER
BARKER
51
GROVE ST. ARTERIAL
SPRING
NEW
N. LEXINGTON AV
HAMILTON
2
ST. JOHN THE EVANGELIST R.C. CHURCH


50
48
HILLSIDE TER.
46
49
WATER
BARKER
51
NEW
N. LEXINGTON
AV.
GROVE ST. ARTERIAL
ST. JOHN THE EVANGELIST R.C. CHURCH
2
HAMILTON
AV.
2



48
HILLSIDE
TER.
50
46
49
WATER
BARKER
51
SPRING
NEW
GROVE ST. ARTERIAL
N. LEXINGTON
AV.
HAMILTON
2


48
HILLSIDE
TER.
50
46
WATER
49
51
BARKER
GROVE ST. ARTERIAL
AV.
SPRING
NEW
N. LEXINGTON
St. John the Baptist R.C. Church
HAMILTON
AV.
2


48
HILLSIDE TER.
50
46
49
WATER
N. LEXINGTON AV.
NEW
SPRING
BARKER
GROVE ST. ARTERIAL
51
HAMILTON AV.
2

APPENDIX B
BORING LOGS

B-1 Soil Boring Logs

B-2 Monitoring Well Boring Logs

B-3 Geotechnical Boring Logs

B-4 Radiological Boring Logs

Appendix B-1
Soil Boring Logs

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				1 of 1
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	1 -inch	Boring #.	SB-1
Drilling Method:	Remote DP (Dingo)	LEL/O2:		Date Begun:	03/08/00
Ground Elevation:	189.41 (MSL)	Checked By:	MSG	Completed:	03/16/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	8 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
1					Hand dug to 5 feet				0-1.0' Asphalt		
2											
3									1'-5' Brown f-c Sand, some		
4									f-c gravel, little silt, trace	**FILL**	
5									brick, concrete debris		
6	6 - 10	S-1	40/48	0.0					6'-8' Brown f-c Sand, tr silt,	SW	
7									tr f-m Gravel		
8				17.0	Strong tar-like odor, visible sheen,				8'-9.5' Black Silt, tr f-m sand, peat	SM	
9					staining (8-10 ft)				9.5'-10' Black f-m Sand, tr silt	SP	
10	10 - 14	S-2	48/48	253	Tar-like odor (10-14 ft)				10'-11' Black f-m Sand, tr silt	SP	
11				53.4					11'-12' Black silt, tr f-m Sand	SM	
12									organics (peat)		
13				343					12'-14' Gray-brn f-m Sand, silt layers	SP	
14	14 - 18	S-3	36/48	453	Strong odor of light fraction				Gray-brn f-m Sand, tr silt		
15					hydrocarbons(14 - 18 feet)						
16											
17											
18	18 - 20	S-4	24/24	377	Staining & hydrocarbon odor				18'-18.5' Same as above	SP	
19				204	(18-20 ft)				18.5'-19' Silty fine Sand	SM	
20				32					19'-20' f-c Sand and	SW	
21					Bottom of boring at 20 feet				decomposed rock		
22											
23											
24											
25											
26											
27											
28											
29											
30											

Well Screen	1-inch PVC	20 - 0
Filter Pack		
Divider Seal		
Annular Seal		
Surface Seal		

NOTES:
Wet soils @ 8 feet.
Installed temporary well (1-inch PVC) screened from 20 feet to ground surface.
Sample interval at 6-8, 8-10 & 14-18 selected for laboratory analysis.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				1 of 1
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	3/4 -inch	Boring #.	SB-2
Drilling Method:	DP (Hurricane)			Date Begun:	08/14/00
Ground Elevation:	(MSL)	Checked By:	MSG	Completed:	08/14/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	7 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
1					Hand dug to 6 feet				0-4" Asphalt		
2				0.0					4"-8" Bluestone		
3									8"-20" Brown,dry,f-c SAND,	SW	
4									some f-m Gravel,trace Silt.		
5									20-24" Asphalt & Bluestone		
6									24-48"Similar to 8"-20"		
7	4 - 8	S-1	48/22	69	Moderate staining and odor				Brown,moist to wet,f-c SAND,	SW	
8					Oily staining and residue on				little f-m Gravel,trace Silt. Bottom		
9					acetate liner from 8-10'				4"Gray,wet,f-m SAND,trace	SP	
10									Silt.		
11	8 - 12	S-2	48/40	73	Slight staining and odor				8-10',Olive brn,fme sandy SILT,tr clay.	ML	
12				17	from 10-15'				10-11' Gray,f-m SAND,tr Silt.	SP	
13				26					11-12' Gray brown,Silty fine Sand.	SM	
14	12 - 16	S-3	48/24	2.9					12-14' Similar to 11-12' above.	SM	
15				2.0					14-15' Gray,f-m SAND,tr Silt.	SP	
16				197	Sheen, oily stained soil and strong tar-like odor (oily residue on acetate sleeve) from 15-16.5'				15-16.5' Dark brown to black,f-m SAND, little f-m Gravel,trace Silt. V.dense, rock fragments,sheen.	SP	
17					Refusal at 16.5 feet						
18											
19											
20											

Well Screen
Filter Pack
Divider Seal
Annular Seal
Surface Seal

NOTES:
Soils wet at 7 feet.
Soil samples from 2-4, 8-10 ft, and 15-16.5 ft were submitted for laboratory analysis.
Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 1
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-3**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	06/04/01
Ground Elevation:	189.63 ft rmsl	**Checked By:**	NOH	**Date Completed:**	06/04/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	11 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 6"				Hand dug to 5 ft bg.				Asphalt		
1	6" - 5			0.0					Brown c-f SAND and Gravel		
2										SW	
3											
4											
5	5 - 8	S-1	36/36	0.0					Org-brn c-f SAND, tr Silt and		
6									Gravel. Loose and dry.		
7											
8	8 - 12	S-2	46/48	0.0					Org-brn c-f SAND, tr Silt and		NA
9									Gravel. Loose and dry.		
10				59.0					Blk-stained c-f SAND, tr. Silt.		
11									Mild petroleum-like odor 10-11'.		
12	12 - 16	S-3	24/48	20.0					Gry-stained c-f SAND, tr Silt.		
13									Moderate petroleum-like odor		
14									sheen on soil.		
15											
16	16 - 20	S-4	12/48	1.9					Gry-stained c-f SAND, tr Silt,	SM	
17									wet. Moderate petroleum-like		
18									odor		
19											
20	20 - 24	S-5	15/48	2.0					Gry-stained c-f SAND, tr Silt,		
21									wet. Mild petroleum-like		
22									odor.		
23											
24	24 - 29.5	S-6	15/48						Gray f SAND, tr Silt, stiff		
25				10.0					Dark grey staining, strong		
26									petroleum-like odor. Wet.		
27											
28											
29				65.0	Refusal at 29.5 ft bg						
30											
31											
32											
33											
34											
35											

NOTES:

1) Soil samples from 3-4 ft, 10-11 ft, 28.5-29.5 ft, were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 1
Ciient:	**Consoiidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-4**
Driiling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	06/19/01
Ground Elevation:	190.58 ft rmsl	**Checked By:**	NOH	**Date Completed:**	06/19/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	13 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 6"				Hand dug to 5 ft bg.				Asphalt		
1	6" - 1			10.0					Brown/tan c-f SAND. Trace		
2	1 - 2			9.0					Silt, some Gravel, loose and		
3	2 - 3			11.0					dry.		
4	3 - 4			12.0					Brn-tan m-f SAND, tr Silt.		
5	4 - 8	S-1	36/48	19.0					Tan f SAND, tr Silt, dry.		
6									No staining or odor.		
7											
8	8 - 12	S-2	36/48						Tan-brn m-f SAND, tr Silt.		NA
9				29.0							
10									Brn-blk-stained m-f SAND,		
11				37.0					tr Silt at 12 ft bg.		
12	12 - 16	S-3	42/48						Brn-blk-stained m-f SAND,		
13				102.0					tr Silt, strong petroleum-like		
14									odor. Wet at 13 feet.		
15				299.0							
16	16 - 20	S-4	42/48						Brn-blk-stained m-f SAND,	SM	
17				367.0					tr Silt, NAPL (16-20'), strong		
18									petroleum-like odor, sheen		
19				294.0					on water and in liner.		
20	20 - 24	S-5	24/48						Stained c-f SAND, tr Silt		
21				107.0					petroleum-like odor, sheen		
22									in water. Wet.		
23				88.0							
24	24 - 28	S-5	24/48						Grey m-f SAND, tr Silt.		
25				67.0					Slight black staining & odor.		
26											
27				77.0							
28	28 - 32	S-6	12/48	56.0					Grey m-f SAND, tr Silt some		
29									black staining, mild odor.		
30											
31											
32	32 - 33.5	S-7	6/18	14.0					Grey m-f SAND, tr Silt.		
33					Refusal at 33.5 ft bg				some Rock Fragments, wet.		
34											
35											

NOTES:

1) Soil samples from 3-4 ft, 16-18 ft, 32-33 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 1
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-5**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	05/29/01
Ground Elevation:	189.20 ft rmsl	**Checked By:**	NOH	**Date Completed:**	05/29/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	10 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 6"				Hand Dug to 5 ft bg				Asphalt		NA
1	6" - 2			0.0					Brown c-f SAND, tr. Gravel,	SW	
2	2 - 3			0.0					brick. Loose and dry.		
3	3 - 4			0.0					Dark brown c-f SAND, trace	SM	
4	4 - 5			0.0					Silt, gravel and brick.		
5	5 - 8	S-1	36/36	0.0							
6				0.0					Clayey SAND at 6 - 7 feet.		
7											
8	8 - 12	S-2	36/48						Grey stained, m-f SAND,		
9									trace Silt.		
10				97.0					Strong odor, staining and		
11				16.0					wet at 10 feet.		
12	12 - 16	S-3	36/48						Gry-brn m-f SAND, tr Silt,		
13									strong odor. Wet.		
14				47.0							
15				232.0							
16	16 -20	S-4	24/48						Black-stained c-m SAND.	SW	
17									1/2-in. thick bands. Strong		
18				16.0					petroleum-like odor. Wet.		
19				44.0							
20	20 - 24	S-5	12/48	0.0							
21											
22									Tan c-f SAND.		
23									No staining or odor. Wet.		
24	24 - 28	S-6	18/48								
25									Grey stained m-f Silty SAND.	SM	
26											
27				121.0					Black staining and NAPL		
28	28 - 30.5	S-7	12/30						at 27-28 feet. Wet.		
29									Grey m-f SAND, some Silt, tr.		
30				6.2	Refusal at 30.5 ft bg.				rock and mica chips		
31											
32											
33											
34											
35											

NOTES:

1) Soil samples from 2-4 ft, 15-16 ft, 27-28 ft, 29-30 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 1
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-6**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	06/19/01
Ground Elevation:	188.95 ft rmsl	**Checked By:**	NOH	**Date Completed:**	06/19/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	10 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 6"				Hand dug to 5 ft bg.				Asphalt/Gravel		
1	6" - 4			15.0					Brown/black c-f SAND.		
2				23.0					trace to some Silt, mild odor,		
3				32.0					loose and dry 0-4'.		
4	4 - 8	S-1	48/48						Black-stained m-f SAND,		
5				45.0					little Silt, damp	SM	
6									petroleum-like odor.		
7				177.0							
8	8 - 12	S-2	24/48						Black-stained m-f SAND.		NA
9				532.0					little Silt, damp. Strong		
10									petroleum-like odor.		
11				222.0					Wet at 10 feet.		
12	12 - 16	S-3	42/48						Black-stained m-f SAND.	SW	
13				344.0					wet, NAPL at 12-16'.		
14									Brn/blk stained m-f SAND		
15				343.0					tr Silt. Sheen in water.		
16									moderate petroleum-like odor.	SM	
17	16 - 20	S-4	12/48	140.0					Brn m-f SAND and Silt, Dry.		
18									No staining		
19											
20	20 -24	S-5	6/48	57.0					Brown-tan c-f SAND. Wet.		
21									No staining or odor.		
22											
23											
24	24 - 28	S-6	3/48	38.0					Brown m-f SAND		
25									No staining or odor.	SW	
26											
27											
28	28 - 32	S-7	24/48						Brown m-f SAND		
29				2.6					No staining or odor.		
30											
31				31.0							
32	32 - 36	S-8	18/48	7.1					Grey f SAND and SILT. Wet.		
33									No staining of odor.	SM	
34									Rock Fragments in tip of		
35					Refusal at 36 ft bg				core sampler.		

NOTES:

1) Soil samples from 3-4 ft, 8-10 ft, 12- 14 ft, 34-36 ft, were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rnsl).

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				1 of 2
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	See note below	Boring #.	SB-7
Drilling Method:	DP (Hurricane)	LEL/O2:		Date Begun:	08/16/00
Ground Elevation:	(MSL)	Checked By:	MSG	Completed:	08/16/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	5 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
1					Hand dug to 5 feet				0-4" Asphalt		
2				0.0					4"-16" Bluestone		
3									16"-5' Brown, f-c SAND, some	FILL	
4									f-m Gravel, trace Silt. brick,		
5	4 - 8	S-1	24/48	16.7					Grey-brown f-c sand, trace	SP	
6									silt and gravel		
7									Slight odor, no staining		
8											
9	8 - 12	S-2	20/48	11.6					Similar to above	SP	
10									9'-12': grey f-m sand, trace silt		
11									Slight odor, no staining		
12									from 12-17'		
13	12 - 16	S-3	16/48	17.2					Similar to above, trace gravel	SP	
14									intermittent layers of f-c sand		
15									Slight odor, no staining		
16											
17	16 - 20	S-4	30/48						16-17: Similar to above.	SP	
18				288					f-c sand, little f-m gravel, Oily		
19									stained soil, tar-like odor 17-17.4'		
20				9.1					17.4-20' f-m sand, slight odor, no staining		
21	20 - 24	S-5	24/48	5.4					Similar to above	SP	
22									No staining. Slight odor.		
23											
24											
25	24 - 28	S-6	0/48						No recovery		
26											
27											
28											
29	28-32	S-7	12/48	44.2					Similar to above	SP	
30									No staining. Slight odors.		

Well Screen
Filter Pack
Divider Seal
Annular Seal
Surface Seal

NOTES:
Soil samples from 2-4 ft, 17-17.4 ft, and 36-39 ft were submitted for laboratory analysis.
Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				2 of 2
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	3/4-inch	Boring #.	SB-7
Drilling Method:	DP (Hurricane)	LEL/O2:		Date Begun:	08/16/00
Ground Elevation:	(MSL)	Checked By:	MSG	Completed:	08/16/00
Logged By:	AES	Protection Level:	D	Depth to Water:	5 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
30											
31											
32											
33	32 - 36	S-8	0/48	--					No recovery		
34											
35											
36											
37	36-39	S-9	18/36	0					Grey f-m sand, trace silt.		
38									Slight odors, no staining.		
39			(refusal @ 39 ft below grade)								
40											
41											
42											
43											
44											
45											
46											
47											
48											
49											
50											
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											

Annular Seal
Well Screen
Filter Pack
Divider Seal
Annular Seal
Surface Seal

NOTES:
See notes of Page 1 of 2

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**	**Page:**	1 of 2
Client:	**Consolidated Edison of New York, Inc.**		

Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-8**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	05/21/01
Ground Elevation:	188.82 ft rmsl	**Checked By:**	NOH	**Date Completed:**	05/21/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	4.8 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 6"				Hand dug to 5 ft bg.				Asphalt		
1	6" - 1			2.2					Brown m-f SAND. Some		
2	1 - 2			2.2					Gravel. Purifier odor.	SW	
3	2 - 3			0.0					Brn m-f SAND, some silt and	SM	
4	3 - 4			0.0					gravel, slight purifier odor.		
5	4 - 5			0.0					Concrete 5.5 - 6.5 ft bg.		
6	6 - 8	S-1	24/24	437.0					Blk stained m-f SAND, tr Silt.	SM	
7				16.7					Strong petroleum-like odor.		
8	8 - 12	S-2	36/48						Grey SILT, trace clay, strong		NA
9				83.0					petroleum-like odor, wet.	ML	
10											
11				1528.0							
12	12 - 16	S-3	24/48	387.0					Grey SAND, trace silt, strong	SM	
13									odor, damp.		
14				69.0					Grey-brown m-f SAND, strong		
15									odor, damp.		
16	16 - 20	S-4	24/48								
17									Grey-brown m-f SAND,		
18									olive-colored mottling,		
19				15.5					strong odor, damp.		
20	20 - 24	S-5	18/48	0.0					Tan-orange c-f SAND, wet.		
21									No staining or odor.		
22											
23											
24	24 - 28	S-6	18/48	0.0					Tan c-f SAND, wet.	SW	
25											
26											
27											
28	28 - 32	S-7	12/48	0.0					Tan-orange c-f SAND, wet.		
29											
30											
31											
32	32 - 36	S-8	6/48	0.0					Tan m-f SAND, wet.		
33											
34											
35											

NOTES:

1) Soil samples from 2-3 ft, 10-11 ft, and 46-48 ft were submitted for laboratory analysis.

2) Elevation is in feet relative to site datum (ft rmsl).

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**	**Page:**	2 of 2
Client:	**Consolidated Edison of New York, Inc.**		

Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-8**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	05/21/01
Ground Elevation:	188.82 ft rmsl	**Checked By:**	NOH	**Date Completed:**	05/21/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	4.8 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
36	36 - 40	S-9	24/48	0.0					Olive-grey m-f SAND, wet.	SW	NA
37											
38											
39											
40	40 - 44	S-10	12/48	0.0					Grey m-f SAND, wet, slight odor at tip of core sampler.		
41											
42											
43											
44	44 - 48	S-11	18/48	0.0					Grey m-f SAND, some Gravel and cobbles, wet, no staining or odor.		
45											
46											
47											
48	48 - 52	S-12	24/48	0.0					Grey m-f SAND, some Gravel and cobbles, wet, no staining or odor.		
49											
50											
51					Refusal @ 52 ft bg						
52											
53											
54											
55											
56											
57											
58											
59											
60											
61											
62											
63											
64											
65											
66											
67											
68											
69											
70											

NOTES:

1) Soil samples from 2-3 ft, 10-11 ft, and 46-48 ft were submitted for laboratory analysis.
2) Elevation is in feet relative to site datum (ft rmsl).
3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**	**Page:**	1 of 2
Client:	**Consolidated Edison of New York, Inc.**		

Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-9**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	05/29/01
Ground Elevation:	189.78 ft rmsl	**Checked By:**	NOH	**Date Completed:**	05/30/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	11 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 4"				Hand Dug to 5 ft bg				Asphalt		
1	4" - 2			0.0					Brown c-f SAND. Gravel.	SW	
2									Loose and dry.		
3	2 -7.5										
4											
5									Concrete 2.5 to 7.5 ft bg.		
6											
7											
8	8 -12	S-1	36/48						Gry-blk stained m-f SAND,		NA
9				689.0					trace Silt.	SM	
10				545.0					f SAND and little Clay/Silt.		
11									Wet at 11 feet.		
12	12 - 16	S-2	24/48	353.0					Olive-grey stained c-f SAND.		
13									Wet. Strong odor.		
14									Wood chunk at 13.5 ft bg.		
15											
16	16 - 20	S-3	24/48	130.0					Olive-grey stained c-f SAND.		
17									Wet. Strong odor.		
18											
19											
20	20 - 24	S-4	24/48						Tan c-f SAND, wet.		
21				9.8					No staining or odor		
22											
23				15.6						SW	
24	24 - 28	S-5	0/48						No Recovery.		
25											
26											
27											
28	28 -32	S-6	18/48						Tan c-f SAND, wet.		
29				9.8							
30											
31				13.4							
32	32 - 36	S-7	12/48	7.3					Tan c-f SAND, wet.		
33											
34											
35											

NOTES:

1) Soil samples from 2-4 ft, 9-10 ft, 10 -12 ft, 40-44 ft b.g.were submitted for laboratory analysis.
2) Soil Boring was grouted upon completion.
3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	2 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	SB-9
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	05/29/01
Ground Elevation:	189.78 ft rmsl	**Checked By:**	NOH	**Date Completed:**	05/30/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	11 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
36	36 - 40	S-8	24/48						Tan c-f SAND, wet.	SW	NA
37				14.7							
38											
39				11.0							
40	40 -43.5	S-9	12/46	6.1					Grey f-m SAND, tr. Silt	SM	
41											
42											
43											
44									Refusal @ 43.5 ft bg		
45											
46											
47											
48											
49											
50											
51											
52											
53											
54											
55											
56											
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61											
62											
63											
64											
65											
66											
67											
68											
69											
70											

NOTES:

1) Soil samples from 2-4 ft, 9-10 ft, 10 -12 ft, 40-44 ft b.g.were submitted for laboratory analysis.
2) Soil Boring was grouted upon completion.
3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-10**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Begun:**	06/26/01
Ground Elevation:	190.21 ft rmsl	**Checked By:**	NOH	**Completed:**	06/26/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	12 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 6"				Hand dug to 5 ft bg.				Asphalt		
1	6" - 3			17.5					Brown c-f SAND. Loose and		
2				6.9					dry. Some gravel.		
3	3 - 4			18.2					Brn m-f SAND, tr Silt, brick.		
4	4 - 8	S-1	24/48						Blk staining/odor at 3 ft bg.		
5				80.1					Brn f-c SAND, tr Gravel, Silt		
6									brick & coal. Spotty black		
7				247.0					staining. Odor.		
8	8 - 12	S-2	42/48						Grey-black m-f SAND, tr Silt.		NA
9									Mild petroleum-like odor.		
10											
11				316.0					Wet at 12 ft bg.		
12	12 - 16	S-3	36/48						Gry-stained m-f SAND, tr Silt.		
13				284.0					Staining and strong odor.		
14									NAPL at 13 -14 feet. Wet.		
15				46.6							
16	16 -20	S-4	30/48						Grey-tan c-f SAND,		
17				9.9					No staining or odor. Wet.		
18											
19				8.1						SW	
20	20 -24	S-5	30/48						Grey and tan m-f SAND		
21				6.9					Wet.		
22											
23				5.6							
24	24 - 28	S-6	12/48						Grey and tan m-f SAND.		
25				7.7					Wet.		
26											
27				7.9							
28	28 -32	S-7	6/48						Brown-tan m-f SAND.		
29				26.1					No staining or odors. Wet.		
30											
31				26.5							
32	32 -36	S-8	18/48						Stained m-f SAND,		
33				24.9					NAPL and sheen in soil and		
34									on liners 32-36'. Strong		
35				176.0					petroleum-like odor. Wet.		

NOTES:

1) Soil samples from 3-4 ft, 12- 14 ft, 45-47 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**	**Page:**	2 of 2
Client:	**Consolidated Edison of New York, Inc.**		

Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-10**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Begun:**	06/26/01
Ground Elevation:	190.21 ft rmsl	**Checked By:**	NOH	**Completed:**	06/26/01
Logged By:	DIL	**Protection Level:**	D	**Depth to Water:**	12 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
36	36 - 40	S-9	18/48						Grey f SAND and SILT. Wet.		
37				26.2					No staining or odor.		
38											
39				20.1							
40	40 - 44	S-10	36/48						Grey f SAND and SILT. Wet.	SM	
41				19.6					No staining or odor.		
42											
43				22.4							NA
44	44 - 47	S-11	12/36						Grey f SAND and SILT,		
45									tr Rock fragments. Slight		
46				16.9	Refusal at 47 ft bg				staining and odor in tip.		
47											
48											
49											
50											
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											
61											
62											
63											
64											
65											
66											
67											
68											
69											
70											

NOTES:

1) Soil samples from 3-4 ft, 12- 14 ft, 45-47 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-11**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	06/01/01
Ground Elevation:	191.08 ft rmsl	**Checked By:**	NOH	**Date Completed:**	06/01/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	12 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 6"				Hand dug to 5 ft bg.				Asphalt		
1	6" - 2			20.0					Brown c-m SAND. Gravel.	SW	
2	2 - 3			16.0							
3	3 - 4			8.5					Dark brown c-f SAND. Trace	SM	
4	4 - 5			15.0					Gravel, some Silt.		
5	5 - 6			11.0					Tan-orange c-f SAND.		
6	6 - 8	S-1	24/24	15.0					Tan m-f SAND.		
7				10.0					Rust colored spotting.		
8	8 - 12	S-2	24/48								NA
9				31.0					Tan m-f SAND,		
10									Mild odor.		
11				43.0							
12	12 -16	S-3	24/48						Gry-blk stained c-f wet SAND,		
13				320.0					strong odor, oily residue on		
14									core sampler sleeve 12-16'.		
15				594.0							
16	16 - 20	S-4	18/48						Grey m-f SAND.		
17				24.0					Petroleum-like odor, no	SW	
18									staining or visible product.		
19				35.0							
20	20 - 24	S-5	24/48						Grey-tan m-f SAND,		
21				30.0					mild petroleum-like odor.		
22									Wet.		
23				10.0							
24	24 - 28	S-6	24/48	19.0					Dark tan m-f SAND. Wet.		
25											
26											
27											
28	28 - 32	S-7	12/48	13.0					Dark tan m-f SAND. Wet.		
29											
30											
31											
32	32 - 36	S-8	24/48	23.0					Tan-grey c-f SAND. Wet.		
33											
34											
35											

NOTES:

1) Soil samples from 2-4 ft, 6-8 ft, 14-16 ft, 44-46 ft and 54-56 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	White Plains Substation - Phase 2 SI			**Page:**	2 of 2
Client:	Consolidated Edison of New York, Inc.				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-11**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	06/01/01
Ground Elevation:	191.08 ft rmsl	**Checked By:**	NOH	**Date Completed:**	06/01/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	12 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
36	36 - 40	S-9	24/48	0.0					Tan-grey c-f SAND. Wet.		
37											
38											
39										SW	
40	40 - 44	S-10	36/48	0.0					Tan-grey c-f SAND. Wet.		
41											
42											
43											NA
44	44 - 48	S-11	18/48						Auburn-blk NAPL-saturated		
45				1110.0					fine SAND (44-48'),		
46									trace Silt, strong		
47				90.0					petroleum-like odor. Wet.		
48	48 - 52	S-12	24/48						Grey f SAND tr Silt ,		
49				86.0					no staining, odor, or product.		
50											
51				19.0						SM	
52	52 - 56	S-13	24/48						Grey f SAND tr Silt ,		
53				1.9					no staining, odor, or product.		
54											
55				21.0							
56	56 - 60	S-14	12/48	11.0					Rock fragments. No staining		
57									or product. Slight sheen		
58									on cutting shoe.		
59					Refusal at 60 ft bg						
60											
61											
62											
63											
64											
65											
66											
67											
68											
69											
70											

NOTES:

1) Soil samples from 2-4 ft, 6-8 ft, 14-16 ft, 44-46 ft and 54-56 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-12**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	06/18/01
Ground Elevation:	190.72 ft rmsl	**Checked By:**	NOH	**Date Completed:**	06/18/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	12 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 6"				Hand dug to 5 ft bg.				Asphalt		
1	6" - 2			2.3					Brn c-f SAND and GRAVEL	SW	
2	2 - 4			2.1					Dark brown m-f SAND, tr. Silt,	SM	
3									Loose and dry.		
4	4 - 8	S-1	36/48	12.3					Brown/tan c-f SAND.		
5									Loose and dry.	SW	
6											
7				18.5							
8	8 - 12	S-2	30/48						Tan m-f SAND, tr Silt. Dry.	SM	NA
9				36.4							
10									Black-stained f SAND		
11				261.0					at 12 feet. Strong odor. Wet.		
12	12 - 16		36/48						Grey m-f SAND, Wet.		
13				296.0					Brown NAPL at 12-15 feet.		
14											
15				327.0							
16	16 - 20		30/48						Gry m-f SAND, some gravel.		
17				93.0					No staining.	SW	
18											
19				188.0							
20	20 -24		30/48						Grey-brown c-f SAND, Wet.		
21				13.0					No staining or odor.		
22											
23				9.0							
24	24 - 28		12/48						Grey-brown c-f SAND, Wet.		
25				8.1					No staining or odor.		
26											
27				11.4							
28	28 - 32		6/48	14.7					Grey-brown c-f SAND, Wet.		
29									No staining or odor.		
30											
31											
32	32 - 36		12/48	6.3					Grey-brown c-f SAND, Wet.		
33									No staining or odor.		
34											
35											

NOTES:

1) Soil samples from 2-4 ft, 14-16 ft, 42-44 ft, 48-52 ft were submitted for laboratory analysis.
2) Soil Boring was grouted upon completion.
3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	2 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-12**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	06/18/01
Ground Elevation:	190.72 ft rmsl	**Checked By:**	NOH	**Date Completed:**	06/18/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	12 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
36	36 - 40		12/48						Black c-f SAND. No staining or odor. Wet.	SW	NA
37											
38											
39				7.4							
40	40 - 44		18/48						Blk-stained m-f SAND, NAPL, sheen and strong odor 40-44'. Wet.		
41											
42				102.0							
43				185.0							
44	44 - 48		24/48						Slightly blk-stained f SAND, some Silt, mild odor, Wet.	SM	
45				12.7							
46											
47				7.3							
48	48 - 52		12/48	6.3					Grey f SAND. Wet. Rock fragments. No staining or odor.	SW	
49											
50											
51					Refusal at 52 ft bg						
52											
53											
54											
55											
56											
57											
58											
59											
60											
61											
62											
63											
64											
65											
66											
67											
68											
69											
70											

NOTES:

1) Soil samples from 2-4 ft, 14-16 ft, 42-44 ft, 48-52 ft were submitted for laboratory analysis.
2) Soil Boring was grouted upon completion.
3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 1
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-13**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	06/04/01
Ground Elevation:	196.42 ft rmsl	**Checked By:**	NOH	**Date Completed:**	06/04/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	12 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 6"				Hand dug to 5 ft bg.				Asphalt		
1	6" - 2			0.0					Org-brn c-f SAND and		
2	2 - 5			0.0					Gravel, trace Silt.	SW	
3											
4											
5	5 - 8	S-1	24/36	0.0					Orange-brown c-f SAND,		
6									trace Silt, loose and dry.		
7											
8	8 - 12	S-2	48/48						Orange-brown c-f SAND,		NA
9									trace Silt, grey staining,		
10									loose and dry.		
11				36.0					Wet at 12 ft bg.		
12	12 - 16	S-3	38/48						Orange-brown c-f SAND,		
13				270.0					trace Silt, loose and dry, Oily		
14									residue on liner 12-16'.		
15									Sheen and strong odor.		
16	16 - 20	S-4	30/48						Blk/gry-stained f-m SAND,		
17									tr Silt. Moderate petroleum-		
18				35.0					like odor. Wet.		
19											
20	20 - 24	S-5	30/48						Blk/gry-stained f-m SAND,	SM	
21									tr Silt. Moderate petroleum-		
22									like odor. Wet.		
23				15.0							
24	24 - 28	S-6	4/48	12.0					Grey-stained f-m SAND,		
25									tr Silt. Moderate petroleum-		
26									like odor. Wet.		
27											
28	28 - 32	S-7	48/48						Blk/gry-stained c-f SAND,		
29									Heavy sheen and oily residue		
30									on liner 28-32'. Strong		
31				362.0					petroleum-like odor. Wet.		
32	32 - 34.5	S-8	30/30	77.0					Grey-stained f SAND.		
33									Mod. petroleum-like odor.		
34	34.5 - 35	S-9	6/6						Grey SILT, trace f Sand, Clay.	ML	
35					Refusal at 35 ft bg				Stiff. Moderate odor.		

NOTES:

1) Soil samples from 3-4 ft, 13-14 ft, 31-32 ft, 34-35 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				1 of 1
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	3/4 -inch	Boring #.	SB-14
Drilling Method:	DP (Hurricane)			Date Begun:	08/16/00
Ground Elevation:	(MSL)	Checked By:	MSG	Completed:	08/16/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	9' ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
1					Hand dug to 5 feet				0-4" Asphalt		
2									Brown,dry,f-c SAND,		
3									some f-m Gravel,trace Silt.	FILL	
4											
5	4 - 8	S-1	48/22	0					Olive brown and black f-c	SP	
6									sand, trace silt and gravel		
7				35					Slight staining and odor		
8											
9	8 - 12	S-2	48/40	156					Grey-black, f-m sand, trace silt & gravel. Oily stained soil (residue on acetate sleeve) from 8-9.5'. Strong tar-like odor.	SP	
10				37					9.5-10.5: Olive-black, fine sand silt, trace clay. Discolored soil & moderate odor.		
11				212					Grey, f-m sand, trace silt. Oily stained soil (residue on acetate sleeve) from 10.5-11.5'. Strong tar-like odor.		
12				150					11.5-12: Grey, silty fine sand. Slight staining & slight odor.		
13	12-16	S-3	24/48	146					12-15: Brown fine sand and silt.		
14									Moist. Trace coarse sand.		
15									Organics. Slight odor & no stain.		
16				81					15-16: Grey f-m sand, little silt. Slight odor & no staining.		
17	16-18	S-4	12/24	104					Grey f-m sand, trace silt. Wet.		
18									Slight odor & no staining.		
19					Refusal at 18 feet						
20											

Well Screen Filter Pack Divider Seal Annular Seal Surface Seal	NOTES: Soil samples from 2-4, 10.5-11.5 ft, and 16-18 ft were submitted for laboratory analysis. Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 1
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-15**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/23/01
Ground Elevation:	TBD	**Checked By:**	NOH	**Date Completed:**	04/23/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	10 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 4"				Hand dug to 8 ft bg.				0-4" Asphalt		
1	4" - 1			0.0							
2	1 - 2			0.0							
3	2 - 3			0.0							
4	3 - 4			0.0					Brown c-m SAND, some Silt.		
5	4 - 5			0.0					No Stains. No odors.		
6	5 - 6			0.0							
7	6 - 7			0.0					Dry		
8	8 - 12	S-1	36/48	0.0					Brown c-m SAND, some Silt.	SM	NA
9									Wet at 10 ft		
10				0.2					Grey C-M SAND, tr Silt. Wet.		
11									Mild petroleum-like odors.		
12	12 - 16	S-2	48/48	0.0					Grey-stained f-m SAND 12-16'		
13									some Silt, tr Mica. No odors.		
14											
15											
16	16 - 20	S-3	24/48	0.0					Greyish-brown c-m sand.		
17									Wet. No odors, mild staining.		
18										SW	
19											
20	20-22	S-4	24/24						Grey stained c-m sand 215-22'.		
21									Trace gravel. Wet.		
22				12.8	Refusal at 22 ft bg				Mild petroleum-like odor.		
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											

NOTES:

1) Soil samples from 2-4 ft, 10-11 ft and 21.5-22 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft msl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**	**Page:**	1 of 1
Client:	**Consolidated Edison of New York, Inc.**		

Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-16**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/23/01
Ground Elevation:	189.86 ft rmsl	**Checked By:**	NOH	**Date Completed:**	04/23/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	10 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 4"				Hand dug to 8 ft bg.				0-4" Asphalt		
1	6" - 2			0.0					Brown c-f SAND, trace silt	SM	
2	2 - 3			0.0					Brick structure 2 to 4 ft bg.		
3	3 - 4			0.0							
4	4 - 5			0.0					Brown f-m SAND, trace Silt.		
5	5 - 6			0.0					No Stains. No odors.	SM	
6	6 - 7			0.0					Brown f-m SAND, trace Silt.		
7	7 - 8			0.0					No Stains. No odors.		
8	8 - 10	S-1	36/36	0.0					Blk-stained, f-m SAND, wet.	SW	NA
9									Strong petroleum-like odors		
10				2.6	Refusal at 10 ft bg				at 9.5-10'		
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											

NOTES:

1) Soil samples from 2-4 ft and 9.5-10 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				1 of 2
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	See note below	Boring #.	SB-17
Drilling Method:	DP (Hurricane)	LEL/O2:		Date Begun:	08/10/00
Ground Elevation:	(MSL)	Checked By:	MSG	Completed:	08/10/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	26 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
1					Hand dug to 5 feet				0-4" Asphalt		
2				0.0					4"-16" Bluestone		
3									16"-5' Brown, f-c SAND, some	FILL	
4									f-m Gravel, trace Silt. brick,		
5									cobbles, concrete debris		
6	4 - 8	S-1	48/8	12.8					Brown, moist, f-c SAND and	SW	
7									Gravel, trace Silt. wood,brick		
8											
9	8 - 12	S-2	48/6	9.9					Brown, moist, f-c SAND, little	SW	
10									f-m Gravel, trace Silt.		
11											
12	12 - 16	S-3	48/24	1.7					12-13' Similar to above	SW	
13									13-16' Light brown, moist, f-c		
14									SAND, trace f-m Gravel, Silt.		
15											
16	16 - 20	S-4	48/36	0.7					Light brown, moist, f-c SAND,	SW	
17									trace f-m Gravel, Silt.		
18											
19											
20	20 - 24	S-5	48/48	0.0					20-23' Similar to above	SW	
21									23'-23'3" Olive brown, fine SAND		
22									23'3"-24' Light brown, fine SAND,	SP	
23									trace Silt.		
24											
25	24 - 28	S-6	48/48						24-26' Brown, moist, f-c SAND, trace Gravel & Silt, no staining, no odor	SW	
26					(wet @ 26 feet)						
27				148.5					26-28' Dark brown to gray, f-m	SP	
28									SAND, trace f-m Gravel, Silt.		
29									(Moderate staining & odor)		
30											

Well Screen
Filter Pack
Divider Seal
Annular Seal
Surface Seal

NOTES:

Soil samples from 2-4, 26-28 ft, 40-44 ft, 54.5-55 ft & 55-56 ft were submitted for laboratory analysis.
Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				2 of 2
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	3/4-inch	Boring #.	SB-17
Drilling Method:	DP (Hurricane)	LEL/O2:		Date Begun:	08/10/00
Ground Elevation:	(MSL)	Checked By:	MSG	Completed:	08/10/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	26 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
30	28 - 32	S-7	48/24	58.9					Gray, wet, f-m SAND, trace Silt.	SP	
31									Slight staining & slight odor		
32											
33	32 - 36	S-8	48/22	38					Similar to above, no staining	SP	
34									no odor		
35											
36	36 - 40	S-9	48/18	17					36-38: Gray, wet, fine SAND, trace	SP	
37									Silt. (slight odor, no staining)		
38									38-40:Gray, wet, f-m SAND, trace silt. Slight odor, no	SP	
39									staining, slight sheen.		
40	40 - 44	S-10	48/24	6.9					Gray, wet, f-m SAND, trace	SP	
41									Silt. (slight odor)		
42											
43											
44	44 - 48	S-11	48/24	31					Similar to above	SP	
45											
46											
47											
48	48 - 52	S-12	48/12	35.3					Similar to above	SP	
49											
50											
51											
52	52 - 56	S-13	48/18	404					6"Dark brown to black, wet,	SP	
53									f-m SAND trace Silt. Oily stained soil (residue on acetate sleeve), strong tar-like odor 54.5-55'		
54				2.9					Gray, wet, Silty fine SAND.		
55									(no staining or odor)	SM	
56		Bottom of boring @ 56 feet									
57		(stopped due to risk of creating preferred pathway)									
58											
59											
60											

Annular Seal
Well Screen
Filter Pack
Divider Seal
Annular Seal
Surface Seal

NOTES:
See notes of Page 1 of 2

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				1 of 2
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	See note below	Boring #.	SB-18
Drilling Method:	DP (Hurricane)	LEL/O2:		Date Begun:	08/11/00
Ground Elevation:	(MSL)	Checked By:	MSG	Completed:	08/11/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	26 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
1					Hand dug to 5 feet				0-4" Asphalt		
2				0.0					4"-4' Brown, dry, f-c SAND,		
3									little f-m Gravel, trace Silt.	FILL	
4									brick, cobbles, concrete debris.		
5									(dug to 4 ft by hand then used		
6									prybar to probe to 7.5 ft)		
7											
8	8 - 12	S-1	48/26	0.0					Light brown, dry, f-c SAND,	SW	
9									little fine Gravel, trace Silt		
10											
11											
12	12 - 16	S-2	48/28	0.0					Similar to above	SW	
13											
14											
15											
16	16 - 20	S-3	48/26	0.0					Similar to above, trace fine Gravel	SW	
17											
18											
19											
20	20 - 24	S-4	48/30	0.0					Stratified layers of sand from,		
21									Brown, moist, f-c SAND, little	SW	
22									fine gravel, trace Silt and f-m		
23									SAND, trace fine Gravel, Silt	SP	
24	24 - 28	S-5	48/24						24-26' Sbrown f-c SAND, little		
25									gravel, trace silt, no odor, no staining.		
26				23.8	(wet @ 26 feet)				26.5-27: Same as above, except moderately stained soil, strong odor & slight sheen.		
27									27-28' Gray, wet, f-m SAND, trace Silt. Slight odor & no staining.	SP	
28											
29											
30											

Well Screen
Filter Pack
Divider Seal
Annular Seal
Surface Seal

NOTES:
Soil samples from 26-28 ft, and 59-60 ft were submitted for laboratory analysis.
Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				2 of 2
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	3/4-inch	Boring #.	SB-18
Drilling Method:	DP (Hurricane)	LEL/O2:		Date Begun:	08/11/00
Ground Elevation:	(MSL)	Checked By:	MSG	Completed:	08/11/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	26 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
30	28 - 32	S-6	48/28	41.4					Gray, wet, f-m SAND, trace Silt.	SP	
31									& coarse Sand. Slight odor,		
32									no staining.		
33	32 - 36	S-7	48/24	43					Similar to above.	SP	
34											
35											
36	36 - 40	S-8	48/20	44.5					Gray, wet, f-m SAND, trace Silt.	SP	
37									Slight odor, no staining.		
38											
39											
40	40 - 44	S-9	48/16	25.5					Similar to above.	SP	
41											
42											
43											
44	44 - 48	S-10	48/14	1.9					Similar to above	SP	
45									No odor or staining		
46											
47											
48	48 - 52	S-11	48/10	0.7					Similar to above	SP	
49											
50											
51											
52	52 - 56	S-12	48/20	0.0					Similar to above	SP	
53											
54											
55											
56	56 - 60	S-13	48/18	0.0					56-59' Similar to above	SP	
57										SM	
58									59-59.5' Dense,grey,wet,fine sandy SILT. No odor, no staining.		
59									59.5-60' Very dense,gray,wet, f-c SAND,some f-m Gravel,little silt.	SW	
60	Bottom of boring @ 60 feet (stopped due to risk of creating preferred pathway)										

Annular Seal Well Screen Filter Pack Divider Seal Annular Seal Surface Seal	NOTES: See notes of Page 1 of 2

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-19**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	06/21/01
Ground Elevation:	188.21 ft rmsl	**Checked By:**	NOH	**Date Completed:**	06/21/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	12 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 6"				Hand dug to 5 ft bg.				Concrete		
1	6" - 5			0.0					Brown/tan c-f SAND. Loose and dry.	SW	
2											
3											
4											
5	5 - 6			0.7					Brown m-f SAND, little Silt. Damp.	SM	
6	6 - 7			0.8							
7											
8	8 - 12	S-1	48/48	1.7					Brn-gry m-f SAND some Silt, mild petroleum-like odor.		NA
9											
10											
11				0.3					Wet at 12 ft bg.		
12	12 - 16	S-2	36/48						Grey c-f SAND. No odor.	SW	
13				0.2							
14											
15				0.1							
16	16 - 20	S-3	42/48						Grey c-f SAND. No odor. Slight staining at 17 ft bg. Brown-tan c-f SAND, wet. No staining or odor.		
17				0.0							
18											
19				0.0							
20	20 -24	S-4	24/48						Brn-orange c-f SAND, wet.		
21				0.0							
22											
23				0.0							
24	24 - 28	S-5	18/48	0.0					Tan-orange c-f SAND, wet.		
25											
26											
27											
28	28 - 32	S-6	6/48						Tan-orange c-f SAND, wet.		
29				0.1							
30											
31				0.0							
32	32 -36	S-7	18/48	0.0					Brown-tan c-f SAND, wet.		
33											
34											
35											

NOTES:

1) Soil samples from 5-6 ft, 12-14 ft, 48-52 ft were submitted for laboratory analysis.
2) Soil Boring was grouted upon completion.
3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	2 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-19**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	06/21/01
Ground Elevation:	188.21 ft rmsl	**Checked By:**	NOH	**Date Completed:**	06/21/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	12 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
36	36 - 40	S-8	36/48	0.0					Grey c-f SAND, wet.		
37											
38											
39											
40	40 - 44	S-9	6/48	0.0					Grey m-f SAND, wet.	SW	
41											
42											
43											NA
44	44 - 48	S-10	12/48	0.0					Grey fine SAND, trace silt,		
45									wet.		
46											
47											
48	48 - 52	S-11	12/48	0.3					Grey fine SAND, trace silt,		
49									wet.		
50											
51					Refusal at 52 ft bg						
52											
53											
54											
55											
56											
57											
58											
59											
60											
61											
62											
63											
64											
65											
66											
67											
68											
69											
70											

NOTES:

1) Soil samples from 5-6 ft, 12-14 ft, 48-52 ft were submitted for laboratory analysis.
2) Soil Boring was grouted upon completion.
3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 1
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-20**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/19/01
Ground Elevation:	188.38 ft rmsl	**Checked By:**	NOH	**Date Completed:**	04/24/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	11 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 4"				Hand dug to 5 feet				0"-4" concrete sidewalk		
1				0.0					Brown SAND and SILT.		
2				0.0					No stains, No odors.		
3				0.0							
4	4 - 8	S-1	24/48	0.0						SM	
5				0.0							
6				0.0							
7				0.0					Black slag pieces at 7 ft bg.		
8	8 - 12	S-2	48/48						Grey m-f SAND, some Silt.		NA
9				0.0					Tan c-m SAND. Dry.	SW	
10											
11				0.0					Silty and clayey SAND. Wet.	SM	
12	12 - 16	S-3	48/48								
13				0.0					Grey c-m SAND		
14											
15				0.0					Tan/orange c-m SAND,		
16	16 - 20	S-4	48/48						Trace mica.		
17				0.0							
18											
19				0.0							
20	20 - 24	S-5	30/48								
21				0.0					Tan/brown c-m SAND. Wet.	SW	
22											
23				0.0							
24	24- 28	S-6	24/48								
25				0.0							
26											
27				0.0					Brown c-m SAND. Wet.		
28	28 - 31.5	S-7	24/48								
29				0.0							
30					Refusal at 31.5 ft bg				Brn, gry, blk c-m SAND.		
31											
32											
33											
34											
35											

NOTES:

1) Soil samples from 3-4 ft, 10-11 ft and 34-35 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 1
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-21**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/19/01
Ground Elevation:	189.09 ft rmsl	**Checked By:**	NOH	**Date Completed:**	04/24/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	10 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 4"				Hand dug to 5 feet				0"-4" concrete sidewalk		
1				0.0					Brown silty-SAND, little		
2				0.0					Gravel. No stains or odors.		
3				0.0						SM	
4				0.0							
5	5 - 8	S-1	18/48	0.0							
6											
7				0.0					Brn c-m SAND sm Gravel/Silt.	SW-SM	
8	8 - 12	S-2	42/48						Concrete, brick & slag		NA
9				0.0					Brn & gry SAND, some Silt	SM	
10									Wet at 10 ft.		
11											
12	12 - 16	S-3	36/48								
13				0.0					Brown/orange c-f SAND.		
14									Wet.		
15											
16	16 - 20	S-4	42/48						Brown/orange c-f SAND.		
17				0.0					Wet.	SW	
18											
19											
20	20 - 24	S-5	24/48						Brown/orange c-f SAND.		
21				0.0					Wet.		
22											
23											
24	24 - 28	S-6	30/48								
25				0.0					Grey m-c SAND, some Silt.		
26											
27											
28	28 - 32	S-7	36/48								
29				0.0					Grey m-c SAND, some Silt.	SM	
30											
31											
32	32 - 35	S-8	18/48								
33				0.0					Grey m-c SAND, some Silt.		
34											
35					Refusal at 35 ft bg						

NOTES:

1) Soil samples from 3-4 ft, 10-11 ft and 34-35 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 1
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-22**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Begun:**	04/19/01
Ground Elevation:	189.82 ft rmsl	**Checked By:**	NOH	**Completed:**	04/23/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	11 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
.0	0 - 4"	.			Hand dug to 6 feet				0"-4" concrete sidewalk		
1				0.0					Brn c-f SAND, some Silt,		
2				0.0					little Gravel.		
3				0.0					No stains or odors.	SM	
4				0.0							
5				0.0							
6	6 - 10	S-1	36/48	0.0							
7				0.0					Brown c-m SAND / Silty SAND	SM-SW	
8				0.0							NA
9									Brown c-m SAND		
10	10 - 14	S-2	48/48	0.0					Black/grey staining 9.5'-10'		
11									Black coloring. Wet @ 11 ft.		
12				0.0							
13									Grey c-m SAND.		
14	14 - 18	S-3	48/48	0.0					No staining or odor		
15										SW	
16											
17											
18	18 - 22	3-4	48/48	0.0					Brown and tan c-m SAND,		
19									trace Gravel.		
20											
21											
22	22 - 26	S-5	48/48	0.0							
23											
24				0.0					Grey m-f SAND, some Silt		
25									Wet.		
26	26 - 30	S-6	48/48	0.0							
27											
28											
29										SM	
30	30 - 34	S-6	42/42	0.0					Grey m-f SAND, some Silt ,		
31									trace gravel.		
32									Wet.		
33											
34											
35					Refusal at 35 ft bg						

OTES:

1) Soil samples from 3-4 ft, 10-11 ft and 34-35 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-23**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/20/01
Ground Elevation:	203.23 ft rmsl	**Checked By:**	NOH	**Date Completed:**	04/23/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	24 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 6"				Hand dug to 5 ft bg.				Concrete - sidewalk		
1	6" - 4			0.0					Brown c-m SAND and		
2									GRAVEL, loose and dry,	GM	
3									No stains or odors.		
4	4 - 8	S-1	36/48	0.0					Brown c-m SAND, trace silt,		
5									loose and dry, no stains or	SM	
6									odors.		
7											
8	8 - 12	S-2	46/48	0.0					Brown m-f SAND,		NA
9									loose and dry, No stains or	SW	
10									odors.		
11											
12	12 - 16	S-3	41/48	0.0					Brown m-f SAND, trace silt,		
13									loose and dry, No stains or	SM	
14									odors.		
15									Tan, f-c SAND.		
16	16 - 20	S-4	44/48	0.0					Brown and tan m-f SAND,		
17									loose and dry, No stains or		
18									odors.		
19									Brown and tan m-f SAND,		
20	20 - 24	S-5	37/48	0.0					loose and dry, No stains or		
21									odors.	SW	
22											
23				1.9					Wet at 24 ft bg.		
24	24 - 28	S-6	44/48	0.0					Brown m-f SAND.		
25									No stains or odors.		
26											
27											
28	28 - 32	S-7	24/48						Brown m-f SAND, wet		
29				12.5					No stains or odors.		
30									Grey stained m-f SAND at 32'		
31				14.0					Strong petroleum-like odors.		
32	32 - 36	S-8	24/48						Grey stained m-f SAND,		
33									Strong petroleum-like odors.		
34											
35											

NOTES:

1) Soil samples from 3-4 ft, 23-24 ft, 37-38 ft, and 47-48 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	2 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-23**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/20/01
Ground Elevation:	203.23 ft rmsl	**Checked By:**	NOH	**Date Completed:**	04/20/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	24 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
36	36 - 40	S-9	24/48						Grey stained m-f SAND,		
37				20.0					Strong petroleum-like odors.		
38											
39				16.0							
40	40 - 44	S-10	36/48						Grey stained m-f SAND,		
41				9.0					Mild odor.		
42											
43				8.0							NA
44	44 - 48	S-11	36/48						Tan m-f SAND, wet		
45				0.0					no staining or odors	SW	
46											
47				0.0							
48	48 - 52	S-12	12/48	0.0							
49											
50											
51											
52	52 - 56	S-13	24/48	0.0					Grey, c-f SAND, wet.		
53											
54											
55											
56	56 - 60	S-14	24/48	0.0					Grey m-f SAND, trace Silt.		
57									No staining or odors. Wet.	SM	
58											
59					Refusal @ 60 ft bg.						
60											
61											
62											
63											
64											
65											
66											
67											
68											
69											
70											

NOTES:

1) Soil samples from 3-4 ft, 23-24 ft, 37-38 ft, and 47-48 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-24**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/19/01
Ground Elevation:	202.49 ft rmsl	**Checked By:**	NOH	**Date Completed:**	04/19/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	22.5 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 4"				Hand Dug to 5 ft bg				Concrete - Sidewalk		
1	4" - 4			0.0					Brown silty SAND. Little gravel. No stains or odors.		
2										SM	
3											
4	4 - 8	S-1	48/48	0.0					Brown SILT, some f Sand, trace gravel. Dry. stains or odors.		
5										ML	
6											
7											
8	8 - 12	S-2	36/48	0..0					Tan and light brown c-f SAND. Loose and dry. No No stains or odors.		NA
9											
10											
11		S-3								SW	
12	12 - 16		48/48	0.0							
13											
14											
15											
16	16 - 20	S-4	48/48	0.0					Brown f-m SAND. Some silt. Micaceous. Loose and damp		
17											
18											
19											
20	20 - 24	S-5	42/48	0.0						SM	
21											
22									Tan/brown c-f SAND. Little silt. Wet. No Staining or odor.		
23											
24	24-28	S-6	48/48	0.0							
25									Tan/brown c-f SAND. Some mica. Wet. No stains or odor.		
26											
27											
28	28 - 32	S-7	46/48	0.0					Tan m-f SAND. Wet. No staining or odor.		
29											
30										SW	
31											
32	32 - 36	S-8	48/48						Tan c-f SAND. Wet. Dark brown staining from 34 - 36'. Strong heavy oil-like odor and oily residue on liner 35-36', sheen.		
33											
34				36.0							
35				380.0							

NOTES:

1) Soil samples from 2-3 ft, 21-22 ft, 36-38 ft, and 51-52 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	2 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-24**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/19/01
Ground Elevation:	202.49 ft rmsl	**Checked By:**	NOH	**Date Completed:**	04/19/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	22.5 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
36	36 - 40	S-9	36/48						Dark brn stained c-f SAND. Trace silt. Strong gasoline-like odor. Oil residue on liner from 36-39'.	SM	NA
37											
38				590.0							
39											
40	40 - 44	S-10	4/48	10.0					Grey-brown f SAND. Little silt. Wet. Very mild petroleum-like odor.		
41											
42											
43											
44	44 - 48	S-11	8/48	4.2					Grey-brown f SAND. Little silt. Wet. No odor.		
45											
46											
47											
48	48 - 52	S-12	7/48	2.2					Grey-brown f SAND. Little silt. Wet. No odor.		
49											
50											
51											
52	52 - 56	S-13	0/48						No Recovery. No odor or sheen on core sampler.		
53											
54											
55											
56	56 - 60	S-14	0/48						No Recovery. No odor or sheen on core sampler.		
57											
58											
59											
60	60 - 64	S-15	0/48						No Recovery. No odor or sheen on core sampler.		
61											
62											
63											
64	64 - 66	S-16	0/36						No Recovery. No odor or sheen on core sampler.		
65											
66											
67									Refusal at 66 feet b.g.		
68											
69											
70											

NOTES:

1) Soil samples from 2-3 ft, 21-22 ft, 36-38 ft, and 51-52 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-25**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Begun:**	04/20/01
Ground Elevation:	200.77 ft rmsl	**Checked By:**	NOH	**Completed:**	04/20/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	22 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 6"				Hand Dug to 5 ft bg				Concrete - Sidewalk		
1	6" - 4			0.0					Brown c-m SAND and		
2									GRAVEL, loose and dry.	GM	
3									No staining or odor.		
4	4 - 8	S-1	36/48	0.0					Brown c-m SAND. Loose		
5									and dry. No staining or odor.	SW	
6											
7											
8	8 - 12	S-2	36/48	0.0					Brown c-m SAND, trace silt.		NA
9									loose, dry, no staining		
10									or odor.		
11											
12	12 - 16	S-3	42/48	0.0					Brown-tan, c-m SAND, trace	SM	
13									silt, loose, dry, no staining		
14									or odor.		
15											
16	16 - 20	S-4	30/48	0.0					Brown-tan, c-m SAND, trace		
17									silt, loose, dry, no staining		
18									or odor.		
19									Brown, f SAND, trace		
20	20 - 24	S-5	24/48	0.0					silt, dry, no staining or odor.		
21									Brown-tan, c-m SAND, dry to		
22									wet, No staining or odor.		
23											
24	24 - 28	S-6	24/48	0.0					Brown c-m SAND, dry,		
25									No staining or odor.		
26											
27										SW	
28	28 - 32	S-7	48/48	0.0							
29											
30											
31											
32	32 - 36	S-8	48/48	0.0					Tan, m-f SAND, wet,		
33									No staining or odor.		
34											
35											

NOTES:

1) Soil samples from 3-4 ft, 21-22 ft, 22.5 - 23.5 ft, and 43-44 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	2 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-25**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Begun:**	04/20/01
Ground Elevation:	200.77 ft rmsl	**Checked By:**	NOH	**Completed:**	04/20/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	22 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
36	36 - 40	S-9	24/48	0.0					Tan, m-f SAND, wet,		
37									No staining or odor.		
38											
39											
40	40 - 44	S-10	12/48	0.0					Tan, m-f SAND, wet,		
41									No staining or odor.		
42										SW	
43											NA
44	44 - 48	S-11	0/48						No recovery.		
45											
46											
47											
48	48 - 49	S-12	0/12		Refusal at 49 ft bg				No recovery.		
49											
50											
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											
61											
62											
63											
64											
65											
66											
67											
68											
69											
70											

NOTES:

1) Soil samples from 3-4 ft, 21-22 ft, 22.5 - 23.5 ft, and 43-44 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 1
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-26**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	06/22/01
Ground Elevation:	190.56 ft rmsl	**Checked By:**	NOH	**Date Completed:**	06/22/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	10 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 6"				Hand dug to 5 ft bg.				Asphalt		
1	6" - 5			0.0					Brown-tan c-f SAND. Loose and dry.	SW	
2											
3											
4											
5	5 - 8	S-1	36/48	1.0					Brown c-f SAND, tr Gravel. No staining or odor.		
6											
7											
8	8 - 12	S-2	36/48						Brown silty m-f SAND.	SM	NA
9				0.5					Wet at 10 feet.		
10									Brn-gry m-f SAND some Silt.		
11				0.5							
12	12 - 16	S-3	36/48						Grey m-f SAND some Silt.		
13				0.3							
14											
15				0.5							
16	16 - 20	S-4	24/48						Brown-tan m-f SAND. Wet.	SW	
17				0.5							
18											
19				0.6							
20	20 -24	S-5	30/48						Tan m-f SAND, wet.		
21				0.2							
22									Grey f SAND, some silt, wet.	SM	
23				0.2							
24	24 - 28	S-6	30/48						Grey m-f SAND, little Gravel and Cobbles. Wet.	SW	
25				0.3							
26											
27				0.2							
28	28 - 32	S-7	6/48	0.2					Grey m-f SAND, trace Schist fragments in bottom of core sampler.		
29											
30											
31											
32					Refusal at 32 ft bg						
33											
34											
35											

NOTES:

1) Soil samples from 5-7 ft, 10-12 ft, 28-32 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project: White Plains Substation - Phase 2 SI		**Page:** 1 of 1
Client: Consolidated Edison of New York, Inc.		
Contractor: EPI	**Casing Size:** NA	**Boring/ Well No.** SB-27/ MW-7
Drilling Method: DP (Hurricane)	**LEL/O2:** NA	**Date Started:** 06/22/01
Ground/TOC. Elevations: 190.27 / 189.51 ft rnsl	**Checked By:** NOH	**Date Completed:** 06/22/01
Logged By: DJL	**Protection Level:** D	**Depth to Water:** 11 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 1				Hand dug to 5 ft bg.				4-5" of Concrete, 6" Gravel		
1	1 - 2								8" Asphalt Layer		
2	2 - 3			0.0					Brn f-c SAND, tr Gravel, Silt	GM	
3									2" Asphalt layer at 2.5 ft bg.		
4									Undisturbed Tan bricks.		
5	5 - 7	S-1	13/24	0.0	3	5	7	5	Brn-Orange c-f SAND, tr Silt,	SM	
6				0.0					& Gravel. Dry & loose.		
7	7 - 9	S-2	12/24	0.0	4	5	7	8	Gry-brn SILT, med. Stiffness.	ML	
8									Dry. No stains or odor.		
9	9 - 11	S-3	18/24	0.0	5	2	3	4	Grey c SAND.	SW	
10									Grey-brn SILT, tr Clay. Stiff,	ML	
11	11 - 13	S-4	18/24	0.0	2	2	3	10	No stains or odor. Wet.		
12									Grey m-f SAND, Wet		
13	13 - 15	S-5	18/24	0.0	2	3	7	10	No stains or odor.		
14											
15	15 - 17	S-6	14/24	0.0	2	3	5	7			
16										SW	
17	17 - 19	S-7	0/24	0.0	5	9	8	6	No Recovery.		
18											
19	19 - 21	S-8	20/24	0.0	4	8	9	8	Gry, blk & wht (salt&pepper)		
20									c-f SAND, tr Silt. Loose / wet		
21	21 - 23	S-9	14/24	0.0	6	10	12	8	Grey f SAND, med. stiffness.		
22									Grey f SAND, stiff.		
23	23 - 25	S-10	10/24	0.0	5	10	15	35	Grey SILT, tr Sand and Clay,	ML	
24									stiff, wet.		
25	25 - 27	S-11	6/24	0.0	19	23	27	34	Brn and grey c-f SAND, med.		
26									stiffness, wet.		
27	27 - 29	S-12	24/24	0.0	17	21	23	33	Brn and grey c-f SAND, med.	SW	
28									stiffness, wet. Weathered		
29	29 - 31	S-13	24/24	0.0				>50	bedrock at bottom.		
30											
31				0.0	Refusal at 31.5 ft bg				Bedrock at 31.5 ft bg.		
32											
33											
34											
35											

NOTES:

1) Soil samples from 9-10.5 ft, 11-12 ft, 30-31.5 ft were submitted for laboratory analysis.
2) Soil Boring was grouted upon completion.
3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

WELL CONSTRUCTION:

		(ft bg)
Surface Seal:	(Cement)	0 - 3
Filter-Pack Seal:	(Bentonite)	3 - 5
Filter Pack:	(Morie 00 Sand)	5 - 17
Screen Interval:	(0.02-inch slot)	7 - 17
Depth of Well:		17

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 3
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-28**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	05/24/01
Ground Elevation:	206.68 ft rmsl	**Checked By:**	NOH	**Date Completed:**	05/24/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	28 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 -1			0.0	Hand Dug to 5 ft bg				Dk Brown CLAY and SILT.	MH	
1	1 - 2			0.0					Lt. brown m-f SAND, trace silt, damp.	SM	
2	2 -3			0.0							
3	3 - 4			0.0							
4	4 - 8	S-1	36/48	0.0					Brn-tan m-f SAND, damp. No stain or odor.		
5											
6											
7											
8	8 - 12	S-2	24/48						Lt. Tan c-f SAND, damp.		NA
9										SW	
10				4.5					Lt. Tan c-f SAND, some gravel, damp.		
11											
12	12 - 16	S-3	24/48	0.0					Tan c-f SAND, some gravel, loose and dry.		
13											
14											
15											
16	16 - 20	S-4	24/48	0.0					Wht-tan c-f SAND, loose and dry, finer sands at 19 ft.		
17											
18											
19											
20	20 - 24	S-5	24/48	0.0					Tan m-f SAND, dry,		
21											
22											
23	23.5 - 24								Tan m-f SAND, tr. Silt, dry.		
24	24 - 28	S-6	24/48	0.0					Grey-brown m-f SAND, trace silt.		
25											
26											
27									Wet at 28 ft bg.		
28	28 - 32	S-7	24/48	0.0					Grey-brown m-f SAND, trace silt.	SM	
29											
30											
31											
32	32 - 36	S-8	30/48	0.0					Grey-tan m-f SAND, trace silt.		
33											
34											
35											

NOTES:

1) Soil samples from 2-4 ft, 10-11 ft, 27-28 ft, 50-52 ft, 68-75 ft, 75-77 ft were submitted for laboratory analysis.
2) Soil Boring was Soil samples from 3-4 ft, 10-11 ft and 34-35 ft
3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	White Plains Substation - Phase 2 SI			**Page:**	2 of 3
Client:	Consolidated Edison of New York, Inc.				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-28**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	05/24/01
Ground Elevation:	206.68 ft rmsl	**Checked By:**	NOH	**Date Completed:**	05/24/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	28 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
36	36 - 40	S-9	24/48	0.0					Grey m-f SAND, trace silt.		
37											
38											
39											
40	40 - 44	S-10	30/48	0.0					Grey m-f SAND, trace silt.		
41											
42											
43											NA
44	44 -48	S-11	24/48	0.0					Grey m-f SAND, trace silt.		
45											
46											
47											
48	48 - 52	S-12	24/48	0.0					Grey m-f SAND, trace silt.		
49											
50											
51											
52	52 - 56	S-13	18/48	0.0					Grey m-f SAND, trace silt.	SW	
53											
54											
55											
56	56 - 60	S-14	24/48	0.0					Grey m-f SAND, trace silt.		
57											
58											
59											
60	60 - 64	S-15	0/48	--					Grey m-f SAND, trace silt.		
61									wet, loose. No Recovery		
62											
63											
64	64 - 68		0	--					Grey m-f SAND, trace silt.		
65									wet, loose. No Recovery		
66											
67											
68	68 - 72		0	--					Grey m-f SAND, trace silt.		
69									wet, loose. No Recovery		
70											

NOTES:

1) Soil samples from 2-4 ft, 10-11 ft, 27-28 ft, 50-52 ft, 68-75 ft, 75-77 ft were submitted for laboratory analysis.

2) Soil Boring was Soil samples from 3-4 ft, 10-11 ft and 34-35 ft

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rnsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	3 of 3
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-28**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	05/24/01
Ground Elevation:	206.68 ft rmsl	**Checked By:**	NOH	**Date Completed:**	05/24/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	28 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
71											
72	72 -75		12	0.0					Grey m-f SAND, trace silt. wet, loose.	SW	
73											
74					Bottom of boring at 75 ft bg.						
75											
76											
77											
78											NA
79											
80											
81											
82											
83											
84											
85											
86											
87											
88											
89											
90											
91											
92											
93											
94											
95											
96											
97											
98											
99											
100											
101											
102											
103											
104											
105											

NOTES:

1) Soil samples from 2-4 ft, 10-11 ft, 27-28 ft, 50-52 ft, 68-75 ft, 75-77 ft were submitted for laboratory analysis.

2) Soil Boring was Soil samples from 3-4 ft, 10-11 ft and 34-35 ft

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-29**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	06/26/01
Ground Elevation:	207.45 ft rmsl	**Checked By:**	NOH	**Date Completed:**	06/26/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	28 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 1				Hand dug to 5 ft bg.				Asphalt / Concrete / Sand		
1	1 - 2			2.1					Brown m-f SAND, some Silt.	SM	
2	2 - 3			1.8					Brown m-f SAND. Trace		
3	3 -4			2.2					Gravel. Loose and dry.		
4	4 - 8	S-1	30/48	2.1					Brown c-f SAND,		
5									Loose and dry.		
6											
7											
8	8 - 12	S-2	30/48	3.0					Brown c-f SAND,		NA
9									Loose and dry.		
10									No staining or odor.		
11											
12	12 -16	S-3	30/48	1.9					Brown and tan c-f SAND		
13									Loose and dry.		
14											
15											
16	16 -20	S-4	36/48	0.4					Brown and tan c-f SAND		
17									Loose and dry.	SW	
18									Light tan c-f SAND		
19											
20	20 -24	S-5	24/48	0.2					Grey-tan c-f SAND.		
21									Loose and dry.		
22											
23											
24	24 - 28	S-6	18/48	4.3					Tan/light tan coloring.		
25									c-f grained. Silty in darker		
26									horizons.		
27									Wet at 28 ft bg.		
28	28 - 32	S-7	24/48	2.5					Grey-tan m-f SAND, Wet.		
29											
30											
31											
32	32 - 36	S-8	30/48	1.8					Grey-tan m-f SAND, Wet.		
33											
34											
35											

NOTES:

1) Soil samples from 3-4 ft, 28-30 ft, 38-40 ft, 56-58 ft, and 68-72 ft were submitted for laboratory analysis.
2) Soil Boring was grouted upon completion.
3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	2 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-29**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	06/26/01
Ground Elevation:	207.45 ft rmsl	**Checked By:**	NOH	**Date Completed:**	06/26/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	28 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
36	36 - 40	S-9	24/48	1.0					Grey-brown m-f SAND,	SW	NA
37									Some silt lenses. Wet.		
38											
39											
40	40 - 44	S-10	12/48	0.7					Dark tan m-f SAND. Wet.		
41											
42											
43											
44	44 - 48	S-11	18/48	1.8					Tan-grey m-f SAND. Wet.		
45											
46											
47											
48	48 - 52	S-12	12/48	6.1					Tan-grey m-f SAND. Wet.		
49									Mild petroleum-like odor.		
50											
51											
52	52 - 56	S-13	12/48	10.9					Tan-grey m-f SAND. Wet.		
53									Mild petroleum-like odor.		
54											
55											
56	56 - 60	S-14	12/48	11.8					Tan-grey m-f SAND. Wet.		
57									Mild petroleum-like odor.		
58											
59											
60	60 - 64	S-15	0/48						No recovery.		
61											
62											
63											
64	64 - 68	S-16	18/48	3.5					Grey m-f SAND. Wet.		
65									Mild odor.		
66											
67											
68	68 - 72	S-17	6/48	0.0					Gry f SAND, some Silt. Wet.	SM	
69											
70					Refusal at 72 ft bg						

NOTES:

1) Soil samples from 3-4 ft, 28-30 ft, 38-40 ft, 56-58 ft, and 68-72 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-30/ TW 30**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	06/20/01
Ground Elevation:	206.78 ft rmsl	**Checked By:**	NOH	**Date Completed:**	06/20/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	27 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 6"				Hand dug to 5 ft bg.				Asphalt		
1	6" - 1.5								Concrete 0.5 to 1.5 ft.		
2	1.5 - 2			0.9					Brown c-f SAND, loose		
3	2 - 4			1.2					and dry.		
4	4 - 8	S-1	36/48						Tan-brown c-f SAND, loose		
5				1.7					and dry.		
6											
7				1.9							
8	8 - 12	S-2	30/48						Tan-brown c-f SAND, loose		NA
9				2.1					and dry.		
10											
11				1.8							
12	12 -16	S-3	36/48						Tan c-f SAND, loose		
13				2.6					and dry.		
14											
15				2.9							
16	16 - 20	S-4	24/48						Tan m-f SAND, loose		
17				3.2					and dry.		
18											
19				2.8							
20	20 -24	S-5	12/48						Tan c-f SAND, loose		
21				1.9					and dry.	SW	
22											
23				2.1							
24	24 - 28	S-6	12/48	5.8					Tan m-f SAND.		
25											
26									Wet at 27 ft bg.		
27											A
28	28 -32	S-7	12/48	3.2					Grey-tan c-f SAND, wet.		
29											
30											
31											
32	32 - 36	S-8	24/48						Grey-tan m-f SAND, wet.		
33				4.4							
34											
35				3.1							

NOTES:

1) Soil samples from 14-16 ft, 26-28 ft, 68-72 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rnsl)

4) Temporary Well: Zone A Screened 24 - 34 ft bg
Zone B Screened 67 - 72 ft bg

JACQUES WHITFORD COMPANY, INC.

Project:	White Plains Substation - Phase 2 SI			**Page:**	2 of 2
Client:	Consolidated Edison of New York, Inc.				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	SB-30/ TW-30
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	06/20/01
Ground Elevation:	206.78 ft rmsl	**Checked By:**	NOH	**Date Completed:**	06/20/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	27 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
36	36 - 40	S-9	24/48						Grey-tan m-f SAND, wet.		
37				2.9							
38									Grey-tan c-f SAND, mild		
39				2.1					petroleum-like odor. Wet.		
40	40 - 44	S-10	24/48						Grey-tan c-f SAND, mild		
41				1.6					petroleum-like odor. Wet.		
42									Grey-tan m-f SAND, mild		
43				1.9					petroleum-like odor. Wet.		
44	44 - 48	S-11	24/48						Grey-tan c-f SAND, mild		
45				2.9					petroleum-like odor. Wet.		
46											
47				2.4							
48	48 - 52	S-12	18/48	2.1					Grey c-f SAND, mild		
49									petroleum-like odor. Wet.		
50											
51											
52	52 - 56	S-13	24/48						Grey c-f SAND, mild		
53				3.7					petroleum-like odor. Wet.		
54										SW	
55				2.8							
56	56 - 60	S-14	6/48	2.8					Grey c-f SAND, no odor,		
57									loose, wet.		
58											
59											
60	60 - 64	S-15	6/48	3.1					Grey m-f SAND, no odor,		
61									loose, wet.		
62											
63											
64	64 - 68	S-16	24/48						Grey m-f SAND,		
65				9.9					Mild odor. Wet.		
66											
67				15.9							
68	68 - 72	S-17	12/48	17.1					Grey m-f SAND,		B
69									trace Schist fragments.		
70					Refusal at 72 ft bg						

NOTES:

1) Soil samples from 14-16 ft, 26-28 ft, 68-72 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl)

4) Temporary Well: Zone A Screened 24 - 34 ft bg
Zone B Screened 67 - 72 ft bg

JACQUES WHITFORD COMPANY, INC.

Project:	**White Plains Substation - Phase 2 SI**			**Page:**	1 of 2
Client:	**Consolidated Edison of New York, Inc.**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-31**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	05/31/01
Ground Elevation:	189.48 ft rmsl	**Checked By:**	NOH	**Date Completed:**	05/31/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	11 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 6"				Hand Dug to 5 ft bg				Asphalt		
1	6" - 1			13.0					Brown c-f SAND, loose &		
2	1 - 2			93.0					dry. Brick fragments.		
3	2 - 3			242.0					Dark brn-blk stained,	SW	
4	3 - 4			280.0					c-f SAND, tr. gravel, brick.		
5	4 - 5			450.0					Strong odor.		
6	5 - 7								Concrete		
7											
8	7 - 8	S-1	12/12	633.0					Heavy blk-stained c-f SAND,		NA
9	8 - 12	S-2	24/36	394.0					tr Gravel, strong odor.		
10											
11				490.0					Wet at 11 feet.		
12	12 - 16	S-3	36/48						Heavy blk-stained c-f SAND,		
13				21.0					strong odor.		
14									Tan-grey c-f SAND at 15 feet.		
15				29.0					Mild odor. Wet.		
16	16 - 20	S-4	24/48						Tan c-f SAND, wet.		
17				5.6					No staining or odor.		
18											
19				1.8							
20	20 -24	S-5	24/48	5.6					Tan c-f SAND, wet.		
21									No staining or odor.		
22										SW	
23											
24	24 - 28	S-6	12/48	3.1					Tan c-f SAND, wet.		
25									No staining or odor.		
26											
27											
28	28 - 32	S-7	12/48	1.8					Grey-tan c-f SAND, wet.		
29									No staining or odor.		
30											
31											
32	32 - 36	S-8	24/48						Grey m-f SAND, trace Silt		
33				3.1					No staining or odor. Wet.	SM	
34											
35				4.3							

NOTES:

1) Soil samples from 4-5 ft, 7-8 ft, 11-12 ft, 40-42 ft were submitted for laboratory analysis.

2) Soil Boring was grouted upon completion.

3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC.

Project:	White Plains Substation - Phase 2 SI	**Page:**	2 of 2
Client:	Consolidated Edison of New York, Inc.		

Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**SB-31**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	05/31/01
Ground Elevation:	189.48 ft rmsl	**Checked By:**	NOH	**Date Completed:**	05/31/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	11 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
36	36 - 40	S-9	12/48						Grey m-f SAND, broken rock fragments, wet.	SW	NA
37											
38				1.8							
39											
40	40 -42	S-10	12/12	18.0					Grey m-f SAND, broken rock fragments, wet.		
41					Refusal at 42 ft bg						
42											
43											
44											
45											
46											
47											
48											
49											
50											
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											
61											
62											
63											
64											
65											
66											
67											
68											
69											
70											

NOTES:

1) Soil samples from 4-5 ft, 7-8 ft, 11-12 ft, 40-42 ft were submitted for laboratory analysis.
2) Soil Boring was grouted upon completion.
3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				1 of 2
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	3/4-inch	Boring #.	TB-1
Drilling Method:	Remote DP (Dingo)	LEL/O2:		Date Begun:	03/07/00
Ground Elevation:	201.55 (MSL)	Checked By:	MSG	Completed:	03/17/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	24 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
1					Hand dug to 7 feet				0-0.5' Bluestone		
2				0.0					0.5'-3.5' Stratified layers of f-c	FILL	
3									Sand, with brick, concrete, metal		
4				0.0					and cinders		
5									3.5'-7' Light brown f-m Sand,		
6									trace silt, trace f-m gravel	SP	
7	6 - 8	S-1	16/24	0.0					Brn f-m Sand, trace silt		
8	8 - 12	S-2	40/48	0.0					Brown f-m Sand, trace silt,		
9									trace gravel		
10										SP	
11											
12	12 - 16	S-3	40/48	0.0					Same as Above	SP	
13											
14											
15											
16	16 - 20	S-4	38/48	0.0					16'-19' Same as Above	SP	
17										SW	
18									19'-20' Black f-c Sand, tr silt,		
19				51	Staining & odor 19-20'				tr gravel		
20	20 - 24	S-5	30/48						20'-21.5' Same as Above	SW	
21				177.2	Staining and odor 21.5-24'				21.5'-24' Gray-black f-m Sand,	SP	
22									tr gravel, tr silt		
23											
24	24 - 28	S-6	30/48	24.9	Visible sheen, staining and odor				Gray-black f-m Sand, tr	SP	
25									gravel, trace silt		
26											
27											
28	28 - 32	S-7	32/48	29.4					28'-30' Same as Above	SP	
29				14.7							
30									30'-31' Ol-gray f Sand, little silt	SM	

Annular Seal	Bentonite/Cement Grout	39 - 30	NOTES:
Well Screen	10 slot schedule 40 3/4" PVC	30 - 20	Installed temporary well, screened from 30-20 ft.
Filter Pack			Sample interval at 21.5-24, 28-30 & 36-39
Divider Seal			selected for laboratory analysis.
Annular Seal			
Surface Seal			

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				2 of 2
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	3/4-inch	Boring #.	TB-1
Drilling Method:	Remote DP (Dingo)	LEL/O2:		Date Begun:	03/07/00
Ground Elevation:	201.55 (MSL)	Checked By:	MSG	Completed:	03/17/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	24 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
30	28 - 32	S-7	32/48	7.4					31'-32' Olive-gray f-m Sand,	SP	
31									trace silt		
32	32 -36	S-8	0/48						No viable recovery, borehole		
33									caved in,		
34											
35											
36	36-39	S-9	36/36	56.2	Tar-like odor & staining and				Black f-m Sand, trace silt	SP	
37					residual tar-like material at 36-39'						
38											
39					Bottom of boring at 39 feet						
40											
41											
42											
43											
44											
45											
46											
47											
48											
49											
50											
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											

Annular Seal	Bentonite/Cement Grout	39 - 30	NOTES:
Well Screen	10 slot schedule 40 PVC	30 - 20	
Filter Pack			
Divider Seal			
Annular Seal			
Surface Seal			

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				1 of 1
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	See Note Below	Boring #.	TB-2
Drilling Method:	Remote DP (Dingo)	LEL/O2:		Date Begun:	03/07/00
Ground Elevation:	201.74 (MSL)	Checked By:	NA	Completed:	03/17/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	8 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	Soil/Rock Description	Soil Classification	Well Construction
1					Hand dug to 7 feet			0-0.5' Bluestone		
2								0.5' - 2.5' Dark brown to black f-c Sand		
3								with brick, concrete and metal cinders		
4				19	(@ 4')	Slight staining		2.5' - 7' Olive brown to brown f-c Sand,	**FILL**	
5						& odor		some gravel, little silt, trace brick,		
6				8.0	(@ 7')	Slight staining		concrete debris		
7	6 - 8	S-1	8/24			& odor		6'-7' Backfill. 7'-8' Dark gray to black f-c	SW	
8				7.9	Staining and odor			sand, little gravel, trace silt		
9										
10	8 - 12	S-2	36/48	14.0	Staining and odor			8'-11.5' Brn Silt, little f-m sand, organics,	SP	
11								trace gravel		
12				22.3	Staining and odor			11.5'-12' Gray-black f-m Sand, tr silt,	SP	
13								trace gravel		
14	12 - 16	S-3	0/48					No Recovery		
15										
16	16 - 18	S-4	24/24		Slight staining and odor			16'-17.5' Olive-brn f-m Sand, tr silt	SP	
17				251.0	Strong odor			17.5' - 18' Black tar like substance, tr f-m	SP	
18								gravel, tr silt		
19				Refusal at 18.5 feet						
20										

Well Screen		
Filter Pack		
Divider Seal		
Annular Seal	Bentonite/Cement Grout	18.5 - 0
Surface Seal		

NOTES:

No well installed, boring filled with grout.
Hand auger borehole (TB-2A) completed on 4/11/00 adjacent to location of TB-2 to depth of 11.5 ft.
Temporary 1-inch PVC well with 7 ft screen installed within TB-2A borehole.
Sample interval at 4, 10-10.5 & 17.5-18 selected for laboratory analysis.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				1 of 1
Client:	Consolidated Edison of New York				
Contractor:	NA	Casing Size:	NA	Boring #.	TB-3
Drilling Method:	Hand excavate/auger	LEL/O2:		Date Begun:	03/07/00
Ground Elevation:	202.48 (MSL)	Checked By:	MSG	Completed:	03/22/00
Logged By:	JW	Protection Level:	D	Depth to Water:	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)			Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"			
1				0.0				0-0.25' - Bluestone		
2				0.0	No staining or odor			0.25' - 4' - Brn f-c Sand, some gravel,		
3								little silt, trace brick, trace concrete,	**FILL**	
4								trace cobbles		
5				0.0						
6	5 - 6	S-6		0.4				Light brn fine Sand	SP	
7	6 - 7	S-7		0.4				Light brn fine Sand	SP	
8	7 - 8	S-8		0.2				Reddish brn f-m Sand, some silt	SM	
9	8 - 9	S-9		0.6				Reddish brn f Sand, little Silt & Clay	SM	
10	9 - 10	S-10		0.2				Reddish brn f-m Sand	SP	
11	10 - 11	S-11		0.0				Same As Above	SP	
12	11 - 12	S-12		0.2				Reddish brn f-m Sand, some silt	SW	
13					Bottom of boring at 12 feet					
14										
15										
16										
17										
18										
19										
20										

Well Screen Filter Pack Divider Seal Annular Seal Surface Seal	NOTES: Hand excavated to 5 ft. Hand augered to 12 ft. No well installed, boring backfilled with cuttings Sample interval at 11-12 selected for laboratory analysis.

JACQUES WHITFORD COMPANY, INC

Project: Con Edison: White Plains Environmental			1 of 1
Client: Consolidated Edison of New York			
Contractor:	Casing Size: NA		Boring #. TB-4
Drilling Method:	LEL/O2:		Date Begun: 03/09/00
Ground Elevation: (MSL)	Checked By: MSG		Completed: 03/09/00
Logged By: DAG	Protection Level: D		Depth to Water: ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
1					Hand dug to 5 feet				0-4" Bluestone		
2									4"-5' Brown f-c Sand, some	FILL	
3									brick, concrete, metal, gravel,		
4									trace silt		
5									Concrete slab @ 5 ft		
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

Well Screen
Filter Pack
Divider Seal
Annular Seal
Surface Seal

NOTES:
No borehole installed due to proximity
of energized equipment.
No samples collected for laboratory analysis.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental		1 of 1
Client:	Consolidated Edison of New York		
Contractor:	EPI	Casing Size: 3/4 -inch	Boring #. TB-5
Drilling Method:	Remote DP (Dingo)		Date Begun: 03/09/00
Ground Elevation:	189.54 (MSL)	Checked By: MSG	Completed: 03/16/00
Logged By:	DAG	Protection Level: D	Depth to Water: 7 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
1					Hand dug to 6 feet				0-0.3' Bluestone		
2									0.3' - 6' Stratified layers of brn		
3									f-c Sand, some brick, concrete	FILL	
4									debris, little silt, trace gravel		
5											
6	5 - 8	S-1	24/36	44.4					5'-7' Brown f-c Sand, little	SW	
7									gravel, trace silt		
8				32.0	Heavy staining and tar-like odor				7'-7.5' Black f-m Sand, tr silt, tr grav	SP	
9				8.9	Heavy staining and tar-like odor				7.5'-8' Black Silt, tr f-m sand, tr grav	SM	
10	8 - 12	S-2	40/48	11.4	Heavy staining and tar-like odor				8'-9' Black Silt, tr f-m sand, tr grav	SM	
11				9.5	Slight staining and tar-like odor				9'-10.5' Olive-gr clayey Silt	SC	
12				192.0	Slight staining and tar-like odor				10.5'-11.5' Brn f-m Sand, tr silt, tr grav	SP	
13				18.7	Slight staining and tar-like odor				11.5'-12' Brn Silt, tr f-m sand, organics	SM	
14	12 - 16	S-3	30/48	11.8	Slight staining and tar-like odor				12'-14.5' Same as Above	SM	
15				11.8	Slight staining and tar-like odor				14.5'-16" F-C Sand, some grav,	SW	
16									little silt		
17	16 - 17.5	S-4	30/30	67.0	Slight staining and tar-like odor				Same as Above	SW	
18											
19					Refusal at 17.5 feet						
20											

Well Screen	3/4-inch PVC	16.5 - 0	NOTES:
Filter Pack			Soils wet at 7 feet.
Divider Seal			Installed temporary well (3/4" PVC), screened from 16.5 to ground surface.
Annular Seal			Sample interval at 7-8, 10.5-11.5 & 16-17.5 selected for laboratory analysis.
Surface Seal			

Contractor: ADT **Driller:** Mark Larabie **Inspector:** Chris Kibler **Rig Type:** Geoprobe 6600	**PARSONS** **DRILLING RECORD** **PROJECT NAME:** Con Ed / White Plains **PROJECT NUMBER:** 440090.01000	**BORING/ WELL NO.** SB - 101 Sheet 1 of 7 **Location Description:** Northern most sample location. Approx. 15' north and 20' east of northern most transformer.

GROUNDWATER OBSERVATIONS				
Water Level				
Date				
Time				
Meas. From				

Weather: Warm, Partly Sunny, 60 F

Date/Time Start: May 16, 2003 0755

Date/Time Finish: May 16, 2003 1015

Location Plan

See Site Plan

Sample Depth	Sample I.D.	SPT	% Rec.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	SCHEMATIC (drawing not to scale)	COMMENTS
+1							
0		HC		0.0			
		HC					
		HC					
		HC					
		HC					
5		GP					
		GP					
		GP					
		GP			Reddish-brown, med-coarse sand, loose, moist, no odor or stain (8-9 ft)		
		GP			Light brown-brown, coarse-med sand, dry-moist, loose, no odor or stain (9 -10 ft)		
10		GP	50	1.5			
		GP					
		GP			Brown-light brown, coarse-med sand, loose, dry-moist, no odor or stain (10-15ft)		
		GP					
		GP					
15		GP	60	0.2	Brown-light brown, coarse-med sand, loose, dry-moist, no odor or stain (15-17ft)		
		GP			Brick and broken brick fragments (17-18 ft)		
		GP			Brown, fine sand, moist-dry, loose-firm, no odor or stain (18 - 18.6 ft)		
		GP			Cement/Concrete (18.6 - 19.0 ft)		
		GP			Brick fragments with coarse sand, loose, moist-dry, no odor or stain(19-19.2ft)		
20		GP	100	1.5	Dark grey, fine sand, dry-moist, loose-firm, strong petroleum odor (19.2 - 20 ft)		
		GP					
		GP					
	SB-101A	GP			Dark grey-black, fine sand, moist-wet, strong petroleum odor, brown-orange stain		
		GP			on tube and spoon (23-25 ft)		
25		GP	20	28.1			
		GP					
		GP			Dark grey-black, fine sand, firm, wet-moist, some free product seeping out. Stain		
		GP		50.4	on tube and spoon (27 - 28 ft)		
		GP					
30		GP	40	6.7	Dark grey fine sand, moist-wet, loose-firm, no odor or stain (28 - 35 ft)		
		GP					
		GP					
		GP					
		GP					
35		GP	90	1.2			
		GP					
		GP		1.6	Light brown-grey, fine sand, wet, firm-loose, no odor or stain (36 - 38 ft)		
		GP			Dark grey-black, fine sand, wet, firm-loose, strong petroleum odor, orange-brown		
		GP			stain on spoon and tube. (38 - 40 ft)		
40	SB-101B	GP	80	75.6	Black fine-sand, wet, firm-loose, strong petroleum odor, orange-brown stain on		
		GP			spoon and tube. Oily sheen coming out of sample. (40 -42 ft)		
		GP		200.0	Black-dark grey, fine sand, wet, firm-loose, strong petroleum odor, orange-brown		
		GP			stain on spoon and tube. Oily sheen seeping out of sample (42 - 44 ft)		
	SB-101C	GP		>200	Grey-dark grey clay, firm-loose, moist-wet, no odor or stain (44 - 45 ft)		
45		GP	100	2.3	Rock / Refusal at 45 ft. Boring stopped		

SAMPLING METHOD
HC = HAND CLEARED
VC = VACUUM CLEARED
GP = GEOPROBE/DIRECT PUSH

COMMENTS:
Water table was reached at 24'
Samples were taken from three intervals 23-25', 40-42', and 44-45'

Contractor: ADT	**PARSONS** DRILLING RECORD	BORING/ WELL NO. SB - 102 — Sheet 2 of 7
Driller: Mark Larabie		Location Description: East of the northern most transformer. Approx. 10' east from center Located inside the underground holder.
Inspector: Chris Kibler	PROJECT NAME: Con Ed / White Plains	
Rig Type: Geoprobe 6600	PROJECT NUMBER: 440090.01000	

GROUNDWATER OBSERVATIONS

Water Level				
Date				
Time				
Meas. From				

Weather: Warm, Sunny, 68 F

Date/Time Start: May 15, 2003 1445

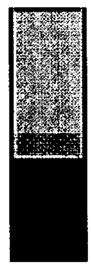
Date/Time Finish: May 15, 2003 1500

Location Plan

See Site Plan

Sample Depth	Sample I.D.	SPT	% Rec.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL
+3					
+2					
+1					
0		VC		0.0	
		VC			Brown - dark brown, coarse - med sand, dry-moist, loose, no odor or stain
3		VC			
		VC			
6		VC			
		GP			Light brown, coarse-med, sand, loose, moist, no odor or stain (8.6 - 9 ft)
9		GP			Grey-dark grey, med-fine sand, slight petroleum odor (9 - 9.6 ft)
		GP	10	0.2	Broken wood debris covered in black petroleum product (9.6 - 10 ft)
12		GP			Broken wood debris covered in black petroleum product, strong petroleum odor
		GP			(10 - 13 ft)
15		GP	10	4.7	Refusal at 13 ft. Boring stopped
		GP			
18		GP			
		GP			
21		GP			
		GP			
24		GP			
		GP			
27		GP			
		GP			
30		GP			
		GP			
33		GP			
		GP			
36		GP			
		GP			
39		GP			
		GP			
42					
45					
48					
51					
53					

SCHEMATIC (drawing not to scale)



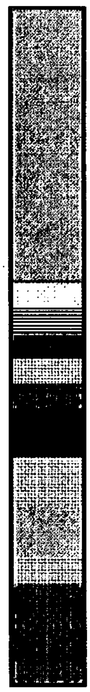
COMMENTS

SAMPLING METHOD
HC = HAND CLEARED
VC = VACUUM CLEARED
GP = GEOPROBE/DIRECT PUSH

COMMENTS:
Boring was stopped at 13 ft.
A sample was taken from the 10-13 ft interval, but no sent for analysis. Head space PID reading = 72.4ppm
Water table was not encountered.

Contractor: ADT	**PARSONS**	**BORING/ WELL NO.** SB - 103 Sheet 3 of 7
Driller: Mark Larabie	**DRILLING RECORD**	**Location Description:** East of the northern most transformer. Approx. 20' east from center
Inspector: Chris Kibler	**PROJECT NAME:** Con Ed / White Plains	
Rig Type: Geoprobe 6600	**PROJECT NUMBER:** 440090.01000	

GROUNDWATER OBSERVATIONS						
Water Level					**Weather:** Warm, Sunny, 68 F	**Location Plan**
Date					**Date/Time Start:** May 15, 2003 1315	See Site Plan
Time						
Meas. From					**Date/Time Finish:** May 15, 2003 1400	

Sample Depth	Sample I.D.	SPT	% Rec.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	SCHEMATIC (drawing not to scale)	COMMENTS
+3							
+2							
+1							
0		VC		0.0			
		VC			Brown - dark brown, coarse - med sand, dry-moist, loose, no odor or stain		
3		VC					
		VC					
6		VC					
		GP					
9		GP					
		GP	40	0.2			
12		GP			Brown - dark brown, coarse - med sand, dry-moist, loose, trace brick, no odor or		
		GP			stain		
15		GP	60	1.0			
		GP			Br - dk hr, coarse - med sand, dry-moist, loose, trace brick, no odor or stain		
18		GP			Light brown-white, med-coarse sand, some pebbles, no odor or stain		
		GP	80	1.1	Dk br-lt br/wt fine-med sand,2-5cm lt to dk banding(not oil based),loose,moist		
21		GP			Dark brown-brown, med-coarse sand,loose,moist-wet, trace brick, no oil or stain		
		GP			Light brown-white, fine-med sand, loose, dry-moist, no odor or stain (22 -22.6')		
24		GP			Dark brown, fine sand, loose-firm, moist, slight petroleum odor (22.6 - 24.6')		
		GP	80		Black, fine sand, wet, loose-firm, strong petroleum odor, brown staining on tube		
27	SB-103A	GP			Black - dark grey, fine sand, wet, loose-firm, strong petroleum odor, brown-orange		
		GP			stain on tube and sample spoon (26 - 27')		
30		GP	75	18.1	Dark grey, fine sand, wet, loose, no petroleum odor or stain (27 - 30')		
		GP			Brown-light brown, med-coarse sand, loose, wet, no oil or stain(30-32 ft)		
33		GP					
		GP	75	2.0	Grey-dark grey, fine-med sand, loose-firm, wet, no oil or stain(32-35 ft)		
36		GP			Dark grey, fine-med sand, wet, loose-firm, no odor or stain (35-40 ft)		
		GP					
39		GP					
	SB-103B	GP	75	0.6			
42					Boring stopped (40ft)		
45							
48							
51							
53							

SAMPLING METHOD
HC = HAND CLEARED
VC = VACUUM CLEARED
GP = GEOPROBE/DIRECT PUSH

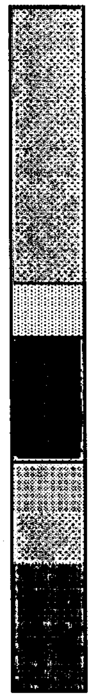
COMMENTS:
Water table was reached at 24'
Samples were taken from the intervals 26-27' and 35-40'

Contractor: ADT **Driller:** Mark Larabie **Inspector:** Chris Kibler **Rig Type:** Geoprobe 6600	**PARSONS** **DRILLING RECORD** **PROJECT NAME:** Con Ed / White Plains **PROJECT NUMBER:** 440090.01000	**BORING/ WELL NO.** SB - 104 Sheet 4 of 7 **Location Description:** East of the existing transformers. Perpindicular to the firewall.

GROUNDWATER OBSERVATIONS						
Water Level					**Weather:** Warm, Sunny, 68 F	**Location Plan**
Date					**Date/Time Start:** May 15, 2003 0921	See Site Plan
Time						
Meas. From					**Date/Time Finish:** May 15, 2003 1021	

Sample Depth	Sample I.D.	SPT	% Rec.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
+3						
+2						
+1						
0		HC		0.6		
		HC				
3		VC				
		VC				
6		VC		0.6		
		GP			Light brown - brown, coarse - med sand, moist-wet, loose, no oil or stain.(6-10 ft)	
9		GP				
		GP				
12		GP			Light brown - brown, coarse - med sand, moist-wet, loose, no oil or stain.(10-15 ft	
		GP				
15		GP		0.6		
		GP		0.9	Light brown - brown, coarse - med sand, moist-wet, loose, no oil or stain.(15-18 ft	
18		GP			Light brown - whitish brown, fine sand, dry, no odor or stain.(18-20 ft)	
		GP		0.9		
21		GP		0.6	Light brown, fine - med, sand, loose, dry - moist, no odor or stain.(20-25 ft)	
		GP				
24		GP			Wet toward bottom of section.	
	SB-104A	GP			Light brown - brown, med sand, loose, moist - wet, no odor or stain.(25-26 ft)	
27		GP			1/2" Band black fine sand, strong petroleum odor and staining on tube. (26 ft)	
		GP				
30		GP		2.8	Dark grey med - fine sand, loose, wet, no odor or stain(26-30 ft)	
		GP			Brown - light brown, medium - coarse sand, wet, loose, no odor or stain.(30-33 ft)	
33		GP				
		GP		0.6	Dark grey, fine - medium sand, wet, loose - stiff, no odor or stain.(33-35 ft)	
36	SB-104B	GP		0.7	Dark grey, fine - medium sand, wet, loose - stiff, no odor or stain.(35-40 ft)	
		GP				
39		GP				
		GP				
42					Boring stopped (40ft)	
45						
48						
51						
53						

SCHEMATIC (drawing not to scale)



SAMPLING METHOD
HC = HAND CLEARED
VC = VACUUM CLEARED
GP = GEOPROBE/DIRECT PUSH

COMMENTS:
Watertable was reached at 23'
Samples were taken at the 26-30' and the 35-40' intervals

PARSONS
DRILLING RECORD

Contractor: ADT
Driller: Mark Larabie
Inspector: Chris Kibler
Rig Type: Geoprobe 6600

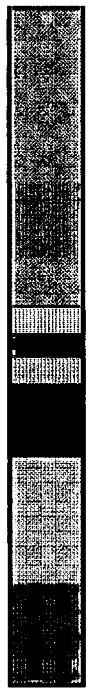
PROJECT NAME: Con Ed / White Plains
PROJECT NUMBER: 440090.01000

BORING/ WELL NO. SB - 105 Sheet 5 of 7
Location Description: East of the existing transformers. Approx. 3' from transformer containment wall

Location Plan
See Site Plan

Weather: Warm, Sunny, 68 F
Date/Time Start: May 15, 2003 1045
Date/Time Finish: May 15, 2003 1140

GROUNDWATER OBSERVATIONS				
Water Level				
Date				
Time				
Meas. From				

Sample Depth	Sample I.D.	SPT	% Rec.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	SCHEMATIC (drawing not to scale)	COMMENTS
+3							
+2							
+1							
0		HC		0.1			
		HC					
3		VC					
		VC					
6		VC			Brown - dark brown, coarse - med sand, moist, loose, trace brick no odor or stain (6-10 ft)		
		GP					
9		GP					
		GP	40	1.2			
12		GP			Brown - dark brown, fine-med sand, moist, loose, no odor or stain (10 - 15 ft)		
		GP					
15		GP	40	2.0			
		GP			Dark brown - brown, med-coarse sand, loose, moist, no odor or stain.(15-19 ft)		
18		GP					
		GP	80		Light brown - whiteish brown, fine-med sand, dry-moist, no odor or stain (19-20ft)		
21		GP		1.0	Light brown-brown, fine-med sand, loose, moist, no odor or stain.(20-23ft)		
		GP		1.3	White-brown, fine sand, dry-moist, few greenish bands (2-5cm thick) toward 24'		
24		GP	60	2.4	Dark brown - black, fine sand, moist, strong petroleum odor.(24-25 ft)		
		GP		>100	Dark brown - black, fine-med sand, wet, loose, strong petroleum odor, orange-		
27	SB-105A	GP			brown stain on tube.(25-27 ft)		
		GP			Dark grey fine-med sand, wet, loose, no odor or stain (27 - 30 ft)		
30		GP	80				
		GP			Dark grey - grey, fine-med sand, wet, loose-stiff, no odor or stain (30 -35 ft)		
33		GP					
		GP	80	0.6			
36		GP			Dark grey - grey, fine sand, wet, loose-firm, no odor or stain (35 - 40 ft)		
		GP					
39	SB-105B	GP					
		GP	90	0.6			
42					Boring stopped (40ft)		
45							
48							
51							
53							

SAMPLING METHOD
HC = HAND CLEARED
VC = VACUUM CLEARED
GP = GEOPROBE/DIRECT PUSH

COMMENTS:
Water table was reached at 27'
Samples were taken from the intervals 26-27' and 38-40'

Contractor: ADT	**PARSONS** DRILLING RECORD	BORING/ WELL NO. SB - 106 — Sheet 6 of 7
Driller: Mark Larabie		Location Description:
Inspector: Chris Kibler	PROJECT NAME: Con Ed / White Plains	Approx. 15' east of southern-most transformer.
Rig Type: Geoprobe 6600	PROJECT NUMBER: 440090.01000	

GROUNDWATER OBSERVATIONS						
Water Level					Weather: Warm, Partly Sunny, 60 F	Location Plan
Date					Date/Time Start: May 16, 2003 1245	See Site Plan
Time						
Meas. From					Date/Time Finish: May 16, 2003 1400	

Sample Depth	Sample I.D.	SPT	% Rec.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	SCHEMATIC (drawing not to scale)	COMMENTS
+1							
0		HC		0.0			
		HC					
		HC					
		HC					
		HC					
5		GP					
		GP					
		GP					
		GP					
		GP					
10		GP		0.2	Brown, med-coarse sand, moist-dry, loose, no odor or stain (6 - 10 ft)		
		GP					
		GP					
		GP					
		GP			Br,med-fine sand, moist-dry, loose-firm, some pebbles, no odor or stain (10-14.6')		
15		GP	75	0.3	Light brown-white brown, coarse sand, dry, loose, no odor or stain (14.6 - 15 ft)		
		GP					
		GP			Light brown-white brown, coarse sand, dry, loose, no odor or stain (15 - 17.6 ft)		
		GP					
		GP					
20		GP	90	0.3	Lt brown-wt brown,med-fine sand,loose-firm,moist-dry,no odor or stain (17.6-21')		
		GP					
		GP			Brown, fine-med sand, firm-loose, moist-dry, no odor or stain (21 - 22 ft)		
		GP			Light brown-white brown, fine-med sand banded with black fine sand. Black		
		GP			bands range from 3-10cm. Firm, moist-dry, no odor or stain. (22 - 24.6 ft)		
25		GP	90	0.4	Light brown coarse sand, wet, loose, no odor or stain (24.6 - 25 ft)		
		GP			Brown-dark brown med-fine sand, firm-loose, moist-wet, no odor or stain (25-29')		
		GP					
		GP			Dark brown, med-fine sand, moist, firm. Black bands, 2-5cm thick, with slight		
	SB-106A	GP			petroleum odor throughout section (29 - 29.6 ft)		
30		GP	50	0.3	Brn-dk brn med-fine sand, firm-loose, moist-wet, no odor or stain (29.6-30')		
		GP			Dk br-blk,fine-med sand,wet,loose,slight petroleum odor,no stain on tube(30-30.4')		
		GP			Light brown-brown, fine sand, loose-firm, wet, no odor or stain (30.4-34 ft)		
		GP					
		GP					
35		GP	60	0.4	Dark grey, fine-med sand, loose-firm, wet, no odor or stain (34 - 35 ft)		
		GP			Dark grey, med-fine sand, loose, wet, no odor or stain (35 - 40 ft)		
	SB-106E	GP					
		GP					
		GP					
40		GP	80	0.4	Boring stopped (40 ft)		

SAMPLING METHOD	COMMENTS:
HC = HAND CLEARED	Water table was reached at 24'
VC = VACUUM CLEARED	Samples were taken from two intervals 29-29.6' and 37-39'
GP = GEOPROBE/DIRECT PUSH	Sample SB-106A was analyzed for VOC's only, due to limited impacted material

Contractor: ADT **Driller:** Mark Larabie **Inspector:** Chris Kibler **Rig Type:** Geoprobe 6600	**PARSONS** **DRILLING RECORD** **PROJECT NAME:** Con Ed / White Plains **PROJECT NUMBER:** 440090.01000	**BORING/ WELL NO.** SB - 107 Sheet 7 of 7 **Location Description:** Southern most sample location. Approx. 10' south and 15' east of southern most transformer.

GROUNDWATER OBSERVATIONS				
Water Level				
Date				
Time				
Meas. From				

Weather: Warm, Partly Sunny, 60 F

Date/Time Start: May 16, 2003 1020

Date/Time Finish: May 16, 2003 1130

Location Plan

See Site Plan

Sample Depth	Sample I.D.	SPT	% Rec.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	SCHEMATIC (drawing not to scale)	COMMENTS
+1							
0		HC		0.0			
		HC					
		HC					
		HC					
		HC					
5		GP					
		GP					
		GP					
		GP					
		GP			Light brown, coarse-med sand, moist-dry, loose, trace of wood debris at top of		
10		GP	50	0.3	section, no odor or stain (8 -10 ft)		
		GP					
		GP					
		GP			Dark brown-brown, coarse-med sand, moist-dry, loose, trace brick, no odor or		
		GP			stain (13-14ft)		
15		GP	60	0.5	Light brown-white brown, coarse-med sand, moist-dry, no odor or stain (14 - 15 ft)		
		GP			Dark brown-brown, fine-med sand, loose, moist-dry, trace brick at bottom of		
		GP			section, no odor or stain (15 - 16 ft)		
		GP			Light brown-white brown, coarse sand, loose, moist-dry, no odor or stain (16-19')		
		GP			Dark brown-brown, fine-med sand, loose, moist-dry, no odor or stain (19 - 19.6 ft)		
20		GP	70	0.3	Light brown-white brown, coarse sand, loose, moist-dry no odor or stain(19.6-20')		
		GP					
		GP			Dark brown-brown,med-fine sand,dry-moist,loose-firm,no odor or stain(20-23.6')		
		GP					
		GP			Light brown, coarse-med sand, loose, moist-dry, no odor or stain (23.6 - 24.6 ft)		
25		GP	60	0.4	Dark brown, med-fine sand, dry-moist, loose-firm, no stain or odor (24.6 - 25 ft)		
		GP			Light brown-brown, coarse-med sand, loose, dry-moist, no odor or stain (25-26')		
		GP			Brown-dark brown, coarse-med sand, loose-med loose, wet-moist, light and dark		
		GP			banding throughout section (bands range from 2-5cm thick) (26 - 30 ft)		
		GP					
30		GP	100	0.4			
		GP					
		GP			Brown-light brown, fine-med sand, wet, loose-firm, no odor or stain (32 - 33 ft)		
	SB-107A	GP			Grey-black, fine-med sand, wet, loose-firm. Black bands, 2-10cm thick, with strong		
		GP			petroleum odor throughout section (33 - 34 ft)		
35		GP	75	9.8	Brown-light brown, fine sand, wet, loose-firm, no odor or stain (34 - 35 ft)		
	SB-107B	GP			Dark grey, fine-med sand, wet, firm-loose, no odor or stain (35 - 40 ft)		
	SB-107MS	GP					
	SB-107MSD	GP					
	SB-7B	GP					
40		GP	80	0.4	Boring stopped (40 ft)		

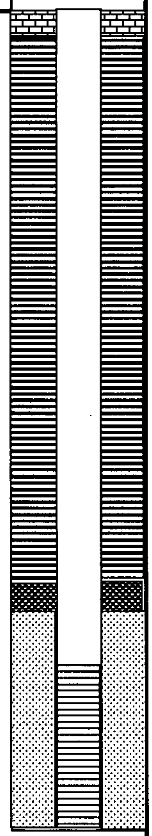
COMMENTS:

SAMPLING METHOD	
SAMPLING METHOD	Water table was reached at 24'
HC = HAND CLEARED	Samples were taken from two intervals 34-34.6' and 35-45'
VC = VACUUM CLEARED	MS, MSD, and duplicate samples were all collected from the 35-45' interval
GP = GEOPROBE/DIRECT PUSH	Sample SB-107A was analyzed for VOC's only, due to limited impacted material

Appendix B-2
Monitoring Well Boring Logs

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental			1 of 2
Client:	Consolidated Edison of New York			
Contractor:	SDR	Casing Size: 2 -inch	Boring #.	MW-1
Drilling Method:	Conventional HSA	LEL/O2:	Date Begun:	03/07/00
Ground Elevation:	208.55 (MSL)	Checked By: MSG	Completed:	03/21/00
Logged By:	JW	Protection Level: D	Depth to Water:	27 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
1				0.0	Hand dug to 5 feet.				4-inches Asphalt		
2				0.0					4" - 1.3 ' Brown f-c Sand, little		
3									gravel, trace silt, trace brick,		
4									metal and concrete debris.	**FILL**	
5				0.0					1.3' - 5' Brown f-c Sand, little		
6									gravel, trace silt		
7									No staining or odor		
8											
9											
10	10 - 12	S-1	22/24	1.1	2	2	2	3	Light brown f-m Sand	SP	
11											
12	12 - 14	S-2	24/24	0.8	3	3	3	2	Light brown fine Sand	SP	
13											
14	14 - 16	S-3	22/24	0.6	2	1	2	4	Light brown f-m Sand	SP	
15											
16	16 - 18	S-4	22/24	0.6	5	4	5	6	Light brown med Sand	SP	
17											
18	18 - 20	S-5	20/24	0.4	2	3	6	7	Same As Above	SP	
19											
20	20 - 22	S-6	20/24	0.4	4	6	8	8	Light brn m-c Sand, some Grav	SP	
21											
22	22 - 24	S-7	20/24	0.8	5	4	7	10	Same As Above	SP	
23											
24	24 - 26	S-8	18/24	0.2	4	4	7	6	Light brown med Sand	SP	
25											
26	26 - 28	S-9	20/24	0.2	8	7	8	8	Same As Above (wet @ 27.5')	SP	
27											
28	28 - 30	S-10	20/24	0.2	6	7	14	13	Light brown fine Sand	SP	
29											
30	30 - 32	S-11	20/24	0.8	1	2	6	12	Same As above	SP	

Well Screen	10 slot schedule 40, 2" PVC	34 - 24
Filter Pack	#10 Morie Sand	34 - 22
Divider Seal	Bentonite Pellets	22 - 21
Annular Seal	Bentonite/Cement Grout	21 - 1
Surface Seal	Bentonite/Flush-Mount Casing	1 - 0

NOTES:
Sample interval 26-27.5 ft and 32-34 selected for Laboratory Analysis.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental			2 of 2
Client:	Consolidated Edison of New York			
Contractor:	SDR	Casing Size: 2 -inch	Boring #.	MW-1
Drilling Method:	Conventional HSA	LEL/O2:	Date Begun:	03/07/00
Ground Elevation:	208.55 (MSL)	Checked By: MSG	Completed:	03/21/00
Logged By:	JW	Protection Level: D	Depth to Water:	27 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
30	30 - 32	S-11	20/24	0.8	1	2	6	12	Light brown fine Sand	SP	
31											
32	32 - 34	S-12	24/24	0.6	4	6	6	5	Same as Above, 2" silt layer at 34'		
33										SP-SM	
34											
35					Bottom of Boring at 34 feet						
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
46											
47											
48											
49											
50											
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											

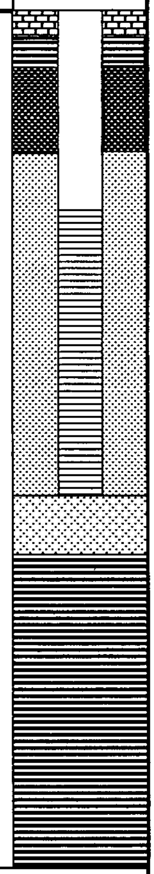
Well Screen	10 slot schedule 40, 2" PVC	34 - 24
Filter Pack	#10 Morie Sand	34 - 22
Divider Seal	Bentonite Pellets	22 - 21
Annular Seal	Bentonite/Cement Grout	21 - 1
Surface Seal	Bentonite/Flush-Mount Casing	1 - 0

NOTES:

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				1 of 1
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	2 -inch	Boring #.	MW-2
Drilling Method:	Dual DP/HSA (Hurricane)	LEL/O2:		Date Begun:	03/08/00
Ground Elevation:	190.72 (MSL)	Checked By:	MSG	Completed:	03/15/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	10 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
1					Hand dug to 7 feet.				0-0.5' Bluestone		
2				0.0					0.5'-7' Brown f-c Sand and		
3									brick, concrete, metal debris,	**FILL**	
4									some gravel, little cobbles,		
5									trace silt		
6	6 - 10	S-1	38/48	0.0					Light brn f-m Sand, tr silt		
7									No staining or odor		
8											
9											
10	10 - 14	S-2	40/48	0.0					Olive-brn f-m Sand, tr silt	SP	
11									(wet @ 10')		
12											
13											
14	14 - 18	S-3	40/48	0.0					Olive-gray f-m Sand, tr silt	SP	
15											
16											
17											
18	18 - 22	S-4	0/48						No Recovery (very liquid Sands)		
19											
20											
21											
22	22 - 26	S-5	30/48	0.0					22'-25' Ol-gray f-m Sand, tr silt	SP	
23									25'-26' Ol-gray clayey Silt	SM	
24									rock fragments in end of sleeve		
25									(@ 26')		
26	26 - 30	S-6	24/48	0.0					Olive-gray fine sandy Silt	ML	
27									stratified with layers (2-3" thick)		
28									of f-c sand, some gravel,		
29									little silt.		
30					Refusal at 30 feet						



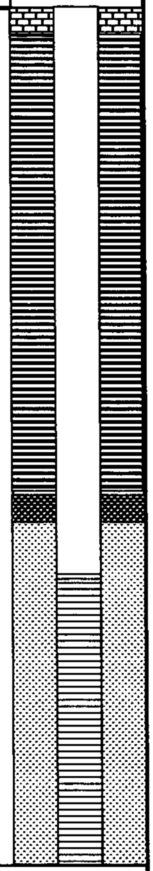
Bottom Seal	Bentonite/Cement Grout	30 - 19
Divider Seal	Formation/Backfill	19 - 17
Well Screen	10 slot schedule 40, 2" PVC	17 - 7
Filter Pack	#10 Morie Sand	17 - 5
Divider Seal	Bentonite Pellets	5 - 2
Annular Seal	Bentonite/Cement Grout	2 - 1
Surface Seal	Concrete/Flush-Mount Casing	1 - 0

NOTES:
Sample interval 7-10, 24-25 & 27-30 selected for laboratory analysis.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				1 of 1
Client:	Consolidated Edison of New York				
Contractor:	SDR	Casing Size:	2 -inch	Boring #.	MW-3
Drilling Method:	Conventional HSA	LEL/O2:		Date Begun:	03/07/00
Ground Elevation:	202.03 (MSL)	Checked By:	MSG	Completed:	03/21/00
Logged By:	JW	Protection Level:	D	Depth to Water:	23 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
1					Hand dug to 7 feet				2-inches Bluestone		
2				0.0					2" - 2.5 ' dark brown, f-c Sand,		
3									some gravel, little silt,		
4									brick and concrete debris.	FILL	
5									2.5' - 7' brown, silty sand,		
6									trace gravel		
7				0.0							
8											
9											
10	10 - 12	S-1	16/24	1.7	2	2	2	3	Light brown f Sand	SP	
11									No staining or odor.		
12	12 - 14	S-2	12/24	1.5	3	3	5	3	Same As Above	SP	
13											
14	14 - 16	S-3	21/24	1.1	5	4	3	4	Light brown f Sand, some silt	SP	
15											
16	16 - 18	S-4	22/24	1.3	4	5	4	3	Same As Above	SP	
17											
18	18 - 20	S-5	21/24	0.6	2	1	2	3	Light brown f-m Sand	SP	
19											
20	20 - 22	S-6	21/24	0.2	2	2	2	2	Light brown f Sand	SP	
21											
22	22 - 24	S-7	21/24	1.1	2	2	2	1	Brown f Sand, little silt	SP	
23									(wet @ 23')		
24											
25	25 - 27	S-8	20/24	0.8	1	1	1	3	Same As Above	SP	
26											
27	27 - 29	S-9	16/24	1.1	2	4	7	9	Same As Above	SP	
28											
29				Heaving sands at 30 feet, terminate boring							
30											

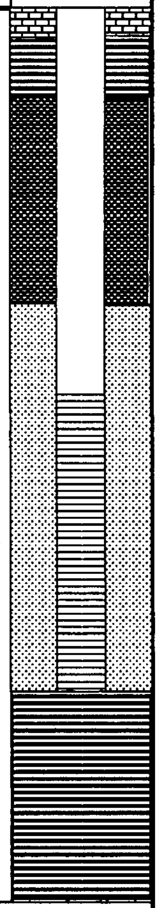


Well Screen	10 slot schedule 40, 2" PVC	30 - 20
Filter Pack	#10 Morie Sand	30 - 18
Divider Seal	Bentonite Pellets	18 - 17
Annular Seal	Bentonite/Cement Grout	17 - 1
Surface Seal	Bentonite/Flush-Mount Casing	1 - 0

NOTES:
Sample interval at 20-22 & 27-29 selected for laboratory analysis.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				1 of 2
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	2 -inch	Boring #.	MW-4
Drilling Method:	Dual DP/HSA (Hurricane)	LEL/O2:		Date Begun:	03/07/00
Ground Elevation:	195.09 (MSL)	Checked By:	MSG	Completed:	03/14/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	14 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
1					Hand dug to 6.5 feet				2-inches organic layer		
2									2" - 6.5 ' brown, silty Sand,	**FILL**	
3									little gravel, trace cobbles		
4									and debris		
5											
6	6 - 10	S-1	6/48	6.6					Brown f-m Sand, little gravel	SP	
7									trace silt, no staining or odor		
8											
9											
10	10 - 14	S-2	40/48	9.8					10'-12.5' Brn F Sand, tr silt,	SP	
11									tr gravel, no staining or odor		
12				50.4	(12.5-12.8 ft)				12.5' - 14' layers (3-4") of silty	SM	
13				1.0	(12.8-14 ft)				fine Sand (petrol odor at 12.8')		
14	14 - 18	S-3	14/48	0.0	(wet @ 14 feet)				14'-15.5' Ol-gray f Sand, tr silt	SP	
15				0.3					15.5'-16.5' Thin layers of Ol-gray		
16									f Sand and Ol-gray clayey Silt	SM	
17				0.1					16.5'-18' Brn f-m Sand, tr silt	SP	
18	18 - 22	S-4	36/48	0.2					Ol-brn f-m Sand, tr silt,	SP	
19									intermittant layers of fine Sand		
20									(1/8"-1/4" thick)		
21											
22	22 - 26	S-5	30/48	0.0					Ol-gray f-m Sand, tr silt	SP	
23											
24											
25											
26	26 - 28	S-6	20/24	0.0					Same as above	SP	
27											
28	28 - 30	S-7	18/24	0.0					Same as above	SP	
29											
30											

Bottom Seal	Bentonite/Cement Grout	38-23
Well Screen	10 slot schedule 40 PVC	23 - 13
Filter Pack	#10 Morie Sand	23 - 10
Divider Seal	Bentonite Pellets	10 - 3
Annular Seal	Bentonite/Cement Grout	3 - 1
Surface Seal	Bentonite/Flush-Mount Casing	1 - 0

NOTES:
Sample interval at 10-12.5, 12.5-12.8 & 34-36 selected for laboratory analysis.

JACQUES WHITFORD COMPANY, INC

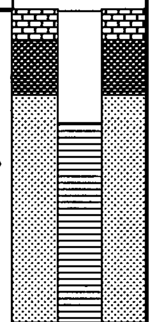
Project:	Con Edison: White Plains Environmental				2 of 2
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	2 -inch	Boring #.	MW-4
Drilling Method:	Dual DP/HSA (Hurricane)	LEL/O2:		Date Begun:	03/08/00
Ground Elevation:	195.09 (MSL)	Checked By:	MSG	Completed:	03/14/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	14 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
30	30 - 32	S-8	20/24	0.0					Same as Above	SP	
31											
32	32 - 34	S-9	18/24	0.0					Same as Above	SP	
33											
34	34 - 36	S-10	20/24	0.0					Same as Above	SP	
35											
36	36 - 38	S-11	16/24	0.0					Ol-brn f sandy Silt, tr clay	SM	
37											
38		Bottom of Boring at 38 feet									
39											
40											
41											
42											
43											
44											
45											
46											
47											
48											
49											
50											
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											

Bottom Seal	Bentonite/Cement Grout	38-23	NOTES:
Well Screen	10 slot schedule 40 2" PVC	23 - 13	
Filter Pack	#10 Morie Sand	23 - 10	
Divider Seal	Bentonite Pellets	10 - 3	
Annular Seal	Bentonite/Cement Grout	3 - 1	
Surface Seal	Bentonite/Flush-Mount Casing	1 - 0	

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				1 of 1
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	2 -inch	Boring #.	MW-5
Drilling Method:	Dual DP/HSA (Hurricane)	LEL/O2:		Date Begun:	03/09/00
Ground Elevation:	189.56 (MSL)	Checked By:	MSG	Completed:	03/15/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	7 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
1					Hand dug to 7 feet				0-0.25' Bluestone		
2									0.25' - 7' Brown f-c Sand, little	**FILL**	
3									gravel, trace brick, concrete		
4									metal debris		
5											
6	6 - 10	S-1	30/48	130.6	Tar-like material, odor & staining				6'-7' Brn f-m Sand, tr Silt, tr f-m Grav	SP	
7					from 7-10.5'. (wet @ 7 ft)				7'-8' Black f-m Sand, tr Silt, tr f Grav	SP	
8									8'-10' Black decomposed rock		
9	10 - 10.5	S-2	4/6	142.2	Sampler refusal @ 10.5'				Black decomposed rock		
10					HSA Refusal @ 11'						
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

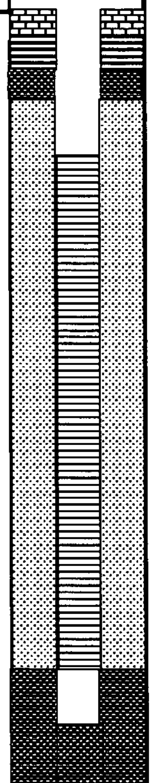
Well Screen	10 slot schedule 40 2" PVC	4-11
Filter Pack	#10 Morie Sand	3-11
Divider Seal	Bentonite Pellets	1-3
Annular Seal	Bentonite/Cement Grout	none
Surface Seal	Bentonite/Flush-Mount Casing	0-1

Notes:
Sample interval at 7-10 selected for laboratory analysis.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				1 of 2
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	See note below	Boring #.	MW-6
Drilling Method:	Sampling - DP (Hurricane), Well Install - HSA	LEL/O2:		Date Begun:	08/16/00
Ground Elevation:	(MSL)	Checked By:	MSG	Completed:	09/01/00
Logged By:	DAG/AES	Protection Level:	D	Depth to Water:	4.25 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
1				0.0	Hand dug to 5.0 feet				0-4" Asphalt		
2				0.0	Black stained soil at 20".				4"-4' Brown, dry, f-c SAND,		
3				0.0					little f-m Gravel, trace Silt.	FILL	
4				0.0	(wet @ 4.25' w/slight sheen)				brick, cobbles, concrete debris.		
5				0.0							
6	6-12	S-1	72/48	2.9					6-7.5: brown wet f-m SAND, trace silt, slight odor & no staining		
7				121					7.5-8.5: grey-black, moist, f-m SAND, trace silt, oily stained soil & strong tar-like odor.		
8				59					8.5-10.5: grey-brown wet f-m sand, some silt, trace course sand. Slight odor and no staining.	SP	
9											
10				103					10.5-12: grey, wet f-m SAND,		
11									tr silt, slight odor & no staining		
12	12 - 16	S-2	24/48	24					Grey silty fine sand. Wet.	SP	
13									Slight odor & no staining		
14											
15											
16	16 - 20	S-3	12/48	44					Grey f-m sand. Trace silt.	SP	
17									Slight odor & no staining		
18											
19											
20	20 - 24	S-4	24/48	19.9					Similar to above	SP	
21									Slight odor & no staining		
22				0.8							
23											
24	24 - 28	S-5	30/48	0.4					Similar to above	SP	
25									Slight odor & no staining		
26				9.9							
27											
28	28-32	S-6	24/48	0.0					Grey fine sand, trace silt.	SP	
29				0.0					No staining, no odors.		
30											



Well Screen	20 slot schedule 40 2" PVC:	5-15 ft
Filter Pack	#10 Morie Sand:	3-15 ft
Divider Seal	Bentonite Pellets	2-3 ft
Annular Seal	Bentonite/Cement Grout	1-2 ft
Surface Seal	Bentonite/Flush-Mount Casing	0-1 ft
Bottom Seal	Bentonite Pellets	16-20 ft
Bottom Sump	2"schedule 40 PVC	16-18 ft

NOTES:
Soil samples from 2-4 ft, 7.5-8.5 ft & 8.5-9.5 ft submitted for laboratory analysis.
Duplicate sample collected at 7.5-8.5 ft

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental		2 of 2
Client:	Consolidated Edison of New York		
Contractor:	EPI	Casing Size: 3/4-inch	Boring #. MW-6
Drilling Method:	Sampling - DP (Hurricane), Well Install - HSA	LEL/O2:	Date Begun: 08/16/00
Ground Elevation:	(MSL)	Checked By: MSG	Completed: 09/01/00
Logged By:	DAG/AES	Protection Level: D	Depth to Water: 4.25 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
30	28-32	S-6	24/48	0.0					30-32: Grey, wet fine sandy SILT, trace clay		
31									No Staining & no odor.		
32											
33	33-32	S-7	12/0	--					No recovery, refusal		
34		(Bottom of boring @ 33' - refusal)									
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
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56											
57											
58											
59											
60											

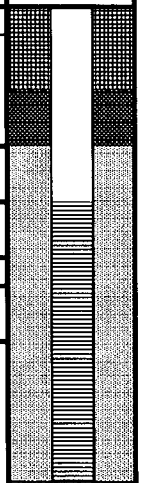
Annular Seal
Well Screen
Filter Pack
Divider Seal
Annular Seal
Surface Seal

NOTES:
See notes of Page 1 of 2

JACQUES WHITFORD COMPANY, INC.

Project:	White Plains Substation - Phase 2 SI			**Page:**	1 of 1
Client:	Consolidated Edison of New York, Inc.				
Contractor:	EPI	**Casing Size:**	NA	**Boring/ Well No.**	**SB-27/ MW-7**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	06/22/01
Ground/TOC. Elevations:	190.27 / 189.51 ft rmsl	**Checked By:**	NOH	**Date Completed:**	06/22/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	11 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 1				Hand dug to 5 ft bg.				4-5" of Concrete, 6" Gravel		
1	1 - 2								8" Asphalt Layer		
2	2 - 3			0.0					Brn f-c SAND, tr Gravel, Silt	GM	
3									2" Asphalt layer at 2.5 ft bg.		
4									Undisturbed Tan bricks.		
5	5 - 7	S-1	13/24	0.0	3	5	7	5	Brn-Orange c-f SAND, tr Silt,	SM	
6				0.0					& Gravel. Dry & loose.		
7	7 - 9	S-2	12/24	0.0	4	5	7	8	Gry-brn SILT, med. Stiffness.	ML	
8									Dry. No stains or odor.		
9	9 - 11	S-3	18/24	0.0	5	2	3	4	Grey c SAND.	SW	
10									Grey-brn SILT, tr Clay. Stiff,	ML	
11	11 - 13	S-4	18/24	0.0	2	2	3	10	No stains or odor. Wet.		
12									Grey m-f SAND, Wet		
13	13 - 15	S-5	18/24	0.0	2	3	7	10	No stains or odor.		
14											
15	15 - 17	S-6	14/24	0.0	2	3	5	7			
16										SW	
17	17 - 19	S-7	0/24	0.0	5	9	8	6	No Recovery.		
18											
19	19 - 21	S-8	20/24	0.0	4	8	9	8	Gry, blk & wht (salt&pepper)		
20									c-f SAND, tr Silt. Loose / wet		
21	21 - 23	S-9	14/24	0.0	6	10	12	8	Grey f SAND, med. stiffness.		
22									Grey f SAND, stiff.		
23	23 - 25	S-10	10/24	0.0	5	10	15	35	Grey SILT, tr Sand and Clay,	ML	
24									stiff, wet.		
25	25 - 27	S-11	6/24	0.0	19	23	27	34	Brn and grey c-f SAND, med.		
26									stiffness, wet.		
27	27 - 29	S-12	24/24	0.0	17	21	23	33	Brn and grey c-f SAND, med.	SW	
28									stiffness, wet. Weathered		
29	29 - 31	S-13	24/24	0.0				>50	bedrock at bottom.		
30											
31				0.0	Refusal at 31.5 ft bg				Bedrock at 31.5 ft bg.		
32											
33											
34											
35											



NOTES:

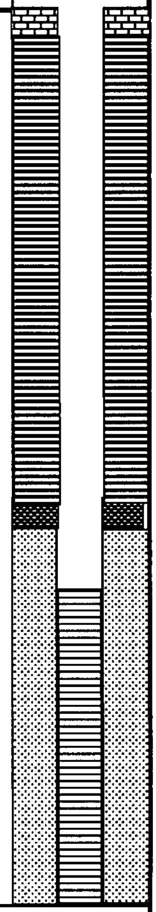
1) Soil samples from 9-10.5 ft, 11-12 ft, 30-31.5 ft were submitted for laboratory analysis.
2) Soil Boring was grouted upon completion.
3) Elevation is tied to an on-site datum of 204.65 ft relative to mean sea level (ft rmsl).

WELL CONSTRUCTION:		(ft bg)
Surface Seal:	(Cement)	0 - 3
Filter-Pack Seal:	(Bentonite)	3 - 5
Filter Pack:	(Morie 00 Sand)	5 - 17
Screen Interval:	(0.02-inch slot)	7 - 17
Depth of Well:		17

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				1 of 2
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	See note below	Boring #.	MW-8
Drilling Method:	Sampling - DP (Hurricane), Well Install - HSA	LEL/O2:		Date Begun:	08/30/00
Ground Elevation:	(MSL)	Checked By:	MSG	Completed:	08/31/00
Logged By:	AES	Protection Level:	D	Depth to Water:	24 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
1				0.0	Hand dug to 5.5 feet				0-4" Asphalt		
2				0.0					4"-4' Brown, dry, f-c SAND,		
3				0.0					little f-m Gravel, trace Silt.	FILL	
4				0.0					brick, cobbles, concrete debris.		
5				0.0							
6											
7											
8	8 - 12	S-1	48/48	0.0					Brown, dry, f-m sand,	SP	
9									No staining or odor		
10				0.0							
11											
12	12 - 16	S-2	48/48	0.0					12-13.5: Similar to above	SP	
13				0..0					13.5-16: Lt brown f-c SAND		
14									w/ some silt & trace gravel		
15									No staining or odor		
16	16 - 20	S-3	48/48	0.0					Tan and brown f-c silty sand	SP	
17									Trace gravel, dry.		
18				0.0					No staining or odor		
19											
20	20 - 24	S-4	48/48	0.0					Similar to above	SP	
21									Damp at bottom		
22				0.0					No staining or odor		
23											
24	24 - 28	S-5	36/48	0.0					Brown coarse sand and f-c	SP	
25									silty sand. Wet		
26				0.0	(wet @ 24 feet)				No staining or odor		
27											
28											
29											
30											



Well Screen	20 slot schedule 40 2" PVC:	20-40 ft
Filter Pack	#10 Morie Sand:	18-40
Divider Seal	Bentonite Pellets	16-18
Annular Seal	Bentonite/Cement Grout	1-16 ft
Surface Seal	Bentonite/Flush-Mount Casing	0-1 ft
Bottom Seal	Bentonite Pellets	40-44 ft
Bottom Sump	2"schedule 40 PVC	40-42 ft

NOTES:
Soil samples from 2-4 ft, 22.3-23 ft, 27-27.5 ft, 36.5-37 ft, 37.5-38 ft & 47.5-48 ft were submitted for laboratory analysis.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	3/4-inch	Boring #.	MW-8
Drilling Method:	Sampling - DP (Hurricane), Well Install - HSA	LEL/O2:		Date Begun:	08/30/00
Ground Elevation:	(MSL)	Checked By:	MSG	Completed:	08/31/00
Logged By:	AES	Protection Level:	D	Depth to Water:	24 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
30	28 - 32	S-7	48/48	0.0					Very micaceous brown and	SP	
31									grey f-c sand. Trace silt. Wet		
32											
33	32 - 36	S-8	48/48	0					32-34: Similar to above. No staining or odor.	SP	
34				18.5					34-35: Brown f-c sand, trace silt, wet. Moderate odor, no staining.		
35				135					35-35.5: Brown f-c sand, trace silt, wet. Oily stained soil, oil droplets, sheen, residue on acetate liner, strong tar-like odor.		
36				142					35.5-36: Similar to above, but slightly less impacted.		
37	36 - 40	S-9	48/48	310					36-37: Similar to above.	SP	
38				425					37-38: Similar to above. Oily residue on acetate liner.		
39				130					38-39: Brown f-c sand, trace silt, wet. Oily stained soil, sheen, residue on acetate liner, strong tar-like odor, but no oil droplets.		
40				80					39-40: Brown silty fine sand, moderate staining (grey discoloration) & moderate odor.		
41	40 - 44	S-10	36/48	0.0					Brown f-m sand and silty sand	SP	
42									No odors, no staining.		
43											
44											
45	44 - 48	S-11	24/48	0.8					Similar to above	SP	
46									No odors, no staining.		
47											
48											
49	48 - 52	S-12	0/48						No recovery		
50											
51											
52											
53	52 - 56	S-13	6/48	0.0					Slight recovery. Grey sandy	SP	
54									silt with trace clay.		
55									No staining or odor.		
56											
57	56-57	S-14	0/12								
58									No recovery		
59	Bottom of boring @ 57 feet (refusal)										
60											

Annular Seal	NOTES:
Well Screen	See notes of Page 1 of 2
Filter Pack	
Divider Seal	
Annular Seal	
Surface Seal	

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				1 of 2
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	See note below	Boring #.	TW-1
Drilling Method:	DP (Hurricane)	LEL/O2:		Date Begun:	03/08/00
Ground Elevation:	203.88 (MSL)	Checked By:	MSG	Completed:	03/14/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	27 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
1					Hand dug to 5 feet				0-1.0' Asphalt		
2											
3									1'-5' Brown f-c Sand, some	FILL	
4									gravel, little silt, trace		
5									brick, concrete debris		
6									5-7' Concrete slab	Concrete	
7	7 - 10	S-1	36/36	0.7					Gray brown f-m Sand, trace		
8									Silt, trace fine gravel	SP	
9											
10	10 - 14	S-2	48/48	0.5					Gray brown fine Sand, trace	SP	
11									silt, trace fine gravel		
12											
13											
14	14 - 18	S-3	34/48	0.3					14 -15.5' Same as Above	SP	
15									15.5' - 18' Gray brown f-c Sand,	SW	
16									trace silt, trace gravel		
17											
18	18 - 22	S-4	24/48	0.7					Same as Above	SW	
19											
20											
21											
22	22 - 26	S-5	28/48	11.4					22' - 25' Same as Above	SW	
23									25' - 28' Dark brown to black	SW	
24									f-c Sand, trace f-m gravel, trace		
25									silt (petroleum odor)		
26	26 - 28	S-6	24/24	124					Dark gray f-m Sand, tr gravel	SP	
27					(wet @ 27 feet)				tr silt (slight staining & petro odor)		
28	28 - 30	S-7	18/24	38.2					Same as above	SP	
29											
30											

Well Screen	3/4" PVC temporary well	35 - 25
Filter Pack		
Divider Seal		
Annular Seal		
Surface Seal		

NOTES:

Soil samples from 25 to 27 feet and 30 - 32 ft submitted for lab analysis
Set temporary well (3/4-inch diameter PVC) with screen interval of 25 - 35 feet.
Collected groundwater sample. Water had strong petroleum-like odor and visible sheen.
Following groundwater sampling, PVC was advanced to 48 ft and the boring grouted to ground surface via tremie.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				2 of 2
Client:	Consolidated Edison of New York				
Contractor:	EPI	Casing Size:	See note on Page 1 of 2	Boring #.	TW-1
Drilling Method:	DP (Hurricane)	LEL/O2:		Date Begun:	03/08/00
Ground Elevation:	203.88 (MSL)	Checked By:	MSG	Completed:	03/14/00
Logged By:	DAG	Protection Level:	D	Depth to Water:	27 ft bls

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
30	30 - 32	S-8	18/24	39.0					Same as Above	SP	
31											
32	32 - 34	S-9	20/24	13.0					Same as Above	SP	
33											
34	34 - 36	S-10	24/24	18.9					34' - 35' Same as Above	SP	
35									35' - 36' Dark gray fine Sand	SP	
36	36 - 38	S-11	24/24	7.8					36' - 37' Olive gray f Sand, tr silt	SP	
37									37' - 38' Olive gray f-m Sand	SP	
38	38 - 40	S-12	24/24	7.4					Olive gray f-m Sand		
39											
40	40 - 42	S-13	6/24	4.4					Same as Above	SP	
41											
42	42 - 44	S-14	24/24	2.6					Same as Above	SP	
43											
44	44 - 46	S-15	20/24	2.4					Olive gray f Sand, trace silt	SP	
45											
46		Bottom of boring @ 46 feet									
47											
48											
49											
50											
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											

Well Screen	3/4" PVC temporary well	35 - 25
Filter Pack		
Divider Seal		
Annular Seal		
Surface Seal		

NOTES:
See notes of Page 1 of 2

Appendix B-3
Geotechnical Boring Logs

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-1
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/08/99
Ground Elevation:	205.89 (MSL)	Checked By:	NA	Completed:	11/10/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	27.5 ft bls

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches)				Soil/Rock Description	Soil Classification
						0 - 6"	6" - 12"	12" - 18"	18" - 24"		
1					2.1					Asphslt	8"
2					3.2						
3					3.7						
4					4.2					*Interval Selected for Lab Analysis*	SW
5					3.6						
6	3										6
7	5										
8	4										
9	4	8 - 10	SS-1	9/24		7	6	10	8	Loose, gray-brown well graded Sand	
10	5										
11	11										
12	7										
13	10										
14	6	13 - 15	SS-2	9/24		8	4	4	5	Same as above	SW
15	8										
16	10										
17	11										
18	7										
19	6	18 - 20	SS-3	7/24		6	4	4	4	Same as above	
20	7										
21	9										
22	11										22
23	10										
24	7	23 - 25	SS-4	10/24		7	7	9	8	Compact, gray-brown poorly graded Sand	SP
25	11										
26	10										
27	11										27
28	17										
29	10	28 - 30	SS-5	12/24		6	7	7	7	Loose, gray-brown well graded Sand	
30	11										
31	26										
32	20										
33	29										
34	15	33 - 35	SS-6	11/24		7	17	14	13	Dense, gray-brown well graded Sand	
35	21										
36	27										
37	30										
38	29										
39	15	38 -40	SS-7	10/24		9	10	12	12	Same as above	SW
40	29										
41	24										
42	29										
43	38										
44	19	43 - 45	SS-8	12/24		18	16	12	21	Same as above	
45	21										
46	32										SW
47	35										47

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-1
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/08/99
Ground Elevation:	205.89 (MSL)	Checked By:	NA	Completed:	11/10/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	27.5 ft bls

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches)				Soil/Rock Description	Soil Classification
						0 - 6"	6" - 12"	12" - 18"	18" - 24"		
48	38										
49	21	48 - 50	SS-9	10/24		10	10	16	11	Compact, gray-brown poorly graded Sand	
50	27										SP
51	37										
52	34										52
53	42										
54	22	53 - 55	SS-10	10/24		5	6	8	8	Dense, gray-brown well graded Sand	
55	28										SW
56	40										
57	41										57
58	51										
59	12	58 - 60	SS-11	4/24		12	13	23	23	Compact, gray-brown poorly graded Sand	
60	13										
61	23										
62	23										
63	27										
64	33	63 - 65	SS-12	12/24		5	6	10	9	Same as above	
65	35										
66	42										SP
67	47										
68	39										
69	33	68 - 70	SS-13	13/24		8	10	16	12	Same as above	
70	30										
71	30										
72	37										
73	41										
74	43	73 - 74	SS-14	14/24		41	26	56	100/4"	Very dense gray-brown poorly graded	
75	44									Sand with Silt and Gravel	
76	60										
77	35										77
78											
79		78 - 79.5	RC-1							Roller cone through Boulders	
80											
81											SP
82											(TILL)
83											
84											84
85											
86		84 - 89	RC-2			REC = 0%		RQD = 0%			
87											BEDROCK
88											
89											
90										Boring terminated at 89 feet	

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-2
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/15/99
Ground Elevation:	206.09 (MSL)	Checked By:	NA	Completed:	11/16/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches)				Soil/Rock Description	Soil Classification
						0 - 6"	6" - 12"	12" - 18"	18" - 24"		
1										Asphslt	1
2					2.5					Concrete	1.5
3					2.8	Hand Auger to 5 feet					
4					3.0					Brown well graded Sand	
5	16				3.9					*Interval Selected for Lab Analysis*	
6	10										
7	11										SW
8	11										
9	16	8 - 10	SS-1	12/24		2	4	4	4	Loose brown well graded Sand	
10	16										
11	18										
12	23										12
13	14										
14	19	13 - 15	SS-2	17/24		6	9	13	11	Compact gray-brown well graded Sand	
15	21										
16	23										
17	25										
18	14										
19	19	18 - 20	SS-3	8/24		9	10	7	7	Same as above	
20	19										SW
21	23										
22	31										
23	11										
24	13	23 - 25	SS-4	10/24		11	7	7	5	Same as above	
25	13										
26	17										
27	16										27
28	18										
29	18	28 - 30	SS-5	13/24		7	11	16	16	Compact, gray-brown poorly graded Sand	
30	17										
31	21										
32	29										
33	32										
34	16	33 - 35	SS-6	12/24		15	15	16	17	Same as above	
35	21										
36	34										
37	34										
38	33										
39	18	38 -40	SS-7	11/24	7.9	12	12	15	17	Same as above	SP
40	25										
41	28										
42	28										
43	30										
44	21	43 - 45	SS-8	19/24	6.4	12	11	11	14	Same as above	
45	27										
46	29										
47	28										47

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-2
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/15/99
Ground Elevation:	206.09 (MSL)	Checked By:	NA	Completed:	11/16/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches)				Soil/Rock Description	Soil Classification
						0 - 6"	6" - 12"	12" - 18"	18" - 24"		
48	29										
49	22	48 - 50	SS-9	8/24		10	8	10	12	Compact, gray-brown well graded Sand	
50	24										
51	29										
52	30										
53	36										SW
54	25	53 - 55	SS-10	10/24		11	13	19	24	Same as above	
55	29										
56	37										
57	50										57
58	57										
59	26	58 - 60	SS-11	12/24		10	11	16	19	Compact, gray-brown poorly graded Sand	
60	44										
61	44										
62	50										
63	62										
64	44	63 - 65	SS-12	11/24	6.0	9	12	16	17	Same as above	
65	49										
66	55										SP
67	59										
68	69										
69	53	68 - 70	SS-13	12/24		5	7	10	12	Same as above	
70	49										
71	55										
72	77										72
73	92										
74	52	73 - 75	SS-14	8/24		22	34	32	35	Very dense gray-brown poorly graded	
75	80									Sand with Gravel	
76	72										
77	84										SP
78	139										(TILL)
79		78 - 80	SS-15	12/24		39	63	120/4"		Same as above	
80										Boring terminated at 79.3 feet	

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-3
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/11/99
Ground Elevation:	206.37 (MSL)	Checked By:	NA	Completed:	11/12/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	28 ft bls

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification
1										Asphslt	1
2										Concrete	2
3					5.2	Hand Auger to 5 feet					
4					5.3					Brown well graded Sand	
5					5.8					*Interval Selected for Lab Analysis*	
6	6										
7	7										**SW**
8	8										
9	6	8 - 10	SS-1	12/24		3	3	2	4	Loose brown well graded Sand	
10	7										
11	7										
12	9										12
13	13										
14	6	13 - 15	SS-2	8/24		2	3	3	5	Loose gray-brown well graded Sand	
15	9										
16	10										
17	13										**SW**
18	13										
19	11	18 - 20	SS-3	9/24		4	4	4	5	Same as above	
20	14										
21	18										
22	20										22
23	23										
24	20	23 - 25	SS-4	12/24		9	11	10	7	Compact gray-brown poorly graded Sand	
25	15										
26	19										
27	33										
28	34										
29	21	28 - 30	SS-5	10/24		11	9	13	12	Same as above	
30	24										
31	27										
32	31										
33	29										
34	21	33 - 35	SS-6	10/24		7	8	10	11	Same as above	
35	30										
36	34										
37	35										
38	40										
39	26	38 -40	SS-7	12/24	18	11	12	12	12	Same as above	**SP**
40	30										
41	49										
42	34										
43	39										
44	24	43 - 45	SS-8	12/24	11	15	12	12	11	Same as above	
45	24										

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-3
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/11/99
Ground Elevation:	206.37 (MSL)	Checked By:	NA	Completed:	11/12/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	28 ft bls

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches)				Soil/Rock Description	Soil Classification
						0 - 6"	6" - 12"	12" - 18"	18" - 24"		
46	30										
47	34										
48	21										
49	23	48 - 50	SS-9	13/24	5.5	7	8	11	10	Same as above	
50	23										
51	28										
52	34										
53	39										SW
54	32	53 - 55	SS-10	11/24	5	11	13	18	21	Same as above	
55	30										
56	25										
57	34										
58	50										
59	29	58 - 60	SS-11	10/24		13	18	19	23	Same as above	
60	25										
61	52										
62	52										62
63	54										
64	62	63 - 65	SS-12	12/24		16	23	22	15	Compact, olive-gray poorly graded	
65	53									Sand with Silt	
66	64										SP - SM
67	70										
68	67										
69		68 - 70	SS-13	14/24		11	4	8	26	Same as above	
70											
71											
72											72
73											
74	53	73 - 75	SS-14	7/24		21	16	11	8	Dense gray-brown poorly graded	
75	51									Sand with Gravel	
76	60										SP
77											
78											(TILL)
79		78 - 79	SS-15	8/12		79	89			Same As Above	
80										Boring terminated at 80 feet	

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-4
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/16/99
Ground Elevation:	206.17 (MSL)	Checked By:	NA	Completed:	11/18/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	27 ft bls

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches)				Soil/Rock Description	Soil Classification
						0 - 6"	6" - 12"	12" - 18"	18" - 24"		
1										Asphslt	1
2										Concrete	2
3					3.7	Hand Auger to 5 feet					
4					3.1					Brown well graded Sand	
5					4.0					*Interval Selected for Lab Analysis*	
6	8										
7	6										
8	6										
9	6	8 - 10	SS-1	10/24		4	4	5	4	Loose brown well graded Sand	
10	10										
11	12										
12	9										
13	8										
14	6	13 - 15	SS-2	10/24		2	3	3	3	Same as above	
15	8										
16	13										
17	16										**SW**
18	13										
19	9	18 - 20	SS-3	10/24		3	8	9	9	Same as above	
20	13										
21	18										
22	14										
23	18										
24	8	23 - 25	SS-4	10/24		5	5	6	5	Same as above	
25	6										
26	10										
27	17										27
28	28										
29	11	28 - 30	SS-5	11/24		10	10	11	17	Compact, gray-brown poorly graded Sand	
30	18										**SP**
31	21										
32	28										32
33	25										
34	16	33 - 35	SS-6	12/24		13	13	15	15	Compact, gray-brown well graded Sand	
35	24										
36	26										
37	41										**SW**
38	35										
39	13	38 -40	SS-7	8/12		10	9	7	10	Same as above	
40	19										
41	29										41
42	25										
43	21										**SP**
44	19	43 - 45	SS-8	11/24		9	10	12	14	Compact, gray-brown poorly graded Sand	
45	21										
46	29										
47	31										47

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-4
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/16/99
Ground Elevation:	206.17 (MSL)	Checked By:	NA	Completed:	11/18/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	27 ft bls

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification
48	23										
49	22	48 - 50	SS-9	7/24		7	9	11	10	Compact, gray-brown well graded Sand	
50	23										SW
51	32										
52	35										52
53	27										
54	31	53 - 55	SS-10	10/24		11	14	18	23	Compact, gray-brown poorly graded Sand	
55	28										
56	45										
57	28										
58	55										
59	31	58 - 60	SS-11	12/24		9	11	14	14	Same as above	
60	24										
61	25										
62	31										
63	32										
64	34	63 - 65	SS-12	12/24		7	9	13	23	Same as above	
65	30										
66	30										SP
67	35										
68	100/10"										68
69		68 - 70								Boulders 68 to 73.5 feet	
70											
71											
72											
73											
74		74 - 75.4	SS-13	10/17		16	42	120/4"		Very dense gray-brown poorly graded	
75										Sand with Gravel and Boulders	
76											
77											SP
78											
79											(TILL)
80											
81		78 - 80								Same As Above	
82		81 - 83	SS-14	24/24		19	26	26	41		
83											
84										Boring terminated at 83 feet	
85											

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-5
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/16/99
Ground Elevation:	206.29 (MSL)	Checked By:	NA	Completed:	11/17/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches)				Soil/Rock Description	Soil Classification
						0 - 6"	6" - 12"	12" - 18"	18" - 24"		
1										Asphslt	1
2					4.1						
3					3.2	Hand Auger to 5 feet				Brown well graded Sand	
4					3.7						
5	10				3.0					*Interval Selected for Lab Analysis (1-5')*	
6	13										
7	15										**SW**
8	15										
9	17										
10	9	9 - 11	SS-1	10/24		4	4	5	4	Loose brown well graded Sand	
11	14										
12	16										
13	21										13
14	28										
15	5	14 - 16	SS-2	8/24		6	6	5	8	Compact gray-brown poorly graded Sand	
16	5										
17	12										
18	13										**SP**
19	15										
20	6	19 - 21	SS-3	10/24		3	6	6	8	Same as above	
21	15										
22	21										22
23	31										
24	45										
25	3	24 - 26	SS-4	10/24		8	9	10	9	Compact, gray-brown well graded Sand	**SW**
26	10										
27	17										27
28	20										
29	26										
30	8	29 - 31	SS-5	11/24		8	9	12	13	Compact, gray-brown poorly graded Sand	
31	12										
32	20										
33	29										
34	44										
35	13	34 - 36	SS-6	14/24		7	11	13	15	Same as above	**SP**
36	30										
37	38										
38	60										
39	68										
40	20	39 - 41	SS-7	11/24	2.0	8	9	11	13	Same as above	
41	26										
42	30										
43	36										43
44	34										
45	27	44 - 46	SS-8	9/24	1.8	8	11	13	17	Compact, gray-brown well graded Sand	**SW**
46	56										
47	84										**SW**
48	96										48

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-5
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/16/99
Ground Elevation:	206.29 (MSL)	Checked By:	NA	Completed:	11/17/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches)				Soil/Rock Description	Soil Classification
						0 - 6"	6" - 12"	12" - 18"	18" - 24"		
49	94										
50	36	49 - 51	SS-9	4/24	1.8	8	10	11	19	Compact, gray-brown poorly graded Sand	
51	36										
52	46										
53	55										
54	76										
55	47	54 - 56	SS-10	9/24	3.2	9	11	12	13	Same as above	
56	76										**SP**
57	110										
58	94										
59	118										
60	40	59 - 61	SS-11	8/24	14.9	6	8	11	11	Compact, gray-brown poorly graded Sand	
61	59										
62	86										
63	98										
64	109										
65		64 - 66	SS-12	13/24	16.4	7	9	10	13	Same as above	
66											
67											67.5
68											
69											
70		69 - 71	SS-13	1/24		100/1"	7	10	12	Rock in spoon	
71											
72											
73											
74											
75		74 - 76	SS-14	18/24	2.3	8	11	10	14	Gray-brown poorly graded	
76										Sand with Gravel, Cobbles & Boulders	
77											**SP**
78											**(TILL)**
79		78 - 80	SS-15	18/24	4.0	9	13	11	16	Same as above	
80										Boring terminated at 80 feet	

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-6
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/15/99
Ground Elevation:	206.52 (MSL)	Checked By:	NA	Completed:	11/16/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches)				Soil/Rock Description	Soil Classification
						0 - 6"	6" - 12"	12" - 18"	18" - 24"		
1										Asphslt	1
2										Concrete	2
3					3.4	Hand Auger to 5 feet				Brick debris, gravel, some well-graded	
4					3.0					Sand (FILL)	
5					4.1					*Interval Selected for Lab Analysis*	
6											
7											7
8											
9											
10	9	9 - 11	SS-1	2/24		2	2	5	5	Loose gray-brown well graded Sand	
11	8										
12	12										
13	11										
14	7										
15	8	14 - 16	SS-2	7/24		8	9	4	4	Compact gray-brown well graded Sand	
16	12										
17	15										
18	24										
19	17										
20	9	19 - 21	SS-3	10/24		5	6	10	13	Same as above	
21	11										
22	28										
23	32										
24	31										
25	16	24 - 26	SS-4	10/24		9	13	12	13	Same as above	
26	19										
27	21										
28	28										**SW**
29	24										
30	17	29 - 31	SS-5	11/24		7	8	10	13	Same as above	
31	31										
32	24										
33	40										
34	38										
35	17	34 - 36	SS-6	12/24	2.4	9	11	15	17	Same as above	
36	27										
37	34										
38	40										
39	39										
40	27	39 - 41	SS-7	12/24		8	11	13	16	Same as above	
41	22										
42	23										
43	33										43
44	38										
45	28	44 - 46	SS-8	14/24	1.8	11	14	25	29	Compact, gray-brown poorly graded Sand	**SP**
46	45										
47	68										

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-6
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/15/99
Ground Elevation:	206.52 (MSL)	Checked By:	NA	Completed:	11/16/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches)				Soil/Rock Description	Soil Classification
						0 - 6"	6" - 12"	12" - 18"	18" - 24"		
48	64										SP
49	66										
50	41	49 - 51	SS-9	12/24		13	17	20	21	Same as above	
51	49										
52	59										52
53	64										
54	73										
55	51	54 - 56	SS-10	14/24		5	7	8	10	Compact, olive-gray poorly graded	
56	44									Sand with Silt	
57	60										
58	67										
59	68										
60	54	59 - 61	SS-11	12/24	8.7	5	4	5	8	Same as above	
61	52										SP - SM
62	57										
63	66										
64	74										
65	97	64 - 65	SS-12	8/12	16.1	20	100/5"			Same as above	
66	106										
67	99										
68	114										68
69	117										
70	90										
71	120	70 - 72	SS-13	14/24	13.5	79	65	42	89	Very dense gray-brown poorly graded	
72	99									Sand with Gravel, Cobbles & Boulders	
73	140										
74	145										
75	131	74 - 76	SS-14	12/24	9.5	11	17	20	40	Same as above	
76	162										
77	181										SP
78	173	77 - 79	SS-15	12/24	17.0	28	32	39	57	Same as above	(TILL)
79											
80										Boring terminated at 79 feet	

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-7
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/18/99
Ground Elevation:	205.91 (MSL)	Checked By:	NA	Completed:	11/19/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification
1										Asphslt	1
2										Concrete	2
3					3.6	Hand Auger to 5 feet					
4					3.8					Brown well graded Sand	
5	11				5.4					*Interval Selected for Lab Analysis*	
6	11										
7	16										
8	10										
9	12										
10	6	9 - 11	SS-1	8/24		9	8	11	10	Compact brown well graded Sand	**SW**
11	6										
12	9										
13	11										
14	13										
15	5	14 - 16	SS-2	12/24		8	8	11	15	Same as above	
16	7										
17	13										17
18	13										
19	15										
20	11	19 - 21	SS-3	11/24		8	10	10	10	Compact gray-brown well graded Sand	
21	14										
22	18										
23	20										
24	17										
25	9	24 - 26	SS-4	11/24		3	5	6	8	Same as above	
26	9										
27	11										
28	14										**SW**
29	20										
30	9	29 - 31	SS-5	10/24		6	8	11	14	Same as above	
31	11										
32	20										
33	24										33
34	25										
35	14	34 - 36	SS-6	10/24		8	9	9	11	Compact gray-brown poorly graded Sand	
36	14										
37	22										
38	34										**SP**
39	36										
40	14	39 - 41	SS-7	6/24		9	13	13	17	Same as above	
41	20										
42	25										
43	38										43
44	40										
45	14	44 - 46	SS-8	12/24		10	10	11	15	Compact, gray-brown well graded Sand	**SW**
46	17										
47	22										

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-7
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/18/99
Ground Elevation:	205.91 (MSL)	Checked By:	NA	Completed:	11/19/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification
48	26										
49	34										SW
50	37	49 - 51	SS-9	10/24		9	15	15	17	Same as above	
51	37										
52	55										
53	99										53
54	110										
55	40	54 - 56	SS-10	14/24		9	11	15	14	Compact, gray-brown poorly graded Sand	
56	48										
57	57										
58	70										SP
59	88										
60	56	59 - 61	SS-11	12/24		9	11	11	14	Same as above	
61	79										
62	85										62
63	124										
64	98										
65	61	64 - 65	SS-12	16/24		15	16	18	20	Dense olive-gray poorly graded	
66	59									Sand with Silt	
67	65										
68	132										
69	145										SP - SM
70	74	69 - 70	SS-13	16/24		6	1	1	1	Very loose gray-brown poorly graded	
71	99									Sand with Silt, trace clay	
72											
73										Spoon dropped to 74 ft from weight	
74										of rods.	74
75										Boulders at 74 feet	
76											
77											SP
78		77 - 79	SS-14	24/24		3	2	4	5	Wash	(TILL)
79											
80										Boring terminated at 79 feet	

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION		
Client:	Consolidated Edison Company of NY, Inc.		
Contractor:	Subsurface	Casing Size: 3-inch	Boring #. GT-8
Drilling Method:	Drive & Wash	PID: MicroTip	Date Begun: 11/17/99
Ground Elevation:	206.24 (MSL)	Checked By: NA	Completed: 11/18/99
Logged By:	DAG	Protection Level: D	Depth to Water: 28 ft bls

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches)				Soil/Rock Description	Soil Classification
						0 - 6"	6" - 12"	12" - 18"	18" - 24"		
1										Asphslt	1
2										Concrete	2
3					3.7	Hand Auger to 5 feet					
4					3.2					Brown well graded Sand	
5					4.9					*Interval Selected for Lab Analysis*	
6	3										
7	7										
8	11										
9	8	8 - 10	SS-1	7/24		3	3	2	3	Loose brown well graded Sand	
10	8										
11	12										**SW**
12	16										
13	18										
14	13	13 - 15	SS-2	10/24		3	4	5	5	Same as above	
15	19										
16	16										
17	21										
18	32										
19	7	18 - 20	SS-3	10/24		7	11	16	15	Same as above	
20	13										
21	21										
22	36										22
23	37										
24	18	23 - 25	SS-4	11/24		11	13	16	16	Compact, gray-brown well graded Sand	
25	22										**SW**
26	16										
27	13										27
28	19										
29	13	28 - 30	SS-5	10/24		4	4	6	8	Compact, gray-brown poorly graded Sand	
30	15										
31	20										
32	22										**SP**
33	23										
34	16	33 - 35	SS-6	12/24	11.0	6	9	11	12	Same as above	
35	19										
36	27										36
37	31										
38	49										
39	13	38 -40	SS-7	8/12	11.2	15	13	13	12	Compact, gray-brown well graded Sand	
40	13										
41	17	40 - 42	SS-8	12/24	12	11	13	9	9	Same as above	**SW**
42	23										
43	29										
44	13	43 - 45	SS-9	12/24	12	5	8	10	9	Same as above	
45	16										45

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-8
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/17/99
Ground Elevation:	206.24 (MSL)	Checked By:	NA	Completed:	11/18/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	28 ft bls

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches)				Soil/Rock Description	Soil Classification
						0 - 6"	6" - 12"	12" - 18"	18" - 24"		
46	17	45 - 47	SS-10	18/24	11.8	5	7	8	8	Compact, gray-brown poorly graded Sand	
47	26										SP
48	31										48
49	18	48 - 50	SS-11	10/24	7.3	3	5	6	7	Compact, gray-brown well graded Sand	
50	23										
51	27	50 - 52	SS-12	22/24	6.8	5	5	7	9	Same as above	SW
52	35										
53	36										53
54	35	53 - 55	SS-13	12/24	4.9	5	6	9	6	Compact, gray-brown poorly graded Sand	
55	32										
56	34	55 - 57	SS-14	12/24	5.8	5	5	6	8	Same as above	
57	41										
58	43										SP
59	39	58 - 60	SS-15	10/24	5.9	6	7	9	13	Same as above	
60	36										
61	42	60- 62	SS-16	16/24	19	8	9	9	12	Same as above	
62	49									*Interval Selected for lab Analysis*	
63	53										63
64	61	63 - 65	SS-17	10/24	7.9	8	11	13	14	Compact, olive-brown poorly graded	
65	53									Sand with silt	
66	66	65 - 67	SS-18	14/24	7.3	9	7	18	26	Same as above	
67	85										SP-SM
68	136										
69	58	68 - 70	SS-19	10/24	12.3	18	29	29	19	Same as above	
70	67										
71	74	70 - 72	SS-20	8/24		12	12	13	40	Same as above	
72	127										72
73	168/10"									Boulders at 72 ft	
74											
75											
76											
77		76 - 77.2	SS-21	6/14		49	73	100/2"		Very dense gray-brown poorly graded	SP
78										Sand with Gravel, Cobbles & Boulders	
79											(TILL)
80										Boring terminated at 80 feet	

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-9
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/22/99
Ground Elevation:	205.96 (MSL)	Checked By:	NA	Completed:	11/23/99
Logged By:	MSG	Protection Level:	D	Depth to Water:	

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches)				Soil/Rock Description	Soil Classification
						0 - 6"	6" - 12"	12" - 18"	18" - 24"		
1										Asphslt	0.5
2					1.7					Concrete	1.5
3					1.5	Hand Auger to 5 feet					
4					2.1					Brown well graded Sand	
5					2.4					*Interval Selected for Lab Analysis*	
6											
7											SW
8											
9	7	8 - 10	SS-1	10/24	3	3	4	5	5	Loose brown well graded Sand	
10	11										
11	11										
12	14										12
13	16										
14	8	13 - 15	SS-2	8/24	3	4	4	5	7	Compact, gray-brown poorly graded Sand	
15	9										
16	18										
17	22										SP
18	23										
19	9	18 - 20	SS-3	12/24	4	6	7	7	9	Same as above	
20	20										
21	28										
22	36										22
23	35										
24	5	23 - 25	SS-4	10/24	5	3	6	7	9	Compact, gray-brown well graded Sand	
25	12										
26	19										SW
27	26										
28	29										
29	7	28 - 30	SS-5	10/24	40	9	13	14	15	Same as above	29
30	15										
31	27										
32	22										
33	26										
34	12	33 - 35	SS-6	15/24	33	7	9	13	16	Compact, gray-brown poorly graded Sand	
35	20										
36	32										
37	36										
38	34										SP
39	13	38 -40	SS-7	12/24	20	8	9	11	12	Same as above	
40	19										
41	28										
42	32										
43	29										
44	11	43 - 45	SS-8	12/24	5	9	11	11	12	Same as above	
45	17										
46	22										
47	35										
48	44										

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-9
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/22/99
Ground Elevation:	205.96 (MSL)	Checked By:	NA	Completed:	11/23/99
Logged By:	MSG	Protection Level:	D	Depth to Water:	

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification
49	26	48 - 50	SS-9	9/24		6	7	7	14	Same as above	
50	30										
51	29										
52	32										
53	52										
54	31	53 - 55	SS-10	9/24		5	5	8	10	Same as above	SP
55	31										
56	28										
57	48										
58	62										
59	25	58 - 60	SS-11	12/24		7	9	12	15	Same as above	
60	33										
61	53										
62	87										
63	108										63
64	51	63 - 65	SS-12	12/24		9	13	15	16	Compact, olive-brown poorly graded	
65	62									Sand with silt	
66	69										
67	102										
68	167										
69	27*	68 - 70	SS-13	9/24		4	6	6	24	Same as above	
70	25*										SP - SM
71	29*										
72	29*										
73	32*										
74		74 - 76	SS-14	15/24		15	15	15	12	Same as above	
75											75
76											
77											SP
78											
79											(TILL)
80		79 - 81	SS-15	15/24		14	9	7	7	Very dense gray-brown poorly graded	
81										Sand with Gravel, Cobbles & Boulders	
82											
83										Boring terminated at 81 feet	
84											
85											

NOTES: * Casing advanced after washing ahead 5-feet.

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-10
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/23/99
Ground Elevation:	205.66 (MSL)	Checked By:	NA	Completed:	11/24/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Rec/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches)				Soil/Rock Description	Soil Classification
						0 - 6"	6" - 12"	12" - 18"	18" - 24"		
1										Asphslt	0.5
2										Concrete	1.5
3					2.0	Hand Auger to 5 feet					
4					1.7					Brown well graded Sand	
5					2.1					*Interval Selected for Lab Analysis*	
6											
7											SW
8											
9	7	8 - 10	SS-1	12/24		7	7	6	6	Loose brown well graded Sand	
10	12										
11	16										
12	17										
13	12										
14	1	13 - 15	SS-2	3/24		3	3	4	5	Same as above	
15	4										
16	6										
17	7										17
18	8										
19	5	18 - 20	SS-3	12/24		3	3	5	7	Compact gray-brown poorlyl graded Sand	
20	10										
21	15										
22	19										SP
23	25										
24	6	23 - 25	SS-4	12/24	6	5	7	7	7	Same as above	
25	7										
26	16										
27	21										27
28	22										
29	6	28 - 30	SS-5	9/24	5	6	7	7	9	Compact gray-brown well graded Sand	
30	9										
31	15										
32	29										SW
33	30										
34	10	33 - 35	SS-6	8/24	2.5	4	5	7	8	Same as above	
35	14										
36	28										
37	30										37
38	31										
39	13	38 -40	SS-7	11/24	5.5	7	8	8	9	Compact gray-brown poorlyl graded Sand	
40	17										SP
41	21										
42	27										42
43	26										
44	14	43 - 45	SS-8	14/24	21	6	8	9	6	Compact gray-brown well graded Sand	SW
45	20										
46	26										
47	29										
48	33										

JACQUES WHITFORD COMPANY, INC

Project:	WHITE PLAINS GEOTECHNICAL INVESTIGATION				
Client:	Consolidated Edison Company of NY, Inc.				
Contractor:	Subsurface	Casing Size:	3-inch	Boring #.	GT-10
Drilling Method:	Drive & Wash	PID:	MicroTip	Date Begun:	11/23/99
Ground Elevation:	205.66 (MSL)	Checked By:	NA	Completed:	11/24/99
Logged By:	DAG	Protection Level:	D	Depth to Water:	

Depth (ft)	Casing Blows per Foot	Sample Interval (ft)	Sample No.	Ree/Pen	PID Sample (ppm)	Standard Penetration Test (blows/6-inches) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification
49	19	48 - 50	SS-9	9/24	2.5	6	7	9	10	Same as above	**SW**
50	27										
51	38										
52	49										52
53	57										
54	25	53 - 55	SS-10	11/24		10	8	10	11	Compact gray-brown poorly graded Sand	
55	25										SP
56	30										
57	40										57
58	32										
59	30	58 - 60	SS-11	10/24		8	10	12	11	Compact, olive-brown poorly graded	
60	26									Sand with silt	
61	38										
62	35										
63	52										
64	34	63 - 65	SS-12	9/24		10	11	13	18	Same as above	**SP - SM**
65	46										
66	59										
67	75										
68	96										
69		68 - 70	SS-13	10/24		16	36	82	120/5"	Same as above	69
70											
71											
72											
73										Drill through cobbles from 69.5 to 78 feet	
74											**SP**
75											
76											**(TILL)**
77											
78											
79											
80										Boring terminated at 79.5 feet	

Appendix B-4
Radiological Boring Logs

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-1U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/10/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/10/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 0.5			0.0	Hand Dug to 5 ft bg.				Asphalt		
1	0.5-1.5			0.0					Brown-tan, c-m SAND.	SM	
2	1.5-2.5			0.0					Some silt.		
3	3.5-4.5			0.0					Brown-tan, c-m SAND.	SW	
4									Trace gravel.		
5	5.0-9.0			0.0					Brown-tan, c-m SAND.	SW	NA
6									Trace gravel.		
7											
8											
9	9.0-12.0			0.0					Brown-tan, c-m SAND.	SW	
10									Trace gravel.		
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				
Client:	Consolidated Edison of New York				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-2U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/10/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/10/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		
1	0.5-1.5			0.0					Brown-tan, c-m SAND.	SW	
2	1.5-2.5			0.0					Trace to some Gravel.		
3											
4											
5											NA
6	5.0-9.0			0.0					Brown-tan, c-m SAND.	SW	
7									Some gravel.		
8											
9											
10	9.0-12.0			0.0					Brown-tan, c-m SAND.	SW	
11									Little gravel.		
12											
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				
Client:	Consolidated Edison of New York				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-3U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/10/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/10/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0.5-1.0			0.0	Hand Dug to 5 ft bg.				Asphalt (6") / Gravel (6")		
1	1.0 - 2.5			0.0					Brown c-m SAND. Some silt a	SM	
2	2.5-3.5			0.0					Brown.tan, c-m SAND. tr silt	SW	
3	3.5-4.5			0.0					and some gravel	SW	
4	4.5-5.0			0.0					Brown-tan, c-m SAND.	SW	
5	5.0-9.0			0.0					Some to little gravel.	SW	NA
6											
7											
8											
9	9.0-12.0			0.0					Brown-tan, c-m SAND.	SW	
10									Trace gravel.		
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**
Client:	**Consolidated Edison of New York**

Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-4U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/10/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/10/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 1.5				Hand Dug to 5 ft bg.				Asphalt (6") / Concrete (1')		
1	1.5-2.5			0.0					Brown-Tan, c-m SAND.	SW	
2	2.5-3.5			0.0					Brown-Tan, c-m SAND.	SW	
3	3.5-4.5			0.0					Brown-Tan, c-m SAND.	SW	
4											
5	5.0-9.0			0.0					Brown-Tan, c-m SAND.	SW	
6											
7											
8											
9	9.0-12.0			0.0					Brown-Tan, c-m SAND.	SW	
10											
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:

1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-5U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Begun:**	04/10/01
Ground Elevation:	NM	**Checked By:**	NJO	**Completed:**	04/10/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 1.5				Hand Dug to 5 ft bg.				Asphalt (6") / Concrete (1')		
1	1.5-2.5			0.0					Brown, c-m SAND,	SW	
2									Little gravel.		
3	3.5-4.5			0.0					Brown, c-m SAND,	SW	NA
4									Little gravel.		
5	5.0-9.0			0.0					Brown, c-m SAND,	SW	
6											
7											
8											
9	9.0-12.0			0.0					Brown, c-m SAND,	SM	
10									Some silt.		
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:

1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-6U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/10/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/10/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0-1.5				Hand Dug to 5 ft bg.				Asphalt (4") / Concrete (1')		
1	1.5-2.5			0.0					Brown, c-m SAND. Some gr.	SW	
2											
3											
4	4.5-5.0			0.0					Brown, c-m SAND.	SW	
5	5.0-9.0			0.0					Brown, c-m SAND.	SW	
6											
7											
8											
9	9.0-12.0			0.0					Brown, c-m SAND.	SW	
10											
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:

1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Piains Environmental**
Client:	**Consolidated Edison of New York**

Contractor:	**EPI**	**Casing Size:**	NA	**Boring No.**	**RB-7U**
Drilling Method:	**DP (Hurricane)**	**LEL/O2:**	NA	**Date Started:**	04/09/01
Ground Elevation:	**NM**	**Checked By:**	NJO	**Date Completed:**	04/09/01
Logged By:	**AS**	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0-1.5				Hand Dug to 5 ft bg.				Asphalt (5") / Concrete (1')		NA
1	1.5-5.0			0.0					Brown c-f silty SAND. Little gravel. Loose and dry.	SM	
2											
3											
4											
5	5.0-9.0			0.0					Orange, brown, tan c-f SAND. Trace silt. Loose and dry.	SW	
6											
7											
8											
9	9.0-12.0			0.0					Orange, brown, tan c-f SAND. Trace silt. Loose and dry.	SW	
10											
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				
Client:	Consolidated Edison of New York				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-8U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/09/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/09/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 1.0				Hand Dug to 5 ft bg.				**Asphalt**		NA
1	1.0 - 2.0			0.0					Brown silty SAND. Some gravel. Loose and dry.	SM	
2											
3	2.0-3.0			0.0					Brown silty SAND and sandy SILT. Tr. gravel. Loose / dry	SM/ML	
4											
5	5.0-9.0			0.0					Brown silty SAND. Trace gravel. Loose and dry.	SM	
6				0.0							
7											
8											
9											
10	9.0-12.0			0.0					Orange, brown, tan c-f SAND. Trace silt. Trace gravel. Loose and dry.	SW	
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-9U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/09/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/09/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 1.5				Hand Dug to 5 ft bg.				Asphalt (6") / Concrete (1')		
1	1.5-3.0			0.0					Brown silty SAND.. Trace gravel. Loose and dry.	SM	
2											
3	3.0-5.0			0.0					Orange, brown c-f SAND. Trace silt. Loose and dry.	SW	
4	4.0-5.0			0.0							
5	5.0-9.0			0.0					Orange, brown, tan c-f SAND. Trace silt. Loose and dry.	SW	
6											
7											
8											
9	9.0-12.0			0.0					Orange, brown, tan c-f SAND. Trace silt. Loose and dry.	SW	
10											
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:

1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-10U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/09/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/09/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0.0-0.5				Hand Dug to 5 ft bg.				Asphalt / Gravel	SM	NA
1	0.5-2.0								Brown silty SAND.. Trace	SM	
2	2.0-4.0			0.0					gravel. Loose and dry.		
3									Moist at 3.5 ft bg	SM	
4	4.0-5.0			0.0					Hit rock at 4 ft bg.		
5	5.0-9.0			0.0						SM	
6									Brown fill. Silty SAND. Little	SM	
7									gravel. Brick, asphalt,		
8									concrete fragments.		
9	9.0-12.0			0.0					Same as Above		
10										SM	
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:

1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**
Client:	**Consolidated Edison of New York**

Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-11U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/10/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/10/01
Logged By:	DJL	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 1.5				Hand Dug to 5 ft bg.				Asphalt (6") / Concrete (1')		NA
1	1.5-2.5			0.0					Trace gravel.	SW	
2											
3											
4											
5	5.0-9.0			0.0					Trace gravel.	SW	
6											
7											
8											
9	9.0-12.0			0.0					Trace c-m SAND, Tr. gravel.	SW	
10											
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:

1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No..**	**RB-I2U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/11/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/11/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0-1.5				Hand Dug to 5 ft bg.				Asph./grav. (9") / Conc. (1')	SM	
1	1.5-3.5			0.0					Orange/brown c-f SAND.	SW	
2									Trace gravel. Loose and dry.		NA
3	3.5-5.0			0..0					Orange/brown c-f SAND.	SW	
4									Trace gravel. Loose and dry.		
5	5.0-9.0			0.0					Orange/brown/tan c-f SAND.	SW	
6									Little gravel. Loose and dry.		
7											
8											
9	9.0-12.0			0.0					Orange/brown/tan c-f SAND.	SW	
10									Little gravel. Loose and dry.		
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:

1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-I3U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Startded:**	04/11/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/11/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		NA
1	0.5-2.5			0.0					Brown.c-f silty SAND, tr. gravel. Loose and dry. Few brick fragments, cobbles.	SM	
2											
3	2.5-5.0			0.0							
4											
5											
6											
7	5.0-9.0			0.0					Dark brown silty SAND, tr. gravel. Loose and dry.	SM	
8											
9											
10	9.0-12.0			0.0					Dark brown silty SAND, tr. gravel. Loose and dry.	SM	
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Piains Environmental				
Client:	Consolidated Edison of New York				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-14U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/11/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/11/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 1.5				Hand Dug to 5 ft bg.				Asphalt (6") / Concrete (1')		
1	1.5-5.0			0.0					Orange-brown and brown c-f SAND and silty SAND. Loose and dry.	SW/SM	NA
2											
3											
4											
5	5.0-9.0			0.0					Orange/brown/tan c-f SAND. Loose and dry.	SW	
6											
7											
8											
9	9.0-12.0			0.0					Orange/brown/tan c-f SAND. Loose and dry.	SW	
10											
11				0.0							
12											
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-15U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/11/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/11/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		
1	0.5-2.5			0.0					Brown c-f silty SAND. Little	SM	
2									gravel. Loose and dry.		
3	2.5-5.0			0.0					Brown c-f silty SAND. Little	SM	NA
4									gravel. Loose and dry.		
5									gravel. Loose and dry.		
6	5.0-9.0			0.0					Brown c-f SAND and gravel.	SW	
7									Brick/concrete fragments.		
8									Dry.		
9											
10	9.0-12.0			0.0					Brown c-f SAND and gravel.	SW	
11									Brick/concrete fragments.		
12									Loose and dry.		
									Bottom of boring @ 12 ft bg.		

NOTES:

1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-16U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/11/01
Ground Elevation:	NM	**Checked By:** 7.0	NJO	**Date Completed:**	04/11/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0-0.5				Hand Dug to 5 ft bg.				Asphalt	SM	
1	0.5-2.5			0.0					Brown silty SAND. Mildy		
2									stiff. Loose and dry.		
3	2.5-5.0			0.0						SM	NA
4									Cobble at 4 ft bg.		
5	5.0-9.0			0.0					Orange-brown and brown		
6									silty SAND. Little gravel.		
7									Brick fragments.		
8											
9	9.0-12.0			0.0					Orange-brown and brown	SM	
10									silty SAND. Little gravel		
11									Dry. Brick fragments.		
12											
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-I7U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/11/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/11/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 1				Hand Dug to 5 ft bg.				Asphalt / Gravel		
1	1 - 5.0			0.0					Orange-brown c-f SAND. Tr.	SW	
2									silt and gravel. Loose, dry.	SW	
3				0.0							NA
4											
5	5.0-9.0			0.0					Orange/brown/tan c-f SAND.	SW	
6									Loose and dry.		
7											
8											
9	9.0-12.0			0.0					Orange/brown/tan c-f SAND.	SW	
10									Loose and dry.		
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				
Client:	Consolidated Edison of New York				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-18U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/11/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/11/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 1.0				Hand Dug to 5 ft bg.				Asphalt (6") / Concrete (1')		
1	1.0 - 2.5			0.0					Orange-brown c-f SAND.	SW	
2	2.5-3.5								Brown silty SAND. Damp.		
3				0.0					Moderately stiff.	SM	
4	3.5-5.0			0.0							
5	5.0-9.0			0.0					Orange/brown/tan c-f SAND.	SW	
6									Trace gravel. Loose and dry.		
7									Trace gravel. Loose and dry.		
8											
9	9.0-12.0			0.0					Orange/brown/tan c-f SAND.	SW	
10									Trace gravel. Loose and dry.		
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-19U**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/11/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/11/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 1.5				Hand Dug to 5 ft bg.				Asphalt (6") / Concrete (1')		
1	1.0 - 2.5			0.0					Orange-brown c-f sand. Tr. gravel. Loose and dry.	SW	NA
2											
3											
4											
5	5.0-9.0			0.0					Orange/brown/tan c-f sand. Trace gravel. Loose and dry.	SW	
6											
7											
8											
9	9.0-12.0			0.0					Orange/brown/tan c-f sand. Trace gravel. Loose and dry.	SW	
10											
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**
Client:	**Consolidated Edison of New York**

Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-1L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/18/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/18/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		NA
1	0.5 - 5.0								Brown stained silty SAND and gravel. Loose and dry. Moderate petrol like odor.	SM	
2											
3											
4				53							
5	5.0-7.0								Concrete		
6											
7	7.0-12.0			1068					Silty SAND - grey and black stained. Loose. Strong petrol like odor.	SM	
8											
9											
10											
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:

1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-2L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/18/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/18/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		NA
1	0.5 - 1.5			0.0					Brn c-f silty SAND. Loose/dry	SM	
2	1.5 - 7.5								Concrete		
3											
4											
5											
6											
7	7.5 -12.0			1223					Black and grey stained sandy SILT. Strong petrol like odor.	ML	
8											
9											
10											
11											
12											
									Bottom of horing @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				
Client:	Consolidated Edison of New York				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-3L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/18/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/18/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		NA
1	0.5 - 5.0			16					Dark brown c-f silty SAND, little gravel. Mild petroleum-like odor.	SM	
2											
3											
4											
5	5.0-9.0			43					Brown c-f silty SAND, trace gravel. Grey staining from 7 - 9 feet. Mild petroleum-like odor.	SM	
6											
7											
8											
9	9.0-12.0			515					Grey and black stained sandy SILT. Strong petroleum-like odor.	ML	
10											
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:

1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-4L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/18/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/18/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		NA
1	0.5 - 5.0			0.0					Brown c-f silty SAND, little gravel. Loose and dry.	SM	
2											
3											
4											
5	5.0-9.0			1.0					Light brown SAND, trace silt. Loose and dry.	SW	
6											
7											
8											
9	9.0-12.0			73					Mildly grey stained sandy SILT. Medium stiff. Moderate petrol like odor.	ML	
10											
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				
Client:	Consolidated Edison of New York				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-5L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/16/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/16/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	10

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		
1	0.5-1.5			0.0					Silty m-f SAND.	SM	
2	2.5-3.5			0.0					Silty m-f SAND. Trace gravel.	SM	
3									Large rock at 3 feet.		NA
4	3.5-4.5			0.0					Brown/ tan silty m-f SAND.	SM	
5									Little gravel.		
6	5.0-9.0			0.0					Tan/ brown m-f silty SAND.	SM	
7									Black spotted coloring.		
8											
9											
10	9.0-12.0			0.0					Tan/brown silty m-f SAND.	SM	
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-6L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/13/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/13/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0.0-0.5			0.0	Hand Dug to 5 ft bg.				Asphalt. Loose SAND.	SW	NA
1	0.5-1.5			0.0					Brown m-f SAND. Little grav.	SW	
2	1.5-3.5			0.0					Brown silty m-f SAND.	SM	
3	3.5-4.5			0.0					Brown/ tan silty m-f SAND.	SM	
4											
5	5.0-9.0			0.0					Tan c-f SAND.	SW	
6											
7											
8											
9	9.0-11.0			0.0					Tan c-f SAND.	SW	
10											
11	11-12.0			66					Black-stained c-f SAND.	SM	
12									Some silt. Petroleum-like odor		
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-7L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/13/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/13/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	11.5

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		
1	0.5-2.5			0.0					Brown silty m-f SAND. Trace	SM	
2									gravel. Rocks and Debris at		
3				0.0					2.5 ft bg.		NA
4	3.5-4.5			0.0					Brown silty SAND. Some	SM	
5					Refusal at 5 feet. 1.5 ft concrete.				gravel.		
6	6.0-10.0			0.0					Brown silty SAND.	SM	
7											
8											
9											
10	10 -11.5			0.2					Tan c-m SAND. Little silt.	SM	
11	11.5-12			3.1					Grey staining. c-f SAND and	SM	
12									silt. Slight petrol like odor.		
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-8L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/13/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/13/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	11 ft bg

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		
1	0.5-1.5			0.0					Brown c-f SAND. Little to	SW	
2	1.5 - 2.5			0.0					trace gravel.		
3	2.5-3.5			0.0					Brown c-f SAND. Trace brick	SW	NA
4	3.5-4.5			0.0					Brown silty m-f SAND. Trace	SM	
5					Refusal at 5 ft bg.				brick.		
6	6.0-10.0			0.0					Brown/tan silty SAND.	SM	
7											
8											
9											
10	10 - 11			2.6					Brown silty SAND.	SM	
11	11 - 12			1.7					Olive-grey staining. Silty	SM	
12									SAND. Slight petrol like odor.		
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-9L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/17/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/17/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		
1	0.5 - 5.0			4.0					Brown silty SAND and gravel. Mild petrol like odor. Loose and dry.	SM	NA
2											
3											
4											
5	5.0-9.0			40					Brown silty SAND and gravel. Mild odor. Slight grey staining.	SM	
6											
7											
8											
9	9.0-12.0			140					Grey and black stained-silty SAND. Mild odor.	SM	
10											
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-10L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/17/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/17/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		
1	0.5 - 5.0			0.0					Orange/brown silty SAND.	SM	
2									Trace gravel. Loose and		
3									dry.		
4											
5	5.0-7.0			0.0					Orange/brown c-f silty SAND.	SM	
6											
7	7.0-9.0			0.0					Grey stained sandy SILT.	ML	
8									Strong petrol like odor.		
9	9.0-12.0			110					Black and grey stained sandy	ML	
10									SILT.		
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-11L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/17/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/17/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		
1	0.5 - 5.0			0.0					Brown silty SAND and gravel. Loose and dry. Some brick fragments.	SM	
2											
3											
4											
5	5.0-7.0			0.0					Brown silty SAND and gravel. Loose and dry. Some brick.	SM	
6											
7	7.0-9.0			112					Grey stained sandy SILT. Medium stiff. Dry to moist. Stong petrol like odor.	ML	
8											
9											
10	9.0-12.0			91					Grey stained sandy SILT. Stong petrol like odor.	ML	
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**
Client:	**Consolidated Edison of New York**

Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-12L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/17/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/17/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		
1	0.5 - 5.0			0.0					Dark brown silty SAND, little	SM	
2									gravel. Loose and dry.		
3									Lignite coal at 3.5-4.5 feet.		
4									Some brick fragments.		
5	5.0-7.0			0.0					Dark brown silty SAND, little	SM	
6									gravel. Loose and dry.		
7	7.0-9.0			2.6					Grey stained sandy SILT.	ML	
8									Medium stiff Damp.		
9									Stong petrol like odor.		
10	9.0-12.0			100					Grey stained sandy SILT.	ML	
11									Moderate odor.		
12											

Bottom of boring @ 12 ft bg.

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**
Client:	**Consolidated Edison of New York**

Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-13L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/17/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/17/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		
1	0.5 - 5.0			4.0					Brown silty SAND, trace gravel. Loose and dry. PID reading 4 ppm at 4.5-5.0 feet.	SM	
2											
3											
4											
5	5.0-9.0			20					Heavy black and grey stained silty SAND and sandy SILT. Strong petrol like odor. PID reading 20 ppm at 8 - 9 feet. Stong petrol like odor.	SM/ML	
6											
7											
8											
9											
10	9.0-12.0								Black stained sandy SILT. Wet.	ML	
11											
12				150							
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**
Client:	**Consolidated Edison of New York**

Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-14L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/18/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/18/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	6 ft bg.

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		
1	0.5-5.0			12					Brown c-f silty SAND. Little gravel.	SM	
2											
3											
4											
5	5.0-9.0			43					Grey stained SAND. Wet at 6 feet.	SW	
6											
7											
8											
9											
									Bottom of boring @ 9 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				
Client:	Consolidated Edison of New York				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-15L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/16/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/16/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	5.5 ft bg.

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		
1	0.5-1.5			0.0					Tan c-m SAND some gravel.	SW	
2	1.5-3.5			0.0					Tan c-m SAND. Black spotting.	SW	
3	3.5-4.5			0.0					Brown c-m SAND. Tr. gravel	SW	
4	4.5-7.0			0.0					Tan c-m SAND. Trace gravel.	SW	
5											
6											
7	7.0-8.0			2.5					Heavy olive/black stained	SW	
8					Rock or concrete @ 8 ft bg.				c- f SAND. Tr. Gravel. Wet.		
9									Petroleum-like odor.		
10				52	Refusal @ 10 ft bg.				Visible product at 10 ft bg.		
									Bottom of boring @ 10 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-16L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/16/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/16/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	9 ft bg.

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		
1	0.5-1.5			0.0					Brown c-m SAND. Trace gravel	SW	
2	1.5-2.5			368					Brown c-m SAND. Brick.Strong	SW	
3	2.5-3.5			475					odor. Spotted blk stains.		
4	3.5-4.5			350					Blk-stained c-m SAND. Tr. Grav.	SW	
5					Concrete refusal @ 5 feet -				Strong odor.		
6					1.5 feet thick.						
7											
8	7.0-9.0			0.0					Silty SAND.	SM	
9	9.0-10.0								Black stained silty m-f SAND.	SM	
10	10.0-12.0			65					Wet m-f SAND. Black staining		
12				4					throughout. PID reading	SW	
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-17L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/18/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/18/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot) 0 - 6"	6" - 12"	12" - 18"	18" - 24"	Soil/Rock Description	Soil Classification	Well Construction
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		NA
1	0.5-5.0			68					Brown c-f silty SAND. Little gravel. Loose and dry. Mild petroleum-like odor at bottom	SM	
2											
3											
4											
5	5.5-7.5								Concrete		
6											
7	7.5-12.0								Grey stained sandy SILT and silty SAND. Strong petroleum-like odor.	ML/SM	
8											
9											
10											
11											
12				580							
									Bottom of boring @ 12 ft bg.		

NOTES:

1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	**Con Edison: White Plains Environmental**				
Client:	**Consolidated Edison of New York**				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-18L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/18/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/18/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	NA

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		
1	0.5-5.0			0.0					Brown c-f silty sand, little gravel. Loose and dry.	SM	
2											
3											
4											
5	5.0-9.0			26					Mildly stained brown silty sand. Mild petrol like odor.	SM	
6											
7											
8											
9	9.0-12.0			490					Grey stained and slight sheen sandy silt. Strong petrol like odor.	ML	
10											
11											
12											
									Bottom of boring @ 12 ft bg.		

NOTES:

1) Soil Boring was grouted upon completion.

JACQUES WHITFORD COMPANY, INC

Project:	Con Edison: White Plains Environmental				
Client:	Consolidated Edison of New York				
Contractor:	EPI	**Casing Size:**	NA	**Boring No.**	**RB-19L**
Drilling Method:	DP (Hurricane)	**LEL/O2:**	NA	**Date Started:**	04/16/01
Ground Elevation:	NM	**Checked By:**	NJO	**Date Completed:**	04/16/01
Logged By:	AS	**Protection Level:**	D	**Depth to Water:**	10

Depth (ft)	Sample Interval (ft)	Sample No.	Rec/Pen (inches)	PID Sample (ppm)	Standard Penetration Test (blows/foot)				Soil/Rock Description	Soil Classification	Well Construction
					0 - 6"	6" - 12"	12" - 18"	18" - 24"			
0	0 - 0.5				Hand Dug to 5 ft bg.				Asphalt		
1	0.5-2.5			0.0					Brown c-f SAND. Trace silt.	SW	
2	2.5-3.5			0.0					Brown c-m SAND. Black	SW	
3									staining.		
4	3.5-4.5			42					Brown c-m SAND. Little silt.	SW	
5									Black staining / odor		
6	5.0-9.0								Brown silty m-f SAND. Black-	SM	
7									grey discoloration at 8 feet.		
8									Odor.		
9	9.0-10.0			16					Brown c-m SAND.	SW	
10				2							
11	10.0-12.0								Heavy staining. Grey/black/	SM	
12				49					olive color. Silty SAND.		
									Bottom of boring @ 12 ft bg.		

NOTES:
1) Soil Boring was grouted upon completion.

APPENDIX C
NYSDEC/NYSDOH LETTERS

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau C, 11th Floor
625 Broadway, Albany, New York 12233-7014
Phone: (518) 402-9564 • **FAX:** (518) 402-9679
Website: www.dec.state.ny.us

2003 OCT -1 PM 2:2

Erin M. Crotty
Commissioner

September 23, 2003

Eddy Louie, P.E.
Consolidated Edison Company
31-01 20th Avenue, Bldg. 136
Long Island City, NY 11105-2048

Re: White Plains Former MGP
IRM Work Plan for Phase II Construction Activities
Site No. V00438-3

Dear Mr. Louie:

The Department has completed its review of Con Edison's revised IRM Work Plan dated August 28, 2003. The revised document fails to address certain items from the Department's August 12, 2003 letter and our discussions with Con Edison in several conference calls. I would like to arrange a conference call to address the following items:

1. The work plan should state explicitly that the Department will review the engineering or contract drawings for the NAPL cutoff wall. In addition, the Department is not convinced that only three NAPL recovery wells are sufficient. The wall should be designed with recovery wells sufficient to recover any NAPL that may collect on the upgradient side of the wall. Further discussion regarding the number and location of NAPL recovery wells may be addressed during review of the cutoff wall plans.

2. The Department requested that several NAPL recovery wells be placed where feasible along the northern sidewalk of New Street. These wells would serve two purposes, one being to collect any flowable NAPL residual that is already past the wall; the other is to act as sentinel wells in the event the NAPL cutoff wall fails. The revised work plan continues to refer to only one well, the existing MW-8, which was not designed for NAPL recovery.

3. The Department has received the attached August 13, 2003 letter form the New York State Department of Health (NYSDOH) reflecting their evaluation of soil gas and indoor air samples collected at the subject site. Our review of that evaluation has determined that the DOH has not identified the need for an immediate response action to reduce exposure at the school.

   The NYSDOH does not believe that a conclusive determination can be made at this time to rule out an MGP impact on both the soil gas and indoor air. This pathway should be further evaluated and mitigated as necessary to reduce exposure.

Please contact me to arrange a conference call to discuss these issues.

Sincerely,

Joseph Moloughney, P.E.
Environmental Engineer 2
MGP Remedial Section
Division of Environmental Remediation

ec: R. Pergadia, NYSDEC
D. Geraghty, NYSDOH

STATE OF NEW YORK DEPARTMENT OF HEALTH

6H-P41

Flanigan Square, 547 River Street, Troy, New York 12180-2216

Antonia C. Novello, M.D., M.P.H., Dr.P.H.
Commissioner

Dennis P. Whalen
Executive Deputy Commissioner

August 13, 2003

RECEIVED AUG 21 2003 DIVISION OF ENVIRONMENTAL REMEDIATION

Mr. Joseph Moloughney
Division of Environmental Remediation
NYS Department of Environmental Conservation
Albany, New York

Re: White Plains MGP
Site # V004383
White Plains, Westchester County

Dear Mr. Moloughney:

With the assistance of Mr. Michael Hughes of the NYSDOH Bureau of Toxic Substance Assessment, I have reviewed the August 5, 2003 Report on Evaluation for Sub-Surface Vapor Intrusion at the St. John's School in White Plains, Westchester County. The samples were collected to evaluate whether chemical vapors from the adjacent Con Edison MGP site are affecting the indoor air of the school and associated buildings. I have the following comments:

1. Petroleum hydrocarbons were detected in all of the soil gas samples within and outside the school. The petroleum hydrocarbons in the majority of the indoor samples appear to reflect the same soil gas compounds. The levels detected were above typical background (25%-75% range). The source of these petroleum-related compounds is not adequately characterized and may be related to the MGP waste adjacent and beneath the school property.

2. The conclusions in the evaluation state that the sources of the petroleum hydrocarbon vapors are outdoor vehicle emissions or products stored in the school. However, the levels of petroleum related compounds measured in indoor air are higher than the levels measured outdoors. In addition, there is no information that describes the heating and ventilation conditions in the school during sampling. The sampling was conducted in February, therefore it would be expected that windows would be closed, and the heating plant would be operating, creating a negative pressure differential in the basement where the boilers are located. Intrusion of sub-surface vapors would have the greatest potential under these conditions and appear to be reflected by the data.

3. The product inventory of the school buildings identifies several products that may contain petroleum distillates, however, there is no supporting field observations to state that products in the basement locations are the source or even contributing to the elevated levels of petroleum hydrocarbons in the indoor air. Such statements should be

accompanied with real-time data measurements from a sensitive PID (calibrated at 10 ppm), ppbRae, or similar device.

In summary, the data indicate that the soil gas and indoor air are being affected by a petroleum source. The levels of petroleum hydrocarbons and non-petroleum hydrocarbons in the soil gas within and outside the school are sufficiently elevated to potentially migrate into the indoor air. This pathway should be further evaluated and should be mitigated as necessary to reduce exposure. An analysis of the volatile fraction of the MGP waste at this site could be useful in evaluating whether the volatile constituents detected in soil gas and indoor air are related to the waste. I have attached a public comment version of a New York State Department of Health developed report entitled "Volatilization Study of Manufactured Gas Plant (MGP) Waste and Petroleum Fuels". The volatilization study provides a means of evaluating environmental data to determine whether compounds detected in soil gas are derived from MGP waste or other petroleum fuels.

If you have any questions please contact me by telephone at (518) 402-7890 or by e-mail at drg01@health.state.ny.us.

Sincerely,

Daniel R. Geraghty
Program Research Specialist III
Bureau of Environmental Exposure Investigation

cc: Mr. G. Litwin / Mr. M. Rivara / file
Mr. G. McDonald / Mr. M. Hughes
Mr. M. Knudsen – New Paltz Field Office
Ms. C. Torres – WCHD
Mr. R. Pergadia – NYSDEC, Reg.3
Mr. R. Schick – NYSDEC

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APPENDIX D
HYDROCARBON FINGERPRINT REPORTS

D-1 Soil Sample Fingerprint Report

D-2 Groundwater Sample Fingerprint Report

Appendix D-1
Soil Sample Fingerprint Reports

SOILS

META Environmental, Inc.

49 Clarendon Street
Watertown, MA 02472
TEL: (617) 923-4662
FAX: (617) 923-4610

FACSIMILE TRANSMITTAL SHEET

TO:	Imants Reks Parsons Engineering Science 290 Elwood Davis Road, Suite 290 Syracuse, NY 13088
FAX NO:	315-451-9570
TOTAL PAGES:	
SENT BY:	Stephen Emsbo-Mattingly
SUBJECT:	Con-Ed White Plains S/S Hydrocarbon Fingerprinting Report
COMMENTS:	Hardcopy will be sent by US Postal Service.

Please Note Our New ZIP Code:

02472-2872

META Environmental, Inc.
49 Clarendon Street
Watertown, MA 02472
TEL: (617) 923-4662
FAX: (617) 923-4610

29 March 2000

Ms. Yelena Skorobogatov
Consolidated Edison
31-01 20th Avenue, Building 138
Long Island City, NY 11105

RE: Hydrocarbon Fingerprinting Analyses

Dear Ms. Skorobogatov:

This package contains the analytical results from six soil samples received on 17, 20, and 21 March 2000 by META Environmental, Inc. (META) from Parsons Engineering Science. Three reference materials were selected from the META reference materials archive for comparative purposes.

Methods

Two grams of soil were dried with sodium sulfate and extracted with 15 mL of dichloromethane (DCM). The extracts were dried with sodium sulfate and concentrated to 1 mL. The extracts were spiked with internal standard and analyzed on a gas chromatograph equipped with a flame ionization detector (GC/FID) for monocyclic aromatic hydrocarbons (MAHs), polycyclic aromatic hydrocarbons (PAHs), and hydrocarbon fingerprint.

Analytical Results

The concentrations of MAHs and PAHs and hydrocarbon fingerprints follow this narrative.

The relative abundance of PAHs in all samples resembled the tar reference material. The concentration of total MAHs and PAHs was used to rank the samples from highest to lowest tar concentration as follows: TB-2 17.5', TB-1 36-39', SB-1, MW-5, TB-5, and TB-1 28-30'. The ratio of fluoranthene to pyrene was consistent among samples (0.79 ± 0.06) and suggested that the samples shared a common tar origin. Assuming that the samples shared a common origin, the ratio of naphthalene to pyrene indicated that sample SB-1 was least weathered; samples TB-2 17.5', MW-5, and TB-5 were intermediately weathered; and TB-1 28-30', and TB-1 36-39' were most weathered. These samples exhibited no strong evidence of bydrocarbon-based substances other than tar.

Please do not hesitate to contact me if you have any questions about these data.

Sincerely,

Stephen Emsbo-Mattingly
Laboratory Director

cc: Imats Reks, Parsons Engineering Science

ANALYTICAL RESULTS
MAHs and PAHs
Client: Parsons Project: White Plains S/S

Lab ID Field ID:	PW000317-01, MW-5 7-10'	PW000320-01 SB-1 8'-10'	PW000320-02 TB-5 10.5'-11.5'
MAHs:			
Benzene	0.17 JB	0.21 JB	0.17 JB
Toluene	0.38	4.06	0.16 J
Ethylbenzene	5.67	5.32	2.38
m/p-Xylene	4.25	1.98	2.05
Styrene	0.34	1.54	0.29
o-Xylene	2.67	3.10	1.78
1,2,4-Trimethylbenzene	6.66	34.8	5.54
Total MAHs:	13.5	16.2	6.83
PAHs:			
Naphthalene	132	354 D	57.1
2-Methylnaphthalene	83.6	130	27.1
1-Methylnaphthalene	60.3	78.7	22.3
Acenaphthylene	3.98	6.07	1.96
Acenaphthene	48.6	74.1	14.6
Dibenzofuran	6.00	6.87	2.02
Fluorene	26.1	35.4	10.1
Phenanthrene	62.0	101	25.2
Anthracene	18.3	29.9	8.28
Fluoranthene	17.5	39.2	8.65
Pyrene	23.3	47.8	10.8
Benz(a)anthracene	10.8	24.0	5.06
Chrysene	9.15	19.3	4.16
Benzo(b)fluoranthene	3.00	7.68	1.64
Benzo(k)fluoranthene	4.42	10.1	2.25
Benzo(a)pyrene	6.65	16.8	3.46
Indeno(1,2,3-cd)pyrene	2.33	6.76	1.36
Dibenz(a,h)anthracene	0.75	1.91	0.44
Benzo(g,h,i)perylene	3.06	7.56	1.67
Total PAHs:	515	990	206
Quantitation Limit:	0.21	0.23	0.24
Detection Limit:	0.08	0.09	0.09
Fluorobenzene (SS1)	83%	79%	82%
2-Fluorobiphenyl (SS2)	89%	92%	86%
Concentration Units:	mg/kg	mg/kg	mg/kg

B = Analyte detected in the blank
D = Values from a diluted sample extract
DL = QC compounds diluted out
E = Estimated value, above calibration range
I = Interference
J = Estimated value

L = Coeluted with compound listed above
NM = Not measured
U = Not detected at quantitation limit shown
Total MAHs does not include 1,2,4-Trimethylbenzene.
Total PAHs does not include Dibenzofuran.
All soil results reported on a dry weight basis.

META

ANALYTICAL RESULTS
MAHs and PAHs
Client: Parsons Project: White Plains S/S

Lab ID / Field ID:	PW000321-01 TB-1, 28-30'		PW000321-02/10 TB-1, 38-39'		PW000321-03/10 TB-2, 17.5'	
MAHs:						
Benzene	0.17	JB	4.91	B	1,240	B
Toluene	0.25	U	30.4		1,700	
Ethylbenzene	0.25	U	12.6		6,080	
m/p-Xylene	0.11	J	17.8		3,960	
Styrene	0.25	U	20.1		137	
o-Xylene	0.25	U	9.46		1,640	
1,2,4-Trimethylbenzene	0.25	U	98.8		2,010	
Total MAHs:	0.28		95.1		14,800	
PAHs:						
Naphthalene	2.17		1,070		39,100	
2-Methylnaphthalene	1.53		423		13,200	
1-Methylnaphthalene	1.01		561		7,610	
Acenaphthylene	0.18	J	153		1,960	
Acenaphthene	1.63		696		7,610	
Dibenzofuran	0.12	J	254		474	
Fluorene	1.01		573		4,390	
Phenanthrene	3.20		2,010		12,600	
Anthracene	0.91		547		4,440	
Fluoranthene	1.29		832		4,860	
Pyrene	1.76		948		6,580	
Benz(a)anthracene	0.68		441		2,530	
Chrysene	0.49		369		2,300	
Benzo(b)fluoranthene	0.20	J	167		929	
Benzo(k)fluoranthene	0.35		225		1,510	
Benzo(a)pyrene	0.46		316		2,310	
Indeno(1,2,3-cd)pyrene	0.12	J	138		923	
Dibenz(a,h)anthracene	0.25	U	40.5		240	
Benzo(g,h,i)perylene	0.22	J	150		1,080	
Total PAHs:	17.2		9,650		114,000	
Quantitation Limit:	0.25		3.00		36.5	
Detection Limit:	0.10		1.20		14.6	
Fluorobenzene (SS1)	83%		102%		112%	
2-Fluorobiphenyl (SS2)	90%		109%		I	
Concentration Units:	mg/kg		mg/kg		mg/kg	

B = Analyte detected in the blank
D = Values from a diluted sample extract
DL = QC compounds diluted out
E = Estimated value, above calibration range
I = Interference
J = Estimated value
L = Coeluted with compound listed above
NM = Not measured
U = Not detected at quantitation limit shown
Total MAHs does not include 1,2,4-Trimethylbenzene.
Total PAHs does not include Dibenzofuran.
All soil results reported on a dry weight basis.

ANALYTICAL RESULTS
MAHs and PAHs
Client: Parsons Project: White Plains S/S

Lab ID Field ID:	PW000322-SB Soil Blank		PW000322-SBS Blank Spike	PW000321-01MS TB-1, 28-30'
MAHs:				
Benzene	0.13	J	79%	82%
Toluene	0.23	U	95%	100%
Ethylbenzene	0.23	U	95%	82%
m/p-Xylene	0.23	U	95%	88%
Styrene	0.23	U	94%	100%
o-Xylene	0.23	U	96%	94%
1,2,4-Trimethylbenzene	0.23	U	95%	91%
Total MAHs:	0.13			
PAHs:				
Naphthalene	0.23	U	98%	-357%
2-Methylnaphthalene	0.23	U	98%	-188%
1-Methylnaphthalene	0.23	U	98%	-107%
Acenaphthylene	0.23	U	99%	90%
Acenaphthene	0.23	U	99%	-62%
Dibenzofuran	0.23	U	98%	83%
Fluorene	0.23	U	97%	16%
Phenanthrene	0.23	U	98%	-102%
Anthracene	0.23	U	99%	38%
Fluoranthene	0.23	U	99%	50%
Pyrene	0.23	U	98%	30%
Benz(a)anthracene	0.23	U	97%	69%
Chrysene	0.23	U	100%	75%
Benzo(b)fluoranthene	0.23	U	95%	90%
Benzo(k)fluoranthene	0.23	U	103%	94%
Benzo(a)pyrene	0.23	U	98%	82%
Indeno(1,2,3-cd)pyrene	0.23	U	96%	91%
Dibenz(a,h)anthracene	0.23	U	101%	103%
Benzo(g,h,i)perylene	0.23	U	99%	90%
Total PAHs:	ND			
Quantitation Limit:	0.23			
Detection Limit:	0.09			
Fluorobenzene (SS1)	82%		82%	85%
2-Fluorobiphenyl (SS2)	80%		91%	98%
Concentration Units:	mg/kg			

B = Analyte detected in the blank
D = Values from a diluted sample extract
DL = QC compounds diluted out
E = Estimated value, above calibration range
I = Interference
J = Estimated value

L = Coeluted with compound listed above
NM = Not measured
U = Not detected at quantitation limit shown
Total MAHs does not include 1,2,4-Trimethylbenzene.
Total PAHs does not include Dibenzofuran.
All soil results reported on a dry weight basis.

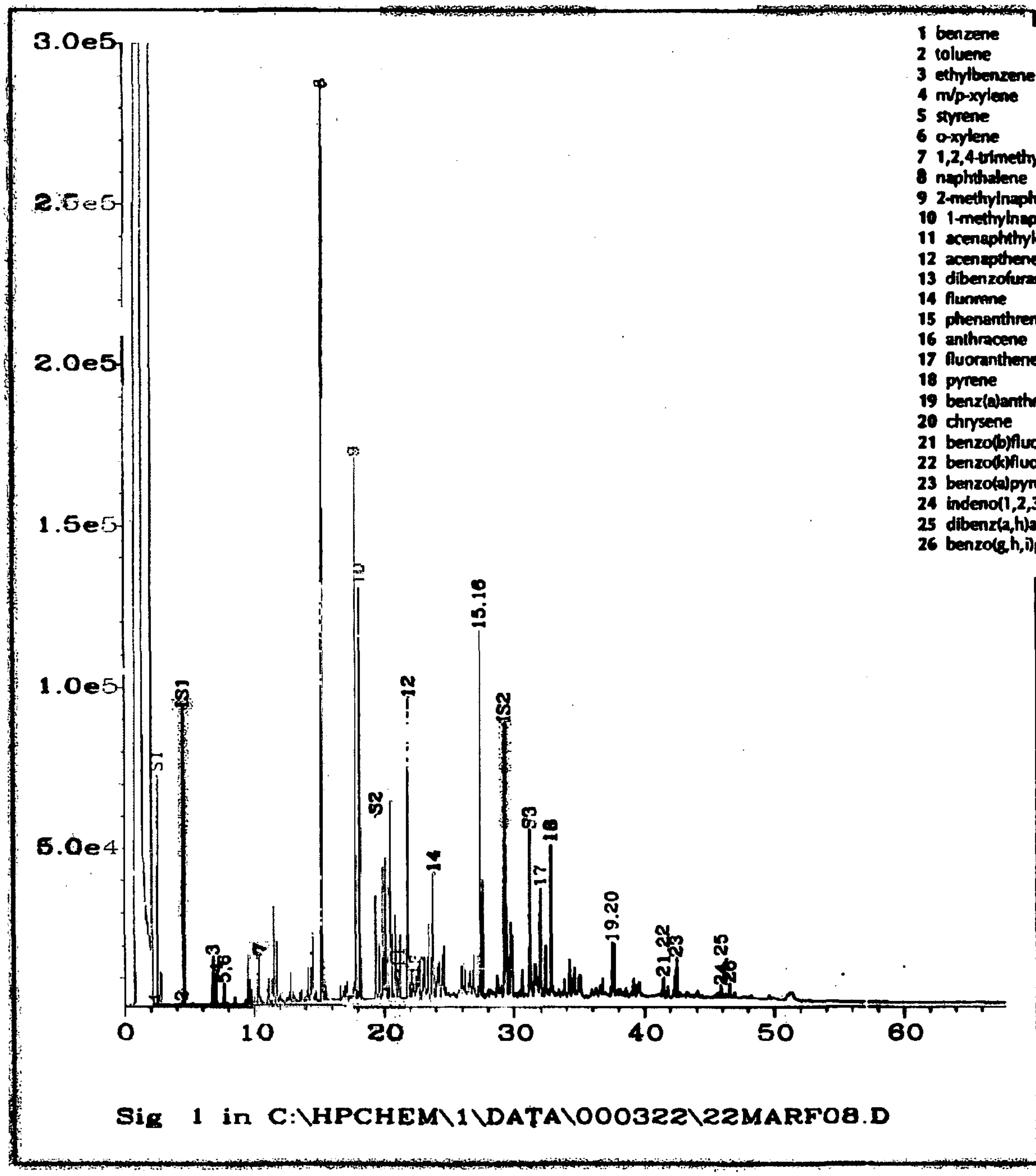
ANALYTICAL RESULTS
MAHs and PAHs
Client: Parsons Project: White Plains S/S

Lab ID Field ID:	PW000320-02 TB-5	PW000320-02Dup TB-5	Laboratory Duplicate Relative Percent Difference
MAHs:			
Benzene	0.17 JB	0.15 JB	11%
Toluene	0.16 J	0.16 J	1%
Ethylbenzene	2.38	2.62	10%
m/p-Xylene	2.05	2.29	11%
Styrene	0.29	0.36	20%
o-Xylene	1.78	2.08	16%
1,2,4-Trimethylbenzene	5.54	6.38	14%
Total MAHs:	6.83	7.67	12%
PAHs:			
Naphthalene	57.1	63.3	10%
2-Methylnaphthalene	27.1	30.1	10%
1-Methylnaphthalene	22.3	24.4	9%
Acenaphthylene	1.96	1.64	18%
Acenaphthene	14.6	15.3	5%
Dibenzofuran	2.02	1.77	13%
Fluorene	10.1	10.5	4%
Phenanthrene	25.2	26.3	4%
Anthracene	8.28	8.30	0%
Fluoranthene	8.65	9.15	6%
Pyrene	10.8	12.1	11%
Benz(a)anthracene	5.06	5.40	7%
Chrysene	4.18	4.44	6%
Benzo(b)fluoranthene	1.64	1.73	5%
Benzo(k)fluoranthene	2.25	2.38	6%
Benzo(a)pyrene	3.46	3.64	5%
Indeno(1,2,3-cd)pyrene	1.36	1.43	5%
Dibenz(a,h)anthracene	0.44	0.45	2%
Benzo(g,h,i)perylene	1.67	1.73	4%
Total PAHs:	206	222	8%
Quantitation Limit:	0.24	0.25	
Detection Limit:	0.09	0.10	
Fluorobenzene (SS1)	82%	84%	3%
2-Fluorobiphenyl (SS2)	86%	89%	4%
Concentration Units:	mg/kg	mg/kg	

B = Analyte detected in the blank
D = Values from a diluted sample extract
DL = QC compounds diluted out
E = Estimated value, above calibration range
I = Interference
J = Estimated value

L = Coeluted with compound listed above
NM = Not measured
U = Not detected at quantitation limit shown
Total MAHs does not include 1,2,4-Trimethylbenzene.
Total PAHs does not include Dibenzofuran.
All soil results reported on a dry weight basis.

GC/FID Fingerprint

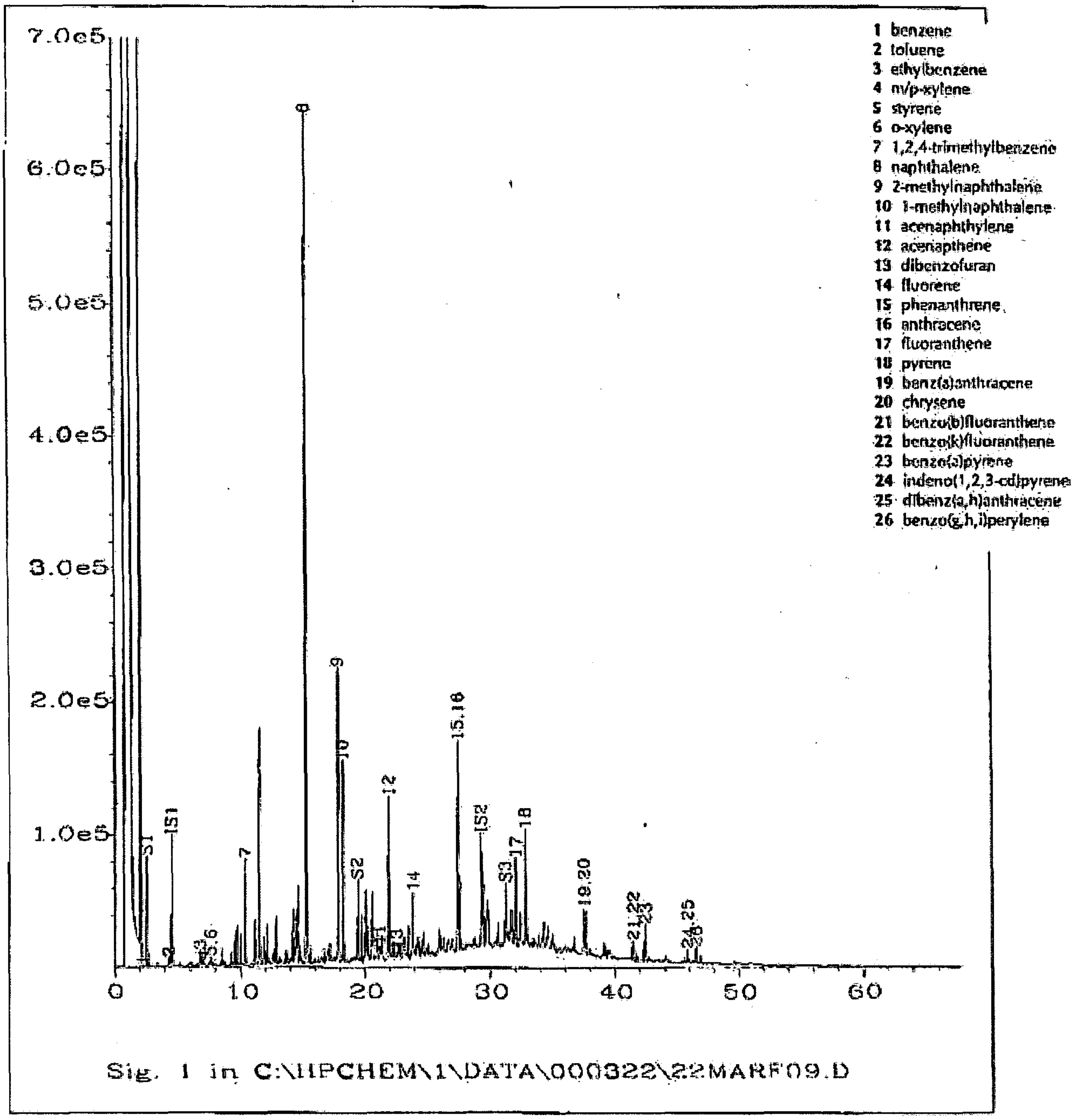


IS1 - 2,4-difluorotoluene
IS2 - o-terphenyl
S1 - fluorobenzene
S2 - 2-fluorobiphenyl
S3 - 5a-androstane

Field ID:	**MW-5**
Laboratory ID:	PW000317-01
Method:	MET4007D

META

GC/FID Fingerprint

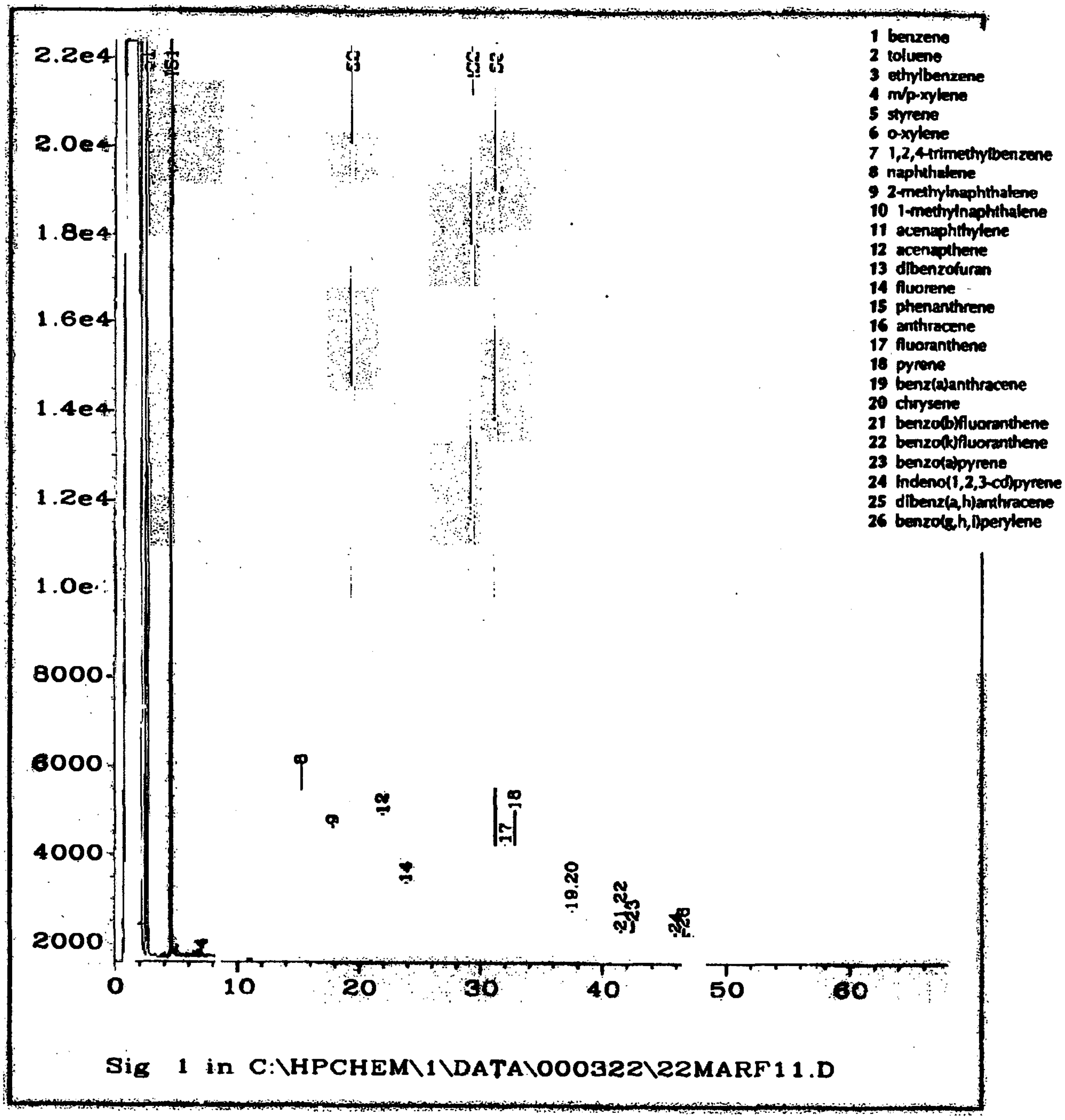


IS1 - 2,4-difluorotoluene
IS2 - o-terphenyl
S1 - fluorobenzene
S2 - 2-fluorobiphenyl
S3 - 5a-androstane

Field ID:	**SB-1**
Laboratory ID:	PW000320-01
Method:	MET4007D

META

GC/FID Fingerprint

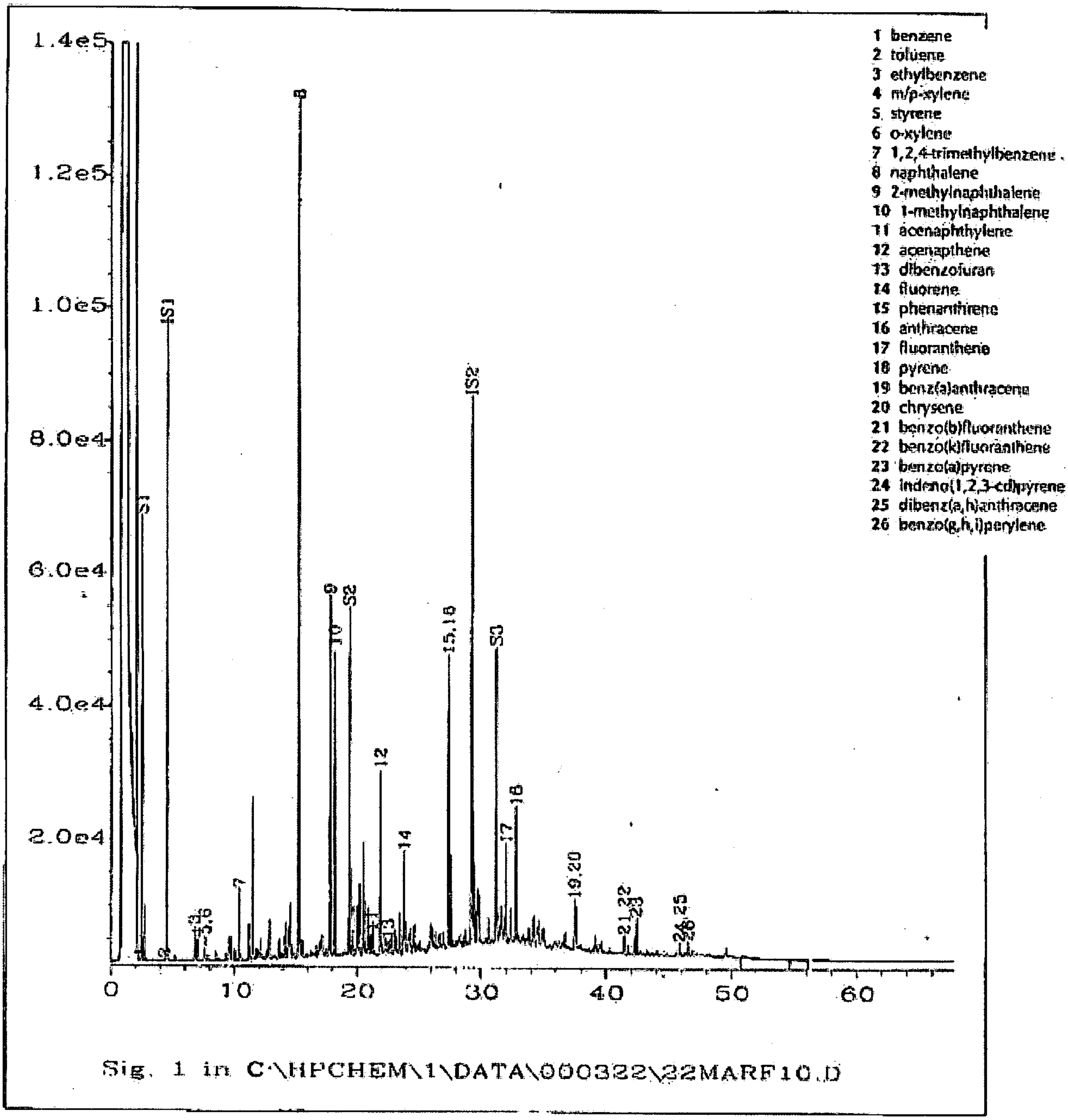


IS1 - 2,4-difluorotoluene
IS2 - o-terphenyl
S1 - fluorobenzene
S2 - 2-fluorobiphenyl
S3 - 5a-androstane

Field ID:	**TB-1, 28-30'**
Laboratory ID:	PW000321-01
Method:	MET4007D

META

GC/FID Fingerprint

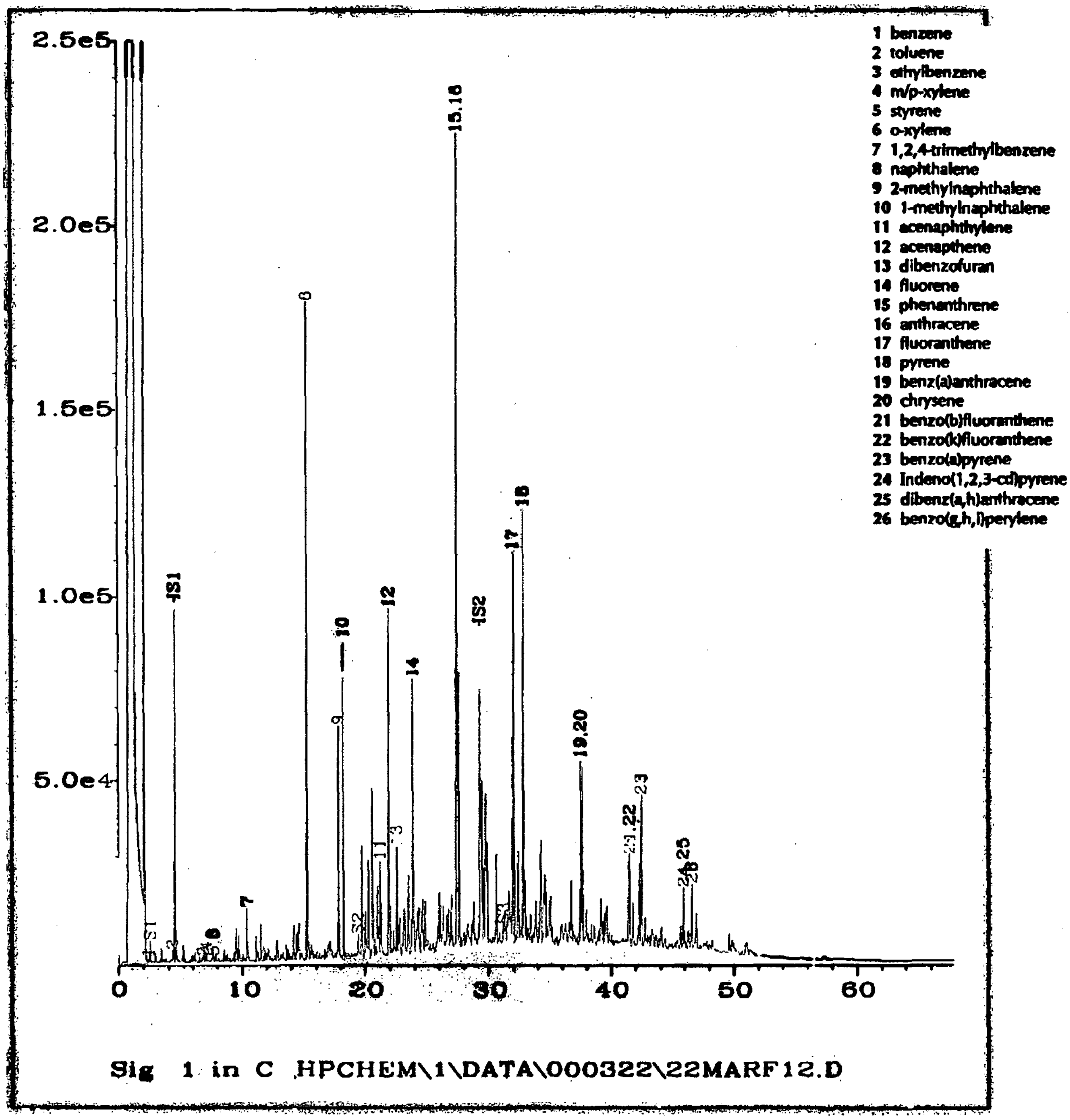


IS1 - 2,4-difluorotoluene
IS2 - o-terphenyl
S1 - fluorobenzene
S2 - 2-fluorobiphenyl
S3 - 5a-androstane

Field ID:	**TB-5**
Laboratory ID:	PW000320-02
Method:	MET4007D

META

GC/FID Fingerprint

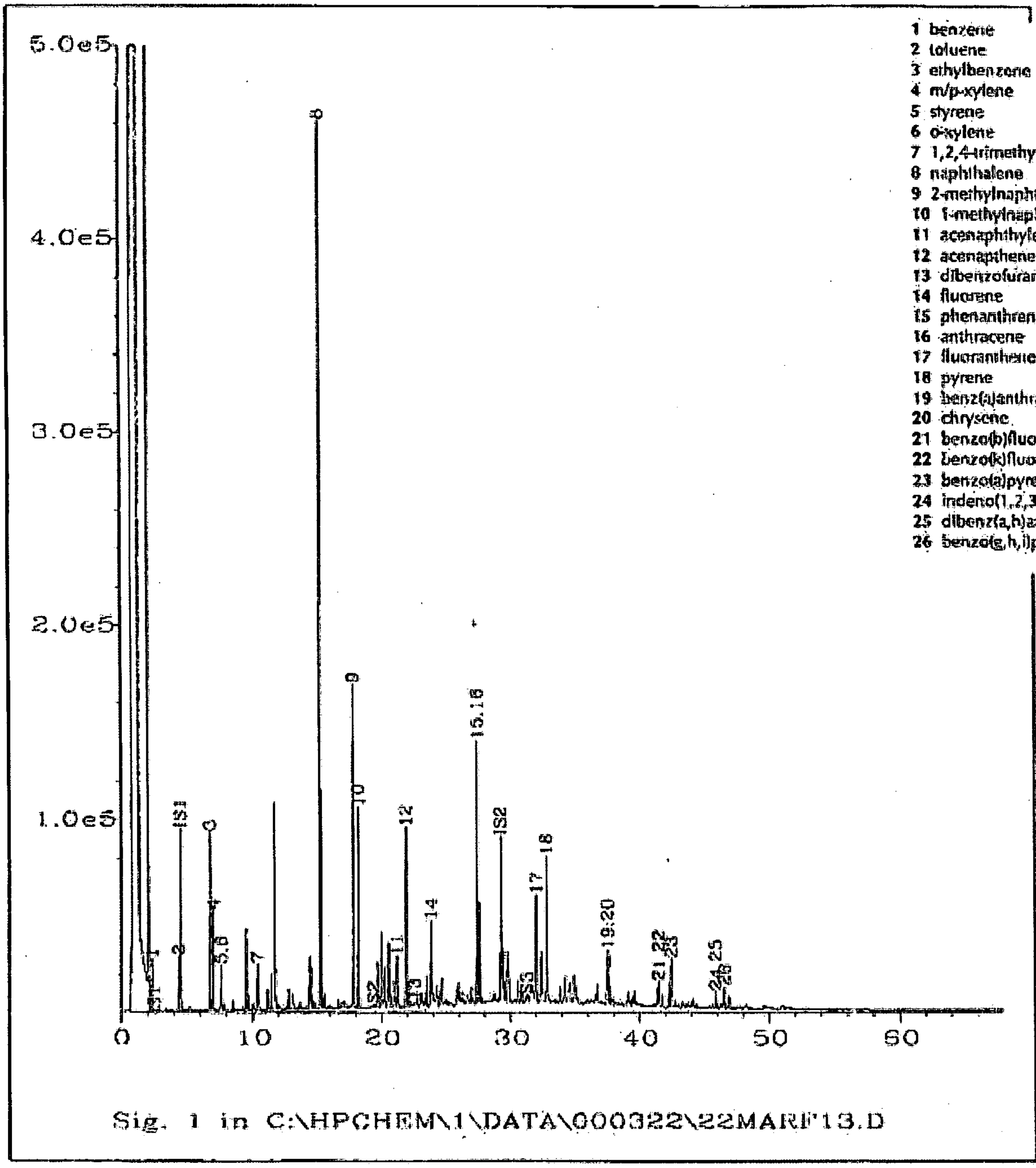


IS1 - 2,4-difluorotoluene
IS2 - o-terphenyl
S1 - fluorobenzene
S2 - 2-fluorobiphenyl
S3 - 5a-androstane

Field ID:	**TB-1, 36-39'**
Laboratory ID:	PW000321-02
Method:	MET4007D

META

GC/FID Fingerprint

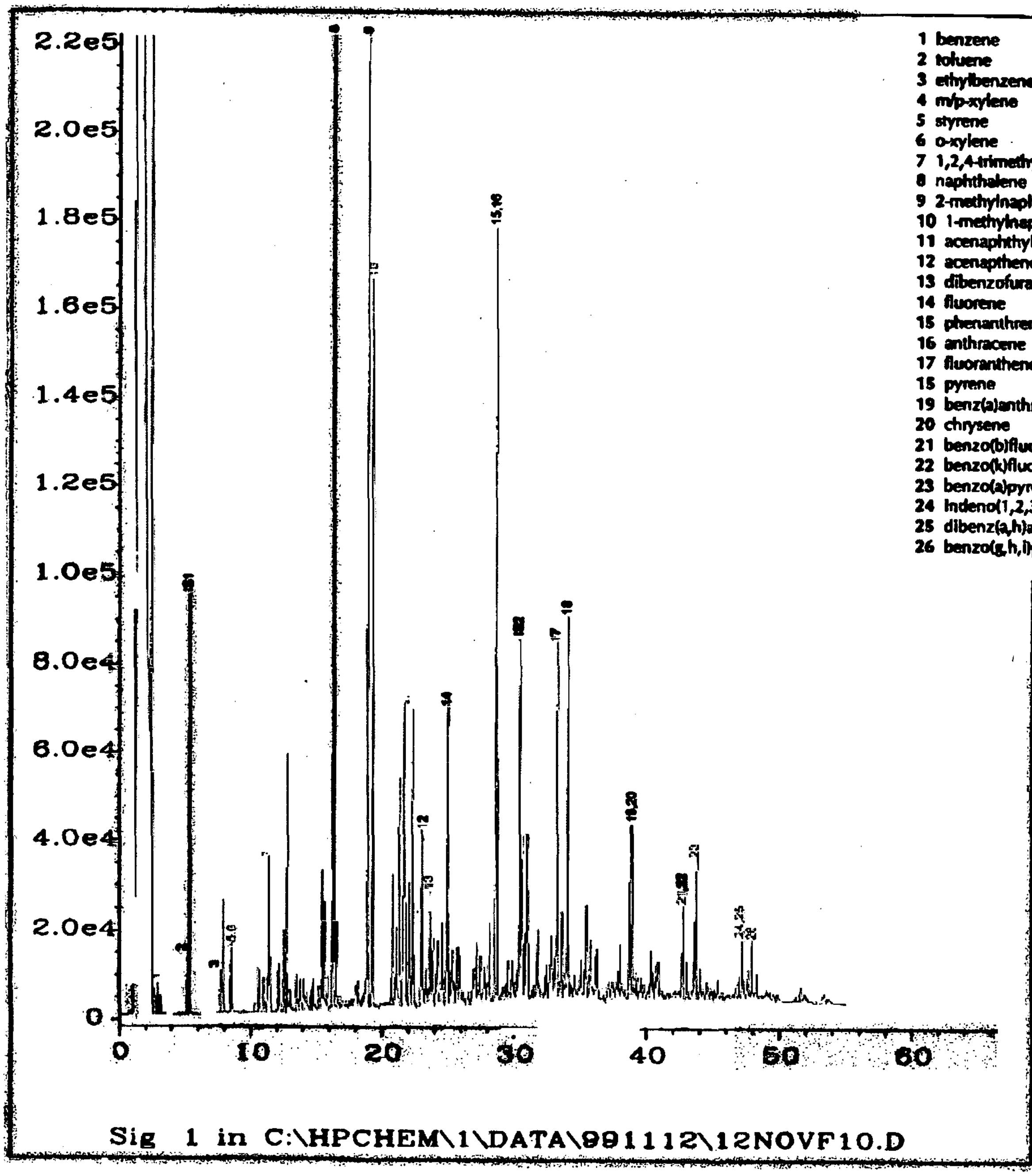


IS1 - 2,4-difluorotoluene
IS2 - o-terphenyl
S1 - fluorobenzene
S2 - 2-fluorobiphenyl
S3 - 5a-androstane

Field ID:	**TB-2, 17.5'**
Laboratory ID:	PW000321-03
Method:	MET4007D

META

GC/FID Fingerprint

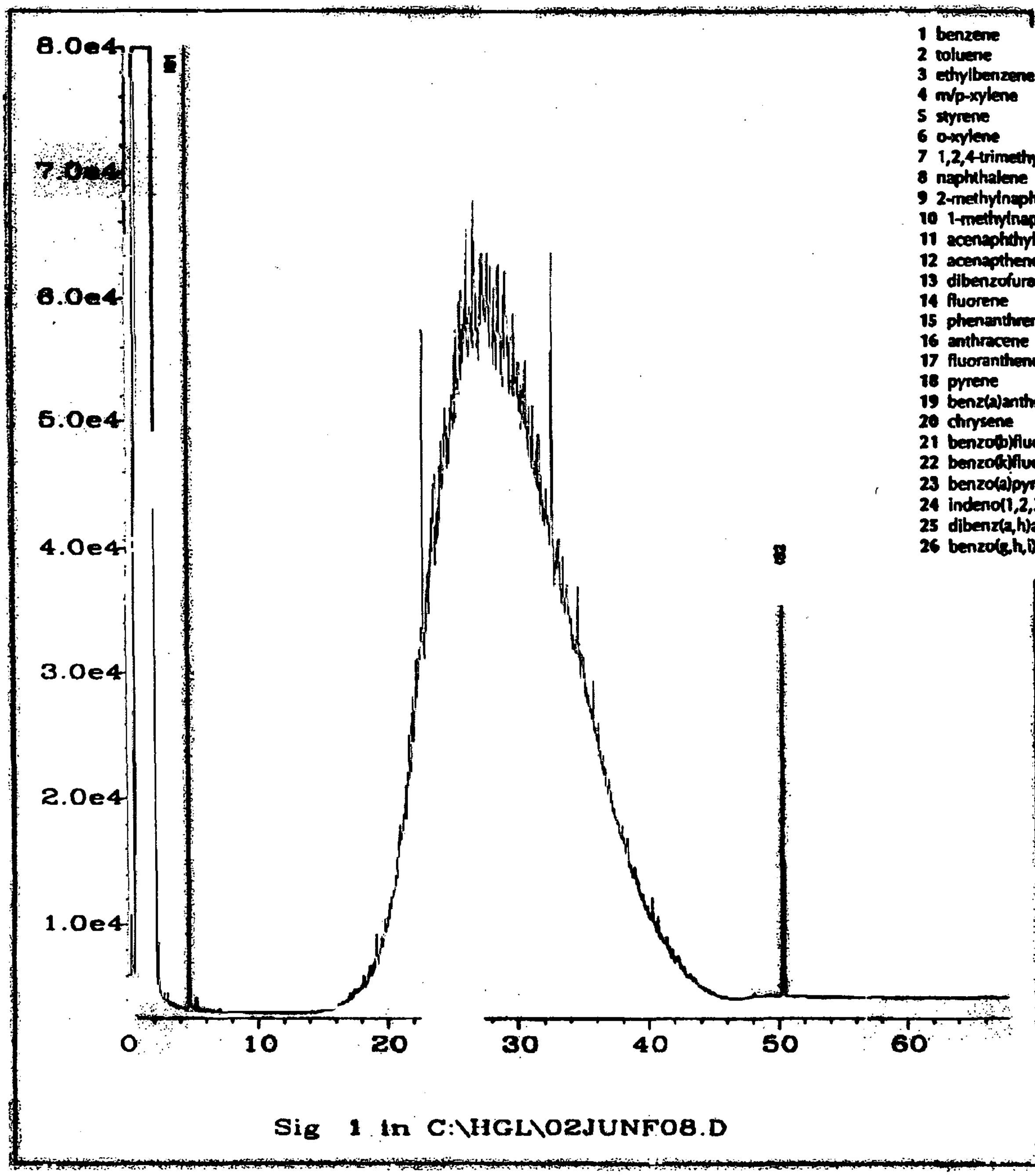


IS1 - 2,4-difluorotoluene
IS2 - o-terphenyl
S1 - fluorobenzene
S2 - 2-fluorobiphenyl
S3 - 5a-androstane

Field ID:	**MGP Tar (Mixed)**
Laboratory ID:	EL991110-03 (T012)
Method:	MET4007D

META

GC/FID Fingerprint

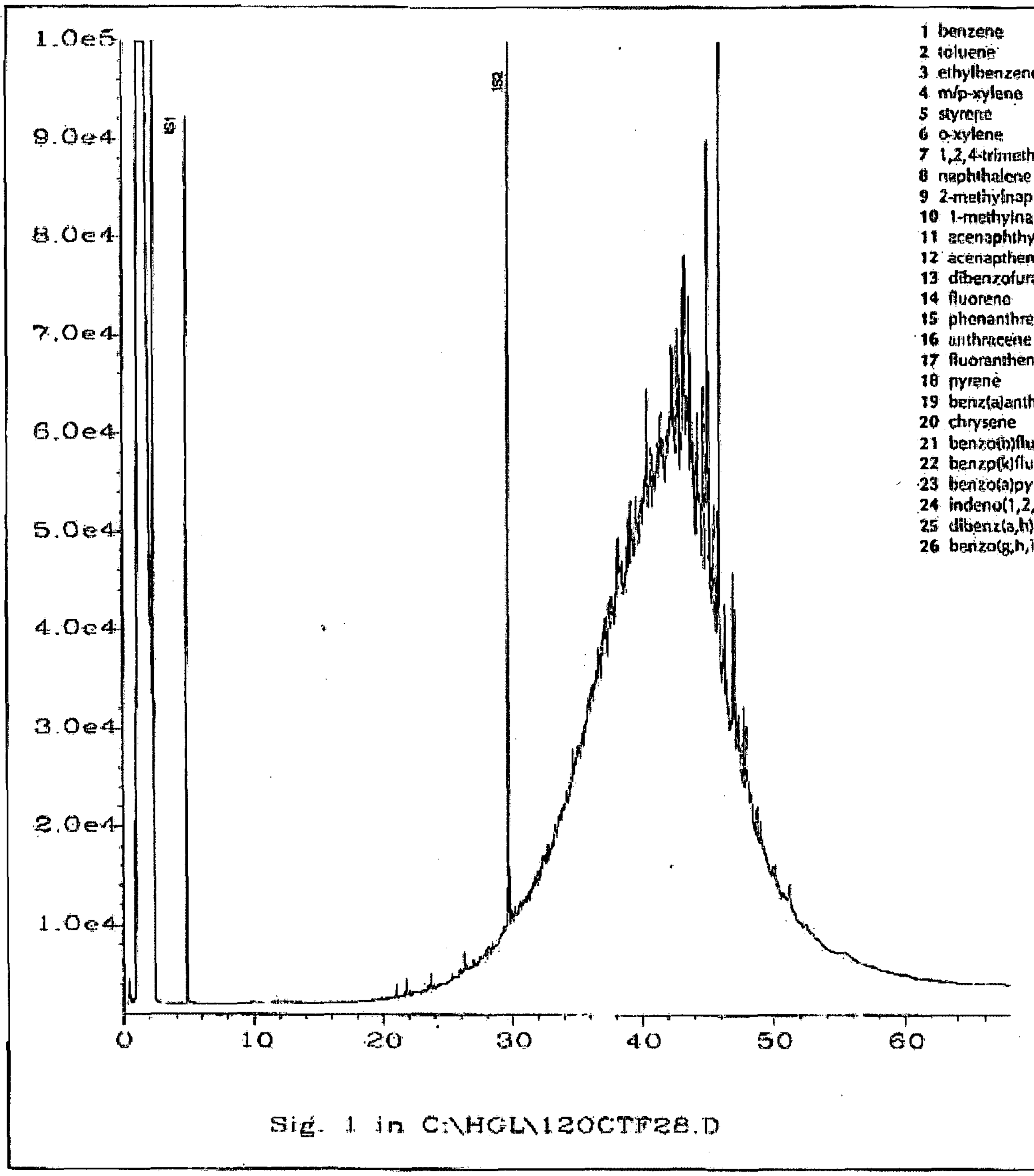


IS1 - 2,4-difluorotoluene
IS2 - triacontane
S1 - Fluorobenzene
S2 - 2-Fluorobiphenyl
S3 - 5a-Androstane

Field ID:	Mineral Oil
Laboratory ID:	P084
Method:	MET4007D

META

GC/FID Fingerprint



IS1 - 2,4-difluorotoluene
IS2 - o-terphenyl
S1 - Fluorobenzene
S2 - 2-Fluorobiphenyl
S3 - 5a-Androstane

Field ID:	**Dielectric Fluid**
Laboratory ID:	P169
Method:	MET4007D

META

META ENVIRONMENTAL SAMPLE RECEIPT							
Lab ID	Field ID	Matrix	Analysis	Date Sampled	Date Received	Client Project ID	Container/ Storage
EH000317-01	MW-5	Soil	2508/4007	03/15/00	03/17/00	P06004-60	8 oz. Jar

pw

3/17/00

EH&S ChemLab
Chain-of-Custody/Request for Analysis

Consolidated Edison (Bldg. 136)
31-01 20th Avenue, L.I.C., NY 11105

Tel: (718) 204 4124
Fax: (718) 956-6058

03/31/00 FRI 18:18 FAX 6179234610 META ENVIRONMENTAL

(1)
LSN: *(Lab Use Only)* 00-02458
e² MIS Incident #:
Chain-of-Custody ID #: **AA14668**

Sample Site: White Plains S/S
Borough: MH ☐, BK ☐, QN ☐, BX ☐, WE ☐, SI ☐

Requested By: Yelena Skorobogotov Employee #: 84153 Telephone #: (718) 2044205 Account #: 66993

E-mail Notification: SKOROBOGATOVY, KOEHLERC Organization: *(*Check Box Below)* Dept. 24-hour Tel. #: (   )

Sampled By: David Gerschwiler Employee #: Asbestos License #: Customer's ID #:

(2) Priority: E (within 8 hours) A (within 24 hours) (B) (within 7 days)

An 'E' or 'A' priority requires an e²MIS incident # or an operational necessity justification:

Preservation Information:
Temp Blank: Yes ____ No ____ °C ____
Preserved with
Comments:

SAMPLE INFO
TYPE: G-Grab; C-Composite; B-Blank; D-Duplicate; S-Split; SP-Splits
MATRIX: BL-Bluestone; L-Liquid; S-Solid; O-Oil; W-Water; WO-Water & Oil; SO-Soil; SL-Sludge; WI-Wipe; A-Air; GC-Gas Cond

(5) Analysis (Test) required — include method number if applicable

Collected Date	Collected Time	(3) Sample Location / Description	VLT/MH/POLE # EQUIP. SERIAL #	(4) Sample Matrix	Sample Type	Total # of samples	Total # of containers	OIL ID	PCB	TCLP VOC	TCLP SVOC	TCLP METALS	TCLP BENZENE	TCLP FULL ... PEST & HERB	BTEX	OIL & GREASE	TIS	GAS/B-OIL	TOTAL BENZENE	ASBESTOS	DIELECTRIC	TOTAL HALOGENS	TPH	IGNITABILITY	REACTIVITY	Fingerprint DRO GC FID	If EPOCS sample, check box	e²MIS Sample ID # (Not Incident #)
3/15/00	0830	MW-5, 7-10'		SO	C	1										EA RW	003	17	-01						X			

Comments / Special Instructions / Additional E Mail Notifications: Sample to be sent to Meta Environmental with arrangements made by Yelena Skorobogotov

Central Services
☒ Environment, Health & Safety
☐ Transportation & Stores
☐ Research & Development
☐ Facilities & Office Services

Electric Operations
☐ Customer Services
☐ Distribution Engineering
☐ Manhattan
☐ Bronx & Westchester
☐ Staten Island
☐ Brooklyn & Queens
☐ Customer Operations

Central Operations
☐ System & Transmission Operations
☐ Maintenance Services
☐ Energy Management
☐ Substation Operations
☐ Steam Operations

Nuclear Operations
☐ Nuclear Power
☐ Nuclear Engineering
☐ Public Affairs

☐ Gas Ops
☐ Law
☐ Auditing

(6)

Relinquished by (Sampler): (Signature)	Date / Time	Received by (Signature)	Date / Time	Relinquished by (Signature)	Date / Time	Received by (Signature)	Date / Time
David Gerschwiler	3-15-00 / 1715	J Ballweg	3/15 / 1715	J Ballweg	3/16 / 1600	Dwy Beh...	3/17/00 / 12:30 PM
Relinquished by (Signature):	Date / Time	Received by (Signature):	Date / Time	Relinquished by (Signature):	Date / Time	Received by (Signature):	Date / Time
Relinquished by (Signature):	Date / Time	Received by (Signature):	Date / Time	Relinquished by (Signature):	Date / Time	Received by (Signature):	Date / Time

CHEMICAL SECTION RECEIVED 2000 MAR 16 P 3:

LABORATORY COPY

META ENVIRONMENTAL SAMPLE RECEIPT

Lab ID	Field ID	Matrix	Analysis	Date Sampled	Date Received	Client Project	Container/Storage
PW000320-01	SB-1	Soil	2508/4007	03/16/00	03/20/00	P06004-60	8 oz. jar
PW000320-02	TB-5	Soil	2508/4007	03/16/00	03/20/00	P06004-60	8 oz. jar

3/20/00

EH&S ChemLab
Chain-of-Custody/Request for Analysis

Consolidated Edison (Bldg. 136)
31-01 20th Avenue, L.I.C., NY 11105
Tel: (718) 204 4124
Fax: (718) 956-8058

(1)
LSN: (Lab Use Only) 00-02508
e²MIS Incident #:
Chain-of-Custody ID #: **AA14670**
Sample Site: White Plains Substation
Borough: MH ☐, BK ☐, QN ☐, BX ☐, WE ☐, SI ☐
Requested By: Yelena Skorobogatov Employee #: 84153 Telephone #:
Account #:
E-mail Notification:
Organization: (*Check Box Below) Dept. 24-hour Tel. #: ( )
Sampled By: David Gerschwiler (Gei) Employee #:
Asbestos License #:
Customer's ID #:

(2) Priority: E (within 8 hours) A (within 24 hours) B (within 7 days)
An 'E' or 'A' priority requires an e²MIS incident # or an operational necessity justification:

Preservation Information:
Temp Blank: Yes ___ No ✓ °C ___
Preserved with
Comments:

SAMPLE INFO
TYPE: G-Grab; C-Composite; B-Blank; D-Duplicate; S-Split; SP-Spike
MATRIX: BL-Bluestone; L-Liquid; S-Solid; O-Oil; W-Water; WO-Water & Oil; SO-Soil; SL-Sludge; WI-Wipe; A-Air; GC-Gas Cond

(5) Analysis (Test) required — include method number if applicable: Total # of samples; Total # of containers; OIL ID; PCB; TCLP VOC; TCLP SVOC; TCLP METALS; TCLP BENZENE; TCLP FULL MINUS PEST & HERB; BTEX; OIL & GREASE; TSS; GAS-IN-OIL; TOTAL BENZENE; ASBESTOS; DIELECTRIC; TOTAL HALOGENS; TPH; IGNITABILITY; REACTIVITY; GC/FID Fingerprint; If SPDES sample, check box; e²MIS Sample ID # (Not Incident #)

Collected Date (3)	Time	Sample Location / Description	VLT/MH/POLE # EQUIP. SERIAL #	(4) Sample Matrix	Sample Type	Total # of samples	Lab #	GC/FID Fingerprint	e²MIS Sample ID # (Not Incident #)
3/16/00	0845	SB-1, 8-10'		SO	G	1	AU 00 0320-01	X	
	1415	TB-5, 10.5-11.5'		SO	G	1	-02	X	

Comments / Special Instructions / Additional E Mail Notifications: Samples to be sent to META Environmental per Yelena Skorobogatov

Central Services: ☐ Environment, Health & Safety ☐ Transportation & Stores ☒ Research & Development ☐ Facilities & Office Services

Electric Operations: ☐ Customer Services ☐ Distribution Engineering ☐ Manhattan ☐ Bronx & Westchester ☐ Staten Island ☐ Brooklyn & Queens ☐ Customer Operations

Central Operations: ☐ System & Transmission Operations ☐ Maintenance Services ☐ Energy Management ☐ Substation Operations ☐ Steam Operations

Nuclear Operations: ☐ Nuclear Power ☐ Nuclear Engineering ☐ Public Affairs

☐ Gas Ops ☐ Law ☐ Auditing

(6)

Relinquished by (Signature)	Date / Time	Received by (Signature)	Date / Time	Relinquished by (Signature)	Date / Time	Received by (Signature)	Date / Time
David Gerschwiler	3-16-00 / 1650	F Balliranu	3/16 / 1655	F Balliranu	3/17 / 1200	Diane Bohara	3/20/00 / 1045

* Temp.

LABORATORY COPY

META ENVIRONMENTAL SAMPLE RECEIPT

Lab ID	Field ID	Matrix	Analysis	Date Sampled	Date Received	Client Project	Container Storage	Comments/[illegible]
PW000321-01	TB-1, 28-30'	Soil	2508/4007	03/17/00	03/21/00	P06004-60	8 oz. jar	
PW000321-02	TB-1, 36-39'	Soil	2508/4007	03/17/00	03/21/00	P06004-60	8 oz. jar	
PW000321-03	TB-2, 17.5'	Soil	2508/4007	03/17/00	03/21/00	P06004-60	8 oz. jar	

3/21/00

EH&S ChemLab
Chain-of-Custody/Request for Analysis

Consolidated Edison (Bldg. 136)
31-01 20th Avenue, L.I.C., NY 11105
Tel: (718) 204 4124
Fax: (718) 056-8058

LSN: (Lab Use Only) 00-02566
e² MIS Incident #:
Chain-of-Custody ID #: AA15272
Sample Site: White Plains S/S
Borough: MH ☐, BK ☐, QN ☐, BX ☐, WE ☐, SI ☐
Requested By: Yelena Skorobogotov
Employee #: 84153
Telephone #: (   )
Account #: R8461
E-mail Notification:
Organization: (*Check Box Below)
Dept. 24-hour Tel. #: (   )
Sampled By: David Gerschwiler (EWC)
Employee #:
Asbestos License #:
Customer's ID #:

Priority: E (within 8 hours) A (within 24 hours) B (within 7 days)

An 'E' or 'A' priority requires an e²MIS Incident # or an operational necessity justification:

Preservation Information:
Temp Blank: Yes ____ No ____ °C ____
Preserved with
Comments:

SAMPLE INFO
TYPE: G-Grab; C-Composite; B-Blank; D-Duplicate; S-Split; SP-Spike
MATRIX: BL-Bluestone; L-Liquid; S-Solid; O-Oil; W-Water; WO-Water & Oil; SO-Soil; SL-Sludge; WI-Wipe; A-Air; GC-GasCond

(5) Analysis (Test) required – Include method number if applicable

Collected Date	Collected Time	(3) Sample Location / Description	VLT/MH/POLE # EQUIP. SERIAL #	(4) Sample Matrix	Sample Type	Total # of samples	Total # of containers	OIL ID	PCB	TCLP VOC	TCLP SVOC	TCLP METALS	TCLP BENZENE	TCLP FULL MINUS PEST & HERB	BTEX	OIL & GREASE	TSS	GAS-IN-OIL	TOTAL BENZENE	ASBESTOS	DIELECTRIC	TOTAL HALOGENS	TPH	IGNITABILITY	REACTIVITY	TC/FD Engagement	If SPDES sample, check box	e²MIS Sample ID # (Not Incident #)
3/17/00	1230	TB-1, 28-30' *		SO	G																				X			PW000321-01
	1300	TB-1, 36-39'		SO	G																				X			-02
	1400	TB-2, 17.5'		SO	G																				X			-03

* sample jar broken upon receipt. Transferred to a new jar; no contamination evident.
‡ samples received @ 10°C

Comments / Special Instructions / Additional E Mail Notifications: Samples to be sent to META Environmental per Yelena Skorobogotov

Central Services
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Electric Operations
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Central Operations
☐ System & Transmission Operations
☐ Maintenance Services
☐ Energy Management
☐ Substation Operations
☐ Steam Operations

Nuclear Operations
☐ Nuclear Power
☐ Nuclear Engineering
☐ Public Affairs

☐ Gas Ops
☐ Law
☐ Auditing

Relinquished by	Date / Time	Received by (Signature)	Date / Time	Relinquished by (Signature)	Date / Time	Received by (Signature)	Date / Time
(Sampler): (Signature) David Gerschwiler	Date 3-17-00 Time 1715	Dan L. [illegible]	Date 03/17 Time 17:15	[illegible]	Date 3/20/00 Time [illegible]		Date Time
(Signature):	Date Time		Date Time		Date Time		Date Time
(Signature):			Date		Date		

Last

Page

Appendix D-2
Groundwater Sample Fingerprint Reports

META Environmental, Inc.

49 Clarendon Street
Watertown, MA 02472
TEL: (617) 923-4662
FAX: (617) 923-4610

FACSIMILE TRANSMITTAL SHEET

TO:	Imants Reks Parsons Engineering Science 290 Elwood Davis Road, Suite 290 Syracuse, NY 13088
FAX NO:	315-451-9570
TOTAL PAGES:	12
SENT BY:	Stephen Emsbo-Mattingly
SUBJECT:	Con-Ed White Plains S/S Hydrocarbon Fingerprinting Report
COMMENTS:	Hardcopy will be sent by US Postal Service.

Please Note Our New ZIP Code:
02472-2872

META Environmental, Inc.
49 Clarendon Street
Watertown, MA 02472
TEL: (617) 923-4662
FAX: (617) 923-4610

12 May 2000

Ms. Yelena Skorobogatov
Consolidated Edison
31-01 20th Avenue, Building 138
Long Island City, NY 11105

RE: **Hydrocarbon Fingerprinting Analyses**

Dear Ms. Skorobogatov:

This package contains the analytical results from three aqueous samples received on 13 April 2000 by META Environmental, Inc. (META) from Parsons Engineering Science. Two reference materials were selected from the META reference materials archive for comparative purposes.

Methods

One liter of sample was serially extracted three times with 60 mL aliquots of dichloromethane (DCM; EPA 3510C). The extracts were dried with sodium sulfate and concentrated to 1 mL. The extracts were spiked with internal standard and analyzed on a gas chromatograph equipped with a flame ionization detector (GC/FID) for monocyclic aromatic hydrocarbons (MAHs), polycyclic aromatic hydrocarbons (PAHs), and hydrocarbon fingerprint.

Analytical Results

The concentrations of MAHs and PAHs and hydrocarbon fingerprints follow this narrative.

These samples contained predominantly tar with lower relative amounts of a heavy weight petroleum product. The pattern of MAHs and PAHs in all samples resembled the tar reference material. The relatively high abundances of MAHs and light PAHs suggested the presence of the water soluble fraction of tar. Some high molecular weight PAHs were detected in samples TB-1 and SB-1 above the pure component solubility indicating that the samples also contained tar droplets or contaminated sediment. An unresolved complex mixture (UCM) eluted between 10 and 50 minutes with a maximum between 30 and 35 minutes. This UCM resembled the gas oil reference material. The presence of tar and petroleum of these types is common for carburetted water gas plants. However, this conclusion could not be substantiated due to the limited number of samples.

Please do not hesitate to contact me if you have any questions about these data.

Sincerely,

Stephen Emsbo-Mattingly
Laboratory Director

cc: Imats Reks, Parsons Engineering Science

ANALYTICAL RESULTS
MAHs and PAHs
Client: Parsons Project: White Plains S/S

Lab ID Field ID:	PW000413-01/10 TB-1		PW000413-02 TB-5		PW000413-03/10 SB-1	
MAHs:						
Benzene	24.0		2.17		2.22	J
Toluene	15.7		48.1		8.34	
Ethylbenzene	273		214		424	
m/p-Xylene	317	B	137	B	232	B
Styrene	2.78	U	0.29	U	2.87	U
o-Xylene	236		169		264	
1,2,4-Trimethylbenzene	248		108		646	
Total MAHs:	866		570		931	
PAHs:						
Naphthalene	4,490	D	7,700		7,830	D
2-Methylnaphthalene	1,040		49.6		1,370	
1-Methylnaphthalene	700		116		1,030	
Acenaphthylene	87.8		6.83		93.5	
Acenaphthene	657		128		894	
Dibenzofuran	50.8		17.9		94.6	
Fluorene	266		31.4		324	
Phenanthrene	747		14.2		949	
Anthracene	269		9.86		351	
Fluoranthene	239		6.05		331	
Pyrene	344		8.85		486	
Benz(a)anthracene	149		3.01		230	
Chrysene	118		2.39		180	
Benzo(b)fluoranthene	44.9		1.09		74.9	
Benzo(k)fluoranthene	58.7		0.99		88.0	
Benzo(a)pyrene	95.7		1.74		152	
Indeno(1,2,3-cd)pyrene	38.2		0.64		60.6	
Dibenz(a,h)anthracene	11.3		0.32		18.3	
Benzo(g,h,i)perylene	48.0		1.64		70.2	
Total PAHs:	9,410		8,090		14,500	
Quantitation Limit:	2.78		0.29		2.87	
Detection Limit:	1.11		0.11		1.15	
Fluorobenzene (SS1)	29%		23%		29%	
2-Fluorobiphenyl (SS2)	100%		80%		118%	
Concentration Units:	ug/L		ug/L		ug/L	

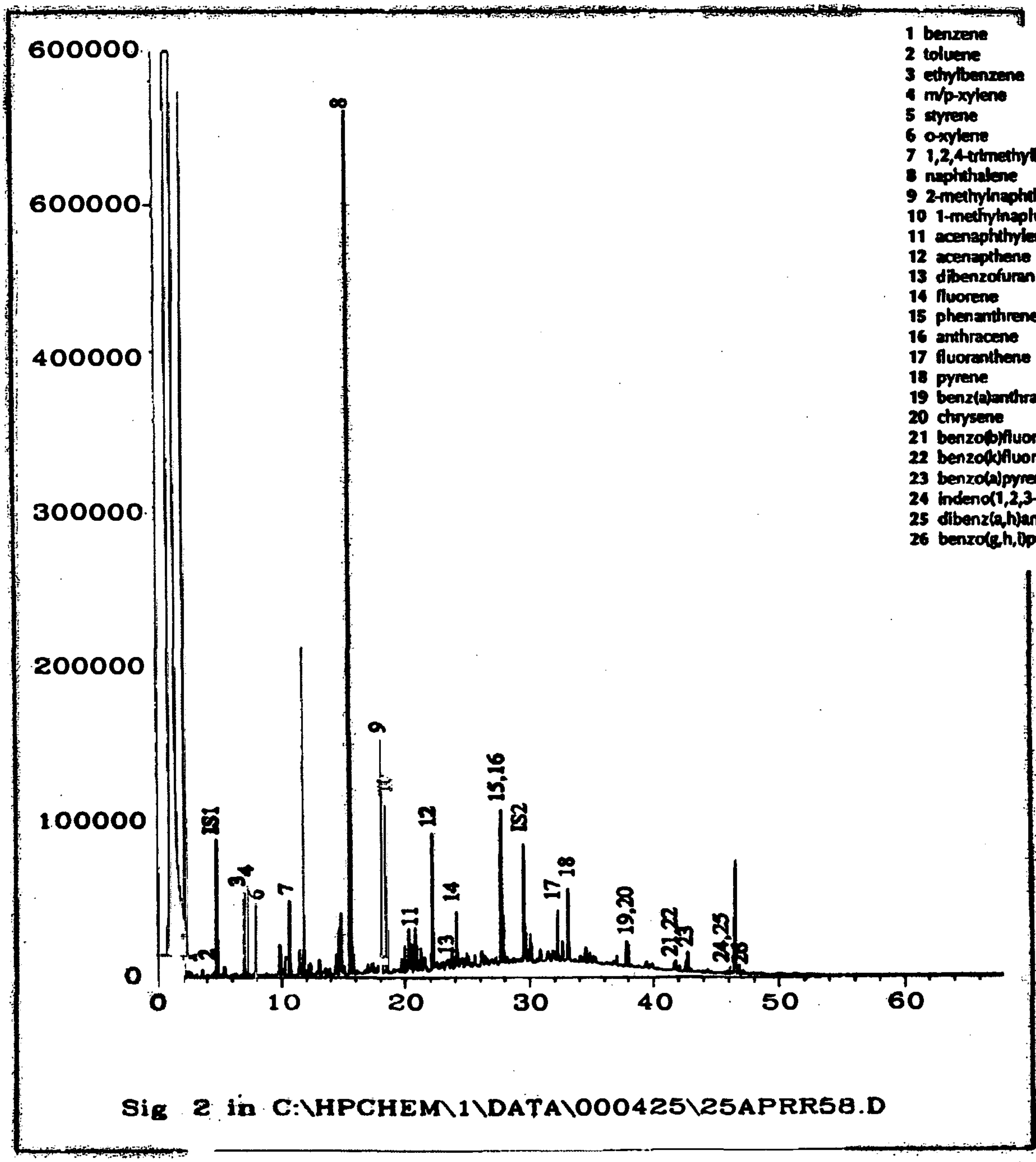
B = Analyte detected in the blank
D = Values from a diluted sample extract
DL = QC compounds diluted out
E = Estimated value, above calibration range
I = Interference
J = Estimated value
L = Coeluted with compound listed above
NM = Not measured
U = Not detected at quantitation limit shown
Total MAHs does not include 1,2,4-Trimethylbenzene.
Total PAHs does not include Dibenzofuran.
All soil results reported on a dry weight basis.

ANALYTICAL RESULTS
MAHs and PAHs
Client: Parsons Project: White Plains S/S

Lab ID Field ID:	PW000425-AB Aqueous Blank		PW000425-ABS Blank Spike
MAHs:			
Benzene	0.25	U	32%
Toluene	0.25	U	65%
Ethylbenzene	0.25	U	71%
m/p-Xylene	2.44		71%
Styrene	0.25	U	78%
o-Xylene	0.25	U	74%
1,2,4-Trimethylbenzene	0.25	U	72%
Total MAHs:	2.44		
PAHs:			
Naphthalene	0.25	U	94%
2-Methylnaphthalene	0.25	U	93%
1-Methylnaphthalene	0.25	U	93%
Acenaphthylene	0.25	U	98%
Acenaphthene	0.25	U	98%
Dibenzofuran	0.25	U	99%
Fluorene	0.25	U	100%
Phenanthrene	0.25	U	101%
Anthracene	0.25	U	101%
Fluoranthene	0.25	U	104%
Pyrene	0.25	U	103%
Benz(a)anthracene	0.25	U	103%
Chrysene	0.25	U	103%
Benzo(b)fluoranthene	0.25	U	104%
Benzo(k)fluoranthene	0.25	U	103%
Benzo(a)pyrene	0.25	U	102%
Indeno(1,2,3-cd)pyrene	0.25	U	104%
Dibenz(a,h)anthracene	0.25	U	104%
Benzo(g,h,i)perylene	0.25	U	104%
Total PAHs:	ND		
Quantitation Limit:	0.25		
Detection Limit:	0.10		
Fluorobenzene (SS1)	25%		30%
2-Fluorobiphenyl (SS2)	79%		84%
Concentration Units:	ug/L		

B = Analyte detected in the blank
D = Values from a diluted sample extract
DL = QC compounds diluted out
E = Estimated value, above calibration range
I = Interference
J = Estimated value
L = Coeluted with compound listed above
NM = Not measured
U = Not detected at quantitation limit shown
Total MAHs does not include 1,2,4-Trimethylbenzene.
Total PAHs does not include Dibenzofuran.
All soil results reported on a dry weight basis.

GC/FID Fingerprint

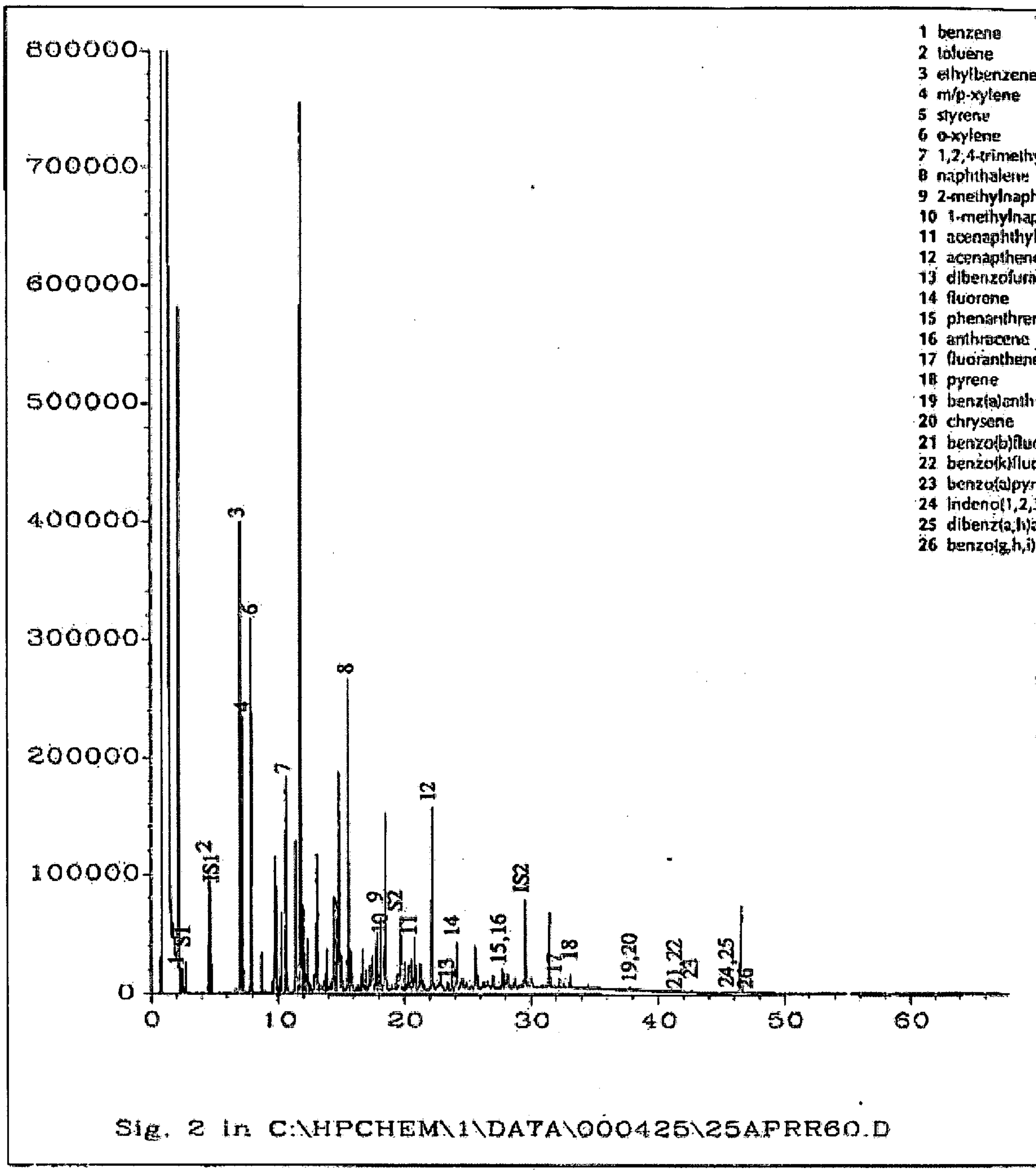


IS1 - 2,4-difluorotoluene
IS2 - o-terphenyl
S1 - fluorobenzene
S2 - 2-fluorobiphenyl
S3 - 5a-androstane

Field ID:	**TB-1**
Laboratory ID:	PW000413-01
Method:	MET4007D

META

GC/FID Fingerprint

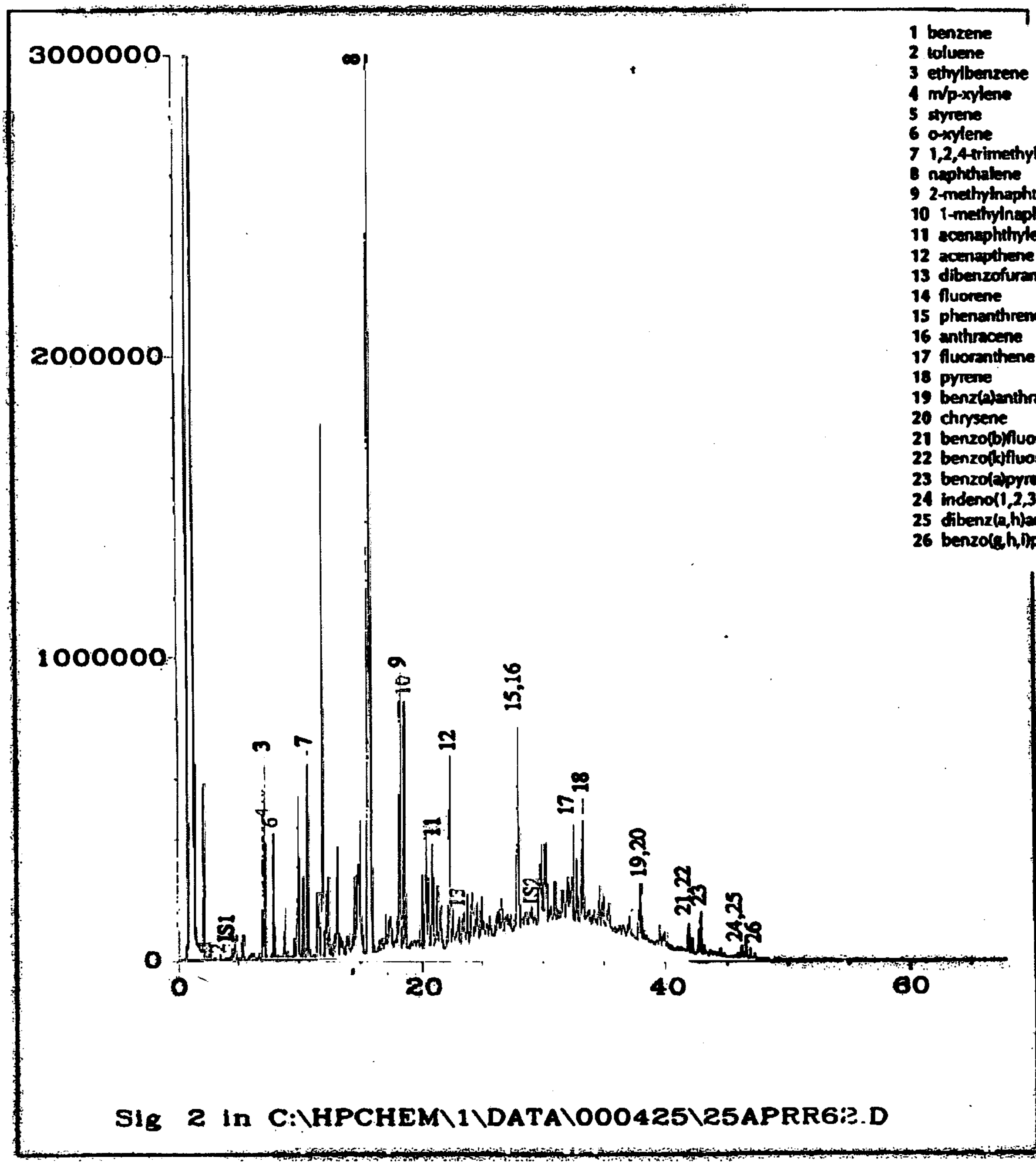


IS1 - 2,4-difluorotoluene
IS2 - o-terphenyl
S1 - fluorobenzene
S2 - 2-fluorobiphenyl
S3 - 5a-androstane

Field ID:	**TB-5**
Laboratory ID:	PW000413-02
Method:	MET4007D

META

GC/FID Fingerprint

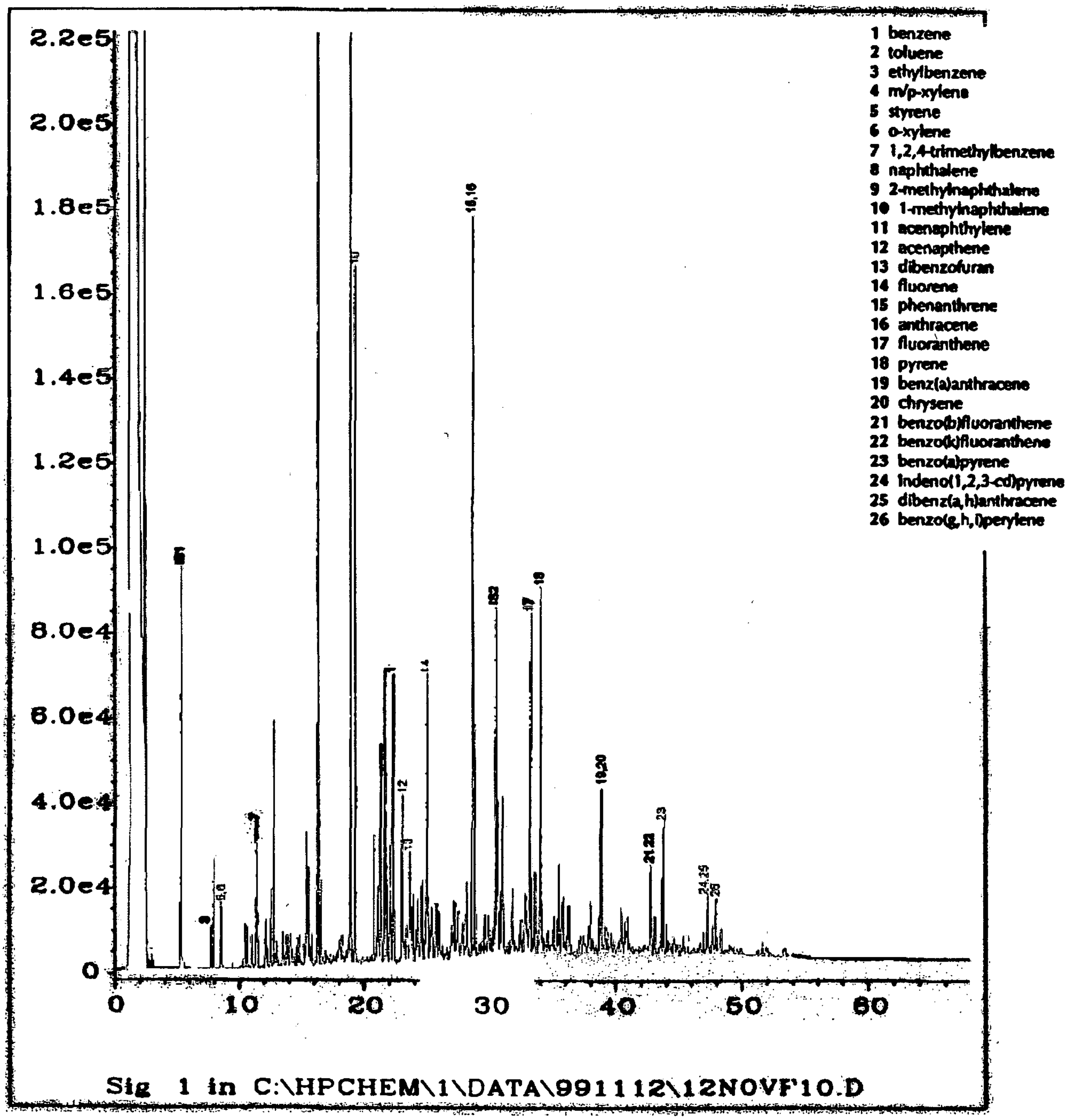


IS1 - 2,4-difluorotoluene
IS2 - o-terphenyl
S1 - fluorobenzene
S2 - 2-fluorobiphenyl
S3 - 5a-androstane

Field ID:	SB-1
Laboratory ID:	PW000413-03
Method:	MET4007D

META

GC/FID Fingerprint

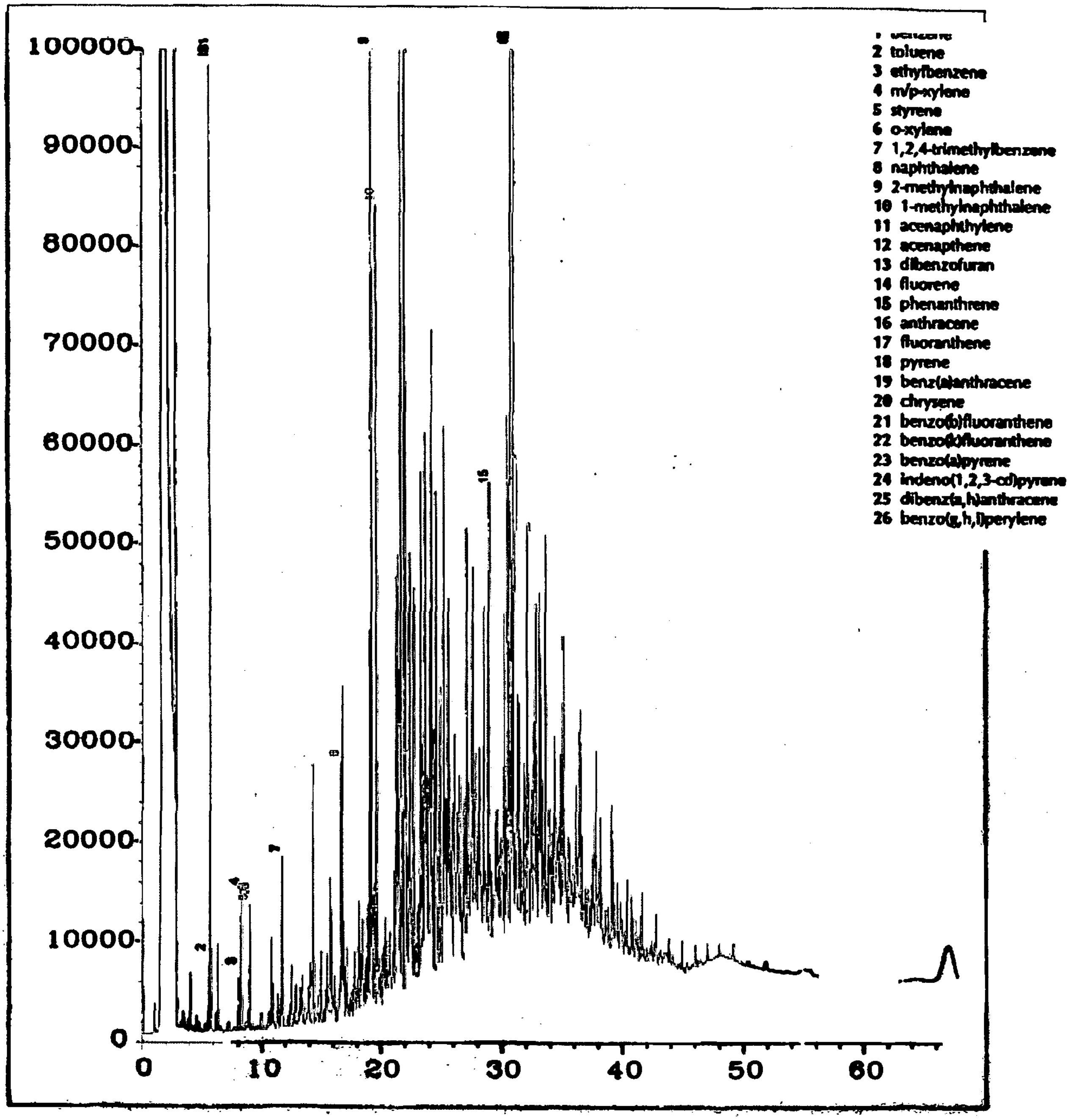


IS1 - 2,4-difluorotoluene
IS2 - o-terphenyl
S1 - fluorobenzene
S2 - 2-fluorobiphenyl
S3 - 5a-androstane

Field ID:	MGP Tar (Mixed)
Laboratory ID:	EL991110-03 (T012)
Method:	MET4007D

META

GC/FID Fingerprint



IS1 - 2,4-difluorotoluene
IS2 - o-terphenyl
S1 - Fluorobenzene
S2 - 2-Fluorobiphenyl
S3 - 5a-Androstane

Field ID:	**Combusted Gas Oil**
Laboratory ID:	P178
Method:	MET4007D

META

META ENVIRONMENTAL SAMPLE RECEIPT

Lab ID	Field ID	Matrix	Analysis	Date Sampled	Date Received	Client/Project	Container/Storage
PW000413-01	TB-1	Water	4007	04/06/00	04/13/00	P06004-60	1L. Amber
PW000413-02	TB-5	Water	4007	04/06/00	04/13/00	P06004-60	1L. Amber
PW000413-03	SB-1	Water	4007	04/06/00	04/13/00	P06004-60	1L. Amber

Daisy Berhane
4/13/00

EH&S ChemLab
Chain-of-Custody/Request for Analysis

Consolidated Edison (Bldg. 138)
31-01 20th Avenue, L.I.C., NY 11105
Tel: (718) 204 4124
Fax: (718) 956-8058

LABORATORY COPY

(1)
LSN: *(Lab Use Only)* 00-03374
e² MIS Incident #:
Chain-of-Custody ID #: **AA15369**
Sample Site: White Plains Substation
Borough: MH ☐, BK ☐, QN ☐, BX ☐, WE ☒, SI ☐
Requested By: Yelena Skorobogatov
Employee #: 84153
Telephone #: (718) 204 4205
Account #: 56993
E-mail Notification:
Organization: *(*Check Box Below)*
Dept. 24-hour Tel. #: ( )
Sampled By: B. Bline, E. Capasso / JWL
Employee #: VENDOR
Asbestos License #:
Customer's ID #:

(2) Priority: E (within 8 hours) A (within 24 hours) B (within 7 days) [circled: B]

An 'E' or 'A' priority requires an e² MIS Incident # or an operational necessity justification:

Preservation Information:
Temp Blank: Yes ___ No ___ °C ___
Preserved with
Comments:

SAMPLE INFO
TYPE: G-Grab; C-Composite; B-Blank; D-Duplicate; S-Split; SP-Spike
MATRIX: BL-Bluestone; L-Liquid; S-Solid; O-Oil; W-Water; WO-Water & Oil; SO-Soil; SL-Sludge; WI-Wipe; A-Air; GC-Gas Cond

(5) Analysis (Test) required — include method number if applicable

Collected (3) Date	Time	Sample Location / Description	VLT/MH/POLE # EQUIP. SERIAL #	(4) Sample Matrix	Sample Type	Total # of samples	Total # of containers	OIL ID	PCB	TCLP VOC	TCLP SVOC	TCLP METALS	TCLP BENZENE	TCLP FULL MINUS PEST & HERB	BTEX	OIL & GREASE	TSS	GAS-IN-OIL	TOTAL BENZENE	ASBESTOS	DIELECTRIC	TOTAL HALOGENS	TPH	IGNITABILITY	REACTIVITY	PRODUCT FINGERPRINT	If SPCES sample, check box	e² MIS Sample ID # (Not Incident #)
4/6/00	1450	TB-1		WO	G										PW000413-01											✓		
4/6/00	1515	TB-5		WO	G														-02							✓		
4/6/00	1550	SB-1		WO	G														-03									

CHEMICAL SECTION RECEIVED 2000 APR 6 P 6:17

Comments / Special Instructions / Additional E Mail Notifications: SEND SAMPLES OUT TO ~~EH&S~~ FOR ANALYSES "Meta Environmental"

Central Services
☒ Environment, Health & Safety
☐ Transportation & Stores
☐ Research & Development
☐ Facilities & Office Services

Electric Operations
☐ Customer Services
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☐ Manhattan
☐ Bronx & Westchester
☐ Staten Island
☐ Brooklyn & Queens
☐ Customer Operations

Central Operations
☐ System & Transmission Operations
☐ Maintenance Services
☐ Energy Management
☐ Substation Operations
☐ Steam Operations

Nuclear Operations
☐ Nuclear Power
☐ Nuclear Engineering
☐ Public Affairs

☐ Gas Ops
☐ Law
☐ Auditing

(6)

Relinquished by (Sampler): (Signature)	Date / Time	Received by (Signature)	Date / Time	Relinquished by (Signature)	Date / Time	Received by (Signature)	Date / Time
E Capasso	Date 4/6/00 Time 1845	L Dallmann	Date 4/6 Time 1847	L Dallmann	Date 4/7 Time	Diane Berhanu	Date 4/13/00 Time 9:45 AM
Relinquished by (Signature):	Date Time	Received by (Signature):	Date Time	Relinquished by (Signature):	Date Time	Received by (Signature):	Date Time
Relinquished by (Signature):	Date Time	Received by (Signature):	Date Time	Relinquished by (Signature):	Date Time	Received by (Signature):	Date Time

* 14.5°C

APPENDIX E
TCLP RESULTS

CONSOLIDATED EDISON MAY 8 200
ENVIRONMENTAL, HEALTH & SAFETY
CHEMLAB ELAP#

Lab Sequence Number: 99-11918-001 Date Reported: 11/26/9
E2MIS Incident Number: Date Analyzed: 11/15/9
E2MIS Sample Number: Date Received: 11/11/9
Date Sampled: 11/11/9
Submitter: C.KOVARI
Description: SOIL-GT-2 & OT-3,WHITE PLAINS S/S:WE
Facility: 310 E KINGSBRIDGE

TSL Analyst: SLOAN
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EM
WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT
NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL
THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

*** TCLP Results Of Analysis ***

Description: GT-2,S-2,4-5 FT SAMPLE TYPE: SOIL
Location: WHITE PLAINS S/S

METALS: USEPA SW846 6010/HG7471A/1311

ANALYTE	RESULTS	UNITS
Arsenic	<0.0067	PPM
Barium	0.21	PPM
Cadmium	0.0040	PPM
Chromium	0.0070	PPM
Lead	0.045	PPM
Mercury	<0.00005	PPM
Selenium	0.0100	PPM
Silver	<0.0089	PPM

VOLATILES: USEPA SW846 8260/6

ANALYTE	RESULTS
Benzene	<0.0014
Carbon Tetrachloride	<0.0034
Chlorobenzene	<0.0021
Chloroform	<0.0026
1,2-Dichloroethane	<0.0019
1,1-Dichloroethene	<0.0048
Methyl Ethyl Ketone	<0.0082
Tetrachloroethene	<0.0028
Trichloroethene	<0.0027
Vinyl Chloride	<0.0041

SEMI-VOLATILES: USEPA SW846 8270C/1311

o-Cresol	<0.017	PPM
m-Cresol	<0.008	PPM
p-Cresol	<0.008	PPM
1,4-Dichlorobenzene	<0.015	PPM
2,4-Dinitrotoluene	<0.019	PPM
Hexachlorobenzene	<0.023	PPM
Hexachlorobutadiene	<0.10	PPM
Hexachloroethane	<0.019	PPM
Nitrobenzene	<0.017	PPM
Pentachlorophenol	<0.50	PPM
Pyridine	<0.0086	PPM
2,4,5-Trichlorophenol	<0.017	PPM
2,4,6-Trichlorophenol	<0.015	PPM

PESTICIDES: USEPA SW846 8081/

Endrin
Lindane
Methoxychlor
Toxaphene
Chlordane
Heptachlor
Heptachlor Epoxide

HERBICIDES: USEPA SW846 8151/

2,4-D
Silvex (2,4,5-TP)

CONSOLIDATED EDISON MAY 8 2000
ENVIRONMENTAL, HEALTH & SAFETY
CHEMLAB ELAP# 10380

Lab Sequence Number: 99-11918-002
E2MIS Incident Number:
E2MIS Sample Number:

Date Reported: 11/26/99
Date Analyzed: 11/15/99
Date Received: 11/11/99
Date Sampled: 11/11/99

Submitter: C.KOVARI
Description: SOIL-GT-2 & GT-3,WHITE PLAINS S/S:WE
Facility: 310 E KINGSBRIDGE

TSL Analyst: SLOAN
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

*** TCLP Results Of Analysis ***

Description: GT-3,S-3,4-5 FT SAMPLE TYPE: SOIL
Location: WHITE PLAINS S/S

METALS: USEPA SW846 6010/HG7471A/1311

ANALYTE	RESULTS	UNITS
Arsenic	0.027	PPM
Barium	0.67	PPM
Cadmium	<0.0033	PPM
Chromium	<0.0056	PPM
Lead	0.40	PPM
Mercury	<0.00005	PPM
Selenium	<0.0056	PPM
Silver	<0.0089	PPM

VOLATILES: USEPA SW846 8260/624/1311

ANALYTE	RESULTS	UNITS
Benzene	<0.0014	PPM
Carbon Tetrachloride	<0.0034	PPM
Chlorobenzene	<0.0021	PPM
Chloroform	<0.0026	PPM
1,2-Dichloroethane	<0.0019	PPM
1,1-Dichloroethene	<0.0048	PPM
Methyl Ethyl Ketone	<0.0082	PPM
Tetrachloroethene	<0.0028	PPM
Trichloroethene	<0.0027	PPM
Vinyl Chloride	<0.0041	PPM

SEMI-VOLATILES: USEPA SW846 8270C/1311

o-Cresol	<0.017	PPM
m-Cresol	<0.008	PPM
p-Cresol	<0.008	PPM
1,4-Dichlorobenzene	<0.0015	PPM
2,4-Dinitrotoluene	<0.019	PPM
Hexachlorobenzene	<0.023	PPM
Hexaohlorobutadiene	<0.10	PPM
Hexachloroethane	<0.019	PPM
Nitrobenzene	<0.017	PPM
Pentachlorophenol	<0.50	PPM
Pyridine	<0.0086	PPM
2,4,5-Trichlorophenol	<0.017	PPM
2,4,6-Trichlorophenol	<0.015	PPM

PESTICIDES: USEPA SW846 8081/1311
Endrin
Lindane
Methoxychlor
Toxaphene
Chlordane
Heptachlor
Heptachlor Epoxide

HERBICIDES: USEPA SW846 8151/1311
2,4-D
Silvex (2,4,5-TP)

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

NOTE: Vacant fields indicate test not requested

Approved By: Ciullo
Title: Supervisor

CONSOLIDATED EDISON MAY 8 2000
ENVIRONMENTAL, HEALTH & SAFETY
CHEMLAB ELAP# 10380

Lab Sequence Number: 99-12066-006
E2MIS Incident Number
E2MIS Sample Number:

Date Reported: 12/08/99
Date Analyzed: 11/21/99
Date Received: 11/17/99
Date Sampled: 11/16/99

Submitter: Christine Kovari
Description: SOIL-GT-4,-5,-6;WHITE PLAINS S/S:WESTCHESTER
Facility: 310 EAST KINGSBRIDGE RD, BX

TSL Analyst: R.LUND
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

*** TCLP Results Of Analysis ***

Description: GT-4 S-5 4-5ft SAMPLE TYPE: SOIL
Location: WHITE PLAINS S/S

METALS: USEPA SW846 6010/HG7471A/1311

ANALYTE	RESULTS	UNITS
Arsenic	0.10	ppm
Barium	<1.00	ppm
Cadmium	<0.030	ppm
Chromium	<0.050	ppm
Lead	<0.020	ppm
Mercury	<.000050	ppm
Selenium	<0.050	ppm
Silver	<0.080	ppm

VOLATILES: USEPA SW846 8260/624/1311

ANALYTE	RESULTS	UNITS
Benzene	<0.0010	ppm
Carbon Tetrachloride	<0.0018	ppm
Chlorobenzene	<0.0011	ppm
Chloroform	<0.0015	ppm
1,2-Dichloroethane	<0.0020	ppm
1,1-Dichloroethene	<0.0018	ppm
Methyl Ethyl Ketone	<0.025	ppm
Tetrachloroethene	<0.0011	ppm
Trichloroethene	<0.0020	ppm
Vinyl Chloride	<0.0025	ppm

SEMI-VOLATILES: USEPA SW846 8270C/1311

ANALYTE	RESULTS	UNITS
o-Cresol	<0.017	ppm
m-Cresol	<0.016	ppm
p-Cresol	<0.016	ppm
1,4-Dichlorobenzene	<0.015	ppm
2,4-Dinitrotoluene	<0.019	ppm
Hexachlorobenzene	<0.023	ppm
Hexachlorobutadiene	<0.10	ppm
Hexachloroethane	<0.019	ppm
Nitrobenzene	<0.017	ppm
Pentachlorophenol	<0.50	ppm
Pyridine	<0.0086	ppm
2,4,5-Trichlorophenol	<0.017	ppm
2,4,6-Trichlorophenol	<0.015	ppm

PESTICIDES: USEPA SW846 8081/1311

ANALYTE	RESULTS	UNITS
Endrin		
Lindane		
Methoxychlor		
Toxaphene		
Chlordane		
Heptachlor		
Heptachlor Epoxide		

HERBICIDES: USEPA SW846 8151/1311

ANALYTE	RESULTS	UNITS
2,4-D		
Silvex (2,4,5-TP)		

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

NOTE: Vacant fields indicate test not requested.

Approved By: VOLPE
Title: Supervisor

CONSOLIDATED EDISON MAY 8 2000
ENVIRONMENTAL, HEALTH & SAFETY
CHEMLAB ELAP# 10380

Lab Sequence Number: 99-12066-004
E2MIS Incident Number:
E2MIS Sample Number:

Date Reported: 12/08/99
Date Analyzed: 11/21/99
Date Received: 11/17/99
Date Sampled: 11/16/99

Submitter: Christine Kovari
Description: SOIL-OT-4,-5,-6;WHITE PLAINS S/S:WESTCHESTER
Facility: 310 EAST KINGSBRIDGE RD, BX

TSL Analyst: R.LUND
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

*** TCLP Results Of Analysis ***

Description: GT-5 S-6 1-5ft SAMPLE TYPE: SOIL
Location: WHITE PLAINS S/S

METALS: USEPA SW846 6010/HG7471A/1311

ANALYTE	RESULTS	UNITS
Arsenic	0.32	ppm
Barium	<1.00	ppm
Cadmium	<0.030	ppm
Chromium	<0.050	ppm
Lead	<0.020	ppm
Mercury	<.000050	ppm
Selenium	<0.050	ppm
Silver	<0.080	ppm

VOLATILES: USEPA SW846 8260/624/1311

ANALYTE	RESULTS	UNITS
Benzene	<0.0010	ppm
Carbon Tetrachloride	<0.0018	ppm
Chlorobenzene	<0.0011	ppm
Chloroform	<0.0015	ppm
1,2-Dichloroethane	<0.0020	ppm
1,1-Dichloroethene	<0.0018	ppm
Methyl Ethyl Ketone	<0.025	ppm
Tetrachloroethene	<0.0011	ppm
Trichloroethene	<0.0020	ppm
Vinyl Chloride	<0.0025	ppm

SEMI-VOLATILES: USEPA SW846 8270C/1311

ANALYTE	RESULTS	UNITS
o-Cresol	<0.017	ppm
m-Cresol	<0.016	ppm
p-Cresol	<0.016	ppm
1,4-Dichlorobenzene	<0.015	ppm
2,4-Dinitrotoluene	<0.019	ppm
Hexachlorobenzene	<0.023	ppm
Hexachlorobutadiene	<0.10	ppm
Hexachloroethane	<0.019	ppm
Nitrobenzene	<0.017	ppm
Pentachlorophenol	<0.50	ppm
Pyridine	<0.0086	ppm
2,4,5-Trichlorophenol	<0.017	ppm
2,4,6-Trichlorophenol	<0.015	ppm

PESTICIDES: USEPA SW846 8081/1311

Endrin
Lindane
Methoxychlor
Toxaphene
Chlordane
Heptachlor
Heptachlor Epoxide

HERBICIDES: USEPA SW846 8151/1311

2,4-D
Silvex (2,4,5-TP)

Analyzed by Environmental Testing Laboratories, Inc. ELAP# 10969

NOTE: Vacant fields indicate test not requested

Approved By: VOLPE
Title: Supervisor

CONSOLIDATED EDISON MAY 8 2000
ENVIRONMENTAL, HEALTH & SAFETY
CHEMLAB ELAP# 10380

Lab Sequence Number: 99-12066-002
E2MIS Incident Number:
E2MIS Sample Number:

Date Reported: 12/08/99
Date Analyzed: 11/21/99
Date Received: 11/17/99
Date Sampled: 11/16/99

Submitter: Christine Kovari
Description: SOIL-GT-4,-5,-6;WHITE PLAINS S/S:WESTCHESTER
Facility: 310 EAST KINGSBRIDGE RD, BX

TSL Analyst: R.LUND
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

*** TCLP Results Of Analysis ***

Description: GT-6 S-4 4-5ft SAMPLE TYPE: SOIL
Location: WHITE PLAINS S/S

METALS: USEPA SW846 6010/HG7471A/1311

ANALYTE	RESULTS	UNITS
Arsenic	<0.060	ppm
Barium	<1.00	ppm
Cadmium	<0.030	ppm
Chromium	<0.050	ppm
Lead	0.068	ppm
Mercury	<.000050	ppm
Selenium	0.071	ppm
Silver	<0.080	ppm

VOLATILES: USEPA SW846 8260/624/1311

ANALYTE	RESULTS	UNITS
Benzene	<0.0010	ppm
Carbon Tetrachloride	<0.0018	ppm
Chlorobenzene	<0.0011	ppm
Chloroform	<0.0015	ppm
1,2-Dichloroethane	<0.0020	ppm
1,1-Dichloroethene	<0.0018	ppm
Methyl Ethyl Ketone	<0.025	ppm
Tetrachloroethene	<0.0011	ppm
Trichloroethene	<0.0020	ppm
Vinyl Chloride	<0.0025	ppm

SEMI-VOLATILES: USEPA SW846 8270C/1311

o-Cresol	<0.017	ppm
m-Cresol	<0.016	ppm
p-Cresol	<0.016	ppm
1,4-Dichlorobenzene	<0.015	ppm
2,4-Dinitrotoluene	<0.019	ppm
Hexachlorobenzene	<0.023	ppm
Hexachlorobutadiene	<0.10	ppm
Hexachloroethane	<0.019	ppm
Nitrobenzene	<0.017	ppm
Pentachlorophenol	<0.50	ppm
Pyridine	<0.0086	ppm
2,4,5-Trichlorophenol	<0.017	ppm
2,4,6-Trichlorophenol	<0.015	ppm

PESTICIDES: USEPA SW846 8081/1311
Endrin
Lindane
Methoxychlor
Toxaphene
Chlordane
Heptachlor
Heptachlor Epoxide

HERBICIDES: USEPA SW846 8151/1311
2,4-D
Silvex (2,4,5-TP)

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

NOTE: Vacant fields indicate test not requested.

Approved By: VOLPE
Title: Supervisor

May. 08 2000

CONSOLIDATED EDISON
ENVIRONMENTAL, HEALTY & SAFETY
CHEMLAB

TCLP Met/Vol

Lab Sequence Number: 99-12142-002

Date Reported: 12/01/99
Date Received: 11/19/99
Date Sampled: 11/18/99
Time Sampled: 0931

Submitter: STEPIEN.W
Description: SOIL-GT-7,S-8, 4-5 FT WHITE PLAINS SS
Facility:

Analyzed By: SLOAN
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE APPROVAL OF TSL. TEST RESULTS RELATE ONLY TO THE SAMPLES SUBMITTED TO TSL.

Location: WHITE PLAINS SS GT-7,S-8 4-5 FT

Test	Result	Units	MDL
Benzene Result	<0.0010	ppm	
Carbon Tetrachloride Res	<0.0018	ppm	
Chlorobenzene Result	<0.0011	ppm	
1,2-Dichloroethane Res	<0.0020	ppm	
1,1-Dichloroethene Res	<0.0018	ppm	
Chloroform Result	<0.0015	ppm	
Methyl Ethyl Keytone Res	<0.025	ppm	
Tetrachloroethene Result	<0.0011	ppm	
Trichloroethene Result	<0.0020	ppm	
Vinyl Chloride Result	<0.0025	ppm	
2-Methylphenol Result	<0.017	ppm	
1,4-Dichlorobenzene Res	<0.015	ppm	
2,4-Dinitrotoluene Res	<0.019	ppm	
Hexachlorobenzene Result	<0.023	ppm	
Hexachlorobutadiene Res	<0.10	ppm	
Hexachloroethane Result	<0.019	ppm	
Nitrobenzene Result	<0.017	ppm	
Pentachlorophenol Reeult	<0.50	ppm	
Pyridine Result	<0.0086	ppm	
2,4,5-Trichlorophenol	<0.017	ppm	
2,4,6-Trichlorophenol	<0.015	ppm	
3-Methylphenol Result	<0.008	ppm	
4-Methylphenol Result	<0.008	ppm	
Arsenic (As)	<0.060	ppm	0.060
Barium (Ba)	<1.00	ppm	1.00
Cadmium (Cd)	<0.030	ppm	0.030
Chromium (Cr)	<0.050	ppm	0.050
Lead (Pb)	<0.020	ppm	0.020
Mercury (Hg)	<.000050	ppm	.000050
Selenium (Se)	0.10	ppm	0.050
Silver (Ag)	<0.080	ppm	0.080

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 1096

Skorobogatov, Yelena

From: CHEMLIMS@tao.coned.com
Sent: Wednesday, December 01, 1999 11:35 AM
To: Stepien, Walter
Subject: By W.STEPIEN 99-12136

CONSOLIDATED EDISON DEC. 1 1999
ENVIRONMENTAL, HEALTH & SAFETY
CHEMLAB ELAP# 10380

Lab Sequence Number: 99-12136-002 Date Reported: 12/01/99
E2MIS Incident Number: Date Analyzed: 11/23/99
E2MIS Sample Number: Date Received: 11/18/99
Date Sampled: 11/18/99
Submitter: W.STEPIEN
Description: SOIL-GT-8,S-7,4-5 FT,WHITE PLAINS S/S:WE
Facility: 4 IRVING PL

TSL Analyst: SLOAN
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

*** TCLP Results Of Analysis ***

Description: GT-8,S-7,4-5 FT SAMPLE TYPE: SOIL
Location: WHITE PLAINS S/S

METALS: USEPA SW846 8010/HG7471A/1311 VOLATILES: USEPA SW846 8260/624/1311

ANALYTE	RESULTS	UNITS	ANALYTE	RESULTS	UNITS
Arsenic	<0.060	ppm	Benzene	<0.0010	ppm
Barium	<1.00	ppm	Carbon Tetrachloride	<0.0018	ppm
Cadmium	<0.030	ppm	Chlorobenzene	<0.0011	ppm
Chromium	<0.050	ppm	Chloroform	<0.0015	ppm
Lead	<0.020	ppm	1,2-Dichloroethane	<0.0020	ppm
Mercury	<.000050	ppm	1,1-Dichloroethene	<0.0018	ppm
Selenium	0.087	ppm	Methyl Ethyl Ketone	<0.025	ppm
Silver	<0.080	ppm	Tetrachloroethene	<0.0011	ppm
			Trichloroethene	<0.0020	ppm
			Vinyl Chloride	<0.0025	ppm

SEMI-VOLATILES: USEPA SW846 8270C/1311 PESTICIDES: USEPA SW846 8081/1311

o-Cresol	<0.017	ppm	Endrin	
m-Cresol	<0.008	ppm	Lindane	
p-Cresol	<0.008	ppm	Methoxychlor	
1,4-Dichlorobenzene	<0.015	ppm	Toxaphene	
2,4-Dinitrotoluene	<0.019	ppm	Chlordane	
Hexachlorobenzene	<0.023	ppm	Heptachlor	
Hexachlorobutadiene	<0.10	ppm	Heptachlor Epoxide	
Hexachloroethane	<0.019	ppm		
Nitrobenzene	<0.017	ppm	HERBICIDES: USEPA SW846 8151/1311	
Pentachlorophenol	<0,50	ppm	2,4-D	
Pyridine	<0.0086	ppm	Silvex (2,4,5-TP)	
2,4,5-Trichlorophenol	<0.017	ppm		
2,4,6-Trichlorophenol	<0.015	ppm		

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

NOTE: Vacant fields indicate test not requested.

Approved By: Ciullo
Title: Supervisor

CONSOLIDATED EDISON MAY 8 2000
ENVIRONMENTAL, HEALTH & SAFETY
CHEMLAB ELAP# 10380

Lab Sequence Number: 99-12172-001
E2MIS Incident Number:
E2MIS Sample Number:

Date Reported: 12/08/99
Date Analyzed: 11/24/99
Date Received: 11/20/99
Date Sampled: 11/19/99

Submitter: STEPIEN.WALTER P.
Description: SOIL- GT-9 & GT-10
Facility: WHITE PLAINS S/S

TSL Analyst: R.LUND
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

*** TCLP Results Of Analysis ***

Description: GT-9, 5-10, 4-5 FT SAMPLE TYPE: SOLID
Location: WHITE PLAINS S/S

METALS: USEPA SW846 6010/HG7471A/1311

ANALYTE	RESULTS	UNITS
Arsenic	<0.060	ppm
Barium	<1.00	ppm
Cadmium	<0.030	ppm
Chromium	<0.050	ppm
Lead	<0.020	ppm
Mercury	<.000050	ppm
Selenium	0.055	ppm
Silver	<0.080	ppm

VOLATILES: USEPA SW846 8260/624/1311

ANALYTE	RESULTS	UNITS
Benzene	<0.0014	ppm
Carbon Tetrachloride	<0.0034	ppm
Chlorobenzene	<0.0021	ppm
Chloroform	<0.0026	ppm
1,2-Diohloroethane	<0.0019	ppm
1,1-Dichloroethene	<0.0048	ppm
Methyl Ethyl Ketone	<0.0082	ppm
Tetrachloroethene	<0.0028	ppm
Trichloroethene	<0.0027	ppm
Vinyl Chloride	<0.0041	ppm

SEMI-VOLATILES: USEPA SW846 8270C/1311

o-Cresol	<0.0017	ppm
m-Cresol	<0.0008	ppm
p-Cresol	<0.0008	ppm
1,4-Diohlorobenzene	<0.0015	ppm
2,4-Dinitrotoluene	<0.0019	ppm
Hexachlorobenzene	<0.0023	ppm
Hexachlorobutadiene	<0.0100	ppm
Hexachloroethane	<0.0019	ppm
Nitrobenzene	<0.0017	ppm
Pentachlorophenol	<0.050	ppm
Pyridine	<0.0009	ppm
2,4,5-Trichlorophenol	<0.0017	ppm
2,4,6-Trichlorophenol	<0.0015	ppm

PESTICIDES: USEPA SW846 8081/1311
Endrin
Lindane
Methoxychlor
Toxaphene
Chlordane
Heptachlor
Heptachlor Epoxide

HERBICIDES: USEPA SW846 8151/1311
2,4-D
Silvex (2,4,5-TP)

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

NOTE Vacant fields indicate test not requested.

Approved By: VOLPE
Title: Supervisor

CONSOLIDATED EDISON MAY 8 2000
ENVIRONMENTAL, HEALTH & SAFETY
CHEMLAB ELAP# 10380

Lab Sequence Number: 99-12172-002
E2MIS Incident Number:
E2MIS Sample Number:

Date Reported: 12/08/99
Date Analyzed: 11/24/99
Date Received: 11/20/99
Date Sampled: 11/19/99

Submitter: STEPIEN.WALTER P.
Description: SOIL- GT-9 & GT-10
Facility: WHITE PLAINS S/S

TSL Analyst: R.LUND
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

*** TCLP Results Of Analysis ***

Description: GT-10, 5-11,4-5 FT SAMPLE TYPE: SOLID
Location: WHITE PLAINS S/S

METALS: USEPA SW846 6010/HG7471A/1311

ANALYTE	RESULTS	UNITS
Arsenic	0.073	ppm
Barium	<1.00	ppm
Cadmium	<0.030	ppm
Chromium	<0.050	ppm
Lead	<0.020	ppm
Mercury	<.000050	ppm
Selenium	<0.050	ppm
Silver	<0.080	ppm

VOLATILES: USEPA SW846 8260/624/1311

ANALYTE	RESULTS	UNITS
Benzene	<0.0014	ppm
Carbon Tetrachloride	<0.0034	ppm
Chlorobenzene	<0.0021	ppm
Chloroform	<0.0026	ppm
1,2-Dichloroethane	<0.0019	ppm
1,1-Dichloroethene	<0.0048	ppm
Methyl Ethyl Ketone	<0.0082	ppm
Tetrachloroethene	<0.0028	ppm
Trichloroethene	<0.0027	ppm
Vinyl Chloride	<0.0041	ppm

SEMI-VOLATILES: USEPA SW846 8270C/1311

o-Cresol	<0.012	ppm
m-Cresol	<0.011	ppm
p-Cresol	<0.011	ppm
1,4-Dichlorobenzene	<0.012	ppm
2,4-Dinitrotoluene	<0.0100	ppm
Hexachlorobenzene	<0.0082	ppm
Hexachlorobutadiene	<0.016	ppm
Hexachloroethane	<0.018	ppm
Nitrobenzene	<0.012	ppm
Pentachlorophenol	<0.022	ppm
Pyridine	<0.011	ppm
2,4,5-Trichlorophenol	<0.0092	ppm
2,4,6-Trichlorophenol	<0.0085	ppm

PESTICIDES: USEPA SW846 8081/1311
Endrin
Lindane
Methoxychlor
Toxaphene
Chlordane
Heptachlor
Heptachlor Epoxide

HERBICIDES: USEPA SW846 8151/1311
2,4-D
Silvex (2,4,5-TP)

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

NOTE: Vacant fields indicate test not requested

Approved By: VOLPE
Title: Supervisor

CONSOLIDATED EDISON JAN. 14 2000
ENVIRONMENTAL, HEALTH & SAFETY
CHEMLAB ELAP# 10380

Lab Sequence Number: 99-12143-001
E2MIS Incident Number:
E2MIS Sample Number:

Date Reported: 12/01/99
Date Analyzed: 11/24/99
Date Received: 11/19/99
Date Sampled: 11/18/99

Submitter: STEPIEN.W
Description: SOIL-GT-8,S-9,60-62 FT WHITE PLAINS SS
Facility:

TSL Analyst: SLOAN
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

*** TCLP Results Of Analysis ***

Description: SAMPLE TYPE: SOIL
Location: WHITE PLAINS SS GT-8,S-9,60-62 FT

METALS: USEPA SW846 6010/HG7471A/1311

ANALYTE	RESULTS	UNITS
Arsenic	<0.060	ppm
Barium	<1.00	ppm
Cadmium	<0.030	ppm
Chromium	<0.050	ppm
Lead	<0.020	ppm
Mercury	<.000050	ppm
Selenium	0.088	ppm
Silver	<0.080	ppm

VOLATILES: USEPA SW846 8260/624/1311

ANALYTE	RESULTS	UNITS
Benzene	<0.0010	ppm
Carbon Tetrachloride	<0.0018	ppm
Chlorobenzene	<0.0011	ppm
Chloroform	<0.0015	ppm
1,2-Dichloroethane	<0.0020	ppm
1,1-Dichloroethene	<0.0018	ppm
Methyl Ethyl Ketone	<0.025	ppm
Tetrachloroethene	<0.0011	ppm
Trichloroethene	<0.0020	ppm
Vinyl Chloride	<0.0025	ppm

SEMI-VOLATILES: USEPA SW846 8270C/1311

o-Cresol	<0.017	ppm
m-Cresol	<0.008	ppm
p-Cresol	<0.008	ppm
1,4-Dichlorobenzene	<0.015	ppm
2,4-Dinitrotoluene	<0.019	ppm
Hexachlorobenzene	<0.023	ppm
Hexachlorobutadiene	<0.10	ppm
Hexachloroethane	<0.019	ppm
Nitrobenzene	<0.017	ppm
Pentachlorophenol	<0.50	ppm
Pyridine	<0.0086	ppm
2,4,5-Trichlorophenol	<0.017	ppm
2,4,6-Trichlorophenol	<0.015	ppm

PESTICIDES: USEPA SW846 8081/1311

Endrin		
Lindane		
Methoxychlor		
Toxaphene		
Chlordane		
Heptachlor		
Heptachlor Epoxide		

HERBICIDES: USEPA SW846 8151/1311

2,4-D		
Silvex (2,4,5-TP)		

Analyzed by: Environmental Testing Laboratories, Inc ELAP# 10969

NOTE: Vacant fields indicate test not requested.

Approved By: Ciullo
Title: Supervisor

JAN. 14 2000

CONSOLIDATED EDISON
ENVIRONMENTAL, HEALTH & SAFETY
CHEMLAB

ELAP# 10380

Lab Sequence Number: 99-12143-001
E2 Incident Number:
E2 Sample Number:

Date Reported: 12/01/99
Date Received: 11/19/99
Date Sampled: 11/18/99

Submitter: STEPIEN.W
Description: SOIL-GT-8,S-9,60-62 FT WHITE PLAINS SS
Facility:

TSL Analyst: SLOAN
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

Results Of Analysis - PCB by EPA 8082/608

Location: WHITE PLAINS SS GT-8,S-9,60-62 FT
Equipment No:
Serial/ID No:
Vault No:
Feeder No:
Sample Type: SOIL

Analyte	Result	Units	MDL
AROCLOR 1016	<8.28	ppb	8.28
AROCLOR 1221	<5.20	ppb	5.20
AROCLOR 1232	<3.60	ppb	3.60
AROCLOR 1242	<7.80	ppb	7.80
AROCLOR 1248	<3.09	ppb	3.09
AROCLOR 1254	<5.12	ppb	5.12
AROCLOR 1260	<5.16	ppb	5.16

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

Approved By: Ciullo
Title: Supervisor

JAN. 14 2000

CONSOLIDATED EDISON
ENVIRONMENTAL, HEALTH & SAFETY
CHEMLAB

Lab Sequence Number: 99-12143-001
Customer Job Number:
E2 Incident Number:

Date Reported: 12/01/99
Date Received: 11/19/99
Date Sampled: 11/18/99

Submitter: STEPIEN.W
Description: SOIL-GT-8,S-9,60-62 FT WHITE PLAINS SS
Facility:
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

PARAMETER	MDL	RESULT	REPORT	UNITS
Cyanide	0.0060	0.0060	<0.0060	

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

Approved By: Ciullo
Title: Supervisor

May. 08 2000

CONSOLIDATED EDISON
ENVIRONMENTAL, HEALTY & SAFETY
CHEMLAB

Lab Sequence Number: 99-12142-001

Date Reported: 12/01/99
Date Received: 11/19/99
Date Sampled: 11/18/99
Time Sampled: 0931

Submitter: STEPIEN.W
Description SOIL-GT-7,S-8, 4-5 FT WHITE PLAINS SS
Facility:

Analyzed By: SA Laboratory
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE APPROVAL OF TSL. TEST RESULTS RELATE ONLY TO THE SAMPLES SUBMITTED TO TSL.

Location: WHITE PLAINS SS GT-7,S-8,4-5FT

Test	Result	Units	MDL
Aroclor-1016	<7.24	ppb	7.24
Aroclor-1221	<4.55	ppb	4.55
Aroclor-1232	<3.15	ppb	3.15
Aroclor-1242	<6.82	ppb	6.82
Aroclor-1242	0		
Aroclor-1248	<2.71	ppb	2.71
Aroclor-1254	<4.48	ppb	4.48
Aroclor-1254	0		
Aroclor-1260	0		
PCB Reporting Value	<1.00		
Aroclor-1260	<4.51	ppb	4.51
Aroclor to Report	None		

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 1096

Approved By: VOLPE

Skorobogatov, Yelena

From:	CHEMLIMS@tao.coned.com
Sent:	Wednesday, December 01, 1999 11:35 AM
To:	Stepien, Walter
Subject:	By W.STEPIEN 99-12136

DEC. 1 1999

CONSOLIDATED EDISON
ENVIRONMENTAL, HEALTH & SAFETY ELAP# 10380
CHEMLAB

Lab Sequence Number: 99-12136-001 Date Reported: 12/01/99
E2 Incident Number: Date Received: 11/18/99
E2 Sample Number: Date Sampled: 11/18/99

Submitter: W.STEPIEN
Description: SOIL-GT-8,S-7,4-5 FT,WHITE PLAINS S/S;WE
Facility: 4 IRVING PL

TSL Analyst:
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

Results Of Analysis - PCB by EPA 8082/608

Location: WHITE PLAINS S/S
Serial/ID No: Vault No: Feeder No:
Sample Type: SOIL

Analyte	Result	Units	MDL
AROCLOR 1016	<7.04	ppb	7.04
AROCLOR 1221	<4.42	ppb	4.42
AROCLOR 1232	<3.06	ppb	3.06
AROCLOR 1242	<6.63	ppb	6.63
AROCLOR 1248	<2.63	ppb	2.63
AROCLOR 1254	<4.35	ppb	4.35
AROCLOR 1260	<4.39	ppb	4.39

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

Approved By: Ciullo
Title: Supervisor

Skorobogatov, Yelena

From: CHEMLIMS@tao.coned.com
Sent: Wednesday, December 08, 1999 1:35 PM
To: Stepien, Walter; LIMS_WEST@tao.coned.com
Subject: By STEPIEN.WALTER P. 99-12172

DEC. 8 1999

CONSOLIDATED EDISON
ENVIRONMENTAL, HEALTH & SAFETY ELAP# 10380
CHEMLAB

Lab Sequence Number: 99-12172-001 Date Reported: 12/08/99
E2 Incident Number: Date Received: 11/20/99
E2 Sample Number: Date Sampled: 11/19/99

Submitter: STEPIEN.WALTER P.
Description: SOIL- GT-9 & GT-10
Facility: WHITE PLAINS S/S

TSL Analyst: R.LUND
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

Results Of Analysis - PCB by EPA 8082/608

Location: WHITE PLAINS S/S
Serial/ID No: GT-9,S-10,4-5 Vault No: N/A Feeder No: N/A
Sample Type: SOLID

Analyte	Result	Units	MDL
AROCLOR 1016	<1.29	ppb	1.29
AROCLOR 1221	<5.47	ppb	5.47
AROCLOR 1232	<2.90	ppb	2.90
AROCLOR 1242	<1.21	ppb	1.21
AROCLOR 1248	<2.75	ppb	2.75
AROCLOR 1254	<0.64	ppb	0.64
AROCLOR 1260	<1.82	ppb	1.82

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

Approved By: VOLPE
Title: Supervisor

DEC. 8 1999

CONSOLIDATED EDISON
ENVIRONMENTAL, HEALTH & SAFETY ELAP# 10380
CHEMLAB

Lab Sequence Number: 99-12172-002 Date Reported: 12/08/99
E2 Incident Number: Date Received: 11/20/99
E2 Sample Number: Date Sampled: 11/19/99

Submitter: STEPIEN.WALTER P.
Description: SOIL- GT-9 & GT-10
Facility: WHITE PLAINS S/S

TSL Analyst: R.LUND
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OP THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

Results Of Analysis - PCB by EPA 8082/608

Location: WHITE PLAINS S/S
Serial/ID No: GT-10,S-11,4- Vault No: N/A Feeder No: N/A
Sample Type: SOLID

Analyte	Result	Units	MDL
AROCLOR 1016	<1.29	ppb	1.29
AROCLOR 1221	<5.47	ppb	5.47
AROCLOR 1232	<2.90	ppb	2.90
AROCLOR 1242	<1.21	ppb	1.21
AROCLOR 1248	<2.75	ppb	2.75
AROCLOR 1254	<0.64	ppb	0.64
AROCLOR 1260	<1.82	ppb	1.82

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

Approved By: VOLPE
Title: Supervisor

MAY 8 2000

CONSOLIDATED EDISON
ENVIRONMENTAL, HEALTH & SAFETY ELAP# 10380
CHEMLAB

Lab Sequence Number: 99-11911
E2 Incident Number:

Date Reported: 11/17/99
Date Received: 11/11/99
Date Sampled: 11/11/99

Submitter: .KOVARI
Description: SOIL-GT-2,GT-3,WHITE PLAINS S/S:WE
Facility: 310 KINGSBIDGE
E2 Site:

TSL Analyst: BLACKWELL
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. TEST RESULTS RELATE ONLY TO THE SAMPLE AS SUBMITTED TO TSL.

*** PCB Results Of Analysis ***

SAMPLE# E2MIS #	DESCRIPTON	AROCLOR	RESULTS	UNITS
-001	SAMPLE TYPE: SOIL EQUIPMENT : GT-2,S-2, 4-5 FT LOCATION : WHITE PLAINS S/S VAULT: N/A FDR: N/A PHASE: N/A CINDE ID# : QAQC ID : 02-199911150424	None	<1.00	PPM
-002	SAMPLE TYPE: SOIL EQUIPMENT : GT-3,S-3, 4-5 FT LOCATION : WHITE PLAINS S/S VAULT: N/A FDR: N/A PHASE: CINDB ID# : QAQC ID : 02-199911150424	None	<1.00	PPM

TEST MDL:	1016	1221	1232	1242	1248	1254	1260	1262
OIL MATRIX:	1MG/L	2MG/L	2MG/L	.5MG/L	2MG/L	1MG/L	1MG/L	1MG/L
SOIL MATRIX:				2MG/KG		1MG/KG	2MG/KG	
WIPE MATRIX:				1UG/100CM2		1UG/100CM2	1UG/100CM2	

PPB = UG/L; PPM = MO/L, MG/KG;
MDL = METHOD DETECTION LIMIT

Analysis performed according to the following methods:
PCB in Solid Waste - SW 846 - Method 3540B, 3550A, 8082
PCB in Transformer fluids & Waste Oils - EPA 600/ 4-81-045
PCB in Waste Water - EPA 608

Approved By: S.PETERS
Title: Supervisor

E2 Sample Number: . Date Sampled: 11/16/99

Submitter: Christine Kovari
Description: SOIL-GT-4,-5,-6;WHITE PLAINS S/S:WESTCHESTER
Facility: 310 EAST KINGSBRIDGE RD, BX

TSL Analyst:
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

Results Of Analysis - PCB by EPA 8082/608

Location: WHITE PLAINS S/S
Serial/ID No: GT-4,S-5,4-5' Vault No: N/A Feeder No: N/A
Sample Type: SOIL

Analyte	Result	Units	MOL
AROCLOR 1016	<7.45	ppb	7.45
AROCLOR 1221	<4.68	ppb	4.68
AROCLOR 1232	<3.24	ppb	3.24
AROCLOR 1242	<7.02	ppb	7.02
AROCLOR 1248	<2.78	ppb	2.78
AROCLOR 1254	<4.61	ppb	4.61
AROCLOR 1260	<4.64	ppb	4.64

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

Approved By: VOLPE
Title: Supervisor

DEC. 8 1999

CONSOLIDATED EDISON
ENVIRONMENTAL, HEALTH & SAFETY ELAP# 10380
CHEMLAB

Lab Sequence Number: 99-12066-006 Date Reported: 12/08/99
E2 Incident Number: Date Received: 11/17/99
E2 Sample Number: Date Sampled: 11/16/99

Submitter: Christine Kovari
Description: SOIL-GT-4,-5,-6;WHITE PLAINS S/S:WESTCHESTER
Facility: 310 EAST KINGSBRIDGE RD, BX

DEC. 8 1999

CONSOLIDATED EDISON
ENVIRONMENTAL, HEALTH & SAFETY ELAP# 10380
CHEMLAB

Lab Sequence Number: 99-12066-003 Date Reported: 12/08/99
E2 Incident Number: Date Received: 11/17/99
E2 Sample Number: Date Sampled: 11/16/99

Submitter: Christine Kovari
Description: SOIL-GT-4,-5,-6;WHITE PLAINS S/S:WESTCHESTER
Facility: 310 EAST KINGSBRIDGE RD, BX

TSL Analyst:
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

Results Of Analysis - PCB by EPA 8082/608

Location: WHITE PLAINS S/S
Serial/ID No: GT-5,S-6,1-5' Vault No: N/A Feeder No: N/A
Sample Type: SOIL

Analyte	Result	Units	MDL
AROCLOR 1016	<7.24	ppb	7.24
AROCLOR 1221	<4.55	ppb	4.55
AROCLOR 1232	<3.15	ppb	3.15
AROCLOR 1242	<6.82	ppb	6.82
AROCLOR 1248	<2.71	ppb	2.71
AROCLOR 1254	<4.48	ppb	4.48
AROCLOR 1260	<4.51	ppb	4.51

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

Approved By: VOLPE
Title: Supervisor

DEC. 8 1999

CONSOLIDATED EDISON

Skorobogatov, Yelena

From:	CHEMLIMS@tao.coned.com
Sent:	Wednesday, December 08, 1999 3:15 PM
To:	SKOROBOGATOVY@CONED.COM; STEPIENW@CONED.COM; KOVARIC@CONED.COM; LIMS_WEST@tao.coned.com
Subject:	By Christine Kovari 99-12066

DEC. 8 1999

CONSOLIDATED EDISON
ENVIRONMENTAL, HEALTH & SAFETY ELAP# 10380
CHEMLAB

Lab Sequence Number: 99-12066-001 Date Reported: 12/08/99
E2 Incident Number: Date Received: 11/17/99
E2 Sample Number: Date Sampled: 11/16/99

Submitter: Christine Kovari
Description: SOIL-GT-4,-5,-6;WHITE PLAINS S/S:WESTCHESTER
Facility: 310 EAST KINGSBRIDGE RD, BX

TSL Analyst:
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. THIS REPORT RELATES ONLY TO THE ITEMS TESTED.

Results Of Analysis - PCB by EPA 8082/608

Location: WHITE PLAINS S/S
Serial/ID No: GT-6,S-4,4-5' Vault No: N/A Feeder No: N/A
Sample Type: SOIL

Analyte	Result	Units	MDL
AROCLOR 1016	<7.45	ppb	7.45
AROCLOR 1221	<4.68	ppb	4.68
AROCLOR 1232	<3.24	ppb	3.24
AROCLOR 1242	<7.02	ppb	7.02
AROCLOR 1248	<2.78	ppb	2.78
AROCLOR 1254	<4.61	ppb	4.61
AROCLOR 1260	<4.64	ppb	4.64

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

Approved By: VOLPE
Title: Supervisor

MAY 8 2000

CONSOLIDATED EDISON
ENVIRONMENTAL, HEALTH & SAFETY ELAP# 10380
CHEMLAB

Lab Sequence Number 99-11916
E2 Incident Number:

Date Reported: 11/25/99
Date Received: 11/11/99
Date Sampled: 11/11/99

Submitter: C.KOVARI
Description: SOIL-GT-2,GT-3,WHITE PLAINS S/S:WE
Facility: 310 E KINGSBRIDGE

TSL Analyst: SLOAN
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. TEST RESULTS RELATE ONLY TO THE SAMPLE AS SUBMITTED TO TSL.

Resulte Of Analysis - Total Recoverable Petroleum Hydrocarbons by EPA 418.1

SAMPLE#	E2MIS SAMPLE#	TRPH	UNITS
-001		1220	PPM
-002		402	PPM

-001
EQUIPMENT : GT-2,S-2,4-5 FT
LOCATION : WHITE PLAINS S/S
Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

-002
EQUIPMENT : GT-3,S-3,4-5 FT
LOCATION : WHITE PLAINS S/S
Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

Approved By: ED CHIN
Title: Supervieor

Skorobogatov, Yelena

From:	CHEMLIMS@tao.coned.com
Sent:	Wednesday, December 08, 1999 3:45 PM
To:	SKOROBOGATOVY@CONED.COM; STEPIENW@CONED.COM; KOVARIC@CONED.COM; LIMS_WEST@tao.coned.com
Subject:	By Christine Kovari 99-12066

DEC. 8 1999

CONSOLIDATED EDISON
ENVIRONMENTAL, HEALTH & SAFETY ELAP# 10380
CHEMLAB

Lab Sequence Number: 99-12066 Date Reported: 12/08/99
E2 Incident Number: Date Received: 11/17/99
Date Sampled: 11/16/99
Submitter: Christine Kovari
Description: SOIL-GT-4,-5,-6;WHITE PLAINS S/S WESTCHESTER
Facility. 310 EAST KINGSBRIDGE RD, BX

TSL Analyst:
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. TEST RESULTS RELATE ONLY TO THE SAMPLE AS SUBMITTED TO TSL.

Results Of Analysis - Total Recoverable Petroleum Hydrocarbons by ERA 418.1

SAMPLE# E2MIS SAMPLE#	TRPH	UNITS
-001 EQUIPMENT : GT-6 S-4 4-5ft LOCATION : WHITE PLAINS S/S Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969		
-002 EQUIPMENT : GT-6 S-4 4-5ft LOCATION : WHITE PLAINS S/S Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969	2690	ppm
-003 EQUIPMENT : GT-5 S-6 1-5ft LOCATION : WHITE PLAINS S/S Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969		
-004 EQUIPMENT : GT-5 S-6 1-5ft LOCATION : WHITE PLAINS S/S Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969	5200	ppm
-005 EQUIPMENT : GT-4 S-5 4-5ft LOCATION : WHITE PLAINS S/S Analyzed by: Environmental Tasting Laboratories, Inc. ELAP# 10969		
-006 EQUIPMENT : GT-4 S-5 4-5ft LOCATION : WHITE PLAINS S/S Analyzed by: Environmental Tasting Laboratories, Inc. ELAP# 10969	29.7	ppm

Approved By: VOLPE
Title: Supervisor

May. 08 2000

CONSOLIDATED EDISON
ENVIRONMENTAL, HEALTY & SAFETY
CHEMLAB

Lab Saquence Number: 99-12142-003

Date Reported: 12/01/99
Date Received: 11/19/99
Date Sampled: 11/18/99
Time Sampled: 0931

Submitter: STEPIEN.W
Description: SOIL-GT-7,S-8, 4-5 FT WHITE PLAINS SS
Facility:

Analyzed By:
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE APPROVAL OF TSL. TEST RESULTS RELATE ONLY TO THE SAMPLES SUBMITTED TO TSL.

Location: WHITE PLAINS SS GT-7,S-8,4-5FT

Test	Result	Units	MDL
Total Pet Hydro Result	451	ppm	

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 1096

Approved By: VOLPE

May. 08 2000

CONSOLIDATED EDISON
ENVIRONMENTAL, HEALTY & SAFETY
CHEMLAB

Lab Sequence Number: 99-12136-003

Date Reported: 12/01/99
Date Received: 11/18/99
Date Sampled: 11/18/99
Time Sampled: 0700

Submitter: W.STEPIEN
Description: SOIL-GT-8,S-7,4-5 FT,WHITE PLAINS S/S:WE
Facility: 4 IRVING PL

Analyzed By:
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE APPROVAL OF TSL. TEST RESULTS RELATE ONLY TO THE SAMPLES SUBMITTED TO TSL.

Location: WHITE PLAINS S/S
Equipment: GT-8,S-7,4-5 FT

Test	Result	Units	MDL
Total Pet Hydro Result	18.9	ppm	

Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 1096

Approved By: Ciullo

Skorobogatov, Yelena

From:	CHEMLIMS@tao.coned.com
Sent:	Wednesday, December 08, 1999 1:35 PM
To:	Stepien, Walter; LIMS_WEST@tao.coned.com
Subject:	By STEPIEN.WALTER P. 99-12172

DEC. 8 1999

CONSOLIDATED EDISON
ENVIRONMENTAL, HEALTH & SAFETY ELAP# 10380
CHEMLAB

Lab Sequence Number: 99-12172 Date Reported: 12/08/99
E2 Incident Number: Date Received: 11/20/99
Date Sampled: 11/19/99
Submitter: STEPIEN.WALTER P.
Description: SOIL- OT-9 & OT-10
Facility: WHITE PLAINS S/S

TSL Analyst: R.LUND
NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL. TEST RESULTS RELATE ONLY TO THE SAMPLE AS SUBMITTED TO TSL.

Results Of Analysis - Total Recoverable Petroleum Hydrocarbons by EPA 418.1

SAMPLE#	E2MIS SAMPLE#	TRPH	UNITS
-001		43.9	ppm
-002		18.2	ppm

-001
EQUIPMENT : GT-9, 5-10, 4-5 FT
LOCATION : WHITE PLAINS S/S
Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

-002
EQUIPMENT : GT-10, 5-11,4-5 FT
LOCATION : WHITE PLAINS S/S
Analyzed by: Environmental Testing Laboratories, Inc. ELAP# 10969

Approved By: VOLPE
Title: Supervisor

end$ /usr/labux/email/99-12172.003

META Environmental, Inc.
49 Clarendon Street
Watertown, MA 02472
TEL: (617) 923-4662
FAX: (617) 923-4610

May 12, 2000

Mr. Imants Reks
Parsons Engineering Science, Inc.
290 Elwood Davis Road
Liverpool, New York 13088

RE: ***Results of Analysis of Samples from the White Plains Site***

Dear Imants:

META Environmental, Inc. (META) has completed the analysis of one soil sample (TB-2, 17.5') from the White Plains site for TCLP VOCs, SVOCs, and metals, and total PCBs. The results are attached to this cover letter. All quality assurance parameters were within acceptable limits. There was a substantial interference in the PCB chromatograms that we attempted to remove with cleanup methods, but we were not entirely successful. Regardless, based on the results, I am confident that PCBs were not present in the sample above the quantitation limits.

If you have any questions, or would like META to do additional analyses, please do not hesitate to call me.

Sincerely,

David M Mauro

David M. Mauro
V. President

Attachments

Analytical Results for Volatile and Semivotatile Organics
META Environmental, Inc.

Field ID:	**Aqueous Blank**	Preparation Method:	Solvent Ext. (EPA3511 Draft)
		Cleanup Method(s):	
Client:	Parsons	Analysis Method:	GC/MS (EPA 8260/8270 Mod.)
Project:	White Plains Substation	Matrix:	Water
		Preservation:	3.9°C
Lab ID:	PW000427-AB	Decanted:	No
File ID:	27APR03.D	Sample Size:	35 g
		%Solid:	100%
Date Sampled:	04/06/2000	Extract Volume:	2 mL
Date Received:	04/13/2000	Prep DF:	
Date Prepared:	04/26/2000	Analysis DF:	1
Date Cleanup:	None	Injection Volume:	0.001 mL
Date Analyzed:	04/27/2000	Batch QC:	PW000427-AB

Analyte	Concentration ug/L	Q	RL ug/L	DL ug/L	Comments
cis-1,2-Dichloroethene		U	5.58	2.79	
2,2-Dichloropropane		U	5.58	2.79	
Chloroform		U	5.58	2.79	
1,1,1-Trichloroethane		U	5.58	2.79	
1,2-Dichloroethane		U	5.58	2.79	
1,1-Dichloropropene		U	5.58	2.79	
Benzene		U	22.3	11.2	
Carbon Tetrachloride		U	11.2	5.58	
1,2-Dichloropropane		U	11.2	5.58	
Trichloroethene		U	11.2	5.58	
Dibromomethane		U	11.2	5.58	
Bromodichloromethane		U	11.2	5.58	
cis-1,3-Dichloropropene		U	22.3	11.2	
N-nitrosodimethylamine		U	179	89.3	
Toluene		U	22.3	11.2	
trans-1,3-Dichloropropene		U	22.3	11.2	
1,1,2-Trichloroethane		U	2.79	1.39	
1,3-Dichloropropane		U	11.2	5.58	
Dibromochloromethane		U	11.2	5.58	
1,2-Dibromoethane		U	11.2	5.58	
Tetrachloroethene		U	11.2	5.58	
N-nitrosomethylethylamine		U	44.6	22.3	
Chlorobenzene		U	11.2	5.58	
1,1,1,2-Tetrachloroethane		U	11.2	5.58	
Ethylbenzene		U	5.58	2.79	
m/p-Xylenes		U	5.58	2.79	
Bromoform		U	11.2	5.58	
Styrene		U	5.58	2.79	
o-Xylene		U	5.58	2.79	
N-nitrosodiethylamine		U	44.6	22.3	
1,1,2,2-Tetrachloroethane		U	11.2	5.58	
1,2,3-Trichloropropane		U	11.2	5.58	
Isopropylbenzene		U	22.3	11.2	
Bromobenzene		U	2.79	1.39	
2-Chlorotoluene		U	5.58	2.79	
Propylbenzene		U	11.2	5.58	
4-Chlorotoluene		U	5.58	2.79	
1,3,5-Trimethylbenzene		U	5.58	2.79	
Pentachloroethane		U	5.58	2.79	
Phenol		U	89.3	44.6	
bis(2-Chloroethyl)ether		U	5.58	2.79	
Aniline		U	5.58	2.79	
2-Chlorophenol		U	5.58	2.79	
tert-Butylbenzene		U	11.2	5.58	
1,2,4-Trimethylbenzene		U	11.2	5.58	
1,3-Dichlorobenzene		U	5.58	2.79	
sec-Butylbenzene		U	5.58	2.79	
1,4-Dichlorobenzene		U	5.58	2.79	
p-Isopropyltoluene		U	5.58	2.79	
Benzyl Alcohol		U	44.6	22.6	
2-Methylphenol (m-cresol)		U	44.6	22.3	

Analytical Results for Volatile and Semivolatile Organics
META Environmental, Inc.

Field ID: Aqueous Blank

Client:	Parsons	Preparation Method:	Solvent Ext. (EPA3511 Draft)	
Project:	White Plains Substation	Cleanup Method(s):		
Lab ID:	PW000427-AB	Analysis Method:	GC/MS (EPA 8260/8270 Mod.)	
File ID:	27APR03.D	Matrix:	Water	
Date Sampled:	04/06/2000	Preservation:	3.9°C	
Date Received:	04/13/2000	Decanted:	No	
Date Prepared:	04/26/2000	Sample Size:	35	g
Date Cleanup:	None	%Solid:	100%	
Date Analyzed:	04/27/2000	Extract Volume:	2	mL
		Prep DF:	1	
		Analysis DF:	1	
		Injection Volume:	0.001	mL
		Batch QC:	PW000427-AB	

Analyte	Concentration ug/L	Q	RL ug/L	DL ug/L	Comments
1,2-Dichlorobenzene		U	5.58	2.79	
4-Methylphenol (p-cresol)		U	5.58	2.79	
bis(2-chloroisopropyl)ether		U	5.58	2.79	
n-Butylbenzene		U	5.58	2.79	
3-Methylphenol (o-cresol)		U	11.2	5.58	
N-nitrosopyrrolidine		U	44.6	22.3	
N-nitroso-di-n-propylamine		U	22.3	11.2	
N-nitrosomorpholine		U	22.3	11.2	
Hexachloroethane		U	5.58	2.79	
1,2-Dibromo-3-Chloropropane		U	5.58	2.79	
N-nitrosopiperidine		U	11.2	5.58	
2-Nitrophenol		U	44.6	22.3	
2,4-Dimethylphenol		U	5.58	2.79	
bis(2-Chloroethoxy)methane		U	11.2	5.58	
2,6-Dichlorophenol		U	22.3	11.2	
1,2,4-Trichlorobenzene		U	2.79	1.39	
Naphthalene		U	44.6	22.3	
4-Chloroaniline		U	22.3	11.2	
2,4-Dichlorophenol		U	44.6	22.3	
Hexachloropropene		U	22.3	11.2	
Hexachlorobutadiene		U	5.58	2.79	
1,2,3-Trichlorobenzene		U	2.79	1.39	
N-nitrosodi-n-butylamine		U	44.6	22.3	
4-Chloro-3-methylphenol		U	5.58	2.79	
2-Methylnaphthalene		U	5.58	2.79	
1,2,4,5-Tetrachlorobenzene		U	11.2	5.58	
Hexachlorocyclopentadiene		U	44.6	22.3	
2,4,6-Trichlorophenol		U	22.3	11.2	
2,4,5-Trichlorophenol		U	22.3	11.2	
2-Chloronaphthalene		U	2.79	1.39	
2-Nitroaniline		U	44.6	22.3	
Dimethylphthalate		U	2.79	1.39	
Acenaphthylene		U	2.79	1.39	
3-Nitroaniline		U	89.3	44.6	
Acenaphthene		U	5.58	2.79	
4-Nitrophenol		U	179	89.3	
Dibenzofuran		U	5.58	2.79	
Pentachlorobenzene		U	5.58	2.79	
2,3,4,6-Tetrachlorophenol		U	44.6	22.3	
Diethylphthalate		U	11.2	5.58	
4-Chlorophenyl-phenylether		U	44.6	22.3	
Fluorene		U	2.79	1.39	
4-Nitroaniline		U	179	89.3	
4,6-Dinitro-2-methylphenol		U	357	179	
n-Nitrosodiphenylamine		U	5.58	2.79	
4-Bromophenyl-phenylether		U	5.58	2.79	
Hexachlorobenzene		U	22.3	11.2	
Pentachlorophenol		U	357	179	
Phenanthrene		U	2.79	1.39	
Dinoseb (DNBP)		U	357	179	
Anthracene		U	2.79	1.39	

Analytical Results for Volatile and Semivolatile Organics
META Environmental, Inc.

Field ID:	**Aqueous Blank**	Preparation Method:	Solvent Ext. (EPA3511 Draft)
		Cleanup Method(s):	
Client:	Parsons	Analysis Method:	GC/MS (EPA 8260/8270 Mod.)
Project:	White Plains Substation	Matrix:	Water
		Preservation:	3.9°C
Lab ID:	PW000427-AB	Decanted:	No
File ID:	27APR03.D	Sample Size:	35 g
		%Solid:	100%
Date Sampled:	04/06/2000	Extract Volume:	2 mL
Date Received:	04/13/2000	Prep DF:	1
Date Prepared:	04/26/2000	Analysis DF:	1
Date Cleanup:	None	Injection Volume:	0.001 mL
Date Analyzed:	04/27/2000	Batch QC:	PW000427-AB

Analyte	Concentration ug/L	Q	RL ug/L	DL ug/L	Comments
Di-n-butylphthalate		U	179	89.3	
Fluoranthene		U	2.79	1.39	
Pyrene		U	2.79	1.39	
Butylbenzylphthalate		U	2.79	1.39	
Benz[a]anthracene		U	11.2	5.58	
Chrysene		U	2.79	1.39	
bis(2-Ethylhexyl)phthalate		U	22.3	11.2	
Di-n-octylphthalate		U	2.79	1.39	
Benzo[b]fluoranthene		U	2.79	1.39	
Benzo[k]fluoranthene		U	2.79	1.39	
Benzo[a]pyrene		U	2.79	1.39	
Indeno[1,2,3-cd]pyrene		U	5.58	2.70	
Dibenz[a,h]anthracene		U	11.2	5.58	
Benzo[g,h,i]perylene		U	5.58	2.79	

Surrogates	%R	Min	Max
0		50%	150%
2-Fluorobiphenyl	101%	30%	115%

Qualifiers:

B	Analyte detected in the blank
J	Undetected above the detection limit
U	Estimated value detected between the reporting and detection limits
RL	Reporting limit is the sample equivalent of the lowest linear calibration concentration
EDL	Estimated detection limit is 50% of the RL

Analytical Results for Volatile and Semivolatile Organics
META Environmental, Inc.

Field ID:	**Blank Spike**	Preparation Method:	Solvent Ext. (EPA3511 Draft)
		Cleanup Method(s):	
Client:	Parsons	Analysis Method:	GC/MS (EPA 8260/8270 Mod.)
Project:	White Plains Substation	Matrix:	Water
		Preservation:	3 9°C
Lab ID:	PW000427-ABS	Decanted:	No
File ID:	27APR04.D	Sample Size:	35 g
		%Solid:	100%
Date Sampled:	04/06/2000	Extract Volume:	2 mL
Date Received:	04/13/2000	Prep DF:	
Date Prepared:	04/26/2000	Analysis DF:	1
Date Cleanup:	None	Injection Volume:	0.001 mL
Date Analyzed:	04/27/2000	Batch QC:	PW000427-AB

Analyte	Concentration ug/L	Q	RL ug/L	DL ug/L	%REC
cis-1,2-Dichloroethene	180		5.58	2.79	90%
2,2-Dichloropropane	177		5.58	2.79	89%
Chloroform	167		5.58	2.79	84%
1,1,1-Trichloroethane	182		5.58	2.79	91%
1,2-Dichloroethane	192		5.58	2.79	96%
1,1-Dichloropropene	185		5.58	2.79	93%
Benzene	286		22.3	11.2	89%
Carbon Tetrachloride	185		11.2	5.58	93%
1,2-Dichloropropane	185		11.2	5.58	93%
Trichloroethene	180		11.2	5.58	90%
Dibromomethane	180		11.2	5.58	90%
Bromodichloromethane	179		11.2	5.58	90%
cis-1,3-Dichloropropene	178		22.3	11.2	89%
N-nitrosodimethylamine		U	179	89.3	
Toluene	277		22.3	11.2	87%
trans-1,3-Dichloropropene	172		22.3	11.2	86%
1,1,2-Trichloroethane	164		2.79	1.39	82%
1,3-Dichloropropane	179		11.2	5.58	90%
Dibromochloromethane	174		11.2	5.58	87%
1,2-Dibromoethane	177		11.2	5.58	89%
Tetrachloroethene	161		11.2	5.58	81%
N-nitrosomethylethylamine	119		44.6	22.3	60%
Chlorobenzene	176		11.2	5.58	88%
1,1,1,2-Tetrachloroethane	174		11.2	5.58	87%
Ethylbenzene	289		5.58	2.79	90%
m/p-Xylenes	328		5.58	2.79	103%
Bromoform	189		11.2	5.58	95%
Styrene	292		5.58	2.79	91%
o-Xylene	322		5.58	2.79	101%
N-nitrosodiethylamine	163		44.6	22.3	82%
1,1,2,2-Tetrachloroethane	189		11.2	5.58	95%
1,2,3-Trichloropropane	183		11.2	5.58	92%
Isopropylbenzene	315		22.3	11.2	98%
Bromobenzene	194		2.79	1.39	97%
2-Chlorotoluene	194		5.58	2.79	97%
Propylbenzene	324		11.2	5.58	102%
4-Chlorotoluene	190		5.58	2.79	95%
1,3,5-Trimethylbenzene	319		5.58	2.79	100%
Pentachloroethane	185		5.58	2.79	93%
Phenol	108		89.3	44.6	54%
bis(2-Chloroethyl)ether	189		5.58	2.79	80%
Aniline	131		5.58	2.79	66%
2-Chlorophenol	200		5.58	2.79	100%
tert-Butylbenzene	328		11.2	5.58	102%
1,2,4-Trimethylbenzene	316		11.2	5.58	99%
1,3-Dichlorobenzene	387		5.58	2.79	97%
sec-Butylbenzene	322		5.58	2.79	101%
1,4-Dichlorobenzene	380		5.58	2.79	95%
p-Isopropyltoluene	326		5.58	2.79	102%
Benzyl Alcohol	117		44.6	22.3	59%
2-Methylphenol (m-cresol)	114		44.6	22.3	57%

Analytical Results for Volatile and Semivolatile Organics
META Environmental, Inc.

Field ID: Blank Spike

Client:	Parsons	Preparation Method:	Solvent Ext. (EPA3611 Draft)
Project:	White Plains Substation	Cleanup Method(s):	
Lab ID:	PW000427-ABS	Analysis Method:	GC/MS (EPA 8260/8270 Mod.)
File ID:	27APR04.D	Matrix:	Water
Date Sampled:	04/06/2000	Preservation:	3.9°C
Date Received:	04/13/2000	Decanted:	No
Date Prepared:	04/26/2000	Sample Size:	35 g
Date Cleanup:	None	%Solid:	100%
Date Analyzed:	04/27/2000	Extract Volume:	2 mL
		Prep DF:	
		Analysis DF:	1
		Injection Volume:	0.001 mL
		Batch QC:	PW000427-AB

Analyte	Concentration ug/L	Q	RL ug/L	DL ug/L	%REC
1,2-Dichlorobenzene	384		5.58	2.79	98%
4-Methylphenol (p-cresol)	187		5.58	2.79	94%
bis(2-chloroisopropyl)ether	200		5.58	2.79	100%
n-Butylbenzene	323		5.58	2.79	101%
3-Methylphenol (o-cresol)	172		11.2	5.58	86%
N-nitrosopyrrolidine	124		44.6	22.3	62%
N-nitroso-di-n-propylamine	193		22.3	11.2	97%
N-nitrosomorpholine	124		22.3	11.2	62%
Hexachloroethane	191		5.58	2.79	96%
1,2-Dibromo-3-Chloropropane	178		5.58	2.79	89%
N-nitrosopiperidine	174		11.2	5.58	87%
2-Nitrophenol	135		44.3	22.3	68%
2,4-Dimethylphenol	183		5.58	2.79	92%
bis(2-Chloroethoxy)methane	181		11.2	5.58	91%
2,6-Dichlorophenol	101		22.3	11.2	81%
1,2,4-Trichlorobenzene	188		2.79	1.39	94%
Naphthalene	316		44.3	22.3	99%
4-Chloroaniline	160		22.3	11.2	80%
2,4-Dichlorophenol	152		44.0	22.3	76%
Hexachloropropene	172		22.3	11.2	86%
Hexachlorobutadiene	195		5.58	2.79	98%
1,2,3-Trichlorobenzene	190		2.79	1.39	95%
N-nitrosodi-n-butylamine	174		44.6	22.3	87%
4-Chloro-3-methylphenol	175		5.58	2.79	88%
2-Methylnaphthalene	298		5.58	2.79	93%
1,2,4,5-Tetrachlorobenzene	180		11.2	5.58	90%
Hexachlorocyclopentadiene	145		44.6	22.3	73%
2,4,6-Trichlorophenol	138		22.3	11.2	69%
2,4,5-Trichlorophenol	146		22.3	11.2	73%
2-Chloronaphthalene	190		2.79	1.39	95%
2-Nitroaniline	130		44.6	22.3	65%
Dimethylphthalate	173		2.79	1.39	87%
Acenaphthylene	103		2.79	1.39	86%
3-Nitroaniline	82.0	J	89.3	44.6	41%
Acenaphthene	108		5.58	2.79	90%
4-Nitrophenol		U	179	89.3	
Dibenzofuran	276		5.58	2.79	86%
Pentachlorobenzene	177		5.58	2.79	89%
2,3,4,6-Tetrachlorophenol	103		44.6	22.3	52%
Diethylphthalate	156		11.2	5.58	78%
4-Chlorophenyl-phenylether	174		44.6	22.3	87%
Fluorene	107		2.79	1.39	89%
4-Nitroaniline		U	179	89.3	
4,6-Dinitro-2-methylphenol		U	357	179	
n-Nitrosodiphenylamine	185		5.58	2.79	93%
4-Bromophenyl-phenylether	169		5.58	2.79	85%
Hexachlorobenzene	189		22.3	11.2	95%
Pentachlorophenol		U	357	179	
Phenanthrene	103		2.79	1.39	86%
Dinoseb (DNBP)		U	357	179	
Anthracene	111		2.79	1.39	93%

Analytical Results for Volatile and Semivolatile Organics
META Environmental, Inc.

Field ID: Blank Spike

		Preparation Method:	Solvent Ext. (EPA3511 Draft)
		Cleanup Method(s):	
Client:	Parsons	Analysis Method:	GC/MS (EPA 8260/8270 Mod.)
Project:	White Plains Substation	Matrix:	Water
		Preservation:	3.9°C
Lab ID:	PW000427-ABS	Decanted:	No
File ID:	27APR04.D	Sample Size:	35 g
		%Solid:	100%
Date Sampled:	04/06/2000	Extract Volume:	2 mL
Date Received:	04/13/2000	Prep DF:	1
Date Prepared:	04/26/2000	Analysis DF:	1
Date Cleanup:	None	Injection Volume:	0.001 mL
Date Analyzed:	04/27/2000	Batch QC:	PW000427-AB

Analyte	Concentration ug/L	Q	RL ug/L	DL ug/L	%REC
Di-n-butylphthalate	136	J	179	89.3	68%
Fluoranthene	102		2.79	1.39	85%
Pyrene	99.6		2.79	1.39	83%
Butylbenzylphthalate	144		2.79	1.39	72%
Benz[a]anthracene	74.6		11.2	5.58	62%
Chrysene	98.9		2.79	1.39	81%
bis(2-Ethylhexyl)phthalate	117		22.3	11.2	59%
Di-n-octylphthalate	130		2.79	1.39	65%
Benzo[b]fluoranthene	105		2.79	1.39	88%
Benzo[k]fluoranthene	134		2.79	1.39	112%
Benzo[a]pyrene	90.4		2.79	1.39	75%
Indeno[1,2,3-cd]pyrene	56.8		5.58	2.79	47%
Dibenz[a,h]anthracene	44.6		11.2	5.58	37%
Benzo[g,h,i]perylene	70.8		5.58	2.79	59%

Surrogates	%R	Min	Max
0		50%	150%
2-Fluorobiphenyl	109%	30%	115%

Qualifiers:

B	Analyte detected in the blank
J	Undetected above the detection limit
U	Estimated value detected between the reporting and detection limits
RL	Reporting limit is the sample equivalent of the lowest linear calibration concentration
EDL	Estimated detection limit is 50% of the RL

Analytical Results for Volatile and Semivolatile Organics
META Environmental, Inc.

Field ID:	**TB-2, 17.5'**	Preparation Method:	Solvent Ext. (EPA3511 Draft)	
		Cleanup Method(s):		
Client:	Parsons	Analysis Method:	GC/MS (EPA 8260/8270 Mod.)	
Project:	White Plains Substation	Matrix:	Water	
		Preservation:	3.9°C	
Lab ID:	PW000321-03Z	Decanted:	No	
File ID:	27APR06.D	Sample Size:	35.606	g
		%Solid:	100%	
Date Sampled:	4/6/2000	Extract Volume:	2	mL
Date Received:	4/13/2000	Prep DF:	1	
Date Prepared:	4/26/2000	Analysis DF:	1	
Date Cleanup:	None	Injection Volume:	0.001	mL
Date Analyzed:	4/27/2000	Batch QC:	PW000427-AB	

Analyte	Concentration ug/L	Q	RL ug/L	DL ug/L	Comments
cis-1,2-Dichloroethene		U	5.48	2.74	
2,2-Dichloropropane		U	5.48	2.74	
Chloroform		U	5.48	2.74	
1,1,1-Trichloroethane		U	5.48	2.74	
1,2-Dichloroethane		U	5.48	2.74	
1,1-Dichloropropene		U	5.48	2.74	
Benzene	5,180		21.9	11.0	
Carbon Tetrachloride		U	11.0	5.48	
1,2-Dichloropropane		U	11.0	5.48	
Trichloroethene		U	11.0	5.48	
Dibromomethane		U	11.0	5.48	
Bromodichloromethane		U	11.0	5.48	
cis-1,3-Dichloropropene		U	21.9	11.0	
N-nitrosodimethylamine		U	176	87.8	
Toluene	2,450		21.9	11.0	
trans-1,3-Dichloropropene		U	21.9	11.0	
1,1,2-Trichloroethane		U	2.74	1.37	
1,3-Dichloropropane		U	11.0	5.48	
Dibromochloromethane		U	11.0	5.48	
1,2-Dibromoethane		U	11.0	5.48	
Tetrachloroethene		U	11.0	5.48	
N-nitrosomethylethylamine		U	43.0	21.9	
Chlorobenzene		U	11.0	5.48	
1,1,1,2-Tetrachloroethane		U	11.0	5.48	
Ethylbenzene	2,960		5.48	2.74	
m/p-Xylenes	1,220		5.48	2.74	
Bromoform		U	11.0	5.48	
Styrene	24.7		5.48	2.74	
o-Xylene	914		5.48	2.74	
N-nitrosodiethylamine		U	43.0	21.9	
1,1,2,2-Tetrachloroethane		U	11.0	5.48	
1,2,3-Trichloropropane		U	11.0	5.48	
Isopropylbenzene	60.2		21.9	11.0	
Bromobenzene		U	2.74	1.37	
2-Chlorotoluene		U	5.48	2.74	
Propylbenzene	9.06	J	11.0	5.48	
4-Chlorotoluene		U	5.48	2.74	
1,3,5-Trimethylbenzene	88.1		5.48	2.74	
Pentachloroethane		U	5.48	2.74	
Phenol		U	87.8	43.9	
bis(2-Chloroethyl)ether		U	5.48	2.74	
Aniline		U	5.48	2.74	
2-Chlorophenol		U	5.48	2.74	
tert-Butylbenzene		U	11.0	5.48	
1,2,4-Trimethylbenzene	259		11.0	5.48	
1,3-Dichlorobenzene		U	5.48	2.74	
sec-Butylbenzene		U	5.48	2.74	
1,4-Dichlorobenzene		U	5.48	2.74	
p-Isopropyltoluene	13.1		5.45	2.74	
Benzyl Alcohol		U	43.0	21.0	
2-Methylphenol (m-cresol)		U	43.9	21.0	

Analytical Results for Volatile and Semivolatile Organics
META Environmental, Inc.

Field ID:	**TB-2, 17.5'**	Preparation Method:	Solvent Ext. (EPA3511 Draft)
		Cleanup Method(s):	
Client:	Parsons	Analysis Method:	GC/MS (EPA 8260/8270 Mod.)
Project:	White Plains Substation	Matrix:	Water
		Preservation:	3.9°C
Lab ID:	PW000321-03Dup	Decanted:	No
File ID:	27APR07.D	Sample Size:	35.838 g
		%Solid:	100%
Date Sampled:	04/06/2000	Extract Volume:	2 mL
Date Received:	04/13/2000	Prep DF:	1
Date Prepared:	04/26/2000	Analysis DF:	1
Date Cleanup:	None	Injection Volume:	0.001 mL
Date Analyzed:	04/27/2000	Batch QC:	PW000427-AB

Analyte	Concentration ug/L	Q	RL ug/L	DL ug/L	%D
1,2-Dichlorobenzene		U	5.45	2.72	
4-Methylphenol (p-cresol)		U	5.45	2.72	
bis(2-chloroisopropyl)ether		U	5.45	2.72	
n-Butylbenzene		U	5.45	2.72	
3-Methylphenol (o-cresol)		U	10.9	5.45	
N-nitrosopyrrolidine		U	43.0	21.8	
N-nitroso-di-n-propylamine		U	21.5	10.9	
N-nitrosomorpholine		U	21.8	10.9	
Hexachloroethane		U	5.45	2.72	
1,2-Dibromo-3-Chloropropane		U	5.45	2.72	
N-nitrosopiperidine		U	10.9	5.45	
2-Nitrophenol		U	43.6	21.8	
2,4-Dimethylphenol		U	5.45	2.72	
bis(2-Chloroethoxy)methane		U	10.9	5.45	
2,6-Dichlorophenol		U	21.8	10.9	
1,2,4-Trichlorobenzene		U	2.72	1.36	
Naphthalene	4,140		43.6	21.8	
4-Chloroaniline		U	21.8	10.9	
2,4-Dichlorophenol		U	43.6	21.8	
Hexachloropropene		U	21.8	10.9	
Hexachlorobutadiene		U	5.45	2.72	
1,2,3-Trichlorobenzene		U	2.72	1.36	
N-nitrosodi-n-butylamine		U	43.6	21.8	
4-Chloro-3-methylphenol		U	5.45	2.72	
2-Methylnaphthalene	306		5.45	2.72	96%
1,2,4,5-Tetrachlorobenzene		U	10.9	5.45	
Hexachlorocyclopentadiene		U	43.6	21.8	
2,4,6-Trichlorophenol		U	21.8	10.9	
2,4,5-Trichlorophenol		U	21.5	10.9	
2-Chloronaphthalene		U	2.72	1.36	
2-Nitroaniline		U	43.6	21.9	
Dimethylphthalate		U	2.72	1.36	
Acenaphthylene	25.5		2.72	1.36	95%
3-Nitroaniline		U	87.2	43.6	
Acenaphthene	91.1		5.45	2.72	96%
4-Nitrophenol		U	174	87.2	
Dibenzofuran		U	5.45	2.72	
Pentachlorobenzene		U	5.45	2.72	
2,3,4,6-Tetrachlorophenol		U	43.6	21.8	
Diethylphthalate		U	10.9	5.45	
4-Chlorophenyl-phenylether		U	43.5	21.8	
Fluorene	35.6		2.72	1.36	85%
4-Nitroaniline		U	174	87.2	
4,6-Dinitro-2-methylphenol		U	349	174	
n-Nitrosodiphenylamine		U	5.45	2.72	
4-Bromophenyl-phenylether		U	5.45	2.72	
Hexachlorobenzene		U	21.8	10.9	
Pentachlorophenol		U	349	174	
Phenanthrene	48.4		2.72	1.36	
Dinoseb (DNBP)		U	349	174	
Anthracene	14.8		2.72	1.36	82%

Analytical Results for Volatile and Semivolatile Organics
META Environmental, Inc.

Field ID: TB-2, 17.5'

		Preparation Method:	Solvent Ext. (EPA3511 Draft)
		Cleanup Method(s):	
Client:	Parsons	Analysis Method:	GC/MS (EPA 8260/8270 Mod.)
Project:	White Plains Substation	Matrix:	Water
		Preservation:	3.9°C
Lab ID:	PW000321-03Dup	Decanted:	No
File ID:	27APR07.D	Sample Size:	35.838 0
		%Solid:	100%
Date Sampled:	04/06/2000	Extract Volume:	2 mL
Date Received:	04/13/2000	Prep DF:	1
Date Prepared:	04/26/2000	Analysis DF:	1
Date Cleanup:	None	Injection Volume:	0.001 mL
Date Analyzed:	04/27/2000	Batch QC:	PW000427-AB

Analyte	Concentration ug/L	Q	RL ug/L	DL ug/L	%D
cis-1,2-Dichloroethene		U	5.45	2.72	
2,2-Dichloropropane		U	5.45	2.72	
Chloroform		U	5.45	2.72	
1,1,1-Trichloroethane		U	5.45	2.72	
1,2-Dichloroethane		U	5.45	2.72	
1,1-Dichloropropene		U	5.45	2.72	
Benzene	2,840		21.8	10.9	58%
Carbon Tetrachloride		U	10.9	5.45	
1,2-Dichloropropane		U	10.9	5.45	
Trichloroethene		U	10.0	5.45	
Dibromomethane		U	10.9	5.45	
Bromodichloromethane		U	10.9	5.45	
cis-1,3-Dichloropropene		U	21.8	10.9	
N-nitrosodimethylamine		U	174	87.2	
Toluene	1,200		21.8	10.9	68%
trans-1,3-Dichloropropene		U	21.8	10.9	
1,1,2-Trichloroethane		U	2.72	1.36	
1,3-Dichloropropane		U	10.9	5.45	
Dibromochloromethane		U	10.9	5.45	
1,2-Dibromoethane		U	10.9	5.45	
Tetrachloroethene		U	10.9	5.45	
N-nitrosomethylethylamine		U	43.6	21.8	
Chlorobenzene		U	10.9	5.45	
1,1,1,2-Tetrachloroethane		U	10.9	5.45	
Ethylbenzene	1,270		5.45	2.72	80%
m/p-Xylenes	510		5.45	2.72	82%
Bromoform		U	10.9	5.45	
Styrene	10.9		5.45	2.72	78%
o-Xylene	392		5.45	2.72	80%
N-nitrosodiethylamine		U	43.6	21.8	
1,1,2,2-Tetrachloroethane		U	10.9	5.45	
1,2,3-Trichloropropane		U	10.9	5.45	
Isopropylbenzene	23.9		21.8	10.9	86%
Bromobenzene		U	2.72	1.36	
2-Chlorotoluene		U	5.45	2.72	
Propylbenzene	5.62	J	10.9	5.45	47%
4-Chlorotoluene		U	5.45	2.72	
1,3,5-Trimethylbenzene	53.6		5.45	2.72	89%
Pentachloroethane		U	5.45	2.72	
Phenol		U	87.2	43.6	
bis(2-Chloroethyl)ether		U	5.45	2.72	
Aniline		U	5.45	2.72	
2-Chlorophenol		U	5.45	2.72	
tert-Butylbenzene		U	10.9	5.45	
1,2,4-Trimethylbenzene	98.0		10.9	5.45	92%
1,3-Dichlorobenzene		U	5.45	2.72	
sec-Butylbenzene		U	5.45	2.72	
1,4-Dichlorobenzene		U	5.45	2.72	
p-Isopropyltoluene	4.77	J	5.45	2.72	93%
Benzyl Alcohol		U	43.6	21.8	
2-Methylphenol (m-cresol)		U	43.6	21.8	

Analytical Results for Volatile and Semivolatile Organics
META Environmental, Inc.

Field ID: TB-2, 17.5'

Client:	Parsons	Preparation Method:	Solvent Ext. (EPA3511 Draft)	
Project:	White Plains Substation	Cleanup Method(s):		
		Analysis Method:	GC/MS (EPA 8260/8270 Mod.)	
		Matrix:	Water	
		Preservation:	3.9°C	
Lab ID:	PW000321-03Z	Decanted:	No	
File ID:	27APR08.D	Sample Size:	35.808	g
		%Solid:	100%	
Date Sampled:	4/6/2000	Extract Volume:	2	mL
Date Received:	4/13/2000	Prep DF:	1	
Date Prepared:	4/26/2000	Analysis DF:	1	
Date Cleanup:	None	Injection Volume:	0.001	mL
Date Analyzed:	4/27/2000	Batch QC:	PW000427-AB	

Analyte	Concentration ug/L	Q	RL ug/L	DL ug/L	Comments
Di-n-butylphthalate		U	176	87.8	
Fluoranthene	23.1		2.74	1.37	
Pyrene	29.9		2.74	1.37	
Butylbenzylphthalate		U	2.74	1.37	
Benz[a]anthracene	11.6		11.0	5.48	
Chrysene	7.57		2.74	1.37	
bis(2-Ethylhexyl)phthalate		U	21.9	11.0	
Di-n-octylphthalate		U	2.74	1.37	
Benzo[b]fluoranthene		U	2.74	1.37	
Benzo[k]fluoranthene		U	2.74	1.37	
Benzo[a]pyrene		U	2.74	1.37	
Indeno[1,2,3-cd]pyrene		U	5.48	2.74	
Dibenz[a,h]anthracene		U	11.0	5.48	
Benzo[g,h,i]perylene		U	5.48	2.74	

Surrogates	%R	Min	Max
0		50%	150%
2-Fluorobiphenyl	104%	30%	115%

Qualifiers:

B	Analyte detected in the blank
J	Undetected above the detection limit
U	Estimated value detected between the reporting and detection limits
RL	Reporting limit is the sample equivalent of the lowest linear calibration concentration
EDL	Estimated detection limit is 50% of the RL

Analytical Results for Volatile and Semivolatile Organics
META Environmental, Inc.

Field ID:	**TB-2, 17.5'**	Preparation Method:	Solvent Ext. (EPA3511 Draft)
		Cleanup Method(s):	
Client:	Parsons	Analysis Method:	GC/MS (EPA 8260/8270 Mod.)
Project:	White Plains Substation	Matrix:	Water
		Preservation:	3.9°C
Lab ID:	PW000321-03Z	Decanted:	No
File ID:	27APR06.D	Sample Size:	35.606 g
		%Solid:	100%
Date Sampled:	4/6/2000	Extract Volume:	2 mL
Date Received:	4/13/2000	Prep DF:	1
Date Prepared:	4/26/2000	Analysis DF:	1
Date Cleanup:	None	Injection Volume:	0.001 mL
Date Analyzed:	4/27/2000	Batch QC:	PW000427-AB

Analyte	Concentration ug/L	Q	RL ug/L	DL ug/L	Comments
1,2-Dichlorobenzene		U	5.48	2.74	
4-Methylphenol (p-cresol)		U	9.48	2.74	
bis(2-chloroisopropyl)ether		U	5.48	2.74	
n-Butylbenzene	6.94		5.48	2.74	
3-Methylphenol (o-cresol)		U	11.0	5.48	
N-nitrosopyrrolidine		U	43.0	21.9	
N-nitroso-di-n-propylamine		U	21.9	11.0	
N-nitrosomorpholine		U	21.9	11.0	
Hexachloroethane		U	5.48	2.74	
1,2-Dibromo-3-Chloropropane		U	6.48	2.74	
N-nitrosopiperidine		U	11.0	5.48	
2-Nitrophenol		U	43.9	21.9	
2,4-Dimethylphenol		U	5.48	2.74	
bis(2-Chloroethoxy)methane		U	11.0	5.48	
2,6-Dichlorophenol		U	21.0	11.0	
1,2,4-Trichlorobenzene		U	2.74	1.37	
Naphthalene	7,510		43.0	21.9	
4-Chloroaniline		U	21.9	11.0	
2,4-Dichlorophenol		U	43.9	21.9	
Hexachloropropene		U	21.9	11.0	
Hexachlorobutadiene		U	5.48	2.74	
1,2,3-Trichlorobenzene		U	2.74	1.37	
N-nitrosodi-n-butylamine		U	43.9	21.9	
4-Chloro-3-methylphenol		U	5.48	2.74	
2-Methylnaphthalene	859		5.49	2.74	
1,2,4,5-Tetrachlorobenzene		U	11.0	5.48	
Hexachlorocyclopentadiene		U	43.0	21.9	
2,4,6-Trichlorophenol		U	21.9	11.0	
2,4,5-Trichlorophenol		U	21.9	11.9	
2-Chloronaphthalene		U	2.74	1.37	
2-Nitroaniline		U	43.9	21.9	
Dimethylphthalate		U	2.74	1.37	
Acenaphthylene	71.7		2.74	1.37	
3-Nitroaniline		U	87.9	43.9	
Acenaphthene	298		5.48	2.74	
4-Nitrophenol		U	176	87.9	
Dibenzofuran	7.69		5.48	2.74	
Pentachlorobenzene		U	5.48	2.74	
2,3,4,6-Tetrachlorophenol		U	43.9	21.9	
Diethylphthalate		U	11.0	6.48	
4-Chlorophenyl-phenylether		U	43.0	21.9	
Fluorene	91.4		2.74	1.37	
4-Nitroaniline		U	176	87.8	
4,6-Dinitro-2-methylphenol		U	351	176	
n-Nitrosodiphenylamine		U	5.48	2.74	
4-Bromophenyl-phenylether		U	5.48	2.74	
Hexachlorobenzene		U	21.9	11.9	
Pentachlorophenol		U	351	176	
Phenanthrene	124		2.74	1.37	
Dinoseb (DNBP)		U	351	176	
Anthracene	35.2		2.74	1.37	

Analytical Results for Volatile and Semivolatile Organics
META Environmental, Inc.

Field ID: TB-2, 17.5'

Client:	Parsons	Preparation Method:	Solvent Ext. (EPA3511 Draft)
Project:	White Plains Substation	Cleanup Method(s):	
Lab ID:	PW000321-03Dup	Analysis Method:	GC/MS (EPA 8260/8270 Mod.)
File ID:	27APR07.D	Matrix:	Water
Date Sampled:	04/08/2000	Preservation:	3.9°C
Date Received:	04/13/2000	Decanted:	No
Date Prepared:	04/26/2000	Sample Size:	35.838 g
Date Cleanup:	None	%Solid:	100%
Date Analyzed:	04/27/2000	Extract Volume:	2 mL
		Prep DF:	
		Analysis DF:	1
		Injection Volume:	0.001 mL
		Batch QC:	PW000427-AB

Analyte	Concentration ug/L	Q	RL ug/L	DL ug/L	%D
Di-n-butylphthalate		U	174	87.2	
Fluoranthene	9.99		2.72	1.36	79%
Pyrene	13.5		2.72	1.36	76%
Butylbenzylphthalate		U	2.72	1.36	
Benz[a]anthracene		U	10.9	5.45	
Chrysene		U	2.72	1.36	
bis(2-Ethylhexyl)phthalate		U	21.8	10.9	
Di-n-octylphthalate		U	2.72	1.36	
Benzo[b]fluoranthene		U	2.72	1.36	
Benzo[k]fluoranthene		U	2.72	1.36	
Benzo[a]pyrene		U	2.72	1.36	
Indeno[1,2,3-cd]pyrene		U	5.45	2.72	
Dibenz[a,h]anthracene		U	10.9	5.45	
Benzo[g,h,i]perylene		U	5.45	2.72	

Surrogates	%R	Min	Max
0		50%	150%
2-Fluorobiphenyl	107%	30%	115%

Qualifiers:

B	Analyte detected in the blank
J	Undetected above the detection limit
U	Estimated value detected between the reporting and detection limits
RL	Reporting limit is the sample equivalent of the lowest linear calibration concentration
EDL	Estimated detection limit is 50% of the RL

ANALYTICAL RESULTS
Chlorophenols & TPH
Client: EPRI Project: Method Evaluation

Lab ID Field ID:	PW000321-03 TB-2, 17.5'		PW000321-03Dup TB-2, 17.5'		
Aroclor 1016	15.9	U	25.7	U	
Aroclor 1221	15.9	U	25.7	U	
Aroclor 1232	15.9	U	25.7	U	
Aroclor 1242	15.9	U	25.7	U	
Aroclor 1248	15.9	U	25.7	U	
Aroclor 1254	15.9	U	25.7	U	
Aroclor 1260	15.9	U	25.7	U	
Concentration Units:	ug/kg		ug/kg		
Tetrachloro-m-xylene	84%		84%		
Decachlorobiphenyl	89%		89%		

All soil results reported on a dry weight basis.

B = Analyte detected in the blank
D = Values from a diluted sample extract
DL = QC compounds diluted out
E = Estimated value, above calibration range
I = Interference
J = Estimated value
L = Coeluted with compound listed above
U = Not detected at quantitation limit shown

ANALYTICAL RESULTS
Chlorophenols & TPH
Client: EPRI Project: Method Evaluation

Lab ID Field ID:	PW000420-SB Soil Blank		PW000420-SBS Soil Blank Spike	
Aroclor 1016	2.50	U	101%	
Aroclor 1221	2.50	U		
Aroclor 1232	2.50	U		
Aroclor 1242	2.50	U		
Aroclor 1248	2.50	U		
Aroclor 1254	2.50	U		
Aroclor 1260	2.50	U	89%	
Concentration Units:	ug/kg		ug/kg	
Tetrachloro-m-xylene	75%		81%	
Decachlorobiphenyl	83%		93%	

All soil results reported on a dry weight basis.

B = Analyte detected in the blank
D = Values from a diluted sample extract
DL = QC compounds diluted out
E = Estimated value, above calibration range
I = Interference
J = Estimated value
L = Coeluted with compound listed above
U = Not detected at quantitation limit shown

META ENVIRONMENTAL SAMPLE RECEIPT

Lab ID	Field ID	Matrix	Analysis	Date Sampled	Date Received	Client Project	Container Storage	Comments/Logger
PW000321-01	TB-1, 28-30'	Soil	2508/4007	03/17/00	03/21/00	P06004-60	8 oz. jar	
PW000321-02	TB-1, 36-39'	Soil	2508/4007	03/17/00	03/21/00	P06004-60	8 oz. jar	
PW000321-03	TB-2, 17.5'	Soil	2508/4007	03/17/00	03/21/00	P06004-60	8 oz. jar	

[illegible]
3/21/00

EH&S ChemLab
Chain-of-Custody/Request for Analysis

Consolidated Edison (Bldg. 138)
31-01 20th Avenue, L.I.C., NY 11105

Tel: (718) 204 4124
Fax: (718) 956-8058

LSN: *(Lab Use Only)* 00-02566 e²MIS Incident #: ______ Chain-of-Custody ID #: **AA15272**

Sample Site: White plains s/s Borough: MH ☐, BK ☐, QN ☐, BX ☐, WE ☐, SI ☐

Requested By: Yelena Skorobogotov Employee #: 84153 Telephone #: (____) ______ Account #: R8461

E-mail Notification: ______ Organization: *(*Check Box Below)* Dept. 24-hour Tel. #: (____) ______

Sampled By: David Gerschwiler (GWC) Employee #: ______ Asbestos License #: ______ Customer's ID #: ______

Priority: E (within 8 hours) A (within 24 hours) B (within 7 days)

An 'E' or 'A' priority requires an e²MIS incident # or an operational necessity justification:

Preservation Information:
Temp Blank: Yes ____ No ____ °C ____
Preserved with ______
Comments: ______

SAMPLE INFO
TYPE: G-Grab; C-Composite; B-Blank; D-Duplicate; S-Split; SP-Spike
MATRIX: BL-Bluestone; L-Liquid; S-Solid; O-Oil; W-Water; WO-Water & Oil; SO-Soil; SL-Sludge; WI-Wipe; A-Air; GC-Gas Cond

(5) Analysis (Test) required – include method number if applicable

Collected Date (3)	Time	Sample Location / Description	VLT/MH/POLE # EQUIP. SERIAL #	Sample Matrix (4)	Sample Type	Total # of samples	Total # of containers	OIL ID	PCB	TCLP VOC	TCLP SVOC	TCLP METALS	TCLP BENZENE	TCLP FULL MINUS PEST & HERB	BTEX	OIL & GREASE	TIS	GAS-OIL	TOTAL BENZENE	ASBESTOS	DIELECTRIC	TOTAL HALOGENS	TPH	IGNITABILITY	REACTIVITY	GC/FID Fingerprint	If EPDES sample, check box	e²MIS Sample ID # (Not incident #)
3/17/00	1230	TB-1, 28-30' *		SO	G																					X		PW000321-01
	1300	TB-1, 36-39'		SO	G																					X		-02
	1400	TB-2, 17.5'		SO	G																					X		-03

* sample jar broken upon receipt. Transferred to a new jar; no contamination evident.
£ samples received @ 2°C

Comments / Special Instructions / Additional E Mail Notifications: Samples To be Sent To META Environmental per Yelena Skorobogotov

Central Services
☐ Environment, Health & Safety
☐ Transportation & Stores
☐ Research & Development
☐ Facilities & Office Services

Electric Operations
☐ Customer Services
☐ Distribution Engineering
☐ Manhattan
☐ Bronx & Westchester
☐ Staten Island
☐ Brooklyn & Queens
☐ Customer Operations

Central Operations
☐ System & Transmission Operations
☐ Maintenance Services
☐ Energy Management
☐ Substation Operations
☐ Steam Operations

Nuclear Operations
☐ Nuclear Power
☐ Nuclear Engineering
☐ Public Affairs

☐ Gas Ops
☐ Law
☐ Auditing

Relinquished by (Signature)	Date / Time	Received by (Signature)	Date / Time	Relinquished by (Signature)	Date / Time	Received by (Signature)	Date / Time
(Sampler): David Gerschwiler	3-17-00 / 1715	[signature]	03/17 / 17:15	[signature]	3/20/00 / [illegible]		
						[signature]	5/?/00 / 9:15 am

LABORATORY COPY

META ENVIRONMENTAL

Woods Hole Group

Environmental Laboratories

ANALYTICAL REPORT

Prepared for:

META Environmental, Inc.
49 Clarendon St.
Watertown, MA 02172

Project:	TCLP Metals P06004
ETR:	00044156
Report Date:	05/11/2000

Certificates
Massachusetts MA030
Connecticut PH-0141
New Hampshire 220697
Rhode Island 64
New Jersey 59015
Maine MA030

CASE NARRATIVE

Woods Hole Group Environmental Laboratories

ETR: 00044156
Project: TCLP Metals P06004

All analyses were performed within holding time and with appropriate quality control measures except where noted. Blank correction of results is not performed in the laboratory for any parameter. Soil/sediment samples are reported on a dry weight basis unless otherwise noted.

The enclosed results of analyses are representative of the samples as received by the laboratory. Woods Hole Group makes no representations or certifications as to the method of sample collection, sample identification, or transporting/handling procedures used prior to the receipt of samples by Woods Hole Group. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved by: Robin Breneiser
Woods Hole Group Environmental Laboratories

Date: 5-11-00

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ANALYTICAL REPORT

Woods Hole Group Environmental Laboratories

META Environmental, Inc
49 Clarendon St.
Watertown, MA 02172

ETR: 00044156
Project: TCLP Metals P06004

Sample ID: PW000321-03 **Matrix:** WATER **Date Collected:** 04/27/2000
Lab ID: 0044156-01 **Date Received:** 05/02/2000

Parameter	Result	Qualifier	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Arsenic, Extractable	200	U	µg/L	1	200	6010B		05/04/2000	LMV
Barium, Extractable	720		µg/L	1	20	6010B		05/05/2000	LMV
Cadmium, Extractable	5.0	U	µg/L	1	5.0	6010B		05/04/2000	LMV
Chromium, Extractable	10	U	µg/L	1	10	6010B		05/04/2000	LMV
Lead, Extractable	2200		µg/L	1	100	6010B		05/04/2000	LMV
Mercury, Extractable	0.50	U	µg/L	1	0.50	7470		05/08/2000	SC
Selenium, Extractable	200	U	µg/L	1	200	6010B		05/04/2000	LMV
Silver, Extractable	7.0	U	µg/L	1	7.0	6010B		05/04/2000	LMV

Sample ID: PW000426-EB3 **Matrix:** WATER **Date Collected:** 04/27/2000
Lab ID: 0044156-02 **Date Received:** 05/02/2000

Parameter	Result	Qualifier	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Arsenic, Extractable	200	U	µg/L	1	200	6010B		05/04/2000	LMV
Barium, Extractable	20	U	µg/L	1	20	6010B		05/05/2000	LMV
Cadmium, Extractable	5.0	U	µg/L	1	5.0	6010B		05/04/2000	LMV
Chromium, Extractable	10	U	µg/L	1	10	6010B		05/04/2000	LMV
Lead, Extractable	100	U	µg/L	1	100	6010B		05/04/2000	LMV
Mercury, Extractable	0.50	U	µg/L	1	0.50	7470		05/08/2000	SC
Selenium, Extractable	200	U	µg/L	1	200	6010B		05/04/2000	LMV
Silver, Extractable	7.0	U	µg/L	1	7.0	6010B		05/04/2000	LMV

U = The analyte was analyzed for but not detected at the sample specific level reported.

N/A = Not Applicable
RL = Reporting Limit

Woods Hole Group
Environmental Laboratories

Inorganic Quality Control Summary

Client: META Environmental, Inc.
Project: TCLP Metals P06004
BTR: 44156

Parameter	sample ID	analysis date	Blank (µg/L)	Sample Result (µg/L)	RPD of duplicates	MS added (µg/L)	%recovery matrix spike	LCS conc. (µg/L)	% recovery LCS	quali -fier
Arsenic	44156-01	5/4/00	<200	<200	0	1000	110	1000	94	
Barium	44156-01	5/5/00	<20	720	0	1000	88	1000	92	
Cadmium	44156-01	5/4/00	<5	<5	0	500	94	500	96	
Chromium	44156-01	5/4/00	<10	<10	0	1000	92	1000	95	
Lead	44156-01	5/4/00	<100	2200	9	1000	100	1000	95	
Mercury	44156-01	5/8/00	<0.2	<0.5	0	20	85	8.0	89	
Selenium	44156-01	5/4/00	<200	<200	0	1000	97	1000	94	
Silver	44156-01	5/4/00	<7	<7	0	200	95	200	95	

Qualifiers & Notes:
B = Reported QC is for associated batch
RPD = relative percent difference
C= Not spiked 2X> than sample concentration
N = See narrative
P = Post digestion spike recovery
R = RPD criteria not applicable to results <5X the detection limit.
X = It is not possible to calculate % RPD, result is BDL, duplicate is just above detection.

CHAIN OF CUSTODY RECORD

44156

PROJECT NAME Pob004
COMPANY META Environmental Inc.
ADDRESS 49 Clarendon St. Watertown MA 02472
PHONE (617) 923-4662
SAMPLED BY Dinky Berhanu (Print Name) Dinky Berhanu (Signature)

META Environmental, Inc.

49 Clarendon Street
Watertown, MA 02472
TEL: (617) 923-4662
FAX: (617) 923-4610

ANALYSES: TCLP Metals

SAMPLE NO.	DATE	TIME	SAMPLE LOCATION	CONTAINER SIZE	CONTAINER G/P	GRAB	COMP	NO. OF CONTAINERS	SAMPLE MATRIX	PRESERVATIVE	TCLP Metals	COMMENT
1	4/27	11am	PW000321-03	1L	G	✓		1	TCLP	HNO3 pH<2	✓	44156-1
2	4/27	11am	PW000426-EB2	↓	↓	✓		1	TCLP	↓	✓	-2

Relinquished by	Date/Time	Received by	Relinquished by	Date/Time	Received by
Dinky Berhanu	12:00 05/02/00	Ed Butler	Ed Butler	5/2/01 4:00	[illegible]
Relinquished by	Date/Time	Received by	Relinquished by	Date/Time	Received for Laboratory by

Method of Shipment

Send data to David Mauro
2 week Turnaround.
Quoted at $110/sample

PT 1 - ORIGINAL PT 2 META Project Manager - Yellow

APPENDIX F
ASBESTOS SAMPLE RESULTS

APR. 19 2000

CONSOLIDATED EDISON

ENVIRONMENTAL, HEALTH & SAFETY   ELAP# 10308

CHEMLAB

RESULTS OF ANALYSIS

Lab Sequence Number: 00-03661-001   Date Reported: 04/19/00

Customer Number: Date Received: 04/14/00

Date Sampled 04/11/00

Submitter YELENA SKOROBOGATOV

Description: SOIL-TB-2A;WHITE PLAINS S/S:WESTCHESTER

Facility 31-01 20TH AVE ASTORIA

TSL Analyst R.LUND

NOTE: THE SUBMITTER SHALL POST AND/OR PROVIDE THESE RESULTS TO ALL EMPLOYEES WORKING WITH OR IN THE VICINITY OF THIS SUBSTANCE. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF TSL THIS REPORT RELATES ONLY TO THE ITEMS TESTED AND MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY NVLAP OR ANY AGENCY OF THE U.S.GOVERNMENT

Sample Description: TB-2A SAMPLE

BULK MATERIAL WHITE PLAINS S/S

Appearance: Homogenous(Y/N) Y Fibrous(Y/N) Y Friable(Y/N) N

Color: BLACK Sample Treatment: Grav.(NOB) - PLM & TEM

ASBESTOS APPROXIMATE %		Non-ASBESTOS APPROXIMATE %		Non-FIBROUS APPROXIMATE %	
AMOSITE	ND	CELLULOSE	48	QUARTZ	ND
CHRYSOTILE	0.1	FIBERGLASS	ND	OPAQUES	ND
CROCIDOLITE	ND	SYNTHETIC	12	CARBONATES	4.0
TREMOLITE	ND	CERAMIC FIBERS	ND	OTHER	35.9
ANTHOPHYLLITE	ND	MINERAL WOOL	ND		
ACTINOLITE	ND				
TOTAL ASBESTOS	.1				

Analyzed by: ATC Associates, Inc. ELAP# 10879 NVLAP# 101187

REMARKS: Analyzed by ELAP 198.1 Method and ELAP 198.4 Method.

Approved By: VOLPE

Title: Supervisor

The above results reflect the analysis of the sample as submitted. Sample preparation and analysis of bulk materials is performed in accordance with US EPA - 600/M4-82-020.

Test was performed by point counting method.

ND = Not Detected TR = Trace

APPENDIX C

HEALTH AND SAFETY PLAN AND COMMUNITY AIR MONITORING PLAN

APPENDIX C

TEMPLATE HEALTH AND SAFETY PLAN
WHITE PLAINS FORMER MGP SITE
(Site #V00438)
White Plains, New York

Prepared For:

TBD
(Insert Office Name)
(Insert Street Address)
(Insert City, State and Zip Code)

Prepared By:

(Insert Subcontractor Name)
(Insert Street Address)
(Insert City, State, and Zip Code)
Author: (Insert Name and Title)

REVIEWED AND APPROVED BY:

Project Manager: ______________________________ __________

Date

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LIST OF ATTACHMENTS

LIST OF ACRONYMS

AED	Automated External Defibrillator
AHA	Activity Hazard Analysis
CFR	Code of Federal Regulations
CPR	Cardiopulmonary Resuscitation
EMS	Emergency Medical Services
HAZWOPER	Hazardous Waste Operations and Emergency Response
IDLH	Immediately Dangerous to Life and Health
NAPL	Non-Aqueous Phase Liquid
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PID	Photo Ionization Detector
PPE	Personal Protective Equipment
PSM	Project Safety Manager
HASP	Health and Safety Plan
SSO	Site Safety Officer
TBD	To Be Determined
UV	Ultraviolet Radiation
VOC	Volatile Organic Compounds

1.0 INTRODUCTION

This Health and Safety Plan (**HASP**) has been prepared for any post-remediation work at the White Plains Former MGP Gas Works Site (hereinafter referred to as the "**Site**"). It provides guidance for office and field activities required to complete the scope of work. This plan is a template to be used to prepare a site-specific HASP by any future party performing work at the Site. This template provides guidance for potential hazards that may be encountered during field activities that may be required to complete any post-remedial activities. The primary post-remedial field activities may include, but are not limited to, the following:

- Future intrusive construction work; and
- Monitoring, inspection and maintenance of the groundwater monitoring wells installed at the Site.

During intrusive work and other field activities, field staff may be exposed to hazards associated with chemicals of concern on and off the Site. As a result, field personnel may be required to have specialized training (i.e. as per 29 CFR 1910.120) or wear personal protective equipment (**PPE**) suitable for the level of contaminates present. Air monitoring may be required to evaluate contamination levels, ambient air conditions, and to determine if additional PPE is necessary.

Field staff may also be exposed to other hazards that are encountered during field activities including slips, trips, falls, automobiles, traffic, heavy equipment, drill rigs, and winches. Depending upon the time of season, field staff may be exposed to biological hazards, for example insect bites, stings, ticks, and snakes. Meteorological hazards such as lightning, wind, rain, and ultraviolet radiation may also be present.

This HASP template outlines safety and health requirements and guidelines for project work. When implemented, these requirements will help protect site personnel, visitors, the public and environment from exposure to potential safety and health hazards.

This HASP must be updated as conditions change or situations change, usually by addenda to the plan. All field personnel must understand and implement the HASP and any addenda. Review of the HASP should be documented by having field personnel sign an acknowledgement form stating that they understand the plan and its requirements.

2.0 STATEMENT OF HEALTH & SAFETY POLICY

This Section will be updated with a statement of safety and health policy by the party performing the work prior to commencement of any intrusive field activities at the Site.

3.0 SCOPE OF WORK EVALUATION

This HASP Template accompanies the Site Management Plan (**SMP**) for the Site which has been fully remediated for restricted use. This potential scope of work described in the SMP includes but is not limited to intrusive activities that may result in encountering residual contaminated soils as part of future redevelopment; Site cap inspections; and general Site inspections.

4.0 SITE BACKGROUND

The site is located in the County of Westchester, New York and is identified as Block 4 and Lots 1.1 and 2.1 on the Tax Map of theCity of White Plains. The site is an approximately 2-acre area bounded by the Water Street to the north, New Street to the south, office buildings and an above-ground parking lot to the east, and North Lexington Avenue, open space, an above-ground parking lot and a commuter transportation center to the west.

5.0 SITE HISTORY

Beginning in the mid-1800s, a manufactured gas plant (**MGP**) was operated on the eastern portion of the property located between Lexington Avenue on the west, Spring Street on the east, New Street on the south and Gas Street on the north. The Site is labeled as "Gasworks" on the 1861 map from the Historical Atlases of Westchester County. The MGP contained two buildings and a small gasometer (**gasholder**). The 1889 Sanborn map indicates the MGP was operated by the White Plains Gas Light Company. The structures depicted as being present on the Site indicate that gas was produced from coal and naphtha. The MGP contained a retort house, a coal house, a meter room, four purifiers, a 24,000 cubic foot (**cf**) gasholder, a tar well, and a iron naphtha tank. The western and southern portions of the Site contained residential dwellings. A small stream flows to the north along the east side of Spring Street. At the northeast corner of the Site, the stream bends to the west and flows westward along the northern side of Gas Street.

The same structures appear to be present on an 1893 map from the Historical Atlases of Westchester County. Structures on the 1894 Sanborn map is similar to the 1889 map. The White Plains Lighting Company is now shown as owner of the MGP. Changes on the map include the addition of a White Plains Steam Laundry building in the northern portion of the property and the re-naming of Gas Street to Water Street.

The 1900 Sanborn map indicates expansion and a process change at the plant from coal gas to a carbureted water gas. The retort house has been converted to a boiler house and generator house. A new 50,000 cf one-lift gasholder is present north of the existing gasholder in the vicinity of the former White Plains Steam Laundry. A new purifying house is also present in the northeast corner of the Site. Residential dwellings are still present in the southern and western portions of the property. The 1901 Historical Atlas map is similar to the 1900 Sanborn map.

The 1905 Sanborn map indicates further expansion and change of the MGP. A third 150,000 cf two-lift gasholder is present west of the second gasholder. The smaller southern 24,000 cf gasholder has been converted to a 10,000 gallon oil tank. An electric substation is also located adjacent to the boiler house building.

The 1911 Sanborn map and the June 1, 1911 property plan indicates that ownership of the MGP had changed to the Westchester Lighting Company. The MGP contains various structures including two relief holders, a storage holder, a generator house, a purifying house, various storage sheds, a stable, a substation, several oil and tar tanks, a tar separator, and a tar well. Figure 1-4 shows the historical layout of the Site circa 1911. Several buildings have also been added to the western portion of the property.

Operations at the MGP reportedly ceased in May 1930. The gasholders and oil tanks are no longer present on the 1930 Sanborn map. The purifier house, boiler house and generator house are shown as vacant or used for storage. A two-story building (the current substation building) and transformers are present in the southern portion of the MGP property where dwellings were previously located. The substation building was reportedly constructed in 1925 adjacent to the substation on the MGP property. A large building (the current 12 Water Street building) is also present in the northwest portion of the MGP property. The stream located east and north of the MGP property is also filled in, its former location shown in dashed lines.

All of the former MGP buildings with the exception of a storage building (the former purifying house) located in the northeast corner of the Site are no longer shown on the 1950 Sanborn map. A parking lot is also present adjacent to the large building in the northwest portion of the Site. The remainder of the Site is similar to the 1930 Sanborn map.

In February 1951, Westchester Lighting Company merged with Con Edison. The 1954 and later aerial photographs and Sanborn Maps indicate that the Site consisted of a Con Edison substation.

6.0 RESPONSIBILITY/IDENTIFICATION OF KEY LINE PERSONNEL

This section will be updated by the party performing the work prior to the commencement of such work.

Contractor:	TBD	
Address:	TBD	
Telephone:	TBD	Email: TBD
Company Executive responsible for project: TBD		Contact No. TBD

Manager/Superintendent: TBD	Contact No. TBD
Safety Representative/Manager: TBD	Contact No. TBD
Key Foreperson or forepersons: TBD	Contact No. TBD
Client Project Management POC: Mr. Rich Rienzo	Contact No. TBD

These personnel have the authority and responsibility for implementing the provisions of this program for:

Project Site Location	On-site Contact No. TBD

All managers and supervisors are responsible for implementing and maintaining the site-specific HASP in their work areas and for answering worker questions about the HASP. A copy of this HASP must be available for review.

7.0 IDENTIFICATION OF COMPETENT/QUALIFIED PERSONS

The party performing the work and/or their subcontractors must identify OSHA-regulated and certified competent persons for work or tasks requiring that level of supervision. The field personnel listed below will be assigned to the project and have the designated certifications.

This section will be updated by the party performing the work prior to the commencement of work at the Site.

Name	**Job Title**	**40-hr HAZWOPER**	**8-hr HAZWOPER Supervisor**	**8-hr HAZWOPER Refresher Expires**	**Other training (i.e. excavation, confined space)**
TBD Field	Supervisor	-	-	-	

Prior to the commencement of any field activities, a competent person will be identified as the Field Supervisor and the person's certifications will be added to the HASP. The supervisor of the competent person must certify in writing the specific competencies of the named competent person.

8.0 HAZARD/RISK/EXPOSURE ASSESSMENT

A site-specific risk analysis must be conducted before commencing any investigation and remediation efforts at the site. An example of a site-specific risk review checklist is included as Exhibit 8.1, which must be modified by the Project Manager of the party performing work at the Site. This checklist documents existing exposures that may impact the work, surrounding facilities, equipment, workers, or the public at large. The analysis includes locating, documenting, and/or photographing items such as:

- Overhead and underground power lines;
- Sewer and water utilities;
- Underground fuel oil pipelines;
- Existing building interferences;
- Traffic;
- Security;
- Fences;
- Water hazards;
- Existing geographical and environmental conditions; and
- Investigation Derived Waste (**IDW**) Disposal.

Upon completion of the site-specific risk analysis, personnel must identify and control all work-related hazards and propose controls and mitigation strategies for high-risk activities.

Pre-field work safety activities include a detailed analysis of the scope of work and safety specifications. An example of elements that could be included in a pre-field work safety meeting is presented in Exhibit 8.2.

Exhibit 8.1 Site-Specific Risk Review Checklist

Date: Project or Location:

Risk/Hazard	Detail	Present?
Employee Exposure	Hazardous Chemicals	
	Lead	
	Asbestos	
	UXO	
	PCB	
	Airborne contaminants (dust, mists, fumes)	
	Other (specify):	
Hazardous Waste	Handling, removal or storage of hazardous is required	
Crane Work	Mobile cranes	
	Tandem lifts	
	Bridge cranes	
	Derricks	
Powered Industrial Trucks	Forklift training is required	
Aerial Lifts	Hydraulic booms	
	Scissor lifts	
	Mobile scaffolding	
Drilling/Sediment Sampling	Vibracore	
	Grab Sampling	
Electrical	Staging area	
Marine/Over Water Work	Work on or over water is required	
	Underwater (diving) work is required	
Personal Protective Equipment	Work activities or work site requires hearing protection	
	Work activities or location requires using respirators	
	Work activities or location requires special protective clothing	
Public Exposure	Work activities or location requires special precautions to protect the public	
Permits	Required	
	Hot permit	
Other Exposures	Other exposure or high-risk activities (list):	

Exhibit 8.2 Pre-Field Work Safety Meeting

Notes: ____

____

Reviewed by:____________________ Title: __________________ Date:__________

Date:	Project/Location:
Subcontractor Representative:	Project Manager (Party performing Work):
Phone:	Phone:
Subcontractor Safety Representative:	Safety Manager (Party performing Work):
Phone:	Phone:

The following items were identified and reviewed:

Health & Safety	
Site-Specific Safety Plans/Model Program	
Competent/Qualified Person Documentation	
Safety Audits/Inspections	
Subcontractor Responsibilities	
Site Orientation Requirements	
Pre-mobilization Safety Meeting/Date	
Crane Inspection Certification	
Personal Protective Equipment (PPE)	
Environmental Hazards	
Other:	
Medical	
Substance Abuse Screening	
Emergency Procedures	
Site Security	
Smoking Policy	
Medical Services Requirements	
Treatment Locations/Addresses/Phone	
Other	

Additional Notes/Comments:

____

____

____

9.0 CONTROL MEASURES/ACTIVITY HAZARD ANALYSIS

9.1 CONTROL MEASURES

Site hazards and hazards resulting from investigation and remediation activities are controlled using one or more of the control measures listed below. The order of precedence is as follows:

9.1.1 Engineer/Design to Eliminate or Minimize Hazards

A major component of the design or planning phase is to select appropriate safety features to eliminate a hazard and render it fail-safe or provide redundancy using backup components.

Exclusion Zone

The exclusion zone will be established at the site for each intrusive activity. The zone will be defined by the excavation boundaries. In the field, the zone will be defined by temporary posts/stanchions and caution tape, extending from 10 feet up to the swing radius of the operating equipment in each direction around the intrusive activity. Unprotected onlookers should be located 50 feet upwind of drilling or environmental sampling activities. In the event that action levels are exceeded in the breathing zone, then all personnel in the exclusion zone must stop work, evacuate, evaluate the situation. If the actions levels continue to exceed recommended limits then upgrade the level of personal protective equipment on properly trained and certified crew members to continue work.

Decontamination Zone

A decontamination zone will be established between the exclusion zone and the support zone. This zone will also be delineated utilizing stanchions and caution tape, and will be up to 10 feet wide. Personnel decontamination must take place prior to leaving the decontamination area and prior to entering any personnel hygiene facilities, or before eating, drinking, or smoking. Any decontamination water will be contained for appropriate disposal. Soiled PPE will be removed and placed in drums.

Support Zone

A support zone will be established where break areas, operational direction and support facilities (to include supplies, equipment storage and maintenance areas) will be located. No equipment or personnel will be permitted to enter the support zone from the exclusion zone without passing through the personnel or equipment decontamination zone.

9.1.2 Guard the Hazard

Hazards that cannot be eliminated by design must be reduced to an acceptable risk level by safety guards or isolation devices that render them inactive.

9.1.3 Provide Warnings

Hazards that cannot be totally eliminated by design or guarding are controlled through using a warning or alarm device.

Exposure/Air Monitoring Program

An environmental and personal monitoring program will be developed based on site-specific information for any future intrusive activity. This plan discusses general information on wind direction monitoring, volatile organic compound (**VOC**) monitoring, and dust monitoring.

Wind Direction Monitoring

A wind direction indicator (such as survey flagging tied to a stake) will be erected at every active work site. This will enable the Site Safety Officer (**SSO**) and on-site personnel to determine upwind locations necessary for proper health and safety procedure implementation, (work areas relative to the excavation) and, if necessary, evacuation procedures.

Volatile Organics Monitoring

Field work at sites with VOC contamination shall use photoionization detector (**PID**) (OVM-580B/580S or equivalent) equipped with a 10.6e V lamp or other monitoring instrument deemed appropriate by the Project Safety Manager (PSM) to monitor VOC concentrations in the working area. Readings detected by the PID or other instrument will be used to determine the appropriate levels of protection. Action levels for some VOCs and particulates that have been previously encountered at the Site are presented in Table 9.1.

Dust Monitoring

If site activities generate sustained (15 minutes), visible dust due to wind erosion of soils, a personal DataRAM meter will be obtained to monitor worker breathing zones for total dust levels. Readings will consider upwind background dust levels, as well as diesel particulate emissions from heavy equipment before upgrades to higher levels of PPE are initiated as shown in Table 9.2.

Community Air Monitoring Plan

Community air monitoring will be conducted in compliance with the NYSDOH's Generic Community Air Monitoring Plan (**CAMP**) which is included as Attachment C. Real-time air monitoring for volatile compounds and particulates at the perimeter of the hot zone will be performed as described below.

VOC Monitoring

Periodic monitoring for VOCs will be conducted during non-intrusive activities such as the collection of soil samples. Periodic monitoring may include obtaining measurements upon arrival at a location, when overturning soil, and upon leaving the location. In some instances, depending on the proximity of exposed individuals, continuous monitoring may be conducted during these activities.

Continuous monitoring for VOCs will be conducted during all ground intrusive activities (i.e., hand clearing, soil boring and monitoring well installation). Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background concentrations. VOCs will be monitored continuously at the downwind perimeter of the hot zone. Monitoring will be conducted in accordance with Table 9.1.

All 15-minute readings will be recorded and available for NYSDEC and NYSDOH personnel to review. Instantaneous readings, if any, will also be recorded.

Particulate Monitoring

Particulate concentrations will be monitored continuously at the downwind perimeter of the hot zone with a portable real-time particulate monitor capable of measuring particulate matter less than 10 micrometers in size and capable of integrating over a period of 15 minutes (or less). The equipment will include an audible alarm to indicate exceedence of the action level.

Upwind concentrations will be measured at the start of each workday and periodically thereafter in accordance with Table 9.1. All readings will be recorded and be available for NYSDEC and NYSDOH personnel to review.

Calibrations

Field instruments will be calibrated immediately prior to each day's use. The calibration procedures will conform to manufacturer's standard instructions. This calibration will ensure that the equipment is functioning within the allowable tolerances established by the manufacturer. Records of all instrument calibration and instrument manuals will be maintained on-site. Calibrations protocol for a PID is described in more detail below.

PID

The PID will be an OVM-580B/580S (or equivalent), equipped with a 10.6 eV lamp. The MiniRae is capable of ionizing and detecting compounds with an ionization potential of less than 10.6 eV. This accounts for up to 73% of the volatile organic compounds on the Target Compound List.

Calibration must be performed at the beginning of each day of use with a standard calibration gas having an approximate concentration of 100 parts per million (ppm) of isobutylene. If the unit experiences abnormal perturbation or erratic readings, additional calibration will be required. All calibration data must be recorded in the field log book.

A battery check must be completed at the beginning and end of each working day.

9.1.4 Provide Special Procedures or Training

When design, guarding, or warnings cannot eliminate hazards, the party performing the work and their subcontractors must develop procedures, training, and audits to ensure safe completion of work. Training cannot be a substitute for hazard elimination when life threatening hazards are present.

<u>Decontamination Procedure</u>

Level D or Modified Level D protection will be worn for initial entry on-site and initially for all activities. If air concentrations exceed action levels, workers will employ engineering controls first before upgrading the level of protection. Personal decontamination may be necessary for activities involving the use of Modified Level D, Level C, or Level B PPE. Table 9.2 includes the proper decontamination procedures that must be implemented if chemical contamination present and PPE protection greater than level D is used. The Project Safety Manager will determine the proper procedures for decontamination based on the work activities and amount of contamination.

Temporary wash facilities will be provided in the decontamination zone for personnel hand/face washing. This may be substituted with disposable wet towels based on the weather conditions. Waste water will be transferred to 55-gallon drums and will be labeled as IDW. Solid waste generated from the decontamination activities will also be placed in 55-gallon drums and labeled as IDW.

<u>Soil / Water / Waste Management</u>

Procedures will be implemented regarding the management of soil, water, and waste to minimize the likelihood of unacceptable release of hazardous constituents. These procedures include:

- Roll-off container(s) for soil will be located within a staging area located on the west side of the property; the staging area will be fenced w/ temporary 6-ft fence.

- All IDW (PPE, decontamination waste, excess drill cuttings) will be placed in 55-gallon drums. The drums will be labeled as IDW from the corresponding activity or source area. The drums will be placed on wooden pallets in a plastic-lined containment area pending characterization and proper disposal either at a municipal solid waste landfill or hazardous waste disposal facility (if materials meet disposal facility and regulatory requirements).

- Under no circumstances is waste to leave the Site prior to characterization and subsequent disposal of waste coordinated by the party performing the work or their subcontractor.

Provide Personal Protective Equipment

To protect workers from injury, the last method in the order of precedence is the use of personal protective equipment, such as hard hats, gloves, eye protection, and other protective equipment with the understanding that bulky, cumbersome, and heavy personal protective equipment is often discarded or not used, rendering this method ineffective without proper controls. If emergency eyewash stations are required, then they must be kept accessible at all times and be maintained to prevent from freezing. In the event that personal protective equipment is ripped or torn, work shall stop immediately and PPE shall be removed and replaced as soon as possible.

PPE Selection

The selection and use of PPE at individual sites will be initially Level D unless specified by the Project Safety Manager. The unknown nature of hazardous waste site work and the possibility of changing conditions during the work may require changes in the personal protective equipment. When changes in personal protective equipment become necessary, these changes shall be made in accordance with the action levels and criteria set forth in this plan. As a rule, levels of PPE will need to be reassessed if any of the following occur:

- Appearance of previously unidentified or anticipated chemical conditions or task hazards (this may require a HASP Addendum for the responsible party's review and acceptance prior to proceeding).
- Ambient weather conditions change which impact the use of assigned PPE.
- A new task is introduced or a previously assigned and evaluated task is expanded in scope.

If work tasks are added to the Scope of Work (**SOW**) after approval of this HASP, the Project Safety Manager shall identify and assess the task hazards, complete and sign an Activity Hazards Analysis (**AHA**) form and designate the level and type of PPE to be used during conduct of the task. The new AHA, along with any other additions, changes or modifications to the approved HASP shall be approved by the PSM and/or the Project Manager. Subsequently, these modifications, resulting in a HASP Addendum, shall be reviewed and accepted by the responsible party's representative prior to proceeding.

Initially at portions of the site, where NAPL may be encountered based on Site Investigation data, work will start in Modified Level D. In the remaining areas of the site, PPE level will be upgraded to Modified Level D, if NAPL is encountered. This includes tyvek coveralls, in addition to safety glasses with permanent side shields, steel toe boots, hearing protection (e.g. when working within 15 feet of vacuum excavation equipment, excavator, drill rig, sawing, or jack hammering), metatarsal foot protectors (when sawing, jack hammering, or pressure washing), long pants or jeans, traffic safety vests (when working on streets, sidewalks, parking lots, or driveways), disposable boot covers (when in contact with disturbed soil), short or long sleeve shirts, nitrile outer and PVC inner gloves (required during all sampling activities), and hard hat (cannot be blue or white). Required equipment for Levels B, C, and D are detailed in Table 9.2, Description of Personal Protective

Equipment and Levels of Protection

The organic vapor monitor and multi-gas meter will be the primary instruments for determining contaminant concentrations that may trigger a change in respiratory protection during intrusive and sampling activities. Other instruments such as Draeger tubes, miniRAMs and/or other particulate air monitors may also trigger changes in PPE. Action levels for changes in personal protection equipment are shown in Table 9.1.

OSHA Requirements for Personal Protective Equipment

All personal protective equipment must meet the following OSHA standards:

Type of Protection	Regulation	Source*
Eye and Face	29 CFR 1910.133 29 CFR 1926.102	ANSI Z87.1-1968
Respiratory	29 CFR 1910.134 29 CFR 1926.103	ANSI Z88.1-1980
Head	29 CFR 1910.135 29 CFR 1926.100	ANSI Z89.1-1969
Foot	29 CFR 1910.136 29 CFR 1926.96	ANSI Z41.1-1967

*ANSI = American National Standards Institute

Both the respirator and cartridges specified for use in Level C protection must be fit-tested prior to use in accordance with OSHA regulations (29 CFR 1910.1025; 29 CFR 1910.134). In addition, if Level C protection is required, a cartridge change-out schedule must be developed. HEPA filters will be the only cartridges used. Medical qualification, training and fit-testing must be received on an annual basis. If a respirator is worn more than 30 days per year, participation in a Medical Surveillance Program is required.

9.2 ACTIVITY HAZARD ANALYSIS

The party performing the work and their subcontractors are required to conduct an AHA for all aspects of the work. The activity hazards analyses consist of the following three steps:

- Identify the task and break it down into steps.
- Identify the hazards associated with each step.
- Identify the specific hazard control measure used for each step in accordance with the order-of-precedence method of control.

The U.S. Army Corp of Engineers wesite (www.swl.usace.mil/safety/asaindex.html) contains a library of sample AHAs that may be useful. The Project Managers may use the following list as a guide in determining the investigation and remediation activity hazards analyses for various high-hazard operations and critical tasks.

- **Pre-mobilization Inspection.** Conduct an initial site inspection for pre-job planning. The inspection should cover potential exposures such as the location of electrical lines, underground utilities (See Attachment A for Con Edison's requirements, when applicable), nearby structures, traffic conditions, site security needs, public exposures general liability, and other potential exposures.

- **Traffic Controls.** Control measures include warning signs, flagmen, traffic stoppage and control, and unloading procedures. Internal traffic control plans should include ways to restrict the number of vehicles on site, the flow of vehicles accessing the site and driving through the site, haul roads, speed controls, subcontractor employee parking areas, merging of site traffic with local vehicle traffic, pedestrian controls in traffic zones, access by emergency and rescue vehicles and operator controls.

- **Vehicle Operation.** Although driving a vehicle may be second nature to many individuals, there are many hazards and controls that need to be identified. Fatigue and distractions are two hazards that many individuals do not think about on a regular basis. Operating off-road vehicles such as an All-Terrain Vehicle (**ATV**) also require training.

- **Field Activities.** Many different types of activities occur in the field from excavations, soil sampling, liner installation and monitoring. A variety of hazards could be incurred with each activity such as biological, slip/trips/falls and lacerations. An activity hazard analysis is required for each different field activity to identify the hazards and controls.

- **Field Visit.** When a field visit occurs, it may be before any field activities are taking place. However, there may still be hazards present such as walking or driving in fields with uneven terrain, poisonous vegetation, etc. Although personal protective equipment such as a hard hat and safety glasses may not be needed, sturdy work boots, long pants, long sleeve shirts and sunscreen may be necessary.

- **Mobilization/Demobilization.** Conduct an initial site inspection for pre-job planning. The inspection should cover potential exposures such as the location of electrical lines, underground utilities, nearby structures, traffic conditions, site security needs, public exposures general liability, and other potential exposures.

- **Heavy equipment controls.** Evaluate the use of heavy equipment in operations such as site clearing, grading, drilling and excavation or lifting. Controls should include equipment alarms, use of qualified operators, pre-use inspections, and any specific OSHA regulatory requirements.

- **Personal protective equipment (PPE).** Consider operations where **PPE** is required and the type of **PPE** required (e.g., eye, head, foot, respiratory, hearing and hand protection, and types of special protective clothing – Tyvek and Nomex coveralls).

- **Portable hand and power tools.** Evaluate the tools to be used and the ways thatworkers are protected from the hazards associated with the use of tools. Consider tool maintenance requirements; electrical requirements; the use of ground fault circuit interrupters, grounding, extension cords, and tool inspection procedures; and employee training and PPE requirements.

- **On-site traffic**. Internal traffic control plans should include ways to restrict the number of vehicles on site, the flow of vehicles through the site, haul roads, speed controls, subcontractor employee parking areas, merging of site traffic with local vehicle traffic, pedestrian controls in traffic zones, access by emergency and rescue vehicles and operator controls.

- **Employee training.** Always review the safety training needs of employees. Training should include initial site safety orientations. Some operations (e.g.,HAZWOPER activities, excavation, blasting, scaffold erection, tunneling,confined space, and operating heavy equipment and working in highly hazardous plant process operations) may require special training that must be checked and evaluated.

Exhibit 9.1 is a sample activity hazards analysis form. Exhibit 9.2 shows a training record to be completed and kept on file for each activity hazards analysis. Example AHAs can be found in Attachment A. The intent of an AHA is to identify the steps, hazards, and control measures involved with performing a specific task. The attached AHAs are not inclusive of all activities that may be performed at the site, and may not include all of the steps, hazards or control measures required to safely complete a task. Any individual given a work assignment shall review the corresponding AHA prior to commencing work activities to determine whether the AHA needs to be modified for site specific conditions, or if an additional AHA should be developed.

Table 9.1 Regulatory Levels for Common Air Contaminants

Contaminant	OSHA PEL*	Monitoring Instrument	Action Level	Action Taken *(Refer to MSDSs for required actions and develop SOPs for required actions)*
Carbon Monoxide	50 ppm	4-gas meter, CO meter	>50 ppm	Refer to MSDS for required actions and develop SOPs for required actions.
Combustible Gas	10%	4-gas meter, LEL meter	>10%	Refer to MSDS for required actions and develop SOPs for required actions.
Dust#	5mg/m^3	DataRAM	<1 mg/m^3	None
			1-5 mg/m^3	Implement engineering controls to suppress or control dust.
			>5 mg/m^3	Continue dust suppression and stop work activities.
Oxygen	20.9%	4-gas meter, O2 meter	<19.5%	Refer to MSDS for required actions and develop SOPs for required actions
			19.5-23.5%	Normal.
			>23.5%	Refer to MSDS for required actions and develop SOPs for required actions
VOCs#	n/a	Photoionization Detector	< 1 ppm	None.
			1 - 5 ppm	Implement engineering controls to suppress vapor levels. Monitor for specific contaminants.
			6 - 10 ppm	Take 3 consecutive readings. If confirmed,wear half or full face piece respirator. Implement engineering controls to suppress vapor levels.
			11 - 50 ppm	Take 3 consecutive readings. If confirmed,wear full face piece respirator. Continue engineering controls to suppress mercury levels.
			> 50 ppm	Stop work activities. Take 3 consecutive readings to confirm. If trained and fit tested, don supplied air respirator.

Note: All readings that will be used to determine the appropriateness of an upgrade in PPE shall be taken in theworker's breathing zone. PID readings shall be sustained readings of 15 minutes or more. Multi-gas meter readings shall be 30 second sampling periods with the meter held in the worker's breathing zone. Readings will be taken at the beginning of the day, changes in work activities and during all sampling activities.

* The OSHA PEL levels are current as of December 2008. OSHA constantly reviews and updates these levels. The party performing the work shall review 29 CFR 1910.1000 Table Z-1 and update the levels, as necessary, prior to performing work.

The action levels and the actions taken for VOCs and for dust provided in this table are based on NYSDOH Generic Community Air Monitoring Plan (CAMP) (December 2002). The party performing the work shall review NYSDEC DER-10 to verify whether updates have been made to the Generic CAMP. For employee safety, OSHA regulation 1910 should be consulted.

Table 9.2 Description of Personal Protective Equipment and Levels of Protection

Level	Description	PPE
Level D	Level D protection will be worn for initial entry on-site and for all activities unless otherwise noted by the PSM.	– Standard work clothes; – Steel-toe safety boots; – Safety glasses (goggles must be worn when splash hazard is present); – Hearing protection (when working within 25 feet of vacuum excavation; – equipment, excavators, drill rigs, sawing, or jack hammering); – Metatarsal foot protectors (when sawing, jack hammering, or pressure washing); – Traffic safety vests (when working on streets, sidewalks, parking lots, and driveways) – Nitrile outer gloves and latex or nitrile inner gloves (sampling operations); – Hard hat (must be worn during all site activities and cannot be blue or white); and – Disposable boot covers will be worn when in contact with disturbed soils.
Modified Level D	Modified Level D protection, unless otherwise specified by the PSM, will consist ofLevel D equipment and the following additional equipment:	– Nitrile outer gloves and latex or nitrile inner; – Tyvek coveralls if particulate hazards only are present; and poly-coated Tyvek overalls if liquid hazards are present.
Level C	Requirements for Level C protection is described in OSHA regulation 29 CFR 1910.134. Generally, Level C protection, unless otherwise specified by the SSO, will consist of Level D equipment and the following additional equipment:	– Full-face air-purifying respirator; – Combination HEPA filter (P100)/organic vapor cartridges; – Tyvek coveralls if particulate hazards only are present, poly-coated Tyvek coveralls if liquid hazards are present; and – PVC or nitrile inner and nitrile outer gloves.
Level B	Requirements for Level B protection is described in OSHA regulation 29 CFR 1910.134. If the concentration of volatile organics or cyanide equals or exceeds the specified action levels, all field personnel associated with the project will immediately retreat to a location up-wind of the source of contamination. At this point the SSO must consult with the responsible party to discuss appropriate actions.	

Exhibit 9.1 Activity Hazards Analysis Form

Page____ of _____

Project Name & Number:	**AHA No.**	**Date**	**New:**
Location:	**Contractor:**		**Revised:**
Required Personal Protective Equipment		**Analysis by:**	**Date:**
Superintendent/Competent Person		**Reviewed by:**	**Date:**
Work Operation:		**Approved by:**	**Date:**
Work Activity	**Potential Hazards**	**Preventive or Corrective Measures**	**Inspection Requirements**

Training Requirements: All assigned employees are required to familiarize themselves with the contents of this AHA before starting a work activity and review it with their Supervisor during their Daily Safety Huddle.

Exhibit 9.2 Activity Hazards Analysis Training Record

JOB NUMBER ______________________

AHA NUMBER ______________________

JOB LOCATION ______________________

DATE: ______________

NAME OF TRAINER: ______________________

SUBJECTS COVERED: ______________________

TRAINING AIDS USED: ______________________

ATTENDEES (PLEASE SIGN NAME LEGIBLY):

(Use additional sheets if necessary)

10.0 PERIODIC SAFETY INSPECTIONS/AUDITS

The PSM will implement an audit and inspection program. The Project Manager, PSM, or their designee, will conduct monthly safety inspections. The site inspection is a protocol designed to identify and correct unsafe acts and conditions, as well as recognize safe work practices and accomplishments in the party performing the work or their subcontractors' scope of work. The Project Manager or PSM should develop standard safety checklists appropriate to the work being performed. Exhibit 10.1 is an example of a simple checklist to evaluate a project's status, and should be modified to address potential unsafe acts and conditions specific to work activities occurring at the Site.

Inspections involve a daily or weekly site walk of a project site that focuses on safety. The Project Manager or Field Team Leader (**FTL**) responsible for the work conducts inspections, accompanied by the PSM as necessary. Daily site walks do not have to be documented, but once a week the Project Manager, or designee, prepares an inspection report using Exhibit 10.1 and forwards it to the PSM for maintaining in the project file. Items found to be out of compliance must be assigned to the responsible party for corrective action and the corrective action tracked to completion.

Exhibit 10.1 Site Safety and Health Inspection Checklist

Project: ______________________________ Date: ____________

Name: ______________________________ Time: ____________

Any items that have been found deficient must be corrected before work or use.

This checklist includes, but is not limited to, the following:

Safe Access and Workspace		**Yes**	**No**
Are safe access and adequate space for movement available for:			
Emergencies			
Work area			
Walkways and passageways			
Are ladders, stairways, and elevators properly located and functioning?			
Is protection provided for floor and roof openings?			
Is overhead protection provided for all areas of exposure?			
Is lighting adequate?			
Planning Work for Safety			
Are employees provided with all required protective equipment?			
Have other contractors and trades been coordinated with to prevent congestion and avoid hazards?			
Is all temporary flooring, safety nets, and scaffolding provided where required?			
Utilities and Services Identification			
High voltage lines			
Have all been identified by signs?			
Have high voltage lines been moved or de-energized, or barriers erected to prevent employee contact?			
Sanitary Facilities			
Drinking water			
Are toilet facilities adequate?			
Work Procedures – Materials Handling			
Is material handling space adequate?			
Is material handling equipment adequate and proper?			
Is material handling equipment in good condition?			
Marine Safety			
Slip, trip, fall hazards	Muscle strain from improper lifting		
Heat or cold stress	Pinch points		
Insect bites	Inhaling, touching, ingesting contaminants		
Waves, surges, currents			
Noise exposure	Drowning		
Other (e.g., tunnels, excavations, shafts			

Comments: ____

____

____

11.0 COMPLIANCE REQUIREMENTS POLICY

The party performing the work and their subcontractors must enforce all applicable requirements of OSHA 1910 and 1926, where applicable. The party performing the work at the Site in the future and their subcontractors are individually responsible for training their respective employees and for complying with all project requirements. In the absence of an infirmary, clinic, hospital, or physician, that is reasonably accessible in terms of time and distance to the worksite (i.e. 4 minutes for activities that can be expected to result in an accident involving suffocation, severe bleeding, or other life threatening or permanently disabling injury or illness and 15 minutes for other types of injuries), which is available for the treatment of injured employees, a person who has a valid certificate in first-aid training from the U.S. Bureau of Mines, the American Red Cross, or equivalent training that can be verified by documentary evidence, shall be available at the worksite to render first aid. First-aid supplies must be accessible for immediate use and be of sufficient size and number to handle common first aid incidents.

The response time and distance to the nearest clinic, hospital or physician identified in Section 20 has been determined to be 3 minutes; however this may vary depending traffic. Since the response time for Emergency Medical Services (**EMS**) may be greater than four minutes if traffic conditions are not favorable, any future project at the Site that has the potential for an accident involving suffocation, severe bleeding, or other medical emergencies or permanently disabling injury or illness will require at least one individual at the work location have a valid certificate in CPR and first aid. Exhibit 11.1 represents OSHA and owners' corporate regulations and requirements applicable to the project.

Exhibit 11.1 Competent Person and Activity Hazards Analysis Requirements

Safety and Health Requirement	OSHA Regulation	Competent Qualified Person-Supv	Training Required	Written Plan and AHA Required
General Safety & Health	1926.20			
Safety Training	1926.21			
First Aid and Medical	1926.23, 50			
Emergency Employee Action Plans	1926.35			
Hazard Communication	1926.59			
Hazardous Waste Operations and Emergency Response	1910.120; 1926.65			
Waste Disposal	1926.252			
Excavations	1926.650-652			

12.0 WRITTEN PROGRESSIVE DISCIPLINARY PROGRAM

Items found to be out of compliance must be assigned to the responsible party for corrective action and the corrective action tracked to completion. The project has a formal notice of subcontractor violation of safety and health regulations program to ensure that violations are issued in an immediately dangerous to life and health (**IDLH**) situation or when the subcontractor repeatedly fails to comply with safety and health requirements. Any noncompliance items must be advised to the responsible party using a Notice of Violation, included as Exhibit 12.1. The notice (Exhibit 12.1) documents poor performance and requires a response from subcontractor senior management. The notice contains five distinct levels of discipline, from submission of a recovery plan to contract termination.

Exhibit 12.1 Notice of Violation of Safety and Health Regulations

Date ____________________

Contractor Name ____________________

Address ____________________
____
____

Attention ____________________

This letter officially notifies you that you have been found to be in violation(s) of the following Safety Regulations:

____

on (date): ____________________ by, ____________________

Confined Space Entry ____ Lockout/Tagout ____ Hot Work ______ Personal Protective Equipment ____

Knowledge of the Environment ____ Awareness of Wanring Alarms ____ Evacuation Routes ______ Back-up Alarms ____

Assembly Locations ____ Fall Protection ____ Scaffolding ______ Environmental/Hazardous Material Storage ____

SafeWrok Practices ____ Security Practices ____

Other: ____________________

____

This/These violation(s) occurred at the following location(s): ____________________

____

at the following time(s): __________ and date(s): ____________________

The name(s) of the employee(s) was/were: ____________________

under the supervision of: ____________________

13.0 HAZARD CORRECTION POLICY

Potential hazards that may be encountered during intrusive activities at the Site are listed below, but the list is not all-inclusive. Examples of generic AHAs for various work activities that need to be modified for site-specific work activities are found in Attachment B.

13.1 CHEMICAL HAZARDS

Health hazards and the exposure limits associated with potential chemicals of concern are presented in Table 13.1. These hazards can be encountered during subsurface and intrusive investigation in and around the Site. Both real time breathing zone air-monitoring and CAMP monitoring, using a photoionization detector, a multi-gas meter, and a dust monitor should be performed by the responsible field investigator. The real time data will be recorded in the field book by the field investigator/SSO, following each observation, during intrusive activities and sampling activities. CAMP monitoring data will be downloaded daily and kept as an electronic file.

13.2 PHYSICAL HAZARDS

Physical hazards that may be encountered include but are not limited to heat stress, coldrelated illness, ultra-violet radiation, working on or adjacent to a waterway, and noise hazards.

13.2.1 Heat Stress:

Heat stress is one of the most common (and potentially serious) illnesses that affect field personnel. When site personnel are engaged in operations involving hot environments, a number of physiological responses can occur which may seriously affect the health and safety of the workers. Heat stress can result in health effects ranging from transient heat fatigue to serious illness or death. Heat stress can be eliminated or controlled through the use of a omprehensive heat stress prevention and monitoring program.

Training shall be provided to all employees to recognize heat illness hazards before starting to work outdoors. Any employee experiencing or witnessing signs and/or symptoms of a heat related illness shall report the findings to their supervisor immediately. Supervisors shall understand the procedures to follow when an employee exhibits symptoms consistent with heat illness, including emergency response.

13.2.2 Definitions

Acclimatization - a temporary adaption of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within 4-14 days of regular work for at least 2 hours per day in the heat.

Environmental Risk Factors - working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.

Heat Illness - a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope and heat stroke.

Heat Wave - a sudden and temporary rise of temperature above the seasonal average for a particular region, which lasts for a prolonged period of time. A heat wave can greatly increase the risk of heat related illnesses.

Personal Risk Factors - an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body's water retention or other physiological responses to heat.

Preventive Recovery Period - a period of time to recover from the heat in order to prevent heat illness.

Shade - blockage of direct sunlight. Canopies, umbrellas and other temporary structures or devices may be used to provide shade. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning.

13.2.3 Signs and Symptoms of Heat Illnesses

Heat Rash – or prickly heat, occurs in hot and humid environments where sweat is notremoved from the skin. Usually disappears when worker returns to cool environment.

Heat Cramps – muscle contractions from the loss of fluids /electrolytes due to sweating. Occurs when workers perform hard physical labor in a hot environment. Most common in the arms and legs. Cramping can occur after work has stopped.

Heat Exhaustion – inadequate blood circulation from stress due to constant heat. The whole body, especially the circulatory system, is extremely stressed. Possible symptoms include: pale, flushed face and neck; clammy skin; heavy sweating; fatigue; shortness of breath; headache; dizziness or fainting; nausea and vomiting; and rapid heartbeat and breathing.

Heat Stroke – body's failure to regulate its' temperature. The most serious stage of heat illness. Symptoms include: dizziness and confusion, red, hot, dry skin; nausea and vomiting; very little sweating; rapid pulse; high body temperature, 105° F or higher; convulsions, and fainting.

13.2.4 Heat Illness Prevention

Prevention of heat related illness in extreme temperature project personnel shall consider implement a Physiological monitoring program, include monitoring with a WBGT and implementing work rest regiments. The field team shall be encouraged to drink plenty of liquids to replenish electrolytes. The field team shall also, construct a shaded rest area for workers to take breaks.

Prevention of heat related illness may call for establishing work teams to rotate to minimize heat related illnesses.

13.2.5 Heat Illness Treatment

Heat Cramps - take water every 15 to 20 minutes. Drinking an electrolyte replacement (like Gatorade) may help.

Heat exhaustion - Get medical help. Don't leave the person alone. While waiting, remove worker to cool place to rest; remove as much clothing as possible; give water and electrolytes; and don't allow person to get chilled.

Heat Stroke – Call 911 immediately. While awaiting medical help, get victim into cool area, fan vigorously, apply cool water to clothing or skin, and apply ice packs under arms and to the groin area.

13.2.6 Heat Waves

Heat illness prevention during heat waves means taking extra measures. More vigilance - supervisors/employees watch others very closely and provide more frequent feedback during work activities. Site workers shall avoid working alone and utilize the "Buddy System", watch each other and closely monitor/report an employees' condition. Personnel shall be accounted for their whereabouts throughout the work shift and at the end of the day.

More water - employees should drink small quantities of water more frequently before, during and after work. There should be extra supplies of water for replenishment, encourage employees to consult with their doctor on salt/mineral replacement.

More cooling - use other cooling measures in addition to shade, spraying body with water/wiping with wet towels and taking additional/longer breaks in the shade.

Change schedule - work activities may be started earlier on later in the evening, split-up work shifts and avoid working during the hotter parts of the day. Work shifts can be cut short or stop work.

Change meals - encourage employees to eat smaller/or more frequent meals (less body heat during digestion than with big meals), choose foods with higher water content (for example, fruits, vegetables and salads).

Acclimatization warning - personnel should allow the body time to adjust to sudden, abnormally high temperatures or other extreme conditions. Even employees previously fully acclimatized are at risk for heat illness.

13.2.7 Environmental and Physiological Factors

- Average ambient air temperature 96°F (75-116°F)
- Average humidity 29% (12% - 55%)

- Average wind speed 7 mph
- Average core body temperature 104°F (98 -108°F)

13.2.8 Provision of Water

Sufficient amounts of cool water shall be available and replenished at all times w/at least one quart per employee per hour for the entire shift. Easy access to clean and cool water shall be available to encourage frequent drinking.

13.2.9 Access to Shade

A Preventative Recovery Period (**PRP**) is necessary if an employee is suffering from heatillness or believes that a rest break is needed to recover from the heat. Access to shade shall be permitted at all times. Employees shall have access to an area with shade that is either open to the air or provided with ventilation or cooling for a period of no less than 5 minutes.

13.2.10 Measurement

Portable heat stress meters or monitors are used to measure heat conditions. These instruments can calculate both the indoor and outdoor WBGT Index according to established ACGIH Threshold Limit Value equations. With this information and information on the type of work being performed, heat stress meters can determine how long a person can safely work or remain in a particular hot environment.

13.2.11 Cold-Related Illness

Cold weather conditions can be hazardous to the safety and health of employees, endanger the stability of the body system, and cause conditions such as hypothermia and frostbite. It is vitally important that adequate precautions be taken to alleviate the effect of cold environments and to ensure that personnel can work safely and efficiently.

Prevent the deep body temperature from dropping below 36^0 C (96.8^0 F) and the core temperature from dropping below 35^0C (95^0F).

The following factors may contribute to a cold injury:

- Age
- Contact with wetness or metal
- Exposure to high winds
- Exposure to humidity
- General health
- Inadequate clothing

The following physical conditions worsen the effects of cold exposure:

- Allergies
- Excessive drinking
- Excessive smoking
- Specific drugs and medicines

- Vascular disease (e.g., Raynaud's phenomenon, acrocyanosis)

To monitor cold stress:

- At air temperatures below 20F (-10C) measure and record the wind chill index at least every 4 hours. The equivalent wind chill temperature and frostbite precautions will be determined using the Wind Chill Index (Table 13.1).

Table 13.1 Wind Chill Index

Estimated Wind Speed (mph)	Actual Temperature Reading (°F)											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
	Equivalent Chill Temperature (°F)											
calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-24	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-32	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-121
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-51	-67	-82	-98	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-148
Wind Speeds greater than 40 mph have little additional effect	LITTLE DANGER in < 1 hr with dry skin. Maximum danger of false sense of security.				INCREASING DANGER danger of freezing exposed flesh within 1 minute.			GREAT DANGER flesh may freeze within 30 seconds.				

- In indoor workplaces, measure and record the wind speed at least every 4 hours when the rate of air movement exceeds 5 mph (2.2 meters per second); in indoor work situations, measure and record the wind speed with the air temperature.

- The wind chill index takes into account the wind velocity. If no anemometer is available, use the following to estimate wind speed:
  - 5 mph: light flag moves
  - 10 mph: light flag fully extended
  - 15 mph: raises newspaper sheet
  - 20 mph: causes blowing and drifting snow

To prevent cold stress:

- Use general or spot heating to increase temperature at the site.

- If work is being performed with bare hands for 10 or more minutes, to keep the worker's hands warm supply warm air jets, radiant heaters, or contact warm heaters.

- If the air velocity at the site is increased by the wind, draft, or ventilation equipment, shield the work area.

- At temperatures below 40^0F, cover metal handles of tools and control bars with thermal insulation.
- When necessary, substitute, isolate, relocate, or redesign equipment and processes to reduce cold stress.
- Use power tools, hoists, cranes, and lifting aids to reduce the metabolic work load.
- If work is performed continuously in an equivalent chill temperature of 30^0F or below, supply heated warming shelters such as tents, cabins, automobiles, or trucks and encourage workers to use them.

13.2.12 Electrocution

All drilling and excavation equipment will be kept a safe distance from live sources of electricity. Drill rods and other metal objects will not be raised above the height of the rig. The length of drill rods will be less than the distance to the nearest live electrical source so ifthe drill string is dropped it cannot fall across electrified equipment. All subsurface and overhead electrical sources and lines will be identified before digging, drilling, or sampling activities commence. Where possible and/or practical, electric lines and sources will be deactivated or insulated before digging, drilling, or sampling activities are commenced.

13.2.13 Ultraviolet Radiation

The sun emits ultraviolet radiation (UV) as heat and light. The skin's natural defense mechanisms attempt to reject the UV by distributing melanin pigmentation where needed. However, overexposure to direct sunlight can cause inflammation or blistering of the skin (sunburn). The use of sunscreen, long sleeve shirts, and wide brim hats can help prevent sunburn. Chronic exposure to UV radiation is known to cause skin cancer. In case of sunburn, do not apply burn ointment, cold cream, or butter to relieve pain. Use a dry dressing and get medical attention for severe, extensive sunburns.

13.2.14 Noise

Operating heavy equipment can be a potential noise source. Hearing protection will be worn by personnel operating heavy equipment, or other personnel in close proximity (e.g. 25 feet) to the equipment. If the noise level exceeds 85 decibels over an 8-hour time weighted average, then exposed personnel must be enrolled in a Hearing Conservation Program.

13.3 BIOLOGICAL HAZARDS

Biological hazards can result from encounters with mammals, insects, snakes, spiders, ticks, plants, parasites, and pathogens. Mammals can bite or scratch when cornered or surprised. The bite or scratch can result in local infection or infection with systemic pathogens or parasites. Insect and spider bites can result in severe allergic reactions in sensitive individuals. Exposure to poison ivy, poison oak or poison sumac results in skin rash. Ticks carry a number of serious diseases. Dead animals, organic wastes, and contaminated soil and water can harbor parasites and pathogens. Most of the field activities will occur in a densely populated area; however, the possibility of encountering biological hazards still exists.

13.3.1 Poison Ivy

Some of the most common and severe allergic reactions are a result from contact with poison ivy, poison oak, and poison sumac. Contact with the poisonous sap of these plants produces a severe rash characterized by redness, blisters, swelling, and intense burning and itching. The victim also may develop a high fever and may be very ill. Ordinarily, the rash begins within a few hours after exposure, but it may be delayed for 24 to 48 hours.

13.3.2 Ticks

Ticks may be common during the spring and summer. Two types of ticks may be encountered: the dog tick and the deer tick. The dog tick is the larger, more common tick. After biting, the dog tick will remain attached to the victim until engorged with blood. Dog ticks may transmit rocky mountain spotted fever and other diseases. The deer tick is much smaller, ranging from poppy seed to grape seed size, and does not remain attached to the skin for very long after biting. Deer ticks can transmit Lyme disease, which can have serious, long-term health effects if left untreated. Lyme disease is characterized by a bulls-eye type rash; light in the center with an outer red area. Flu-like symptoms may also occur. These signs may occur at different times and the rash may not appear. If you discover any bites on the skin, wash the affected area and seek medical attention if a rash or flu-like symptoms appear.

13.3.3 Bees, Wasps, Hornets, and Other Insects

Symptoms of an insect bite are normally a sharp, immediate pain in the body part bitten. Poisonous insects and insect-like creatures that may be encountered at the Site include the following:

- Bees (honeybees, bumble bees, wasps, and hornets);
- Caterpillars; and
- Beetles/Bugs

13.3.4 Spiders:

The two poisonous spiders that may be encountered at the Site are the Brown Recluse and the Black Widow. The Brown Recluse is up to one inch long with a violin or "fiddle" shaped mark on the top of the head. The Black Widow is a smaller, bulbous black spider with a red hourglass-shaped mark on the underside.

Reactions to a Brown Recluse spider bite include mild to severe pain within two to eight hours and a star shaped area around the bite within three to four days. Significant tissue death and loss accompanies a Brown Recluse spider bite. Reactions to a Black Widow spider include intense pain at the site of the bite after approximately 15 to 60 minutes, followed by profuse sweating, rigid abdominal muscles, muscle spasms, breathing difficulty, slurred speech, poor coordination, dilated pupils, and generalized swelling of face and extremities.

Persons that have been bitten by a Brown Recluse or Black Widow spider should be immediately transported to a hospital. The spider should be collected (if possible) for confirmation of the species.

13.3.5 Bloodborne Pathogens

Bloodborne pathogens include human immunodeficiency virus (**HIV**), hepatitis B virus (**HBV**), hepatitis C virus (**HCV**), and others. All occupational exposure to blood or other potentially infectious materials (**OPIM**) place workers at risk for infection with bloodborne pathogens. OSHA defines blood to mean human blood, human blood components, and products made from human blood. Other potentially infectious materials means: (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; (2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and (3) HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

Understanding simple precautions can greatly minimize your chances of contracting a bloodborne disease. Practicing universal (standard) precautions refers to assuming that any and all blood or body fluids are contaminated and taking all safety measures to avoid transmission of a disease. Properly cover open cuts and skin abrasions. Never eat, drink, store food, smoke, handle contact lenses or apply cosmetics or lip balm in potential exposure areas. Wash hands and exposed skin immediately after an exposure incident, and after removing gloves. Utilize engineering controls to reduce exposure to bloodborne pathogens by removing, eliminating or isolating the hazard. Wear gloves, eye/face protection and mask when working with blood or a splash potential. Check gloves for tears, holes or punctures, and remove immediately when penetrated. Clean up spills and body fluids by carefully covering with a paper towel, gently pouring a 10% bleach solution over towels, and leaving it in place for 10 minutes. Use mechanical means, not your hands to pick up broken glass that is tainted with blood.. Dispose of blood products, medical waste, gloves and equipment in properly labeled and approved biohazard containers. Clean wounds with soap and water. Flush eyes and mucous membranes with water or normal saline solution. Notify the site safety representative or your supervisor immediately and complete an incident report.

13.4 ENVIRONMENTAL HAZARDS

13.4.1 Slip, Trip, and Fall Hazards

Site workers may encounter slip, trip, and fall hazards due to uneven surfaces at sidewalk/pavement interfaces and obstructions protruding from the ground, such as:

- Holes, pits, tree roots, or ditches.
- Slippery surfaces.
- Steep grades.

- Uneven grades.
- Sharp objects, such as nails, metal shards, and broken glass.

13.4.2 Severe Weather Hazards

During the course of field operations, severe weather may be encountered, including thunderstorms, lightning, rainstorms, and other unsafe weather conditions (i.e., high winds and tornadoes). Criteria indicating that severe weather conditions may exist include:

- High winds (greater than 40 miles per hour – depending on the tree cover and other site specific conditions);
- Tornado watch or warning in place for the area including the site;
- Visible lightning;
- Extreme temperatures (e.g., greater than 100 degrees F); or
- Heavy rainfall that makes footing treacherous and visibility difficult.

If severe weather is approaching, the SSO and FTL will determine if weather conditions justify a stoppage of work activities. The SSO and FTL will also determine if weather conditions allow for restart of work activities following the severe weather. In general, work will not commence for 20 minutes after any lightning event. Monitor weather radio and if possible monitor weather radar via internet.

13.4.3 Eire Hazards

Although fires and explosions may arise spontaneously, they are more commonly the result of carelessness during the conduct of site activities, such as moving drums, mixing/bulking of site chemicals and during refueling of heavy or hand held equipment. Some potential causes of explosions and fires include:

- Mixing of incompatible chemicals, which cause reactions that spontaneously ignite due to the production of both flammable vapors and heat;
- Ignition of explosive or flammable chemical gases or vapors by external ignition sources;
- Ignition of materials due to oxygen enrichment;
- Agitation of shock or friction-sensitive compounds;
- Sudden release of materials under pressure.

13.5 SITE CHARACTERIZATION ACTIVITY HAZARD ANALYSIS

(To be updated as new task/activities are required.)

The party performing the work and their subcontractors are required to conduct an AHA for all aspects of the work. These AHAs will be reviewed daily. The activity hazards analyses consist of the following three steps:

- Identify the task and break it down into steps.
- Identify the hazards associated with each step.
- Identify the specific hazard control measure used for each step in accordance with the order-of-precedence method of control.

The Project Managers may use the following list as a guide in determining the investigation and remediation activity hazards analyses for various high-hazard operations and critical tasks.

- General Oversight
- Activities – Field. Many different types of activities occur in the field fromexcavations, groundwater sampling, soil sampling, liner installation, well installation and monitoring, and pump tests. A variety of hazards could be incurred with each activity such as biological, slip/trips/falls and lacerations. An activity hazard analysis is required for each different field activity to identify the hazards and controls.
- Site Visit or Site Walk. When a field visit occurs, it may be before any field activities are taking place. However, there may still be hazards present such as walking or driving in fields with uneven terrain, poisonous vegetation, etc. Although personal protective equipment such as a hard hat and safety glasses may not be needed, sturdy work boots, long pants, long sleeve shirts and sunscreen may be necessary.
- Operation- Motor Vehicle. Although driving a vehicle may be second nature to many individuals, there are many hazards and controls that need to be identified. Fatigue and distractions are two hazards that many individuals do not think about on a regular basis. Operating off-road vehicles such as an ATV also require training.
- Operation- Heavy Equipment or Machinery and Drill rigs. Evaluate the use of heavy equipment in operations such as site clearing, grading, drilling and excavation or lifting. Controls should include equipment alarms, use of qualified operators, pre-use inspections, and any specific OSHA regulatory requirements.
- Fueling- Motor Vehicle
- Fueling- Heavy Equipment and Machinery
- Sampling- Soil
- Decontamination- Area Set-up
- Decontamination- Large Equipment

- Decontamination- Personnel. Following sample processing activities, personnel will decontaminate in the designated site decontamination area.

- Decontamination- Portable Tools. Equipment used to collect samples and to monitor personnel exposures shall be cleaned to remove any signs of the investigated material. Sample collection equipment may be sprayed with water to remove such material. Air monitoring or other sensitive equipment may be wiped with a damp disposable wipe.

Table 13.2 Relevant Properties of Known or Suspected Volatiles and Semivolatiles

Compound (synonym)	OSHA PEL(1) (ppm)	IDLH (ppm)	LEL (%)	Odor Threshold(2) (ppm)	Odor Character	Vapor Pressue (mm Hg)	Pysical State	Detectible w/ 10.6 eV lamp PID (I.P. eV)
Benzene	1 5 [STEL]	500 [Ca]	1.2	119	Aromatic, sweet	75	Flammable Liquid	Yes (9.24)
o-,m-, p- Xylenes	100 150 [STEL]	900	0.9	20	Aromatic	7,9,9	Flammable Liquid Vapor	Yes (8.4-8.6)
Toluene	200 300 [CEIL]	500	1.1	37	Sweet, pungent Benzene-like	20	Flammable Liquid Vapor	Yes (8.82)
Ethyl Benzene	100 125 [TLV-STEL]	800	0.8	0.8	Oily Solvent	10	Flammable Liquid	Yes (8.76)
Hydrogen Sulfide	10	100	4	0.8	Rotten Egg	17.6	Flammable Liquid	No(3)
Naphthalene	15 [TLV-STEL]	250	0.9	0.64	Mothballs/ Tar/Creosote	0.08	Combustible Solid	Yes (8.2)
Polunuclear Aromatic	0.2 mg/m^3	80 mg/m^3	Varies	Varies	Varies	Very low	Combustible Solid	No
Hydrocarbons (PAH's)	[CA]							
Cyanide	5.0 mg/m^3	50	5.5	5	Bitter almond	630	Flammable Liquid	No Draeger Tube (13.6)

(1) 29 CFR 1910, June 30, 1993 (8-hour Time weighted average unless otherwise specified.). These values may be modified by OSHA. The
values should be checked and updated, as necessary, prior to commencing work activities.
(2) ACGIH 1989 Highest reported value of acceptable odor threshold range. These values may be modified by ACGIH. The values should be
checked and updated, as necessary, prior to commencing work activities.
(3) For hydrogen sulfide detection, a gas meter with hydrogen sulfide detection capability could be used.
[IDLH] Immediately dangerous to life or health.
[CA] Suspected carcinogen - Minimize all possible exposures.
[STEL] 15 minute Short Term Exposure Limit
[SKIN] Designates that skin is an important possible route of exposure.
[CEIL] Ceiling Limit - not to de exceeded at any time during a work day.
[TLV] Threshold Limit Value.

14.0 TRAINING AND INSTRUCTION POLICY

All workers, including managers and supervisors, shall have training and instruction on general and job-specific safety and health practices. Training and instruction shall be provided as follows:

- When this HASP is updated for a specific activity;
- To all new workers;
- To all workers given new job assignments for which training has not previously provided;
- Whenever new substances, processes, procedures or equipment are introduced the workplace and represent a new hazard;
- Whenever the employer is made aware of a new or previously unrecognized hazard;
- To supervisors to familiarize them with the safety and health hazards to which workers under their immediate direction and control may be exposed; and,
- To all workers with respect to hazards specific to each employee's job assignment.

Workplace safety and health practices for all locations include, but are not limited to, the following:

- Explanation of this site-specific HASP, emergency action plan and fire prevention plan, and measures for reporting any unsafe conditions, work practices, injuries and when additional instruction is needed.
- Use of appropriate clothing, including gloves, footwear, and personal protective equipment.
- Information about chemical hazards to which employees could be exposed and other hazard communication program information.
- Availability of toilet, hand-washing, and drinking water facilities.
- Provisions for medical services and first aid including emergency procedures.

In addition, specific instructions to all workers will be provided regarding hazards unique to their job assignment, to the extent that such information was not already covered in other training. All personnel engaged in hazardous substance removal or other activities that expose or potentially expose them to hazardous substances or health hazards shall receive appropriate training as required by 29 CFR 1910.120, including, but not limited to, initial 40-hour, 8-hour Supervisor and annual 8-hour refresher training.

15.0 PROJECT SITE EMPLOYEES ORIENTATION PROGRAM SUBJECTS

The PSM helps to develop the orientation and meets with new workers to review site procedures and requirements. Topics covered in the HASP overview include:

- Names of personnel responsible for site safety and health
- Reporting emergencies, incidents and unsafe conditions
- Emergency/evacuation plans
- Safety, health and other hazards at the site
- Review of relevant activities on site and related AHAs
- Proper use of personal protective equipment
- Work practices by which a worker can minimize risk from hazards
- Safe use of engineering controls and equipment on site
- Acute effects of compounds at the site
- Decontamination procedures

16.0 EMPLOYEE COMMUNICATION SYSTEM AND POLICY

An open, two-way communication between management and staff on health and safety issues is essential to an injury-free, productive workplace. The following system of communication is designed to facilitate a continuous flow of safety and health information between management and staff in a form that is readily understandable and consists of one or more of the following checked items:

- New worker orientation including a discussion of safety and health policies and procedures.
- Review of site-specific HASP prepared by future party performing work at the Site.
- Workplace safety and health training programs.
- Regular weekly and daily safety meetings.
- Effective communication of safety and health concerns between workers and supervisors, including translation where appropriate.

- Posted or distributed safety information.
- A system for workers to anonymously inform management about workplace hazards.
- A labor/management safety and health committee that meets regularly, prepares written records of the safety and health committees meetings, reviews results of the periodic scheduled inspections, reviews investigations of accidents and exposures and makes suggestions to management for the prevention of future incidents, reviews investigationsof alleged hazardous conditions, and submits recommendations to assist in the evaluation of employee safety suggestion.

17.0 RECORDKEEPING POLICY

Following steps must be taken to document implementation of the site-specific HASP:

- Records of hazard assessment inspections, including the persons conducting the inspection, the unsafe conditions and work practices that have been identified and the action taken to correct the identified unsafe conditions and work practices, are recorded on a hazard assessment and correction form.
- Documentation of safety and health training for each worker, including the worker's name or other identifier, training dates, types of training, and training providers are recorded on a worker training and instruction form.
- Other records are retained as required by contract specifications or by local, state or federal (OSHA regulations). Where regulations do not specify the length of records retention, a period of three years after project completion will be used.

18.0 INCIDENT/NEAR-MISS INCIDENT INVESTIGATIONS POLICY

All incidents and significant near-miss incidents are investigated by an individual or team with training in accident investigation and root cause analysis. The party performing the work and their subcontractors must investigate incidents involving their employees or activities and maintain an investigation report.

Procedures for investigating workplace incidents and near-miss incidents include:

- Responding to the incident scene as soon as possible;
- Reporting incidents and near-miss incidents immediately to the appropriate point-ofcontact
- Interviewing injured workers and witnesses;
- Examining the workplace for factors associated with the incident/near-miss incident;

- Determining the cause of the incident/near-miss incident;
- Taking corrective action to prevent the incident/near-miss incident from reoccurring;
- Recording the findings and corrective actions taken; and
- Post-accident substance abuse testing.

19.0 EMERGENCY ACTION PLAN

The purpose of the Emergency Action Plan is to ensure that immediate mitigative and corrective emergency response actions are in place to minimize the consequences of an emergency, protect worker and public health and safety, provide security, and ensure the continuance of such actions until the emergency is terminated. Development and implementation of an Emergency Action Plan is required for prompt, efficient, and effective response to emergencies in accordance with applicable local, staff, and federal regulations.

The Project Manager will ensure that a comprehensive Emergency Action Plan has been established prior to any work involving any radiological or chemical hazard. The Emergency Action Plan is needed to train personnel on the required actions during an emergency situation to preserve the health and safety of the public and workers.

An Emergency Action Plan shall be developed and implemented in accordance with the applicable standards or requirements and specific site conditions. The basic elements of the Plan are as follows:

- Identification of hazards and threats, hazard mitigation, development and preparation of emergency plans and procedures, and identification of personnel and resources needed for effective response.
- Acquisition and maintenance of resources, training, drills, and exercises.
- Application of resources to mitigate consequences to workers, the public, the environment, and national security, as well as the initiation of recovery from an emergency.
- Actions taken following termination of the emergency to return to normal operations.
- Assessments and documentation to ensure that stated emergency capabilities are sufficient to implement emergency plans.

20.0 SITE SPECIFIC MEDICAL EMERGENCY PLAN

Following medical requirements have been established and implemented for the project:

20.1 NON-EMERGENCY MEDICAL SERVICES

The following medical facilities are suggested based on their proximity to the Site to treat work-related injuries and illnesses that are NOT life threatening. It is recommended to contact the clinics to ensure that the hours of operations meet the potential needs of Site workers. If work hours are outside the hours of operation of these clinics, then additional clinics that have better hours must be identified.

Non-Emergency Medical Services

New York Westchester Square 2475 Saint Raymond Ave, Bronx, NY 10461, Phone (718) 430-7300; or

Englewood Hospital & Medical Center, 350 Engle Street, Englewood, NJ 07631, Phone (201) 894-3000.

Emergency Medical Services

White Plains Hospital Center, 41 East Post Road, White Plains, NY 10601, Phone (914) 681-0600 (Figure 4.1).

Note: Transportation to a medical facility for non-emergencies must be done by at least two (2) individuals (i.e. driver and observer).

Figure 20.1 White Plains Hospital Center

41 East Post Road

White Plains, NY 10601

(914)- 681- 0600

Directions:

1. **Start out going WEST on NEW ST toward NORTH LEXINGTON AVE**
2. **Turn LEFT on NORTH LEXINTON AVE**
3. **Turn LEFT onto EAST POST RD/NY-22/EAST NEW YORK POST ROAD**
4. **End at 41 EAST POST ROAD, White Plains, NY 10601**

Total Est. Time: 2 minutes **Total Est. Distance: 0.71 miles**

20.2 EMERGENCY MEDICAL RESPONSE

The project shall display posters/signs with emergency telephone numbers and locations of facilities in visible locations and at selected phone locations throughout the project area (including subcontractor facilities).

Emergency Contacts	Phone Number
Ambulance	**911**
Fire Department	**911**
State Police (NYS)	**911**
Pollution Toxic Chemical Oil Spills	(800) 424-8802
New York Flushing Hospital (Emergency)	(718) 670-0500
Poison Control Center	(800) 222-1222

21.0 HAZARD COMMUNICATION PROGRAM

The purpose of a Hazard Communication Program is to ensure that the hazards of all chemicals produced or imported are evaluated, and that information concerning their hazards is transmitted to employers and employees. This transmittal of information is to be accomplished by means of comprehensive hazard communication programs, which are to include container labeling and other forms of warning, material safety data sheets and employee training. This section will provide the Program outline, a list of the hazardous chemicals to be used and a description of where Material Safety Data Sheets (**MSDSs**) will be located. The written Program in compliance with 29 CFR 1910.1200, as well as the MSDSs, are found in Attachment B.

ATTACHMENT A

ACTIVITY HAZARD ANALYSIS

ATTACHMENT B

MATERIAL SAFETY DATA SHEET

ATTACHMENT C

NYSDOH GENERIC COMMUNITY AIR MOITORING PLAN (CAMP)

APPENDIX 1A

New York State Department of Health
Generic Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

APPENDIX D

APPENDIX D

GROUNDWATER MONITORING WELL SAMPLING LOG FORM

PARSONS
GROUNDWATER SAMPLING RECORD

SITE NAME: ______
PROJECT NUMBER: ______
Purge Date: ______ ______
Sampling Date: ______
Samplers: ______ of ______

SAMPLE ID: ______
Sampling Method: ______

WELL PURGING

Static Water Level (TOC): ______
Depth to Well Bottom (TOC): ______
CALCULATIONS: Ft. of Water in Well ______ X (GAL / FT) = ______ Gallons
2-Inch Casing: Ft. of Water in Well ______ x 0.16 = ______ Gallons
3-inch Casing: Ft. of Water in Well ______ x 0.32 = ______ Gallons
4-inch Casing: Ft. of Water in Well ______ x 0.64 = ______ Gallons
Method: Low Flow Pump

SAMPLE DESCRIPTION

Odor : ______
Other : ______

FIELD TESTS

	PURGE	PURGE	PURGE	PURGE	PURGE	PURGE	PURGE	SAMPLE
Time								
Depth To Water (TOC) (ft)								
Depth To Pump (TOC) (ft)								
Flow Rate (ml/min)								
Volume of Water Purged								
pH (s.u.)								
Conductivity (mS/cm)								
Turbidity (NTUs)								
Dissolved Oxygen (mg/L)								
Temperature (Degrees C)								
ORP (mV)								
Salinity (%)								
TDS (g/L)								

SAMPLE ANALYSIS / LABORATORY ______
Analyze For: ______

Shipped Via: ______
Laboratory ______

Other Notes: ______

APPENDIX E

APPENDIX E
SITE WIDE INSPECTION FORM

APPENDIX E

SITE WIDE INSPECTION FORM

WHITE PLAINS FORMER MGP SITE

Inspector: ______________________________ Date: ______________

Event Type (circle one): Scheduled / Non-Routine

Asphalt Inspection

Please note any observations of breaches in the any asphalt, which may include but are not limited to cracks, holes, indentations, vegetation growing through asphalt, etc.

Concrete Slab/Sidewalks Inspection

Please note any observations of breaches in any concrete/sidewalks, which may include but are not limited to cracks, holes, indentations, vegetation growing through concrete etc.

Soil Inspection

Please note any observations of breaches in the soil cover, which may include but are not limited to holes and soil washout.

APPENDIX F

OPERATION, MAINTENANCE AND MONITORING PLAN, WHITE PLAINS FORMER MGP SITE

(DECEMBER 2004)

OPERATION, MAINTENANCE AND MONITORING PLAN

WHITE PLAINS FORMER MGP SITE

White Plains, New York

PREPARED FOR:

conEdison

PREPARED BY:

PARSONS
290 Elwood Davis Road, Suite 312
Liverpool, New York 13088
(315) 451-9560 Fax (315) 451-9570

DECEMBER 2004

SECTION 1

INTRODUCTION

1.1 PROJECT BACKGROUND

Consolidated Edison Company of New York, Inc. (Con Edison) owns and operates an electric distribution substation located at 9 New Street in the City of White Plains, Westchester County, New York. The substation provides electric service to approximately 23,000 commercial and residential consumers within the White Plains area. Con Edison is in the process of modernizing and upgrading its facilities at the White Plains substation to ensure continued reliability of the substation. The White Plains substation is one of Con Edison's oldest active electric substations, dating back to 1925.

As of April 2003, the first phase of substation improvements (Phase I) was completed. Two new transformers (#1 and #2) were installed, replacing two of the substation's older outdoor transformers, and a new building enclosure for the transformers was completed on land acquired from a neighboring office building property. Phase I also included expansion of the substation's existing control room and switchgear building and installation of a new pressurizing plant. In addition, site drainage was improved and an oil/water separator was installed to control and treat storm water runoff from areas with oil-filled equipment.

Subsequent phases of the improvement project include the replacement of older outdoor equipment with new equipment. Phase II construction activities have begun at the Substation. Phase II activities involve the decommissioning/removal of aboveground and belowground equipment associated with transformers #5 and #6, the replacement of existing transformers #5 and #6 with new transformer vaults #3 and #4, the installation of new underground electrical feeder conduits associated with the new Phase I and Phase II equipment, and the eventual removal of old switchgear #7 and #8 from the northern portion of the substation.

Prior to 1925, the White Plains substation and portions of an adjoining commercial office building property located west of the substation site (12 Water Street) were the location of a manufactured gas plant (MGP). In anticipation of the construction activities associated with the substation improvement/modernization project, a Preliminary Site Assessment (PSA) was conducted in several phases between March 2000 and August 2001 to identify potential subsurface conditions that might pose a risk to the health and safety of site workers and the public during those activities. Additional investigations have also been conducted to assess potential impacts of the former MGP on adjacent properties surrounding the substation.

Con Edison submitted a Voluntary Cleanup Program application for the White Plains substation/former MGP site (the Site) to the New York State Department of Environmental Conservation (NYSDEC) on July 11, 2000. In the application, Con Edison has proposed to coordinate the remediation of the MGP-impacted areas of the Site and adjacent lands with the planned removal of the energized electric equipment during the substation improvement project. The PSA Report and Interim Remedial Measures Work Plan for Phase I Construction Activities (PSA/IRM Work Plan) were submitted with the application and were subsequently approved by the NYSDEC. On September 23, 2002, Con Edison entered into a Voluntary Cleanup Agreement with the NYSDEC for the Site.

In early 2004, transformers #5 and #6 were dismantled and removed as part of the Phase II construction activities allowing temporary access to the area in which the former southernmost MGP relief holder was located at the Site. Previous investigation results indicate that the relief holder foundation contains coal tar-contaminated subsurface soils with dense non-aqueous phase liquid (DNAPL) in the form of carbureted water gas tar present within the underground foundation structure of this former MGP near the bottom of the relief holder's foundation. DNAPL was also detected around the former MGP relief holder's foundation at depths greater than 27 feet bgs, significantly deeper than the bottom of the relief holder foundation and below the groundwater table which was encountered between 23 and 27 feet bgs.

An IRM Work Plan for Phase II Construction Activities (Parsons, October 2003) has been approved by the NYSDEC. The Phase II IRM addresses, to the extent practicable and technically feasible, the impacted materials associated with the former southernmost MGP relief holder, the construction activities associated with the construction of the new structures that will house the new transformers that will be installed to replace of transformers #5 and #6, and the installation of new electrical feeder conduits. The IRM is currently being implemented and is scheduled for completion in November 2004. The major components of the IRM include:

- The removal of the southernmost relief holder foundation and its contents;
- The excavation and off-site treatment/disposal of materials visually impacted with DNAPL encountered adjacent to and beneath the relief holder foundation and above the groundwater table;
- The installation of a NAPL cut-off wall south of the former southernmost relief holder; and
- The installation of NAPL recovery wells both upgradient and downgradient of the NAPL cut-off wall; and
- Post-IRM monitoring of NAPL recovery wells.

This Operation, Maintenance and Monitoring (OM&M) Plan has been developed to ensure the continued operation and maintenance of the engineering controls being installed as part of the above IRM.

1.2 SITE DESCRIPTION

The White Plains Substation is an active electric distribution substation located at 9 New Street in the downtown core area of the City of White Plains, Westchester County, New York. The perimeter of the outdoor yard areas of the Site is secured by a chain link fence. The Site encompasses approximately 1.2 acres of land and includes a two-story brick switchgear/control room building, and a substantial amount of aboveground outdoor electric equipment (e.g., transformers, circuit breakers, switching gear, buss work, etc.), and extensive underground electric cables and feeders related to Con Edison's power distribution system. Surface materials consist of soil, pavement, bluestone, and concrete. The Site is bordered by Water Street on the north; by an office building property (12 Water Street) with an off-street parking lot on the west; by New Street on the south; and by the off-street parking lot of a commercial office building property (170 Hamilton Avenue) on the east. With the exception of St. John's R.C. Church and St. John's Elementary School, which are located on the south side of New Street directly across from the substation Site, the surrounding area is predominately commercial, consisting of a car dealership, office buildings, and a bus depot. Figure 1 shows the Site and surrounding areas.

1.3 OM&M PLAN COMPONENTS AND ENFORCEMENT

The remaining sections of this OM&M Plan include the following:

- Section 2 of this OM&M Plan provides a *Site Management Plan*. The Site Management Plan establishes guidelines and addresses environmental concerns related to the management of soil and groundwater during any future subsurface activities at the Site.

- Section 3 of this OM&M Plan provides a *Post-IRM Monitoring and Maintenance Plan*. The Post-IRM Monitoring Plan outlines the monitoring and maintenance activities that will be implemented following completion of the Phase II IRM at the Site.

Once approved by the NYSDEC, this OM&M Plan will be enforced through an environmental easement to the NYSDEC for the Site that will be recorded in the Westchester County Clerks land records. The environmental easement will stipulate the following:

- The NAPL recovery wells installed as part of the Phase II IRM will remain accessible for the purposes of sampling, well development, NAPL recovery, and regular maintenance;

- Use of the Site is restricted to its current use as an electrical substation;

- The use of groundwater at the Site without treatment acceptable to the NYSDEC is prohibited; and

- With the exception of the acquired land on which the building housing new transformers #1 and # 2 were built, soil excavation on the Site will be conducted in accordance with the Soil Management Plan of this OM&M Plan and any amendments that the NYSDEC approves to the plan.

This OM&M Plan establishes the procedures and guidelines for future intrusive work and monitoring at the Site following completion of the Phase II IRM. As discussed above , Con Edison is working in conjunction with the NYSDEC to address impacted areas of the Site in a phased approach to ensure continued reliability of the substation. As future phases of remediation and monitoring are implemented at the Site, this OM&M Plan will be revised or amended as appropriate.

SECTION 2

SITE MANAGEMENT PLAN

2.1 OBJECTIVE

The objective of this Site Management Plan (SMP) is to set guidelines for potential future intrusive activities at the Site following completion of the Phase II Construction Activities. Intrusive activities may include, but are not limited to, repair/replacement of underground facilities, excavations associated with substation upgrades, or other activities requiring the disturbance or excavation of subsurface soils, other than NYSDEC-approved future remedial activities at the Site. This SMP addresses concerns related to worker health and safety, site access and control, and management of soils and groundwater at the Site.

2.2 EXCLUSION AREA

Based on existing Site data, the southwestern portion of the Site in the vicinity of new transformer vaults #1 and #2 (referred to hereafter as New Transformer Vault Building Area 1) is excluded from the provisions of this SMP. This area is shown on Figure 1. Historical information indicates that this area was not part of the former MGP and did not contain any structures related to the MGP. No visual evidence of MGP residuals, tar, or NAPL was observed in the ten geotechnical borings and one monitoring well boring that were conducted within this area during the PSA in 2000. No PCBs or TCLP VOCs or SVOCs were detected in samples collected within the upper five feet of soil. All TCLP metals were below regulatory levels. No MGP-related constituents were detected in deeper soil samples collected from 26 to 27.5 feet and 32 to 34 feet in boring MW-1. Based on the PSA results, it appears highly unlikely that MGP-impacted soils with product, tar, or NAPL would be encountered during excavation work in this area. Additionally, groundwater in this area occurs at a depth of approximately 27 feet below the ground surface, and therefore, would not likely be encountered during excavation work.

In addition, soil excavation during Phase II Construction Activities is addressed in the NYSDEC-approved IRM Work Plan discussed in Section 1. Soil excavation conducted as part of the Phase II Construction Activities will be carried out in accordance with the IRM Work Plan.

2.3 NATURE AND EXTENT OF CONTAMINATION

Soils at the Site consist of up to 9 feet of fill, underlain by up to 77 feet of fine to medium sand, which is underlain by up to 15 feet of glacial till. Mica schist bedrock at the Site ranges in depth from 8 feet in the northeast corner of the Site to 84 feet in the southwestern corner of the Site. Groundwater generally flows towards the west and south and was found at depths of 7 to 28 feet below the ground surface. Groundwater was shallowest in the northeastern portion of the Site, which is at a lower elevation than the southern portion of the Site.

Soils in the vicinity of the former MGP structures have been impacted by MGP residuals. NAPL, consisting of oily or tar-like material, was encountered at various depths in borings conducted within and in the vicinity of the former gasholders, within the former purifying house area, in the vicinity of the former above ground oil and tar tanks, and near the former tar well and tar separator. NAPL at depths of less than 20 feet was generally present in close proximity to these former structures. With the exception of borings SB-1 and TB-5, intervals containing visible NAPL in each boring generally ranged between 0.4 feet to 4 feet in thickness. NAPL at depths of greater than 20 feet occurred in vertically isolated intervals within the borings ranging from 0.4 feet to 4 feet in thickness. With the exception of a small area at the southern border of the Site, most NAPL at depths of greater than 20 feet was also found in the vicinity of the former MGP structures. Fingerprinting analysis indicates that the soils contain an MGP tar with various amounts of weathering. VOCs, PAHs and metals were detected in the soil samples at concentrations exceeding the NYSDEC Soil Cleanup Objectives. The highest concentrations were detected in the vicinity of the former MGP structures. One sample of tarry material from the southernmost relief holder also exceeded the maximum concentration of benzene for toxicity characteristic hazardous waste under the New York State hazardous waste program. Soils in the southeastern and western portions of the Site have not been impacted by MGP residuals, as indicated by the non-detect to low VOC and SVOC concentrations in samples collected from these areas. TPH was detected in shallow soils in the western portion of the Site.

Groundwater in the vicinity of the former MGP structures has also been impacted by MGP residuals. Minor amounts of NAPL, consisting of either a sheen, a thin layer of LNAPL (0.01 feet to 0.18 feet in thickness), or floating globules of a brownish oily material were encountered in several wells. Fingerprinting results indicate that the samples contained predominantly tar with some heavy weight petroleum product which is common for carbureted water gas plants. VOCs and SVOCs were detected in the groundwater samples. The highest concentrations were detected in wells MW-5, MW-6 and TW-1 located in the vicinity of the former MGP structures.

2.4 CONTEMPLATED USE

The current and intended future use of the Site is an electrical substation and groundwater at the Site is not used as a drinking water source. As discussed in Section 1.3, an environmental easement is being recorded for the site property which will restrict the property from being used for residential/commercial use and prohibit the use of groundwater at the Site without treatment acceptable to the NYSDEC.

2.5 WORKER HEALTH AND SAFETY

Excavation activities will be conducted by 40-hour OSHA HAZWOPER-certified personnel that are qualified to perform environmental work. Prior to any construction activities, workers are to be notified of the site conditions with clear instructions regarding how the work is to proceed. Invasive work performed at the property will be performed in accordance with all applicable local, state, and federal regulations to protect worker health and safety.

A site-specific Health and Safety Plan (HASP) will be prepared prior to future excavation activities at the Site to provide a safe working environment for construction personnel, to minimize the risk of human and economic losses resulting from unnecessary accidents, to comply with safety and health laws and regulations, and to satisfy the specific needs of Con Edison. The plan will be prepared in accordance with 29 CFR 1910.120 and applicable sections of 29 CFR 1926. The HASP will address, among other things, community and work zone air monitoring, odor control, and appropriate training and personal protective equipment for site workers.

2.6 SITE ACCESS AND CONTROL

A gated, chain-link security fence that surrounds the entire Site currently controls site access. During potential future excavation activities, a four-foot high, orange high-visibility fence will be installed to establish an exclusion zone. All personnel within the exclusion zone will be required to use the level of protection specified in the site-specific HASP.

2.7 MANAGEMENT OF SOILS/GROUNDWATER

The purpose of this section is to provide environmental guidelines for management of subsurface soils during any future intrusive work. This SMP includes the conditions identified below.

- The NYSDEC will be notified prior to initiating any excavations greater than five feet in depth or ten cubic yards in volume.
- Soil excavated at the Site may be reused as backfill material on site provided it contains no visual or olfactory evidence of contamination.
- Excavated soil which can not be reused as backfill material on site will be sampled and analyzed for waste characterization purposes prior to off-site transportation and treatment/disposal in accordance with the specific requirements of the receiving facility.
- Off-site transportation, treatment, and disposal of excavated soil which can not be reused as backfill material on site will be conducted in accordance with appropriate local, state, and federal regulations.
- Any off-site fill material brought to the site for filling and grading purposes shall be from an acceptable borrow source free of industrial and/or other potential sources of chemical or petroleum contamination.
- Verification (i.e., letter from source facility) indicating that the fill material does not contain detectable levels of target compound list organic chemicals, and has metals concentrations consistent with background or the levels presented in the

most current version of NYSDEC TAGM #4046, will be required and provided before the fill material is off loaded at the Site.

- If the contractor designates a source as "virgin" soil, it shall be further documented in writing to be native soil material from areas not having supported any known prior industrial or commercial development or agricultural use.

- The use of groundwater at the Site without treatment acceptable to the NYSDEC is prohibited.

- Groundwater encountered during excavation (if any) that requires removal will be containerized and characterized for off-site treatment/disposal in accordance with applicable rules and regulations.

- No work shall proceed that would impair the ability of the NAPL cutoff wall, recovery wells, or monitoring well network to perform as intended.

SECTION 3

POST-IRM MONITORING AND MAINTENANCE PLAN

3.1 OBJECTIVE

The objective of this Post-IRM Monitoring and Maintenance Plan is to establish the procedures for monitoring and maintaining the specific engineering controls required under the NYSDEC IRM Work Plan discussed above in Section 1. This plan will act as a guide for implementing the post-IRM monitoring activities set forth in the NYSDEC-approved IRM Work Plan and ensuring that these activities continue following completion of the Phase II Construction activities. As additional remedial activities or engineering controls are implemented at the Site following completion of the Phase II Construction activities and the IRM for the Phase II Construction Activities, this OM&M Plan will be revised or amended, as necessary, to address the operation, maintenance, and monitoring associated with those engineering controls.

3.2 RECOVERY WELL INSTALLATION

Prior to the initiation of the Phase II IRM activities in the area of the southernmost former MGP relief holder, two NAPL monitoring/recovery wells (RW-4 and RW-5) were installed in the sidewalk on the north side of New Street as shown on Figure 2. Wells RW-4 and RW-5 were installed in accordance with the NYSDEC-approved IRM Work Plan to collect any potentially flowable residual NAPL that had already migrated past the location of the NAPL cut-off wall called for in the NYSDEC-approved IRM Work Plan and to serve as sentinel wells that monitor for potential future NAPL migration. These wells were completed with locking, flush-with-grade gate boxes set in concrete.

Following completion of the NAPL-contaminated soil excavation called for in the Phase II IRM for the southernmost relief holder area, five additional NAPL monitoring/recovery wells (RW-1, RW-2, RW-3, RW-6, and RW-7) will be installed along the upgradient side of the NAPL cut-off wall to intercept potentially recoverable residual NAPL in this area. One recovery well will be installed at each end of the wall, one will be installed near the center of the wall, and the remaining two wells will be installed along the wall as shown on Figure 2.

As shown on Figure 2, new transformer vaults will be constructed both north and south of the NAPL cut-off wall. An approximately 12-foot wide asphalt alley will be maintained between the new transformer vaults to ensure continued access to recovery wells located upgradient of the cut-off wall for regular maintenance and monitoring. However, access to this area with large construction equipment will be limited following construction of the new transformer vaults. For this reason, the five additional recovery wells discussed above will be installed prior to the construction of the transformer vaults. In addition, the following measures will be taken to ensure that each of these wells will be easily convertible to enhanced potential NAPL recovery in the future.

- Following their installation and development, the surface soils surrounding the five wells along the cut-off wall will be excavated to facilitate the installation of an approximately 1.5-foot by 2.5-foot concrete polymer vault over each well. The vaults will facilitate the future installation of a NAPL recovery pump in each well, if necessary. Each vault will be retro-fitted with an opening at the bottom for the well riser and will be equipped with a water-tight lid that will be flush-with-grade and load-bearing for vehicular access.

- Two-inch PVC conduits will be installed into each of the vaults. These conduits will be installed to convey product recovery and air lines associated with a potential future enhanced recovery system. The conduits will run east from each of the five vaults north of the cut-off wall to a location outside of the planned future transformer vault area. In the event that installation of an enhanced NAPL recovery system is required in the future, this conduit can easily be connected to and the lines conveyed to an enclosure on site which will house the recovery system controls, NAPL storage tank, and air compressor.

In the event that Post-IRM monitoring results indicate that installation of an enhanced NAPL recovery system is appropriate, the above-described measures will ensure that this can be achieved following construction of the new transformer vaults in this area.

3.3 PIEZOMETER INSTALLATION

In addition to recovery wells, a total of four one-inch diameter piezometers will be installed at the Site. Two of the four piezometers will be installed immediately upgradient of the NAPL cutoff wall (PZ-1 and PZ-3) and two will be installed immediately downgradient of the NAPL cutoff wall (PZ-2 and PZ-4) as shown on Figure 2. Data obtained from the piezometers will be used in conjunction with monitoring data obtained from the seven recovery wells and existing monitoring wells at the Site to evaluate potential changes in groundwater conditions, including groundwater flow direction or NAPL distribution in close proximity to the cutoff wall.

3.4 POST-IRM MONITORING AND MAINTENANCE

The six-inch diameter for the recovery wells was selected to facilitate potential future NAPL recovery from the wells. Following completion of the IRM for Phase II Construction Activities, each of the seven new recovery wells and existing monitoring well MW-8 will be monitored on a monthly basis for a period of one year. Water levels will also be obtained from the four new piezometers during the monthly monitoring events. In addition, a comprehensive round of monitoring will be conducted at all accessible site monitoring wells, piezometers, and recovery wells on a quarterly basis for one year. During each monitoring event, the depth to groundwater and NAPL thickness (if present) will be measured in the wells using an electronic oil/water interface probe attached to a measuring tape accurate to 0.01 feet. All measurements will be recorded.

If a measurable quantity of NAPL is observed in a well during a monitoring event, the NAPL will be bailed from the well at that time and the removed volume will be recorded. Measurements obtained from that well during subsequent monitoring events will determine whether the NAPL in that well is recoverable. If NAPL is not observed in a recovery well within six months following completion of the IRM activities, the well will be redeveloped in attempt to promote NAPL recovery. The proposed redevelopment activities and methods will be provided to the NYSDEC prior to implementation.

Results from the monthly monitoring events will be reported to the NYSDEC in the monthly progress reports for the project. Following completion of one year of monitoring, Con Edison, in consultation with the NYSDEC, will evaluate the results and determine the frequency of future monitoring efforts for the recovery wells and whether enhanced recovery efforts are appropriate.

3.5 ANNUAL INSPECTION AND CERTIFICATION

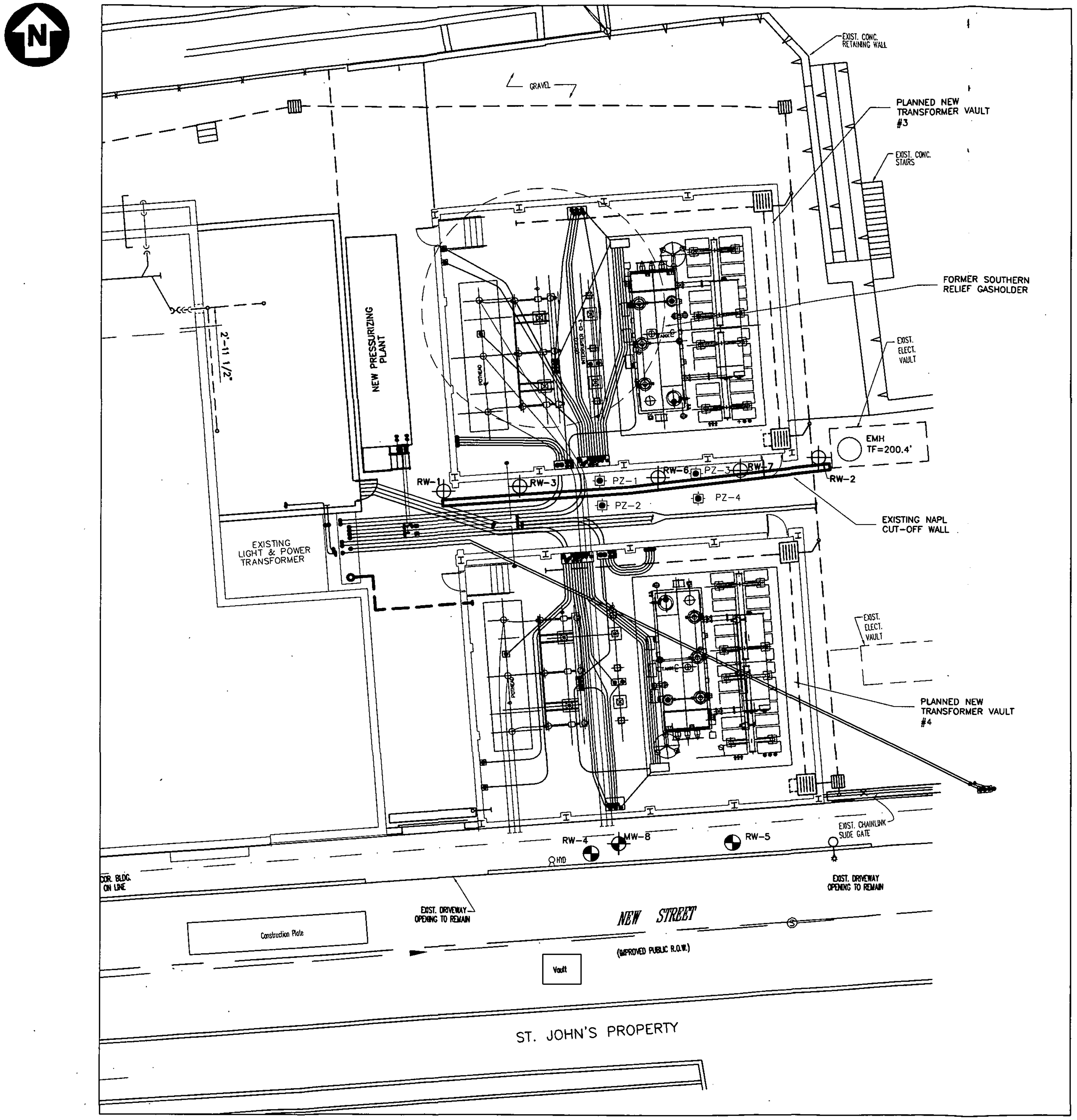
The engineering controls to be installed at the site will be inspected annually to determine if, and when, maintenance activities are required to maintain the integrity of these features. The recovery wells, monitoring wells, protective casings and covers, and surrounding surface areas will be inspected during each monitoring event and annual inspection to determine if, and when, maintenance activities are required to maintain the integrity of these features. In addition, the perimeter chain-link fencing surrounding the Site, including gates and signs, will be inspected on an annual basis. The inspections will be performed to confirm that these items are present, functioning properly, and have not been damaged so as to compromise the effectiveness of each feature. Maintenance activities will be performed, as appropriate, based on the findings of the inspection. Maintenance activities may include, but are not limited to: the repair/replacement of damaged fencing, gates, and locks; the repair/replacement of damaged or missing well or vault covers; and the repair of damaged concrete or asphalt surfaces immediately surrounding the wells. The inspections and any maintenance activities performed will be reported to the NYSDEC in the monthly progress reports for the project.

An annual certification will be submitted to the NYSDEC and NYSDOH each year following completion of the IRM activities. In the annual certification, the following information will be provided concerning the engineering and institutional controls implemented at the Site:

- Documentation that the inspection and maintenance activities described in this OM&M Plan have been completed;
- Certification that the Environmental Easement has been properly filed with the appropriate agencies/offices and no subsequent notices have been filed to nullify the original notice;
- Certification that the land use is consistent with the use restrictions identified in the Environmental Easement; and
- Notification of any excavation/disturbance activities within the restricted area and certification that any such excavations/disturbances do not or did not present an unacceptable risk to the health and safety of site workers or the surrounding community.

The annual certification will be a written statement by a New York State-licensed professional engineer that the engineering controls employed at the Site are unchanged from the previous certification or that any changes to the controls employed at the Site were approved by the NYSDEC, and that nothing has occurred that would impair the ability of such controls to protect the public health and the environment or constitute a violation or failure to comply with this OM&M Plan.

FIGURES



LEGEND

- EXISTING 6" RECOVERY WELL
- PROPOSED 6" RECOVERY WELL
- EXISTING 2" MONITORING WELL
- PROPOSED 1" PIEZOMETER

NOTES

1. BASE MAP OBTAINED FROM CON EDISON DRAWING NO. 324684-06.

2. EXISTING CUT-OFF WALL, RECOVERY WELLS AND ELECTRICAL VAULT LOCATIONS BASED ON SURVEY PERFORMED BY CHAZEN ENGINEERING & LAND SURVEYING, CO. (9/24/04).

60 30 0 60 120

SCALE: 1"=60'

PARSONS 290 ELWOOD DAVIS ROAD SUITE 312 LIVERPOOL, N.Y. 13088 PHONE: (315) 451-9560 FAX: (315) 451-9570	Con Edison	WHITE PLAINS FORMER MGP SITE WHITE PLAINS, NEW YORK PROPOSED TRANSFORMER VAULTS, RECOVERY WELL AND PIEZOMETER LOCATIONS	FIGURE NO. 2

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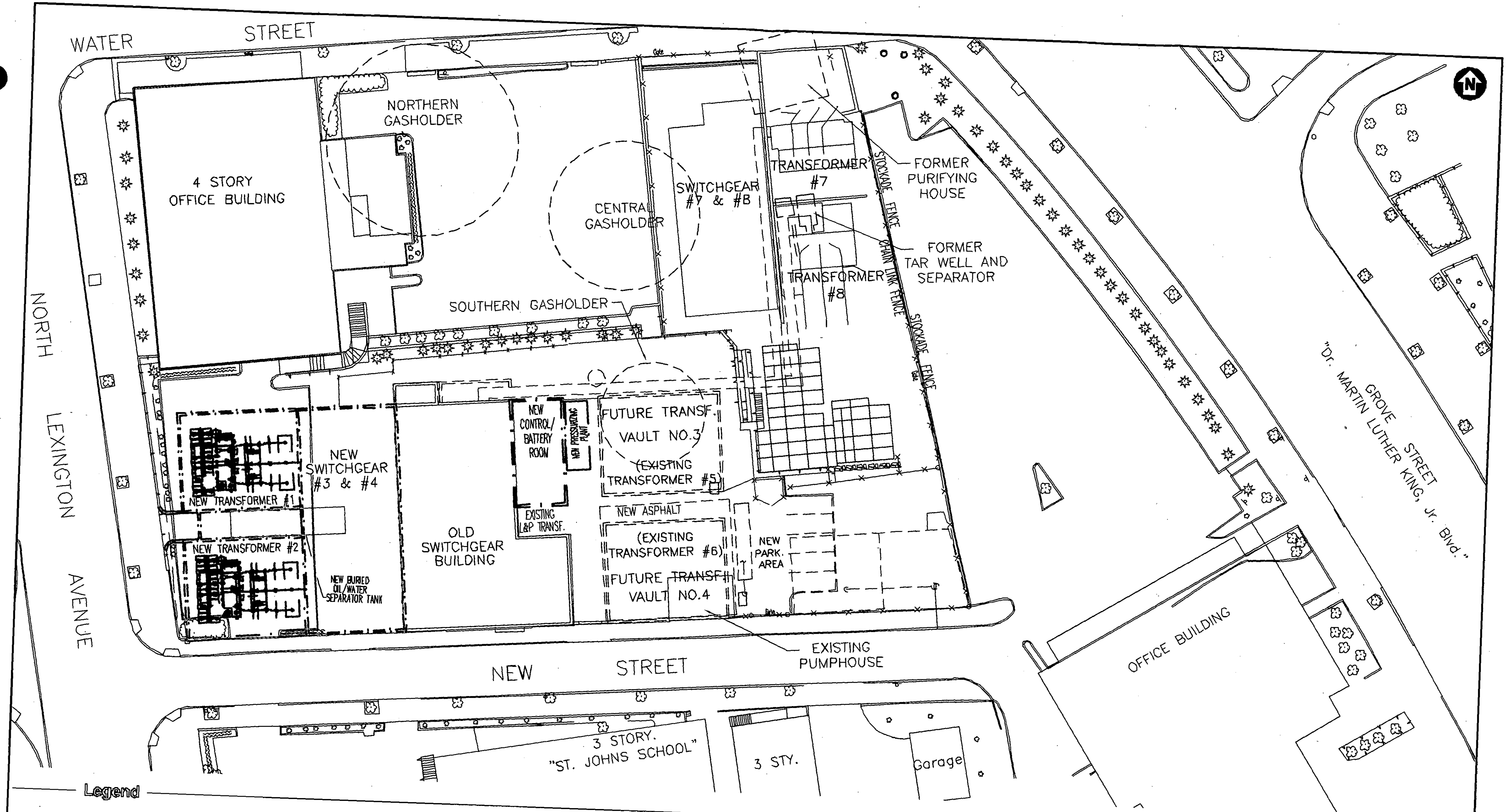
P:\440627\CAD\SITE PLAN (MOD 10-14-04).dwg, 10/28/04, CLW



Legend

COMPLETED PHASE I STRUCTURES

PROPOSED PHASE II STRUCTURES

FORMER MGP STRUCTURES

40 20 0 40 80

SCALE: 1"=40'

ORIGINAL BASE MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

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PARSONS 290 ELWOOD DAVIS ROAD SUITE 312 LIVERPOOL, N.Y. 13088 PHONE: (315) 451-9560 FAX: (313) 451-9570	Con Edison	WHITE PLAINS SUBSTATION WHITE PLAINS, NEW YORK	FIGURE NO.
		SUBSTATION SITE PLAN	1

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APPENDIX G

SITE MANAGEMENT PLAN, ST. JOHN'S CHURCH PROPERTY, WHITE PLAINS FORMER MGP SITE, (PARSONS, 2011)

White Plains Former MGP Site
St. John's Church Property

WHITE PLAINS, WESTCHESTER COUNTY, NEW YORK

Site Management Plan

NYSDEC Site Number: V00438-3

Prepared for:

Consolidated Edison Company of New York, Inc.
31-01 20th Avenue
Long Island City, New York 11105

Prepared by:

PARSONS
200 Cottontail Lane South
Somerset, New Jersey 08873
Phone: (732) 537-3500
Fax: (732) 868-3110

JANUARY 2011

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D. Site Wide Inspection Form

E. Groundwater Monitoring Well Sampling Log Form

F. *Remedial Action Work Plan Operable Unit 1 (OU-1) White Plains Former MGP Site*, (Parsons, 2007).

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 INTRODUCTION

This document is required as an element of the remedial program for the Saint John the Evangelist Church section of Operable Unit 1 (**OU-1**) of the White Plains Former MGP Site (hereinafter the Saint John the Evangelist Church property is referred to as the "**Site**") under the New York State Voluntary Cleanup Program (**VCP**) administered by the New York State Department of Environmental Conservation (**NYSDEC**). The Site was remediated in accordance with Voluntary Cleanup Agreement # D3-0002-00-00-10, Site # V00438-3 (hereinafter referred to as the "**VCA**"), which was executed on September 23, 2002.

1.1.1 General

Consolidated Edison Company of New York, Inc. (**Con Edison**) entered into the VCA with the NYSDEC to develop and implement an NYSDEC-approved remedial program for the former grounds of the manufactured gas plant (**MGP**) that Con Edison's predecessor companies operated in the City of White Plains, Westchester County, New York. The Site consists of a 1.75 acre property with a street address of 146-148 Hamilton Avenue in White Plains, New York. Although the Site was not part of the former grounds of the MGP, it was affected by contamination that migrated from the former grounds of the MGP. Under the VCA, Con Edison is required to investigate and remediate the MGP-contaminated media at the Site. Figures depicting the location and boundaries of the Site are provided in Figures 1 and 2, respectively.

In accordance with the VCA, a NYSDEC approved Remedial Action Work Plan (**RAWP**) (Parsons 2007) was implemented, in a phased approach between July 2009 and November 2009. A groundwater sampling survey (**GSS**) was conducted as the first phase. During the GSS, a total of 11 groundwater sampling points were installed utilizing direct push drilling techniques as depicted on Figure 3A. The GSS was conducted to ensure that the proposed monitoring wells would be adequately positioned and screened to achieve the goals of the groundwater monitoring program required for the Site under the RAWP. In October 2009 and November 2009, Parsons implemented the second phase of the remedy for the Site -- the installation of a total of 12 monitoring wells at NYSDEC approved locations, as depicted on Figure 3B. The 12 new groundwater monitoring wells were purged and sampled. In addition, one soil boring was installed at an NYSDEC approved location also shown on Figure 3B.

After completion of the remedial work specified in the RAWP some contamination was left in the subsurface at this Site, which is hereafter referred to as "**remaining contamination**." This Site Management Plan (**SMP**) was prepared to manage the remaining contamination at the Site in perpetuity. All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by Parsons, on behalf of Con Edison, in accordance with the requirements specified in NYSDEC DER-10 *Technical Guidance for Site Investigation and Remediation*, dated December 2002, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the Institutional Controls (**ICs**) and Engineering Controls (**ECs**) that are required at the Site as outlined by the RAWP.

1.1.2 Purpose

The Site contains remaining contamination after completion of the remedial action specified in the RAWP that the NYSDEC approved for the Site. Engineering and Institutional Controls have been incorporated into the NYSDEC-approved remedial program for the Site to control exposure, to provide proper management of remaining contamination in the future, and to ensure protection of public health and the environment.

The ICs place restrictions on Site use, and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all required ECs and ICs for the Site. This SMP has been approved by the NYSDEC, and compliance with this SMP is required by Con Edison, Con Edison's successors and assigns, and all future owners of the Site. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage the Site's remaining contamination, including: (1) implementation and management of all Engineering and Institutional Controls for the Site; (2) groundwater and other media monitoring; and (3) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports to the NYSDEC.

To address these needs, this SMP includes two plans: (1) an Engineering and Institutional Control Plan for the implementation and management of the Site's EC/ICs, which includes a reporting plan for the submittal of data, information, recommendations, and certifications to NYSDEC; and, (2) a Monitoring Plan for the implementation of Site Monitoring.

It is important to note that this SMP details the Site-specific implementation procedures that are required as part of the Site's NYSDEC-approved remedial program under the VCA. Failure to properly implement the SMP is a violation of the VCA, which is grounds for revocation of the Release and Limited Covenant Not to Sue issued by the NYSDEC pursuant to the VCA.

1.2 SITE BACKGROUND

The Site is currently owned and occupied by the Saint John the Evangelist Roman Catholic Church and is located in close proximity to the grounds of the former MGP that was operated by Con Edison's predecessor companies, as depicted on Figure 2. Gas at the former MGP was initially produced from coal and later, from oil and water. The former grounds of the MGP are currently occupied by a Con Edison electric distribution substation (with a street address of 9 New Street in the City of White Plains) and a commercial office building and parking lot (with a street address of 12 Water Street in the City of White Plains).

1.2.1 Site Location and Description

The Site is located in the City of White Plains, Westchester County, New York and is identified as Section 125.66, Block 6, Lot 2 on the Tax Map of the City of White Plains. The Site encompasses an approximate 1.75-acre area bounded by: New Street to the north; Hamilton Avenue, open space and commercial buildings to the south; office buildings and an above-ground parking lot to the east; and North Lexington Avenue, open space, an above-ground parking lot and a commuter transportation center to the west (see Figure 1).

1.2.2 Site History

The Site is comprised of a rectangular-shaped parcel occupied by a paved parking area, landscaped open areas, and the following four structures: (i) a church; (ii) a rectory; (iii) a former elementary school building that is now used for various activities and functions by Saint John the Evangelist Church; and (iv) a gymnasium building that was associated with the former elementary school but now used for various activities and functions by Saint John the Evangelist Church.

The historical information provided below has been summarized from the Investigation Report prepared for the former MGP that Con Edison's predecessor companies operated in close proximity to the Site (**Parsons, 2004**).

Historical information relating to past uses of the former MGP was compiled by Jacques Whitford Company, Inc (**JWC**) as part of a Phase I Environmental Site Assessment (**ESA**) (JWC, 1999). Historical Atlases of Westchester County (1861, 1893, 1901, and 1930), City Directory Abstracts (1937, 1942, 1948, 1952, 1958, and 1965), and historical aerial photographs (1954, 1961, 1964, 1974, 1975, 1979, 1989, and 1994) were reviewed. Sanborn Fire Insurance maps of the areas occupied by the MGP (1885, 1889, 1894, 1900, 1905, 1911, 1930, 1950, 1987, 1989, 1990, 1992, 1993, and 1994) were also examined. Detailed information was also obtained from a Westchester Lighting Company Property Plan, dated June 1, 1911. Westchester Lighting was the last of the Con Edison predecessor companies to have operated the MGP.

.Beginning in the mid-1800s, a MGP was operated to the north of the Site between Lexington Avenue on the west, Spring Street (now Dr. Martin Luther King, Jr. Boulevard) on the east, New Street on the south and Gas Street (now Water Street) on the north. The MGP consisted of two buildings and a small gasometer (**gasholder**). The 1889 Sanborn map indicates the MGP was operated by the White Plains Gas Light Company. The structures depicted as being present indicate that gas was produced from coal and naphtha. The MGP contained a retort house, a coal house, a meter room, four purifiers, a 24,000 cubic foot (**cf**) gasholder, a tar well, and a iron naphtha storage tank. The western and southern portions of the MGP contained residential dwellings. A small stream was shown flowing to the north along the east side of Spring Street. At the northeast corner of the MGP, the stream bent to the west and flowed westward along the northern side of Gas Street.

The same structures appear to be present on an 1893 map from the Historical Atlases of Westchester County. The structures depicted on the 1894 Sanborn map are similar to those shown on the 1889 Sanborn map. The White Plains Lighting Company is now shown as owner of the MGP. The changes to the area depicted on the 1894 Sanborn map include the addition of a White Plains Steam Laundry building in the northern portion of the property and the re-naming of Gas Street to Water Street.

The 1900 Sanborn map indicates an expansion of the MGP and a change in the MGP's gas production process from coal gas to a carbureted water gas. The MGP's retort house has been converted to a boiler house and generator house. A new 50,000 cf one-lift gasholder is present north of the existing gasholder in the vicinity of the former White Plains Steam Laundry. A new gas purifying house is also present in the northeast corner of the MGP. The 1901 Historical Atlas map is similar to the 1900 Sanborn map.

The 1905 Sanborn map indicates further expansion and change of the MGP. A third 150,000 cf two-lift gasholder is present west of the second gasholder. The smaller southern 24,000 cf gasholder has been converted to a 10,000 gallon oil tank. An electric substation is also located adjacent to the boiler house building.

The 1911 Sanborn map and the June 1, 1911 Westchester Lighting Company property plan indicate that ownership of the MGP had changed to the Westchester Lighting Company. The MGP contains various structures including two relief holders, a storage holder, a generator house, a gas purifying house, various storage sheds, a stable, a substation, several oil and tar tanks, a tar separator, and a tar well.

Operations at the MGP reportedly ceased in May 1930. The gasholders and oil tanks are no longer present on the 1930 Sanborn map. The gas purifier house, boiler house and generator house are shown as vacant or used for storage. A two-story building (currently one of the structures of Con Edison electric distribution substation) and transformers are present in the southern portion of the area where dwellings were previously located. The substation building was reportedly constructed in 1925 adjacent to the substation on the MGP. A large building (the current 12 Water Street building) is also present in the northwest portion of the MGP. The stream located east and north of the MGP is also filled in.

All of the former MGP buildings with the exception of a storage building (the former purifying house) located in the northeast corner of the MGP are no longer shown on the 1950 Sanborn map. A parking lot is also present adjacent to the large building in the northwest portion of the MGP. The remainder of the MGP is similar to the 1930 Sanborn map.

In February 1951, Westchester Lighting Company was merged with and into Con Edison. The 1954 and later aerial photographs and Sanborn Maps indicate that the former MGP consisted of a Con Edison substation and an adjoining commercial office building property with a street address of 12 Water Street.

1.2.3 Geologic Conditions

The Site is located in Westchester County within the Manhattan and Reading Prongs of the New England Uplands physiographic Province. This province is described as being comprised of mature and complex geology. The regional unconsolidated deposits in the Site area contain glacial deposits overlying metamorphic sedimentary and igneous rocks. Hilly areas are reportedly underlain by erosion-resistant gneiss and schist of the Fordham and Manhattan Formations.

A Geological Cross Section Location Plan is provided as Figure 4. Two geologic cross-sections, one oriented northeast and extending from the southern edge of the former MGP property across the Site and one trending roughly east-west across the Site are presented as Figures 5A and 5B. As shown on the cross sections and boring logs, the Site geology consists of two distinct unconsolidated lithologic units overlying bedrock. A fill unit was observed across the Site beneath the ground surface in approximate thicknesses ranging from 5 to 8 feet. This fill is composed primarily of reworked brown, dry, fine sand from the unit below. Beneath the fill is a thick sequence of fine interbedded sands up to 81 feet thick. This lower sand unit is comprised of brown and gray fine sand with trace layers of silt and some gravel. The bedding is marked by slight changes in color and composition. Specks of black minerals (mica) are common throughout, giving the material a salt and pepper appearance. The limited samples of weathered bedrock in the tip of the macro-cores at B-101 and B-110 were observed to be consistent with a mica-schist. The bedrock depth and its composition are consistent with the bedrock described by Parsons, 2004 as Manhattan Schist. The bedrock slopes to the southwest and south.

The regional groundwater flow is assumed to generally mimic the surface topography and flow to the west/southwest towards the Bronx River. Groundwater is present in unconsolidated glacial deposits and in the metamorphosed bedrock. Groundwater in the vicinity of the Site is classified as GA, Fresh Groundwaters with best usage as a source of potable water supply. However, this area is not classified as a primary water supply aquifer (*i.e.*, significant unconsolidated aquifer) or a principal aquifer.

The City of White Plains Water Department reported that the closest public water supply wells are located approximately 1.5 miles northeast (upgradient) of the Site. The water supply wells are likely drilled within this aquifer. Closer to the Site, it has been reported that two bedrock wells were installed by the Suburban Laundry Company approximately one block north of the Site. These wells were presumably installed by the Suburban Laundry Company to find an alternate source of fresh wash water other than the city water for its operations. One well, installed to a depth of 700 feet below ground surface (**bgs**), was abandoned due to insufficient yield (2 gallons per minute (**gpm**)), and the other well that was reportedly 250 feet deep was also abandoned. This well was reportedly pumped at 14 gpm for 24 hours.

A comprehensive groundwater gauging event was conducted at the Site in December 2009. The groundwater table at the Site ranged in depth from 20.64 feet bgs in monitoring well MW-10 located in the northeast corner of the Site to 30.47 feet bgs in monitoring well MW-15 located in the southwest corner of the Site.

Figure 6 provides a groundwater elevation contour map across the Site. The map shows that groundwater flow across the Site is from the northeast to the southwest, which is consistent with the presumed regional groundwater flow direction based on local topography and with earlier groundwater maps generated for the former grounds of the MGP.

1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS

A Remedial Investigation (**RI**) was performed to characterize the nature and extent of the contamination at the Site. The results of the RI are described in detail in the following report:

- *Remedial Investigation Report, Saint John the Evangelist R.C. Church and Elementary School, 148 Hamilton Avenue, White Plains, New York*, August 23, 2007 (included as Appendix A) (RETEC, 2007).

Generally, the RI determined that the presence of non-aqueous phase liquids (**NAPL**) in the subsurface of the Site presents the potential for exposure to volatile organic compounds (**VOCs**), Polynuclear Aromatic Hydrocarbon (**PAHs**), and metals. NAPL at depths of greater than 20 feet bgs occurred in vertically isolated intervals throughout the center of the Site, primarily beneath the school building, and extending to the area beneath the gymnasium building. The NAPL is located at depths ranging from approximately 39 to 53 feet bgs. Impacted soils at the Site were found exclusively at depths greater than 39 feet bgs near the northern edge of the Site and 50 feet bgs to the south and west of the former elementary school building.

Groundwater flow is generally to the southwest, in alignment with the NAPL plume. While the down-gradient edge of the dissolved plume has not been confirmed, it is highly unlikely that the plume reaches the nearest discharge location, the Bronx River, given the considerable distance (approximately 900 feet) between the Site and the river. Therefore, it is very unlikely that there will be dissolved-phase impact to a receptor via this potential exposure pathway.

An indoor air quality assessment conducted at the St. John's Church school building, gymnasium, and rectory indicated that there were no impacts due to the NAPL beneath the school. VOCs were detected in the indoor air at concentrations considered typical by New York State Department of Health (**NYSDOH**) for residential buildings.

The following sections provide a summary of Site conditions when the RI was performed in 2004.

1.3.1 Soil

A total of 18 soil borings were completed at the Site during the 2004 Remedial Investigation. The areal extent of NAPL, based on observations in these borings, is shown on Figure 7. Logs for each soil boring are also included in Appendix B of the RI Report.

Subsurface soils at the Site during the RI exhibited a wide range of conditions. Most subsurface soils did not exhibit evidence of gross contamination. Soils above and below the NAPL plume were found to meet NYSDEC Recommended Soil Cleanup Objectives (**RSCOs**) for all constituents of interest (**COI**) except for PAHs in the deepest samples collected at three of the boring locations. The greatest soil impacts were due to the presence of NAPL at depths from 36 feet below the basement floor of the school building to 53 feet bgs in the landscaped open courtyard area located south of the school building and rectory.

Soils within the NAPL plume contain elevated concentrations of volatile organic compounds (**VOCs**), including benzene, toluene, ethyl benzene and xylene (collectively referred to as **BTEX**), and semi-volatile organic compounds (**SVOCs**). Summaries of sub-surface soil analytical results for VOCs, SVOCs, PAHs and BTEX are presented in Tables 5-5 thru 5-7 of the RI, which is included as Appendix A to this SMP.

1.3.2 On-Site and Off-Site Groundwater

During the RI, groundwater was not sampled from within the NAPL-impacted zone beneath the Site. Instead, groundwater was sampled at the downgradient edge of this zone where it was found to contain dissolved phase VOCs and SVOCs above NYSDEC guidance values and standards. These compounds include the more soluble VOCs and SVOCs, including BTEX, styrene, and naphthalene. Despite these impacts at depth, groundwater at the water table was found not to be impacted, indicating that there is no mixing of groundwater from the NAPL zone to the water table.

The results of the GSS conducted in July 2009 as part of the first phase of the RAWP implementation generally indicated consistency with the data obtained during the 2004 remedial investigation.

In October and November 2009, the second phase of the RAWP implementation was conducted at the Site. This included the installation of 12 groundwater monitoring wells and one soil boring at the NYSDEC approved locations depicted on Figure 3B. Soil boring and monitoring well construction logs are included in Appendix B of this SMP.

1.3.3 On-Site and Off-Site Soil Vapor

The sampling of soil gas and indoor air at the Site, as documented in Table 5-2 of the RI report (RETEC 2007), indicated the following:

- Concentrations of MGP-Related VOCs in indoor air were substantively within the 90th percentile of residential background concentrations.
- Elevated VOC concentrations were detected in soil gas samples; however, these compounds were attributed to potential gasoline sources.

- A comparison of soil gas to indoor air data indicated that migration of soil gas from the subsurface to indoor air was an unlikely migration pathway.

1.3.4 Underground Structures

There are four buildings located on the Site, each containing a basement. Because the Site was not part of the grounds of the former MGP, no known MGP structures are located on the Site. Ground-penetrating radar (**GPR**) and magnetic survey methods were used to scan each Site area where borings, wells, or test pits were scheduled for completion. As-built drawings for the various buildings on the Site were reviewed during sampling placement. Subsurface features detected by the geophysical survey included drain lines from the gymnasium building's roof to sewer lines in the Site's paved parking lot area, and cable/telephone lines in and around the various Site buildings. Gas lines were located along New Street extending into the Site buildings in the area between the rectory and the school building. Two water lines were detected extending from Hamilton Avenue to the fire hydrants located adjacent to the gymnasium building.

1.4 SUMMARY OF REMEDIAL ACTIONS

The Site was remediated in accordance with the NYSDEC-approved RAWP dated October 2007.

The following is a summary of the remedial actions performed at the Site:

1. The GSS was conducted during the first phase of the RAWP implementation. A total of 11 groundwater samples were collected at the Site utilizing direct push drilling techniques at the locations depicted on Figure 3A.

2. The GSS was conducted to help ensure that the proposed monitoring wells would be adequately positioned and screened to achieve the goals of the groundwater monitoring program specified in the RAWP. Because the monitoring well locations and screen intervals proposed in the RAWP were based on the data obtained during the Rl performed at the Site in 2004, the GSS was conducted to determine whether the subsurface groundwater conditions had changed since 2004.

3. The results of the July 2009 sampling event generally indicated consistency with the data obtained during the 2004 Rl.

4. In October and November 2009, the second phase of the RAWP implementation

was conducted at the Site. This included the installation of 12 monitoring wells and one soil boring at the NYSDEC approved locations depicted on Figure 3B.

Remedial activities were completed at the Site in November 2009.

1.4.1 Removal of Contaminated Materials from the Site

Investigation-derived wastes (**IDW**) generated during the RAWP implementation activities were containerized. Construction debris (C&D), plastic sheeting and personal protective equipment were placed in 55-gallon New York State Department of Transportation (**NYSDOT**) approved drums which were appropriately labeled. Generated fluids (**purge water**) were placed in NYSDOT-approved drums with closed tops. Prior to proper characterization and disposal, these drums of IDW were staged within a secure area on the Site approved by St. John the Evangelist Church representatives The drums of IDW were subsequently transported and disposed of at a RCRA Part B permitted Transfer, Storage and Disposal Facility (**TSDF**).

1.4.2 Quality of Backfill Placed in Excavated Areas

Each drilling location was hand cleared to a minimum depth of 5 feet bgs. After the minimum depth of 5 feet bgs was achieved within each test pit, the same soils were backfilled into the same excavation.

1.4.3 On-Site and Off-Site Treatment Systems

No long-term treatment systems were installed at the Site as part of the RAWP.

1.4.4 Remaining Contamination

As discussed above in Sections 1.3.1 and 1.3.2, sub-surface soil and groundwater at the Site have been impacted. The impacts are shown on Figure 7 and analytical results presented in Tables 5-5 through 5-7 of the 2007 RI report.

1.4.5 Engineering and Institutional Controls

Because remaining contamination is present at the Site, Engineering and Institutional Controls have been and must continue to be implemented to protect public health and the environment from the Site's remaining contamination. The Engineering Control for the Site consists of the on-Site groundwater monitoring well network.

The Institutional Control for this Site consists of the implementation of this SMP. This SMP is required to maintain and monitor the on-Site groundwater monitoring well network. Compliance with this SMP is required to ensure that:

- The Engineering Control for the Site is operated and maintained as specified in this SMP;
- The Engineering Control for the Site is inspected and certified at a frequency and in a manner defined in this SMP;
- Groundwater, soil vapor, and other environmental or public health monitoring on the Site is performed as defined in this SMP;
- Data and information pertinent to Site Management for the Site is reported to the NYSDEC at the frequency and in a manner defined in this SMP;
- On-site environmental monitoring devices, including but not limited to, groundwater monitoring wells and soil vapor probes, are protected and replaced as necessary to ensure continued functioning in the manner specified in this SMP.

Tables 5-5 through 5-7 of the 2007 RI report summarize the results of all soil samples remaining at the Site that exceed the Site Cleanup Objectives (**SCOs**) after completion of Remedial Action.

In addition, this SMP places the following restrictions on the property:

- Unless the express written consent of the NYSDEC is first obtained, subsurface excavation at depths greater than 20 feet bgs on the Site must be conducted in accordance with the Excavation Work Plan included in this SMP;
- Unless the express written consent of the NYSDEC is first obtained, use of the groundwater underlying the Site is prohibited without treatment rendering such groundwater safe for its intended use;

- All future activities on the Site that would disturb remaining contaminated material must be conducted in accordance with the Excavation Work Plan included in this SMP;
- The potential for vapor intrusion must be evaluated for any new buildings developed on the Site, and any potential vapor intrusion impacts that are identified must be mitigated;

The EC/ICs for the Site are designed to:

- Prevent ingestion/direct contact with the remaining contamination (subsurface NAPL and contaminated subsurface soil) on the Site;
- Prevent inhalation of or exposure to contaminants volatilizing from such remaining contamination;
- Prevent ingestion of Site groundwater with contaminant levels that exceed drinking water standards; and
- Prevent contact with or inhalation of volatiles from such groundwater.

2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

2.1 INTRODUCTION

2.1.1 General

The remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved RAWP for the Site.

Because remaining NAPL, contaminated soil, and groundwater exists beneath the Site, Engineering Controls and Institutional Controls (**EC/ICs**) are required to protect human health and the environment. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all EC/ICs at the Site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

2.1.2 Purpose

The purpose of this SMP is to provide:

- A description of all required ECs/ICs for the Site;
- The basic implementation and intended role of each EC/IC;
- A description of the key components of the required Site ICs;
- A description of the features that should be evaluated during each periodic inspection and compliance certification period;
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of an Excavation Work Plan for the safe handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the Site;

- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the Site remedy, as determined by the NYSDEC; and
- A description of the reporting requirements for these controls.

2.2 ENGINEERING CONTROLS

2.2.1 Engineering Control Systems

2.2.1.2 On-Site Monitoring Well Network

An on-Site monitoring well network is maintained at the Site to monitor groundwater conditions. Protective casings and vault covers have been installed at each on-Site monitoring well to limit access by unqualified personnel to contaminants in the groundwater.

Procedures for inspection of the on-Site monitoring well network are documented in the Inspections and Notifications section (Section 2.5 of this SMP). Procedures for monitoring the system are included in the Monitoring Plan (Section 3 of this SMP). The Monitoring Plan also addresses severe condition inspections in the event that a severe condition, which may affect controls at the Site, occurs.

2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.6 of NYSDEC DER-10.

2.2.2.1 On-Site Monitoring Well Network

For the duration of the post-remedial groundwater monitoring program, the on-Site monitoring well network will be maintained and the quality and integrity of this network will be inspected at defined, regular intervals in perpetuity.

2.3 INSTITUTIONAL CONTROLS

A series of Institutional Controls is required for the Site to: (1) implement, maintain and monitor the Site's required Engineering Control system; (2) prevent future exposure to the Site's subsurface remaining contamination by controlling disturbances of that contamination; and, (3) limit the use of the untreated groundwater underlying the Site. Adherence to these Institutional Controls for the Site is required by and will be implemented under this Site Management Plan.

These Institutional Controls are:

- This SMP which includes provisions to control any future development, remediation, or maintenance activities requiring subsurface excavation at depths greater than 20 feet bgs or the extraction of groundwater;
- The wells, protective casings and covers of the on-Site groundwater monitoring well system, and surrounding surface areas will be inspected on an annual basis to determine if maintenance activities are required to maintain the integrity of that system;
- Annual certifications will be filed with the NYSDEC which will document that the inspection and maintenance activities for the on-Site groundwater monitoring well system have been performed and will include any excavation/disturbance activities at depths greater than 20 feet bgs within the Site and certification that any such excavations/disturbance do not or did not present an unacceptable risk to the health and safety of Site workers or the surrounding community.

The Site also has a series of Institutional Controls in the form of Site restrictions. Adherence to these Institutional Controls is required. The specific restrictions that apply to the Site are as follows:

- Unless the express written consent of the NYSDEC is first obtained, the use of the groundwater underlying the Site is prohibited without treatment rendering such groundwater safe for its intended purpose;
- All future activities on the Site that disturb remaining contamination are prohibited unless they are conducted in accordance with this SMP;

- The potential for vapor intrusion must be evaluated for any new buildings developed on the Site, and any potential vapor intrusion impacts that are identified must be mitigated;
- The Site may not be used for a less restrictive use, such as unrestricted residential use without additional remediation.
- The Site owner or Con Edison, as the remedial party under the VCA, will submit to the NYSDEC a written statement that certifies, under penalty of perjury, that: (1) the engineering controls and institutional controls employed at the Site are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment from the remaining contamination on the Site or that constitutes a violation or failure to comply with this SMP. NYSDEC retains the right to access the Site at any time reasonable and necessary in order to evaluate the continued maintenance of any and all required engineering and institutional controls for the Site. This certification must be submitted to the NYSDEC annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

2.3.1 Soil Vapor Intrusion Evaluation

As part of the RI, an initial and follow-on evaluation of indoor air quality was conducted at the Site in February 2003 and April 2004. Concentrations of possibly MGP-related VOCs in indoor air were detected within, or only slightly above, the range considered typical by the NYSDOH for residential indoor air. VOCs were found to be present in the soil gas samples beneath the buildings located on the Site. However, a detailed comparison of the soil gas VOCs and the VOCs detected in the volatile fraction of known MGP-impacted materials (headspace analysis) indicated that the soil gas VOCs originated from non-MGP sources. The potential concern that VOCs from soil gas beneath the buildings could be migrating upward through the concrete basement floor slabs of the buildings and impacting indoor air quality does not appear to be likely.

Nevertheless, prior to the construction of any new enclosed structures located over areas of the Site that contain remaining contamination, a soil vapor intrusion (**SVI**) evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to volatile organic vapors in the proposed structure. If the results of the SVI indicate potential soil vapor intrusion impacts that the NYSDEC and/or New York State Department of Health (**NYSDOH**) determine(s) require mitigation, a mitigation system will be installed. The mitigation system will consist of a vapor barrier and passive sub-slab depressurization system that is capable of being converted to an active system.

Prior to conducting an SVI investigation or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan will be developed in accordance with the most recent NYSDOH *Guidance for Evaluating Vapor Intrusion in the State of New York.* Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and maintained based on the SVI evaluation, NYSDOH guidance, and construction details of the proposed structure.

Preliminary (unvalidated) data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to these agencies, along with a recommendation for follow-up action, such as mitigation. Validated SVI data will be transmitted to the Site owner within 30 days of validation.

SVI sampling results, evaluations, and follow-up actions will also be summarized in the appropriate Periodic Review Report to the NYSDEC.

2.4 EXCAVATION WORK PLAN

The Site remedy allows for continued use of the Site subject to engineering and institutional controls. Any future intrusive work that will penetrate, encounter or disturb on-Site remaining contamination, at depths greater than 20 feet bgs will be performed in compliance with this Excavation Work Plan (**EWP**).

Intrusive work at depths greater than 20 feet bgs must also be conducted in accordance with the procedures defined in a Health and Safety Plan (**HASP**) and Community Air Monitoring Plan (**CAMP**) prepared for the Site. A sample HASP that meets the requirements of DER-10, 29 CFR 1910, 29 CFR 1926, and all other applicable federal, New York State and applicable local laws and regulations is attached as

Appendix C of this SMP. Based on future changes to federal, New York State, and applicable local health and safety requirements, and the specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted to the NYSDEC with the notification provided for below in Section 2.4.1. Any intrusive construction work at depths greater than 20 feet bgs will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (See Section 2.6).

The Site owner and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all such intrusive work, the structural integrity of excavations, and for structures that may be affected by excavations (such as building foundations and bridge footings).

The Site owner will ensure that Site development activities will not interfere with, or otherwise impair or compromise, remedial activities completed as part of the RAWP or any additional remedial actions proposed to the NYSDEC as part of the Site development activities.

Each hotspot and each structure to be remediated (such as underground storage tanks and associated piping, *etc.*) will be removed and end-point sampling completed for documentation purposes before excavations related to Site development commence proximal to the hotspot or structure.

Mechanical processing of historical fill and contaminated soil on-Site is prohibited.

All primary contaminant sources (including but not limited to under ground storage tanks and hotspots) identified during intrusive construction work or additional remedial actions for the Site will be surveyed by a surveyor licensed to practice in the State of New York. The survey information will be shown on maps to be reported in the Periodic Review Report.

2.4.1 Notifications

At least ten (10) days prior to the start of any activity that is reasonably anticipated to encounter remaining contamination at depths greater than 20 feet bgs, the Site owner or its representative will notify the NYSDEC. Currently, this notification will be made to:

NYSDEC
William Ottaway, Project Manager
Remedial Bureau C, 11th Floor
625 Broadway
Albany, NY 12233-7017

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for Site re-grading, intrusive elements or utilities to be installed below the soil cover, or any work that may impact an engineering control,
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work,
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120,
- A copy of the contractor's health and safety plan, in electronic format, if it differs from the HASP provided in Appendix C of this document,
- Identification of disposal facilities for potential waste streams,
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

2.4.2 Soil Screening Methods

If implementation of the Excavation Work Plan is required, visual, olfactory, and instrument-based soil screening will be performed by a qualified environmental professional during all excavations into material containing remaining contamination (20 feet or more below the ground surface). Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work (at depths greater than 20 feet bgs) performed during development, such as excavations for foundations and utility work, after the NYSDEC's approval of this SMP.

Soils will be segregated based on previous environmental data and screening results into material that requires off-Site disposal, material that requires testing, material that can be returned to the subsurface of the Site and material that can be used as cover soil at the Site.

All excavated soil and materials that require off-Site disposal will be placed into appropriate containers (55-gallon steel drums, 20-cubic yard roll off containers, Baker tanks, tanker trucks). Containers will be properly labeled. The Site owner/contractor will coordinate with the waste transporter and disposal facility to assure that the containers used are suitable for transport and receipt at the disposal facility. Waste will be grouped by environmental matrix (*i.e.*, soil, separate phase oils, and/or water). Construction and demolition (**C&D**) material, including items of disposable personal protective equipment (**PPE**), which has been in contact with impacted soil and/or groundwater will also be containerized.

Containerized soil and water will be characterized using the laboratory analyses specified by the receiving facility. Following such analyses, containerized waste shall be disposed of at an approved facility. The contractor/Site owner representative must verify the appropriate analyses and sampling frequency with the disposal facility and maintain any waste disposal records.

2.4.3 Stockpile Methods

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC.

2.4.4 Materials Excavation and Load Out

A qualified environmental professional or person under the supervision of such a professional will oversee all invasive work and the excavation and load-out of all excavated contaminated material from depths greater than 20 feet bgs. Soils at depths greater than 20 feet below surface grade are susceptible to contamination.

The owner of the Site and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of subsurface utilities and easements on the Site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by subsurface utilities or easements on the Site.

A truck decontamination pad will be operated on-Site. The qualified environmental professional will be responsible for ensuring that all outbound trucks associated with the excavation of remaining contamination are washed at the truck decontamination pad before leaving the Site.

Transport vehicles leaving the Site with contaminated soil or materials will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and **NYSDOT** requirements (and all other applicable transportation requirements).

Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-Site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the Site are clean of dirt and other materials derived from the Site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

2.4.5 Materials Transport Off-Site

All off-site transport of materials removed from a depth of 20 feet bgs will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material (removed from depths greater than 20 feet bgs) transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks, including truck tires and potentially impacted truck surfaces will be washed prior to leaving the Site. Truck wash waters will be collected and disposed of off-Site in an appropriate manner.

Truck transport routes will be identified that will: (a) limit transport through residential areas and past sensitive sites; (b) use city-mapped truck routes; (c) minimize off-site queuing of trucks entering the Site; (d) limit total distance to major highways; and (e) promote safety in access to highways.

Trucks will be prohibited from stopping and idling in the neighborhood outside the Site. Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development.

Due to limited available space at the Site, some off-Site queuing of trucks may be necessary. The number and duration of trucks lined up outside the Site entrance will be minimized through efficient scheduling and staging at a remote location.

2.4.6 Materials Disposal Off-Site

All soil/fill/solid waste excavated and removed from depths below 20 feet bgs will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this Site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this Site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated contaminated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate (*i.e.*, hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C&D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste pursuant to 6NYCRR Part 360-1.2. Material that does not meet the lower of the SCOs for residential use or groundwater protection will not be taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility) without a beneficial use determination issued by NYSDEC.

2.4.7 Materials Reuse On-Site

Soil and fill excavated at the Site may be reused as backfill material on the Site provided the soil or fill contains no visual or olfactory evidence of contamination. Contaminated soils will generally be encountered at depths below 20 feet bgs. Excavated soils removed from depths of greater than 20 feet bgs will be screened using a photo ionization detector (**PID**) for the presence of VOCs. Excavated soil that cannot be reused as backfill material on-Site will be sampled and analyzed for waste characterization purposes prior to off-site transportation and treatment/disposal in accordance with the specific requirements of the receiving facility.

The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-Site. Contaminated on-Site material that is acceptable for re-use on-Site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Any demolition material proposed for reuse on-Site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-Site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the Site will not be reused on-Site.

2.4.8 Fluids Management

All liquid wastes to be removed from the Site, including excavation dewatering and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the Site, but will be managed off-Site.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a State Pollution Discharge Elimination System (SPDES) permit.

2.4.9 Cover System Restoration

There is currently no cover system in place on the Site.

2.4.10 Backfill from Off-Site Sources

Backfill materials utilized at the Site will be obtained from a NYSDOT approved source. The following material may be imported and used as backfill without chemical testing:

- Rock or stone, consisting of virgin material from a permitted mine or quarry; or
- Granular fill material (less than 10% passing #200 sieve) that is virgin material from a NYSDOT approved source.

Should the backfill material not meet one of the above requirements, the material will be tested via the collection of one composite sample for every 500 cubic yards for each source area and analyzed by a NYSDOH-certified Environmental Laboratory Accreditation Program (**ELAP**)-approved laboratory. The material will be used as backfill only if the analytical results do not exceed the Soil Cleanup Objectives found in NYSDEC Environmental Programs Subpart 375.

All materials proposed for import onto the Site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP, applicable regulations (6NYCRR 375-6.7(d)) and guidance (DER-10) prior to receipt at the Site.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the Site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards for imported backfill are listed in Table 1. Soils that meet "exempt" fill requirements under 6NYCRR Part 360, but that do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC. Solid waste will not be imported onto the Site.

Trucks entering the Site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

2.4.11 Stormwater Pollution Prevention

A Stormwater Pollution Prevention Plan will be developed for any future Site development activities affecting an area greater than one acre and will conform to the requirements of the NYSDEC Division of Water guidelines and the NYS regulations. As part of the Stormwater Pollution Prevention Plan, the following measures will be implemented:

- Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.
- Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.
- All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.
- Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.
- Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters
- Silt fencing or hay bales will be installed around the entire perimeter of the remedial construction area.

2.4.12 Contingency Plan

If underground tanks or other previously unidentified contaminant sources are found on Site during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for full a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the Site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in daily and periodic electronic media reports.

2.4.13 Community Air Monitoring Plan

During the performance of on-Site intrusive work at depths greater than 20 feet bgs, community air monitoring will be conducted in compliance with NYSDOH Generic **CAMP**. Real-time air monitoring for volatile compounds and particulates at the perimeter of the hot zone will be performed as described below.

<u>2.4.13.1 Organic Vapor Monitoring</u>

Periodic monitoring for VOCs will be conducted on Site during certain non-intrusive activities, such as the collection of groundwater samples. Periodic monitoring will include obtaining measurements upon arrival at a groundwater sampling location, while opening a monitoring well cap, when bailing and purging a well, and upon leaving the location. In some instances, depending on the proximity of exposed individuals, continuous monitoring may be conducted during these activities.

Continuous monitoring for VOCs will be conducted during all on-Site ground intrusive activities conducted at depths greater than 20 feet bgs (i.e., soil boring installation and monitoring well installation). Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background concentrations. VOCs will be monitored continuously at the downwind perimeter of the hot zone. Monitoring will be conducted with a PID equipped with a 10.6 eV lamp capable of calculating 15-minute running average concentrations. The following actions will be taken based on organic vapor levels measured:

- If total organic vapor levels exceed 5 ppm above background levels or concentrations during the 15-minute average at the perimeter, work activities will be temporarily halted and monitoring continued. If levels readily decrease (per instantaneous readings) below 5 ppm above background, work activities will resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the hot zone persist at levels in excess of 5 ppm above background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will resume provided that the total organic vapor level 200 feet downwind of the hot zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less – but in no case less than 20 feet, is below 5 ppm above background for the 15-minute average.
- If the total organic vapor level is above 25 ppm at the perimeter of the hot zone, activities will be shutdown.

All 15-minute readings will be recorded and available for NYSDEC and NYSDOH personnel to review. Instantaneous readings, if any, will also be recorded.

2.4.13.2 Particulate Monitoring

During on-Site ground intrusive activities at depths greater than 20 feet bgs, particulate concentrations will be monitored continuously at the downwind perimeter of the hot zone with a portable real-time particulate monitor capable of measuring particulate matter less than 10 micrometers in size and capable of integrating over a period of 15 minutes (or less). The equipment will include an audible alarm to indicate exceedance of the action level. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background concentrations. The following actions will be taken based on particulate concentrations measured:

- If the measured downwind particulate level is 100 micrograms per cubic meter (μg/m3) or more above background for the 15-minute period or if dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression provided that the downwind particulate level does not exceed 150 μg/m3 above background and no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, the downwind particulate level is greater than 150 μg/m3 above background, work will be stopped and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind particulate level to within 150 μg/m3 of the background (upwind) level and in preventing visible dust migration. All readings will be recorded and be available for NYSDEC and NYSDOH personnel to review.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

2.4.14 Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors off-site and on-Site when on-Site intrusive activities extend beyond a depth of 20 feet bgs. Specific odor control methods to be used on a routine basis will include reducing the exposed impacted area through sequenced excavation or plastic sheeting and use of available odor/vapor suppressant foams and sprays if airborne VOCs are found to be above acceptable levels. If nuisance odors are identified at the Site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner and/or its contractor,, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on-Site and off-Site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; (e) use of chemical odorants in spray or misting systems; and (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work and cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

2.4.15 Dust Control Plan

A dust suppression plan that, at a minimum, includes the following elements will be implemented during invasive on-Site work at depths greater than 20 feet bgs:

- Dust suppression will be achieved through the use of a dedicated on-Site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of any section of the Site encompassing an area of one acre or more will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on unpaved roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

2.4.16 Other Nuisances

A plan will be developed and utilized by the contractor for all post-remedial excavation activities to ensure compliance with local noise control ordinances.

2.5 INSPECTIONS AND NOTIFICATIONS

2.5.1 Periodic Inspections

Periodic inspections of all remedial components installed at the Site will be conducted at the frequency specified in SMP Monitoring Plan schedule. A comprehensive Site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Compliance with requirements of this SMP;
- Sampling and analysis of appropriate media during monitoring events;
- If Site records are complete and up to date; and
- Changes, or needed changes to the monitoring system;

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3), using the Site-Wide Inspection Form included in Appendix D. The reporting requirements are outlined in the Site Management Reporting Plan (Section 2.6).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the Site will be conducted within 5 days of the event to verify the effectiveness of the EC/ICs implemented at the Site by a qualified environmental professional as determined by NYSDEC.

2.5.2 Notifications

Notifications will be submitted by the Site to the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in Site use that are required under the terms of the VCA, 6NYCRR Part 375, and/or Environmental Conservation Law.

- 10-day advance notice of any proposed ground-intrusive activities that will extend to depths greater than 20 feet bgs.
- Notice within 48-hours of any damage or defect to the foundations of any structures that reduces or has the potential to reduce the effectiveness of any Engineering Controls in place at the Site and likewise any action to be taken to mitigate the damage or defect.
- Notice within 48-hours of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the Site, including a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.
- Notifications will be made to:

William Ottaway, Project Manager
Remedial Bureau C, 11th Floor
625 Broadway
Albany, NY 12233-7017

In the event that NYSDEC develops a centralized notification system, that system will be used instead.

2.5.3 Evaluation and Reporting

The results of the Site inspections and Site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- Operation and maintenance activities are being conducted properly; and, based on the above items,

- The Site remedy continues to be protective of public health and the environment and is performing as designed.

2.6 REPORTING PLAN

2.6.1 Introduction

A Periodic Review Report will be submitted to NYSDEC every year, beginning one year after the SMP for the Site is approved by the NYSDEC. The Periodic Review Report will be prepared in accordance with NYSDEC DER-10 - *Technical Guidance for Site Investigation and Remediation*. The frequency of submittal of the Periodic Review Report may be modified with the approval of the NYSDEC.

This report will include the following:

- Identification of all ICs required by the Remedial Action Work Plan for the Site;
- An assessment of the effectiveness of all ICs for the Site;
- An evaluation of the Institutional Control Plan and the Monitoring Plan for adequacy in meeting remedial goals;
- Results of the required annual Site inspections and severe condition inspections, if any;
- A compilation of all deliverables generated during the reporting period, as specified in Section 2 EC/IC Plan, Section 3 Monitoring Plan and Section 4 Operation and Maintenance Plan; and
- Certification of the ECs/ICs.

2.6.2 Certification of Engineering and Institutional Controls

Inspection of the ICs will occur at the frequency described in Section 3 (Monitoring Plan) and Section 4 (Operation and Maintenance Plan). After the last inspection of the reporting period, a Professional Engineer licensed to practice in New

York State or an environmental professional acceptable to the NYSDEC will prepare a Periodic Review Report which certifies that:

- On-site ECs/ICs are unchanged from the previous certification unless otherwise noted;
- On-site ECs/ICs remain in-place and are effective;
- On-Site EC systems are performing as designed;
- Nothing has occurred that would impair the ability of the ECs/ICs in place at the Site to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any operation and maintenance plan for such controls;
- Access is available to the Site by NYSDEC and NYSDOH to evaluate continued maintenance of such controls; and
- Site use is compliant with this SMP.

2.6.3 Periodic Review Report

A Periodic Review Report will be submitted every year, beginning one year after the SMP for the Site is approved by the NYSDEC. The frequency of these reports may be reduced in subsequent years if approved by the NYSDEC. The report will be submitted within 45 days of the end of each certification period. Other reports, such as validated groundwater data, will be submitted as determined by NYSDEC. Media sampling results will also incorporated into the Periodic Review Report. The report will include:

- EC/IC certification;
- All applicable inspection forms and other records generated for the Site during the reporting period;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables and graphical representations of contaminants of concern by media (groundwater) which include a listing of all compounds

analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data sufficient for the NYSDEC to evaluate contaminant concentration trends;

- A data usability summary report (**DUSR**). Required laboratory data deliverables for samples collected during the reporting period, which include laboratory reporting forms and analytical results, will be reviewed and validated in accordance to USEPA Region II SOPs for organic and inorganic data review and will be presented in the DUSR;
- A Site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the Site-specific RAWP;
  - Any new conclusions or observations regarding Site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
  - The overall performance and effectiveness of the remedy.

The Periodic Review Report will be submitted, in hard-copy format, to the NYSDEC Regional Office located closest to the Site, and in electronic format to NYSDEC Central Office and the NYSDOH Bureau of Environmental Exposure Investigation.

3.0 MONITORING PLAN

3.1 INTRODUCTION

3.1.1 General

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the implemented ECs to reduce or mitigate contamination at the Site. ECs at the Site include the groundwater monitoring system. This Monitoring Plan may only be revised with the approval of NYSDEC.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of appropriate media (e.g., groundwater);
- Assessing compliance with NYSDEC groundwater standards;
- Evaluating Site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

To adequately address these issues, this Monitoring Plan provides information on:

- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems (e.g., well logs);
- Analytical sampling program requirements;
- Reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Semiannual monitoring of the performance of the remedy and overall stability or reduction in contamination on-Site will be conducted for a period of 2 years. Following a period of two years (four sampling rounds), the frequency thereafter will be determined by NYSDEC and incorporated into the SMP as an NYSDEC-approved amendment thereto. Trends in contaminant levels in groundwater in the affected areas, will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. Monitoring programs for environmental media are summarized in Table 2 and outlined in detail in Sections 3.2 through 3.5 below.

Table 2: Media Monitoring Schedule

Monitoring Program	Frequency*	Matrix	Analysis
Groundwater	Semiannual	Groundwater	TCL VOCs and SVOCs

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH

3.2 GROUNDWATER MONITORING PROGRAM

Groundwater monitoring will be performed on a periodic basis to assess the performance of the remedy.

3.2.1 Monitoring System Design

The network of monitoring wells has been installed to monitor both up-gradient and down-gradient groundwater conditions at the Site. The network of on-Site and off-Site wells has been designed based on the following criteria:

- To provide monitoring points to the east and west of the NAPL plume crossing New Street;
- To provide monitoring points within the NAPL plume and monitor groundwater in the contaminated zone, above the contaminated zone, and at the top of the water table;
- To provide monitoring points downgradient of the NAPL plume;
- To provide monitoring points within the dissolved phase plume;
- To provide monitoring points side gradient to the dissolved phase plume; and
- To provide sentinel well (or wells) located beyond the downgradient extent of the dissolved phase plume.

Due to the lack of access, a monitoring well(s) could not be installed to the west of North Lexington Avenue downgradient of the projected trajectory of the dissolved phase plume. The need for this monitoring well(s) will be re-assessed after the data from four subsequent groundwater sampling events is obtained and evaluated in consultation with and as approved by the NYSDEC.

3.2.3 Groundwater Monitoring Schedule

Groundwater samples will be collected from each of the newly installed monitoring wells and previously installed monitoring wells MW-9 on a semiannual basis. Following four sampling rounds (a period of two years), the data will be evaluated and a recommendation will be made for future monitoring activities.

The sampling frequency may be modified with the approval NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC.

Deliverables for the groundwater monitoring program are specified below.

3.2.4 Sampling Event Protocol

All monitoring well sampling activities will be recorded in a field book and a groundwater-sampling log presented in Appendix E. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network.

Prior to sampling, the headspace within each well will be measured with a PID. An oil/water level interface probe and/or a water level indicator will be used to measure the depths to the water table and thickness of any free product in the wells. The monitoring wells will be purged by removing a minimum of three times the volume of standing water in the well to allow for collection of a representative sample. Groundwater samples will then be collected. Prior to filling the sample bottles, the turbidity, pH, temperature, and conductivity of the sample will be measured and recorded. The groundwater samples will be analyzed for TCL VOCs and SVOCs.

During each groundwater monitoring event, a comprehensive round of groundwater levels will also be obtained from all accessible monitoring wells. A field sampling plan is included in Appendix B of the Final OU-1 RAWP which is included as Appendix F.

Laboratory analyses of groundwater samples will be conducted by a New York State Department of Health Environmental Laboratory Analysis Program (**ELAP**) approved laboratory certified for analyses using the most recent Analytical Services Protocol (**ASP**). Laboratory analyses will be conducted in accordance with USEPA SW-846 methods and standard deliverable format. Table 3 summarizes the anticipated analytical methods and quality control samples that will be required during each sampling event. QA/QC procedures required by the SW-846 methods will be followed, including initial and continuing instrument calibrations, standard compound spikes, surrogate compound spikes, and analysis of other samples (blanks, laboratory control samples, matrix spikes/matrix spike duplicates, etc.). The laboratory will provide sample bottles, which have been pre-cleaned and preserved in accordance with the SW-846 methods. NYSDEC ASP holding times will be adhered to. Where there are differences in the SW-846 and NYSDEC ASP requirements, the NYSDEC ASP shall take precedence. Data validation will be performed in accordance with USEPA validation guidelines for organic and inorganic data review. Validation will include the following:

- Verification of 100% of all QC sample results (both qualitative and quantitative);
- Verification of the identification of 100% of all sample results (both positive hits and
- non-detects);
- Recalculation of 10% of all investigative sample results; and
- Preparation of a Data Usability Summary Report (**DUSR**).

3.3 MONITORING WELL REPAIRS, REPLACEMENT, DECOMMISSIONING

If biofouling or silt accumulation occurs in the on-Site and/or off-Site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced (as per the Monitoring Plan), in the event that the wells become unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Well decommissioning without replacement will be done only with the prior approval of the NYSDEC. Well abandonment will be performed in accordance with NYSDEC's "Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

3.4 SURFACE WATER, SEDIMENT, BIOTA, OTHER MEDIA MONITORING

No other media will be monitored.

3.5 MONITORING QUALITY ASSURANCE/QUALITY CONTROL

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan (**QAPP**) prepared for the Site. The QAPP is included as Appendix C of the Final OU-1 RAWP. Main Components of the QAPP include:

- QA/QC Objectives for Data Measurement;
- Sampling Program:
    - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
    - Sample holding times will be in accordance with the NYSDEC ASP requirements.
    - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.

- Sample Tracking and Custody;
- Calibration Procedures:
  - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
  - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures;
- Preparation of a DUSR, which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.
- Internal QC and Checks;
- QA Performance and System Audits;
- Preventative Maintenance Procedures and Schedules;
- Corrective Action Measures.

3.6 ENGINEERING CONTROL SYSTEM MONITORING

An on-Site monitoring well network is maintained at the Site to monitor groundwater conditions. Protective casings and vault covers have been installed at each on-Site monitoring well to limit access by unqualified personnel to contaminants in the groundwater. Procedures for inspection of the on-Site monitoring well network are documented in the Inspections and Notifications section (Section 2.5 of this SMP).

3.7 MONITORING REPORTING REQUIREMENTS

Forms and any other information generated during regular monitoring events and inspections will be kept on file. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in Section 2.6.

All media and engineering system monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. A letter report will also be prepared subsequent to each sampling event. The report and letter will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, inspection checklists, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- A data usability summary report. Required laboratory data deliverables for samples collected during the reporting period, which include laboratory reporting forms and analytical results, will be reviewed and validated in accordance to USEPA Region II SOPs for organic and inorganic data review and will be presented in the DUSR.
- Any observations, conclusions, or recommendations; and
- A determination as to whether groundwater conditions have changed since the last reporting event.

4.0 OPERATION AND MAINTENANCE PLAN

4.1 INTRODUCTION

The Site remedy does not currently rely on any mechanical systems such as sub-slab depressurization system or air sparge/soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance of such components is not included in this SMP.

4.2 CONTINGENCY PLAN

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

4.2.1 Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance the property owner or property owner's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to the Con Edison Project Manager. These emergency contact lists must be maintained in an easily accessible location at the Site.

Table 4: Emergency Contact Numbers

Medical, Fire, and Police:	911
One Call Center:	(800) 272-4480 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362

Table 5: Other Contact Numbers

Ms. Yelena Skorobogatov (Con Edison Project Manager)	(718) 204-4205 – office
Mr. Eddy Louie (Con Edison)	(718) 204-4262 – office
Daniel Martoccia (Parsons Project Manager)	(732) 537-3557
Dig Safely New York	811

* Note: Emergency contact numbers are subject to change and will be updated whenever a change in personnel occurs

4.2.2 Map and Directions to Emergency Health Facility

Site Location: 146 Hamilton Ave. White Plains, NY 10601

Nearest Hospital Name: White Plains Hospital Center

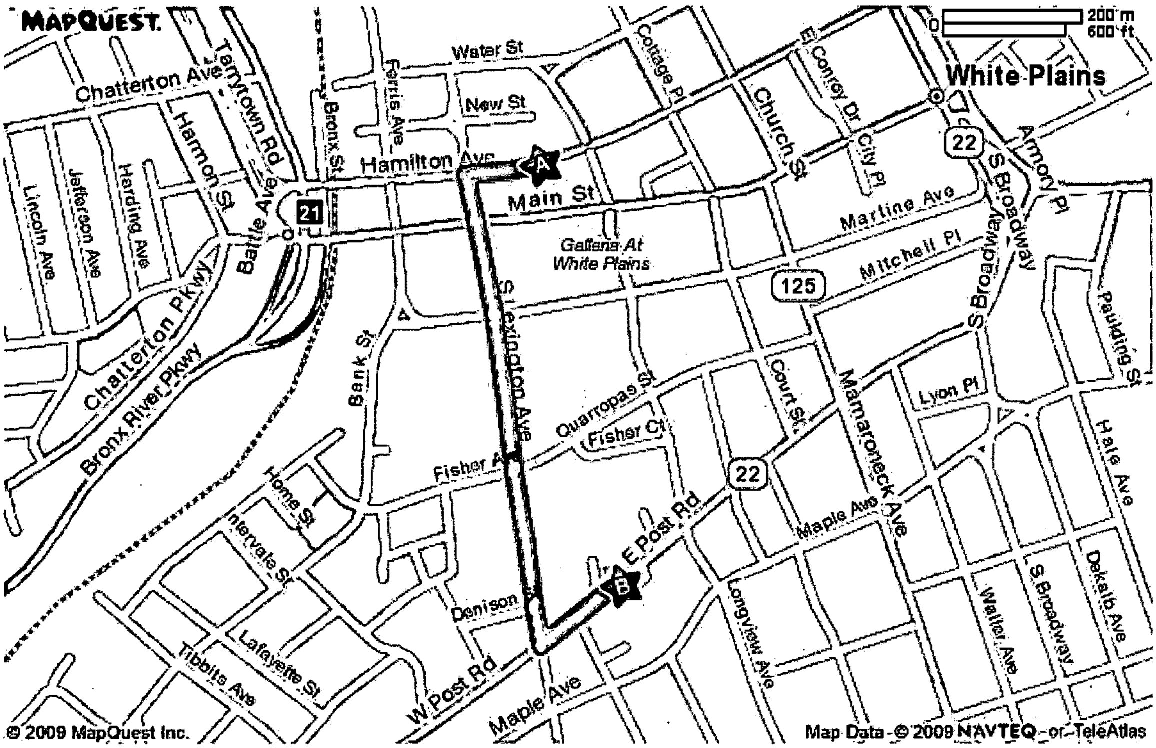
Hospital Location: 41 East Post Road White Plains, NY 10601

Hospital Telephone: (914) 681-0600

Directions to the Hospital:

1. Head west on Water St toward N Lexington Ave 177 ft
2. Take the 1st left onto N Lexington Ave 0.6 mi
3. Turn left at E Post Rd 0.1 mi
   Destination will be on the right

Figure 8 - Map Showing Route from the Site to the Hospital:



4.2.3 Response Procedures

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan (Table 4). The list will also be posted prominently at the Site and made readily available to all personnel at all times.

Procedures for spills – The nature of the ECs at the Site present very little to no danger of spills. Spill kits will be available on-Site in the event of a spill and, if necessary, a contractor will be dispatched to perform cleanup activities.

Evacuation Plans - the existing Site evacuation plan will be implemented as needed.

Amendments to the contingency plan will be made as required.

TABLE 1

CRITERIA FOR IMPORTED SOILS

Table 1
Criteria for Imported Soils (6 NYCRR 375-6.8)
White Plains Former MGP Site
OPERABLE UNIT 1 (OU-1)

Contaminant	CAS Number	Unrestricted Use [ppm]
Metals		
Arsenic	7440-38-2	13 [c]
Barium	7440-39-3	350 [c]
Beryllium	7440-41-7	7.2
Cadmium	7440-43-9	2.5 [c]
Chromium, hexavalent [e]	18540-29-9	1[b]
Chromium, trivalent [e]	16065-83-1	30 [c]
Copper	7440-50-8	50
Total Cyanide [e, f]		27
Lead	7439-92-1	63 [c]
Manganese	7439-96-5	1600 [c]
Total Mercury		0.18 [c]
Nickel	7440-02-0	30
Selenium	7782-49-2	3.9[c]
Silver	7440-22-4	2
Zinc	7440-66-6	109 [c]
PCBs/Pesticides		
2,4,5-TP Acid (Silvex)[f]	93-72-1	3.8
4,4'-DDE	72-55-9	0.0033 [b]
4,4'-DDT	50-29-3	0.0033 [b]
4,4'-DDD	72-54-8	0.0033 [b]
Aldrin	309-00-2	0.005 [c]
alpha-BHC	319-84-6	0.02
beta-BHC	319-85-7	0.036
Chlordane (alpha)	5103-71-9	0.094
delta-BHC [g]	319-86-8	0.04
Dibenzofuran [f]	132-64-9	7
Dieldrin	60-57-1	0.005[c]
Endosulfan I[d, f]	959-98-8	2.4
Endosulfan II[d, f]	33213-65-9	2.4
Endosulfan sulfate[d, f]	1031-07-8	2.4
Endrin	72-20-8	0.014
Heptachlor	76-44-8	0.042
Lindane	58-89-9	0.1
Polychlorinated biphenyls	1336-36-3	0.1
Semivolatile organic compounds		
Acenaphthene	83-32-9	20

Table 1
Criteria for Imported Soils (6 NYCRR 375-6.8)
White Plains Former MGP Site
OPERABLE UNIT 1 (OU-1)

Contaminant	CAS Number	Unrestricted Use [ppm]
Acenapthylene [f]	208-96-8	100 [a]
Anthracene [f]	120-12-7	100 [a]
Benz(a)anthracene [f]	56-55-3	1 [c]
Benzo(a)pyrene	50-32-8	1 [c]
Benzo(b)fluoranthene [f]	205-99-2	1 [c]
Benzo(g,h,i)perylene [f]	191-24-2	100
Benzo(k)fluoranthene [f]	207-08-9	0.8 [c]
Chrysene [f]	218-01-9	1 [c]
Dibenz(a,h)anthracene [f]	53-70-3	0.33 [b]
Fluoranthene [f]	206-44-0	100 [a]
Fluorene	86-73-7	30
Indeno(1,2,3-cd)pyrene [f]	193-39-5	0.5 [c]
m-Cresol [f]	108-39-4	0.33 [b]
Naphthalene [f]	91-20-3	12
o-Cresol [f]	95-48-7	0.33 [b]
p-Cresol [f]	106-44-5	0.33 [b]
Pentachlorophenol	87-86-5	0.8 [b]
Phenanthrene [f]	85-01-8	100
Phenol	108-95-2	0.33 [b]
Pyrene [f]	129-00-0	100
Volatile organic compounds		
1,1,1-Trichloroethane [f]	71-55-6	0.68
1,1-Dichloroethane [f]	75-34-3	0.27
1,1-Dichloroethene [f]	75-35-4	0.33
1,2-Dichlorobenzene [f]	95-50-1	1.1
1,2-Dichloroethane	107-06-2	0.02 [c]
cis -1,2-Dichloroethene [f]	156-59-2	0.25
trans-1,2-Dichloroethene [f]	156-60-5	0.19
1,3-Dichlorobenzene [f]	541-73-1	2.4
1,4-Dichlorobenzene	106-46-7	1.8
1,4-Dioxane	123-91-1	0.1 [b]
Acetone	67-64-1	0.05
Benzene	71-43-2	0.06
n-Butylbenzene [f]	104-51-8	12
Carbon tetrachloride [f]	56-23-5	0.76
Chlorobenzene	108-90-7	1.1

Table 1
Criteria for Imported Soils (6 NYCRR 375-6.8)
White Plains Former MGP Site
OPERABLE UNIT 1 (OU-1)

Contaminant	CAS Number	Unrestricted Use [ppm]
Chloroform	67-66-3	0.37
Ethylbenzene[f]	100-41-4	1
Hexachlorobenzene [f]	118-74-1	0.33[b]
Methyl ethyl ketone	78-93-3	0.12
Methyl tert-butyl ether [f]	1634-04-4	0.93
Methylene chloride	75-09-2	0.05
n - Propylbenzene [f]	103-65-1	3.9
sec-Butylbenzene [f]	135-98-8	11
tert-Butylbenzene[f]	98-06-6	5.9
Tetrachloroethene	127-18-4	1.3
Toluene	108-88-3	0.7
Trichloroethene	79-01-6	0.47
1,2,4-Trimethylbenzene [f]	95-63-6	3.6
1,3,5-Trimethylbenzene[f]	108-67-8	8.4
Vinyl chloride[f]	75-01-4	0.02
Xylene (mixed)	1330-20-7	0.26

Footnotes:

[a] The SCOs for unrestricted use were capped at a maximum value of 100 ppm. See Technical Support Document (TSD), section 9.3.

[b] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.

[c] For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.

[d] SCO is the sum of endosulfan I, endosulfan II and endosulfan sulfate.

[e] The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

[f] Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8(b) with "NS". Where such contaminants appear in Table 375-6.8(a), the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.

TABLE 2

IN TEXT

TABLE 3

SUMMARY OF SAMPLES AND ANALYSES

Table 3
White Plains Former MGP Site Operable Unit 1
Remedial Action
Summary of Samples and Analyses

Matrix	Parameter	Analytical Method	Field Samples			Sub-Total	QC Blanks		Total
			Field Samples	Field Duplicate	MS/MSD (Total)		Trip Blank	Rinse Blank	
Groundwater Sampling Survey - Groundwater Samples	TCL VOCs	EPA SW 8260	10	1	1/1	13	1	0	14
	TCL SVOCs	EPA SW 8270	10	1	1/1	13	-	0	13
Groundwater Monitoring Event - Groundwater Samples	TCL VOCs	EPA SW 8260	10	1	1/1	13	1	0	14
	TCL SVOCs	EPA SW 8270	10	1	1/1	13	-	0	13

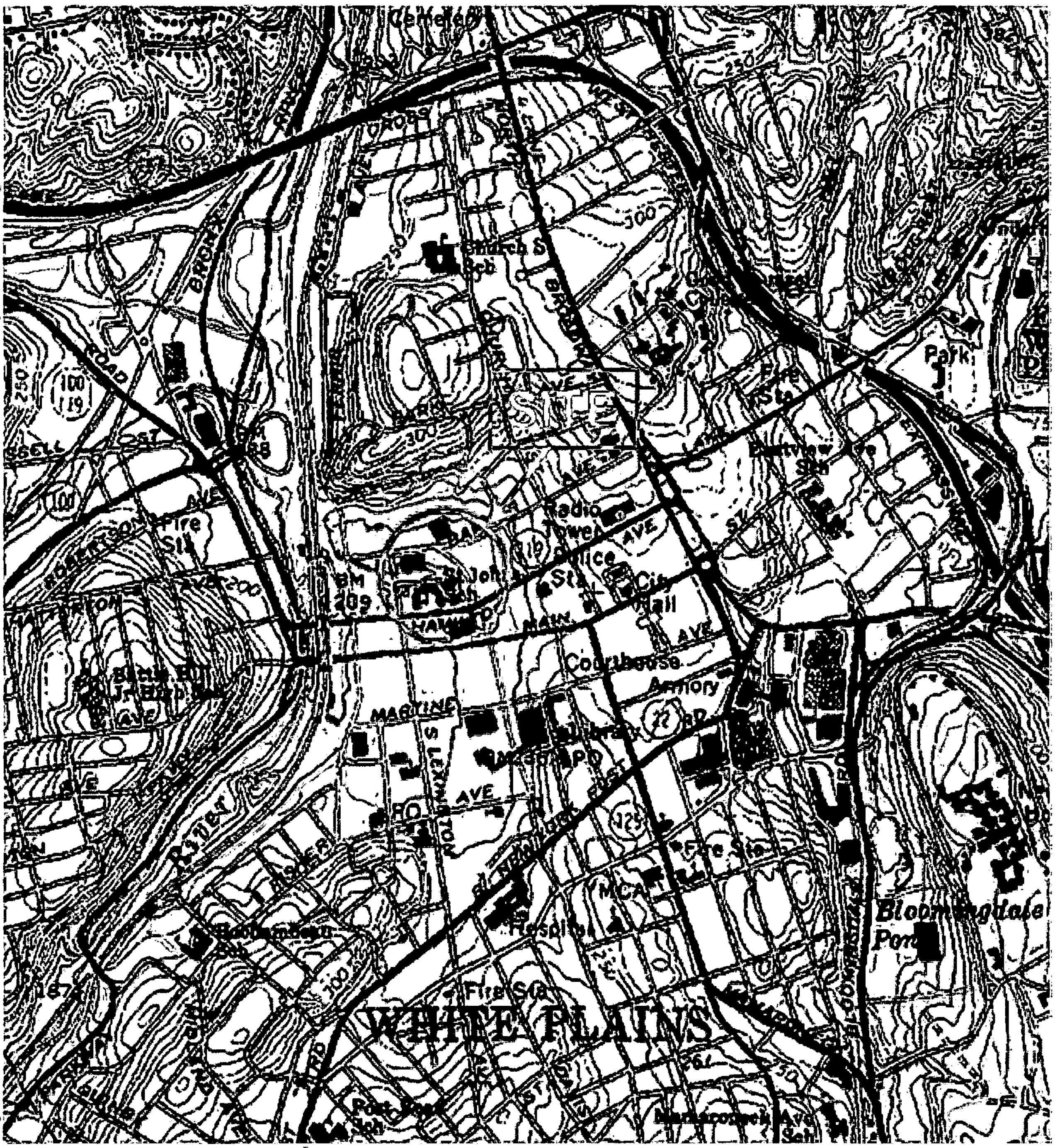
(a) Matrix spike / matrix spike duplicate for organic analyses.

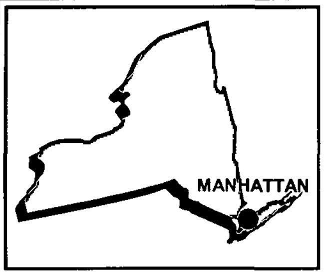
(b) Rinse blanks will be collected for each day non-disposable sampling equipment is used.

TABLES 4 AND 5

IN TEXT

FIGURES





New York
Quadrangle

LATITUDE: N40° 47' 06"
LONGITUDE: W73° 56' 41"

N

SOURCE: DeLORME 3-D TOPOQUAD PROGRAM

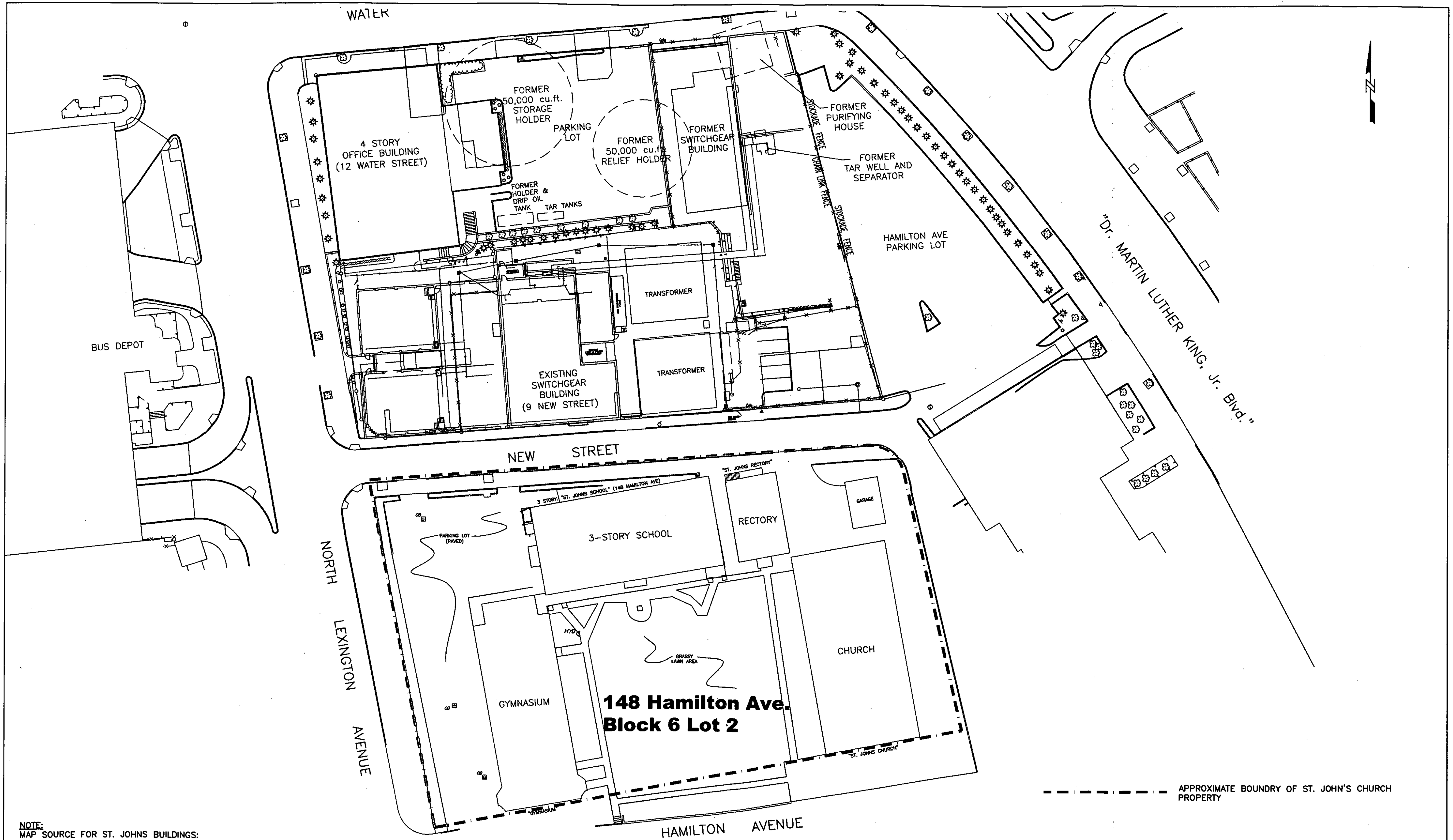
FIGURE 1

CON EDISON
WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

SITE LOCATION MAP

PARSONS
301 PLAINFIELD ROAD, SUITE 350 SYRACUSE NY 13212

P:\CON ED\White Plains, NY\OU1 - St Johns\SMP\Figures\SITEMAP.PPT



NOTE:
MAP SOURCE FOR ST. JOHNS BUILDINGS: MURPHY AND OLMSTEAD, ARCHITECTS– JUNE 30, 1928.

MAP SOURCE FOR OFF SITE FEATURES PROVIDED BY PARSONS ENGINEERING (5/2004) & REFERENCED MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

60 30 0 60 120

SCALE: 1"=60'

PARSONS

301 PLAINFIELD ROAD
SUITE 350
SYRACUSE, N.Y. 13212
PHONE: (315) 451-9560
FAX: (315) 451-9570

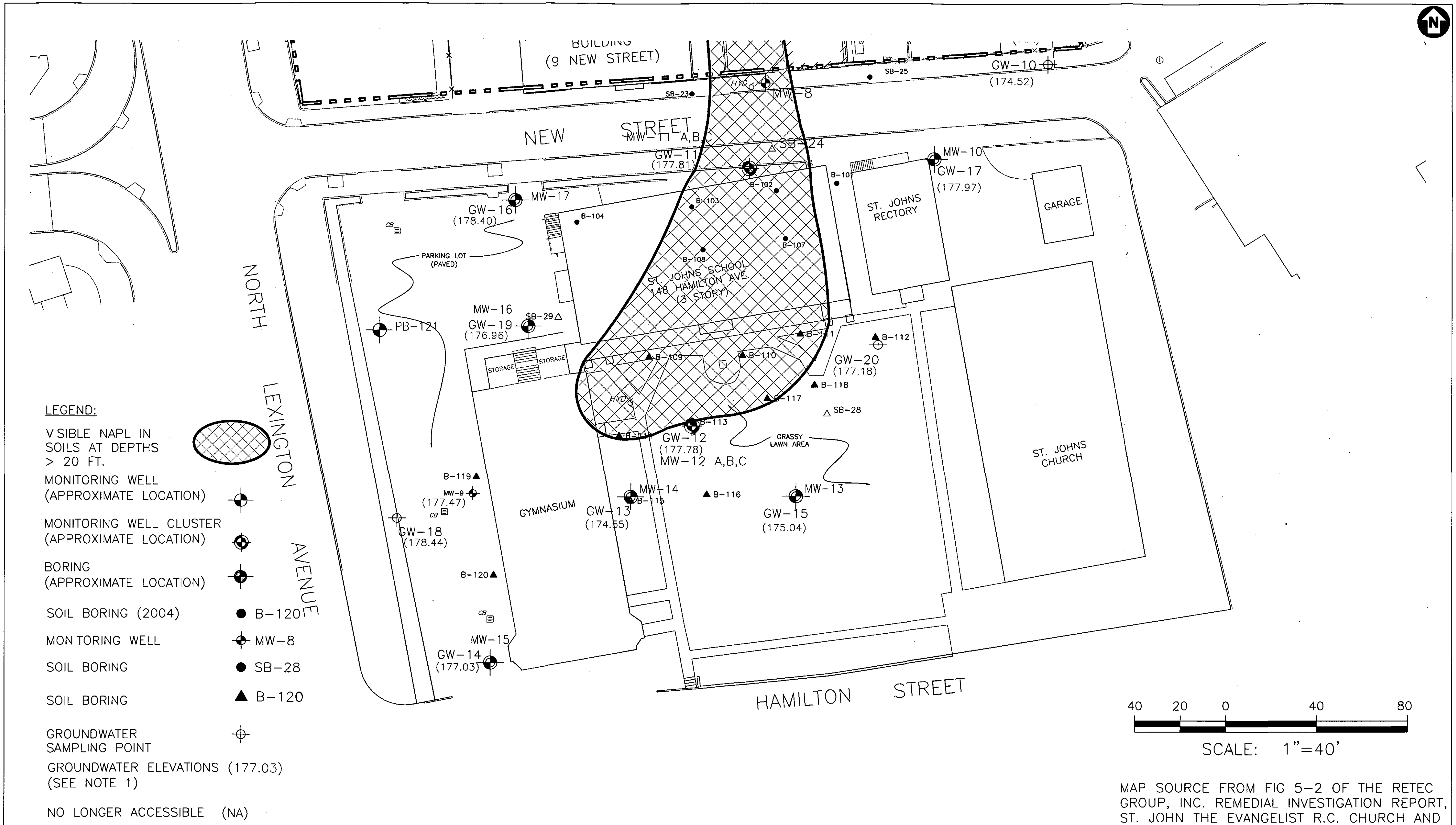
Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

ST. JOHN'S CHURCH
PROPERTY BOUNDARIES

FIGURE NO.
2

FILE NAME: P:\CONEDISON\WHITE PLAINS, NY\OU1 – ST JOHNS\SMP\FIGURES\DWGS\FIGURE 2 – 442189G005.DWG
PLOT DATE: 12/17/2009 5:59 PM PLOTTED BY: MCFARLANE, TANESHA

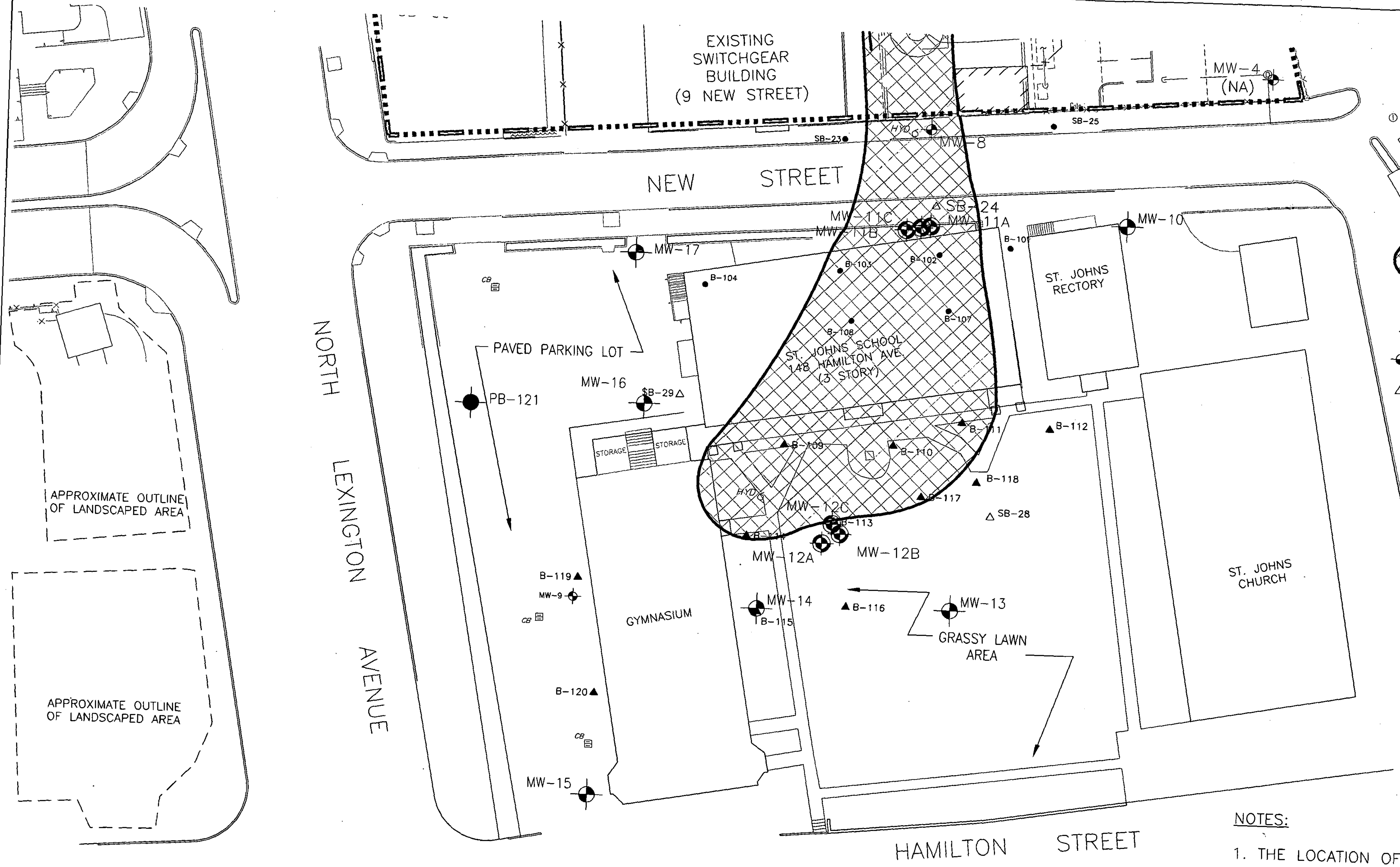


MAP SOURCE FROM FIG 5-2 OF THE RETEC GROUP, INC. REMEDIAL INVESTIGATION REPORT, ST. JOHN THE EVANGELIST R.C. CHURCH AND ELEMENTARY SCHOOL (AUGUST 2007)

NOTE:
1. GROUNDWATER DEPTHS WERE OBTAINED DURING THE GROUNDWATER SAMPLING SURVEY BETWEEN JULY 9 AND 24, 2009.

FILE NAME: P:\CONEDISON\WHITE PLAINS, NY\OU1 - ST JOHNS\SMP\FIGURES\DWGS\FIGURE 3A - 442189G022.DWG
PLOT DATE: 7/28/2010 10:38 AM PLOTTED BY: MCFARLANE, TANESHA

PARSONS 301 PLAINFIELD ROAD SUITE 350 SYRACUSE, N.Y. 13212 PHONE: (315) 451-9560 FAX: (315) 451-9570	Con Edison	WHITE PLAINS FORMER MGP SITE WHITE PLAINS, NEW YORK SOIL AND GROUNDWATER SAMPLING POINT LOCATIONS	FIGURE NO. 3A



LEGEND:

(hatched area)	VISIBLE NAPL IN SOILS AT DEPTHS > 20 FT.
▲ B-120	SOIL BORING (2004)
MW-8	MONITORING WELL
△ SB-28	SOIL BORING
	MONITORING WELL
	MONITORING WELL CLUSTER
	BORING
(NA)	NO LONGER ACCESSIBLE

NOTES:

1. THE LOCATION OF PB-121 IS APPROXIMATE.
2. MAP SOURCE FROM FIG 5-2 OF THE RETEC GROUP, INC. REMEDIAL INVESTIGATION REPORT, ST. JOHN THE EVANGELIST R.C. CHURCH AND ELEMENTARY SCHOOL (AUGUST 2007)

40 20 0 40 80

SCALE: 1"=40'

FILE NAME: P:\CONEDISON\WHITE PLAINS, NY\OU1 - ST JOHNS\SMP\FIGURES\DWGS\FIGURE 3B - 442189G024.DWG
PLOT DATE: 7/28/2010 10:58 AM PLOTTED BY: MCFARLANE, TANESHA

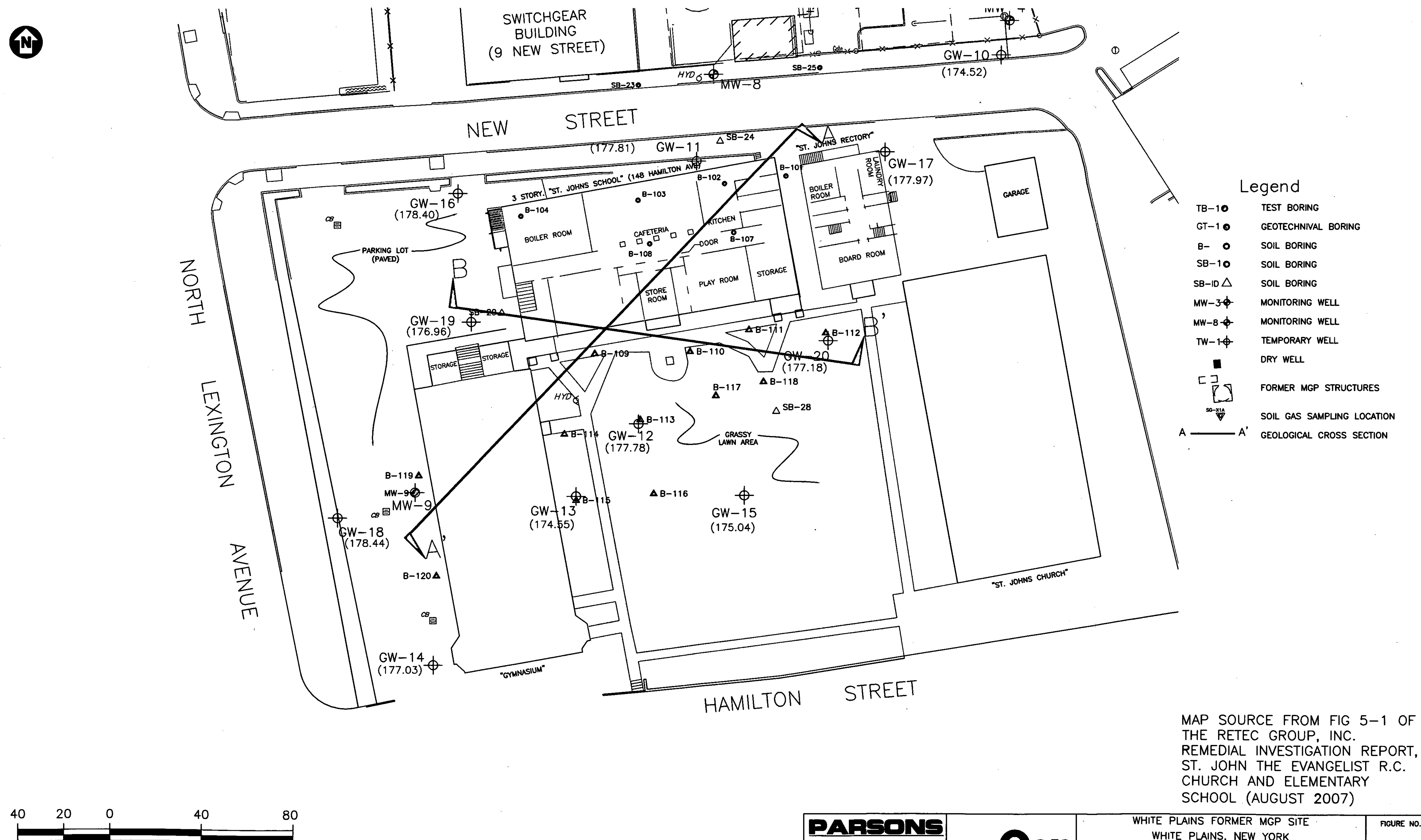
PARSONS
OFFICES IN PRINCIPAL CITIES
301 PLAINFIELD ROAD, SUITE 350
SYRACUSE, N.Y. 13212
PHONE: (315) 451-9560
FAX: (315) 451-9570

Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

MONITORING WELL LOCATIONS

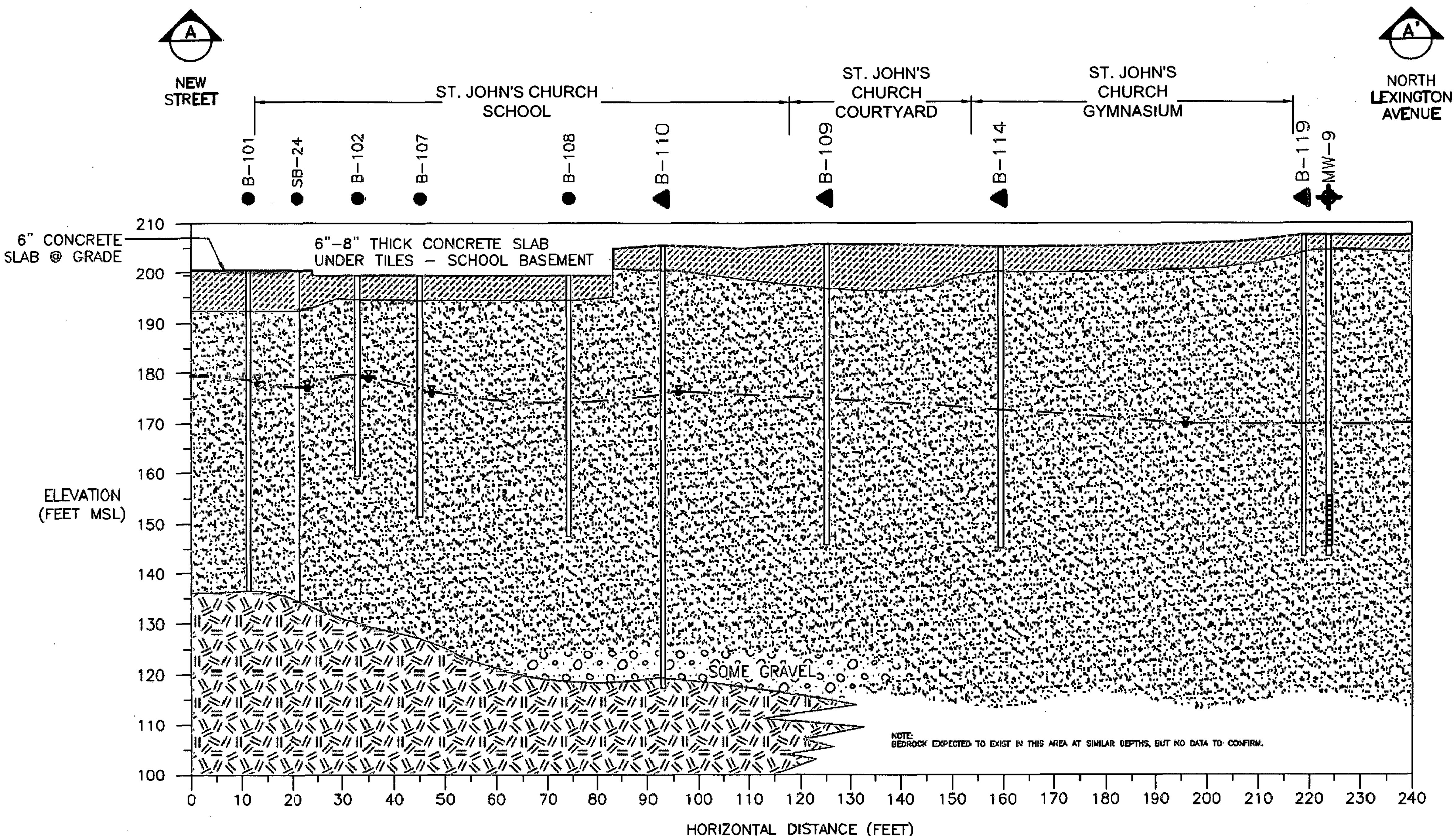
FIGURE NO. 3B



MAP SOURCE FROM FIG 5-1 OF THE RETEC GROUP, INC. REMEDIAL INVESTIGATION REPORT, ST. JOHN THE EVANGELIST R.C. CHURCH AND ELEMENTARY SCHOOL (AUGUST 2007)

PARSONS 301 PLAINFIELD ROAD SUITE 350 SYRACUSE, N.Y. 13212 PHONE: (315) 451-9560 FAX: (315) 451-9570	Con Edison	WHITE PLAINS FORMER MGP SITE WHITE PLAINS, NEW YORK GEOLOGICAL CROSS SECTION LOCATION PLAN	FIGURE NO. 4

FILE NAME: P:\CONEDISON\WHITE PLAINS, NY\OU1 - ST JOHNS\SMP\FIGURES\DWGS\FIGURE 4 - 442189G013.DWG
PLOT DATE: 7/28/2010 10:41 AM PLOTTED BY: MCFARLANE, TANESHA



● ID SOIL BORING (2004)

▲ ID SOIL BORING (2001)

ID MONITORING WELL

WATER TABLE (DURING DRILLING)

WELL SCREEN

FILL

SAND

GRAVEL

WEATHERED BEDROCK (SCHIST)

NOTE:
BORING LOCATIONS PROJECTED ONTO SECTION.

NO SOILS LOGGED AT MW-9
CONTACTS BASED ON STRATIGRAPHY AT B-119

SOURCE: RETEC REMEDIAL INVESTIGATION REPORT (8/23/2007); FIGURE 5-3

PARSONS
301 PLAINFIELD ROAD
SUITE 350
SYRACUSE, N.Y. 13212
PHONE: (315) 451-9560
FAX: (315) 451-9570

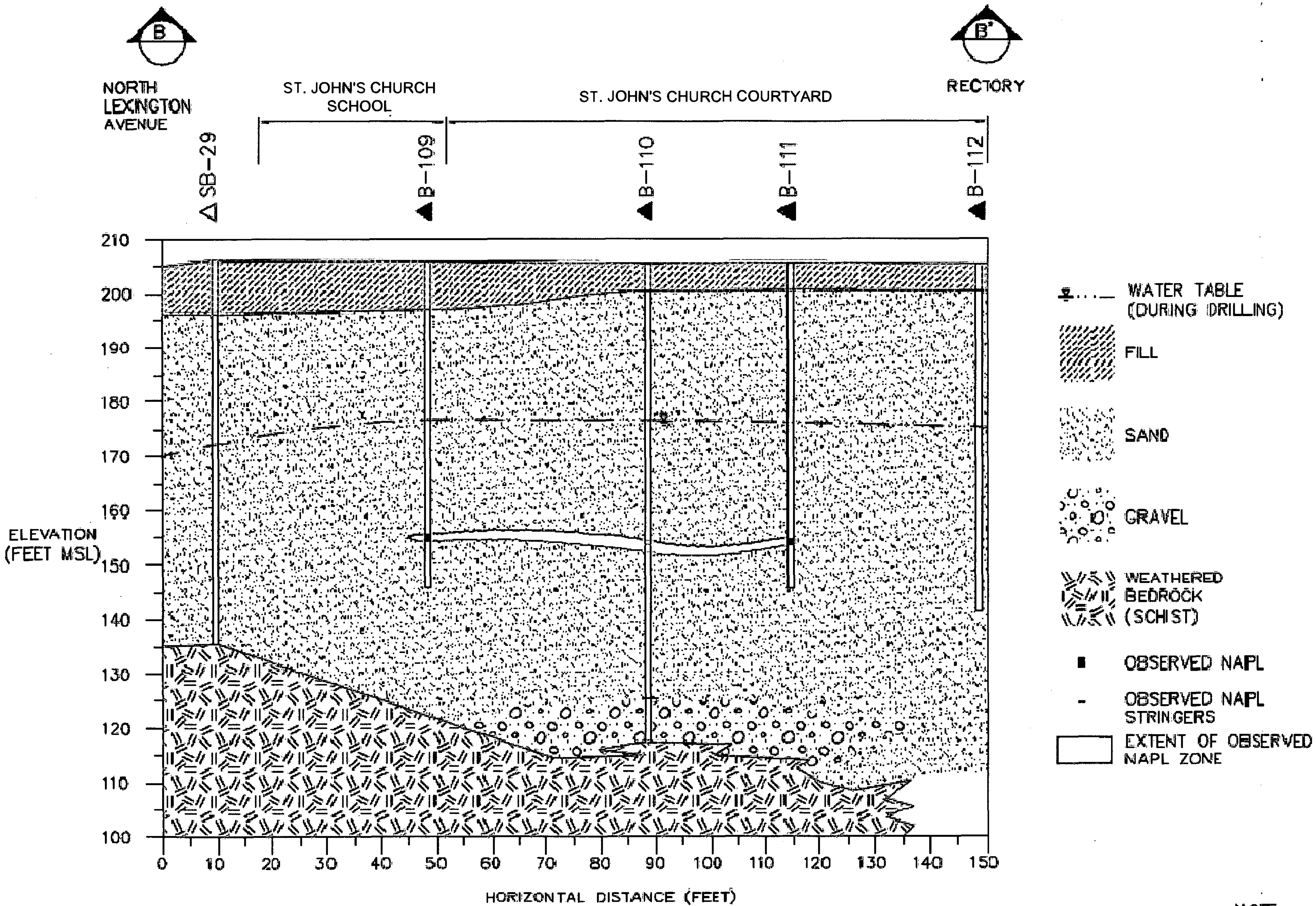
Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

EXTENT OF DEEP SUBSURFACE IMPACTS
GEOLOGICAL CROSS-SECTION A-A'
ST. JOHN'S CHURCH PROPERTY

FIGURE NO.
5A

FILE NAME: P:\CONEDISON\WHITE PLAINS, NY\OU1 - ST JOHNS\SMP\FIGURES\DWGS\FIGURE 5A - A-A' CROSS SECTION.DWG
PLOT DATE: 1/5/2010 9:39 AM PLOTTED BY: MCFARLANE, TANESHA

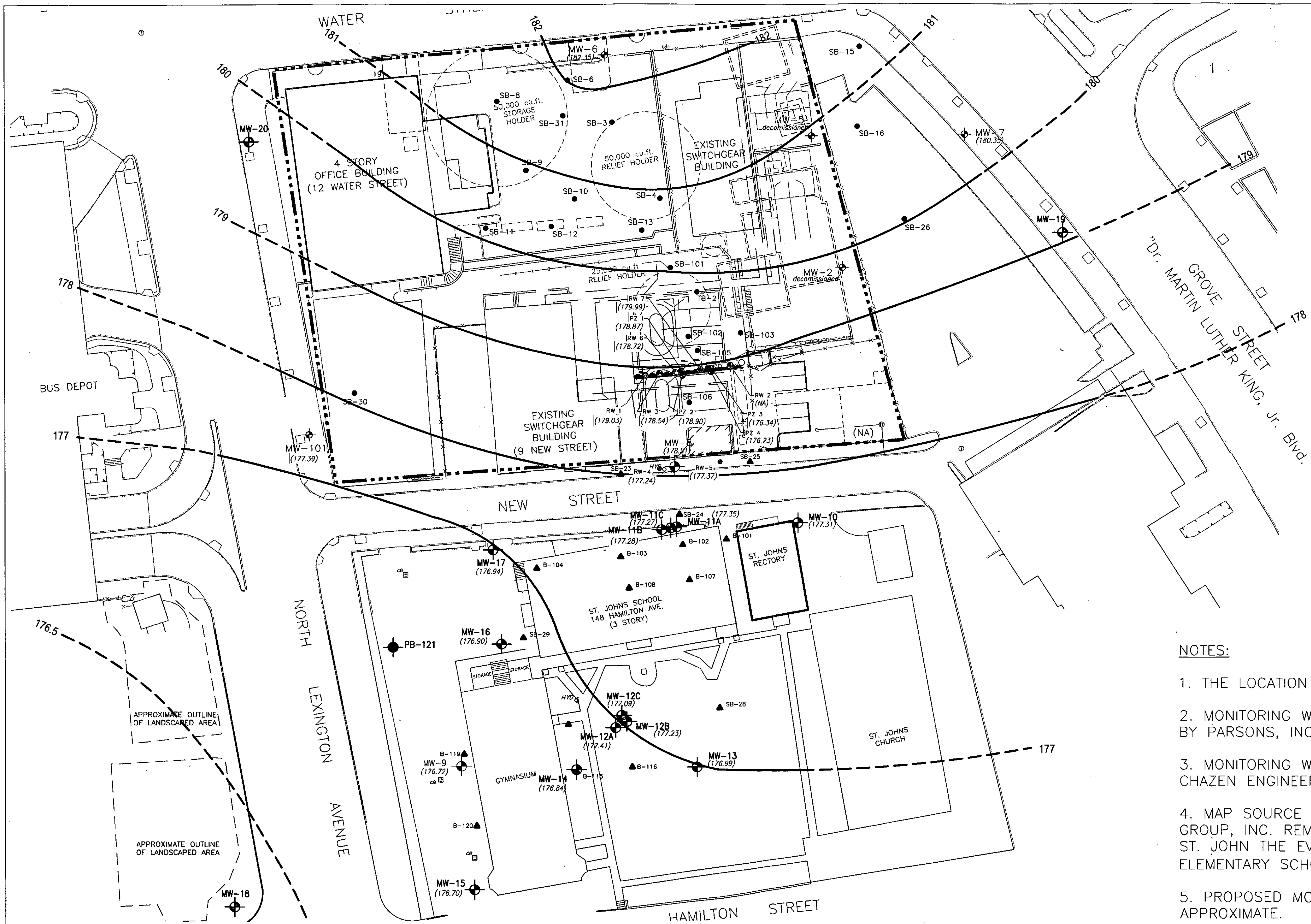


NOTE:
1. BORING LOCATIONS PROJECTED ONTO SECTION.

SOURCE: RETEC REMEDIAL INVESTIGATION REPORT (8/23/2007); FIGURE 5-4

PARSONS 301 PLAINFIELD ROAD SUITE 350 SYRACUSE, N.Y. 13212 PHONE: (315) 451-9560 FAX: (315) 451-9570	Con Edison	WHITE PLAINS FORMER MGP SITE WHITE PLAINS, NEW YORK EXTENT OF DEEP SUBSURFACE IMPACTS GEOLOGICAL CROSS-SECTION B-B' ST. JOHN'S CHURCH PROPERTY	FIGURE NO. 5B

FILE NAME: P:\CONEDISON\WHITE PLAINS, NY\OU1 - ST JOHNS\SMP\FIGURES\DWGS\FIGURE 5B - B-B' CROSS SECTION.DWG
PLOT DATE: 1/5/2010 9:30 AM PLOTTED BY: MCFARLANE, TANESHA



LEGEND:

———	GROUNDWATER ELEVATION CONTOUR
▲B-120	SOIL BORING (PRE 2009)
	MONITORING WELL (2009)
	PREVIOUSLY INSTALLED MONITORING WELL
	SOIL BORING (2009)
	RECOVERY WELL
(NA)	NO LONGER ACCESSIBLE
(177.09)	GROUNDWATER ELEVATION
	PROPOSED MONITORING WELL

NOTES:

1. THE LOCATION OF PB-121 IS APPROXIMATE.
2. MONITORING WELL GAUGING WAS PERFORMED BY PARSONS, INC. ON SEPTEMBER 22, 2010.
3. MONITORING WELLS WERE FIELD SURVEYED BY CHAZEN ENGINEERING ON NOVEMBER 30, 2009.
4. MAP SOURCE FROM FIG 5-2 OF THE RETEC GROUP, INC. REMEDIAL INVESTIGATION REPORT, ST. JOHN THE EVANGELIST R.C. CHURCH AND ELEMENTARY SCHOOL (NOVEMBER 2005)
5. PROPOSED MONITORING WELL LOCATIONS ARE APPROXIMATE.

60 30 0 60 120

SCALE: 1"=60'

PARSONS
OFFICES IN PRINCIPAL CITIES
301 PLAINFIELD ROAD, SUITE 350
SYRACUSE, N.Y. 13212
PHONE: (315) 451-9560
FAX: (315) 451-9570

Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

GROUNDWATER ELEVATION CONTOUR MAP

FIGURE NO. 6

FILE NAME: \\SOMERSETFS01\PROJECTS\PROJECTS\CONEDISON\WHITE PLAINS, NY\OU-1 - ST JOHNS\WP\SMP\FIGURES\DWGS\FIGURE 6 - 442189SK001 (GW 9-10).DWG
PLOT DATE: 11/12/2010 2:34 PM PLOTTED BY: MCFARLANE, TANESHA

B-103	16-20'	39-40.5'	55.5-56'
VOCs	ND	2.72	ND
SVOCs	ND	10.41	0.11

B-102	16-20'	36-40'
VOCs	ND	33.7
SVOCs	ND	2,143

SB-24	2-3'	10-11'	21-22'	36-38'	51-52'
VOCs	0.008	0.004	0.01	37.28	0.371
SVOCs	0.48	ND	ND	5,021	4.61

B-101	16-20'	36-40'	60-64'
VOCs	ND	ND	ND
SVOCs	ND	ND	ND

B-107	40-42'	44-48'
VOCs	712	ND
SVOCs	8,545	2.0

B-104	16-20'	36-40'
VOCs	ND	ND
SVOCs	ND	ND

B-108	40-43'	50-52'
VOCs	762	0.084
SVOCs	6,075	2.76

B-112	51-52'	50-56'
VOCs	0.06	0.04
SVOCs	0.03	0.06

B-111	51-52'	50-56'
VOCs	14.2	0.0008
SVOCs	694	0.05

SB-29	3-4'	28-30'	38-40'	56-58'	68-72'
VOCs	0.003	ND	ND	0.05	0.01
SVOCs	0.04	ND	0.06	0.27	0.28

B-109	50-51.5	59-60'
VOCs	347	0.007
SVOCs	7,865	0.46

B-118	52-56'
VOCs	ND
SVOCs	ND

B-110	52'	60-64'	84-88'
VOCs	18.4	ND	ND
SVOCs	510	ND	0.07

B-117	52-53'	56-60'
VOCs	0.03	ND
SVOCs	55.8	0.20

B-114	52-53'	58-60'
VOCs	14.5	0.02
SVOCs	1,535	0.23

SB-28	2-4'	10-11'	27-28'	50-52'	68-75'	75-77'
VOCs	ND	ND	ND	ND	ND	ND
SVOCs	0.02	0.08	0.09	0.18	0.02	0.17

B-119	56-60'	60-64'
VOCs	0.003	ND
SVOCs	0.15	ND

B-113	52.5-53.5'	56-60'	DUP
VOCs	52.8	ND	ND
SVOCs	1,273	0.24	0.64

B-120	56-60'	60-64'
VOCs	ND	0.003
SVOCs	0.23	0.29

B-116	54-56'
VOCs	ND
SVOCs	0.07

B-115	54-56'	62-64'
VOCs	ND	ND
SVOCs	0.25	0.14

MAP SOURCE FROM FIG 5-1 OF THE RETEC GROUP, INC. REMEDIAL INVESTIGATION REPORT, ST. JOHN THE EVANGELIST R.C. CHURCH AND ELEMENTARY SCHOOL (AUGUST 2007)

30 15 0 30 60

SCALE: 1"=30'

11-12' — SAMPLE DEPTH IN FEET
0.011 — TOTAL BTEX/PAH CONCENTRATION IN SOIL (mg/kg)
ND — NOT DETECTED
* — FROM FINGERPRINT RESULTS

TEST BORING — TB-1
GEOTECHNICAL BORING — GT-1
SOIL BORING — B- SB-1 SB-ID
MONITORING WELL — MW-8 MW-3
TEMPORARY WELL — TW-1

PARSONS
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SYRACUSE, N.Y. 13212
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FAX: (315) 451-9570

Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

REMEDIAL INVESTIGATION SOIL ANALYTICAL RESULTS
ST. JOHNS CHURCH PROPERTY

FIGURE NO. 7

FILE NAME: P:\CONEDISON\WHITE PLAINS, NY\OU1 - ST JOHNS\SMP\FIGURES\DWGS\FIGURE 7 - 442189C013.DWG
PLOT DATE: 7/28/2010 10:43 AM PLOTTED BY: MCFARLANE, TANESHA

APPENDIX A

REMEDIAL INVESTIGATION REPORT, SAINT JOHN THE EVANGELIST R.C. CHURCH

AND ELEMENTARY SCHOOL

148 HAMILTON AVENUE

WHITE PLAINS NEW YORK

AUGUST 23, 2007

Remedial Investigation Report

Saint John the Evangelist R.C. Church and Elementary School
148 Hamilton Avenue
White Plains, New York

Prepared by:

The RETEC Group, Inc.
300 Baker Avenue, Suite 302
Concord, MA 01742

RETEC Project Number: CECN3-16922-208

Prepared for:

Consolidated Edison Company of New York, Inc.
4 Irving Place
New York, New York 10003

August 23, 2007

Remedial Investigation Report

Saint John the Evangelist R.C. Church and Elementary School
148 Hamilton Avenue
White Plains, New York

Prepared by:

The RETEC Group, Inc.
300 Baker Avenue, Suite 302
Concord, MA 01742

RETEC Project Number: CECN3-16922-208

Prepared for:

Consolidated Edison Company of New York, Inc.
4 Irving Place
New York, New York 10003

Prepared by:

Peter S. Cox, P.G., Project Manager

Reviewed by:

John T. Finn
John T. Finn, P.E., Program Manager

August 23, 2007

S:\PROJECTS\Consolidated Edison NY\St Johns\16922\St John's Final RI Report 11-04-05 w psc edits 8-23-07.doc

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Executive Summary

As a follow-up to the initial evaluation of the potential for subsurface vapor intrusion conducted at the Saint John the Evangelist R.C. Church and Elementary School property in White Plains, New York (St. John's property) in February 2003, and in response to comments on this work provided by the New York State Department of Health (NYSDOH), The RETEC Group, Inc. (RETEC) performed a Remedial Investigation (RI) on behalf of Consolidated Edison Company of New York, Inc. (Con Edison) at the St. John's property to thoroughly evaluate the potential for subsurface vapor intrusion into buildings at the St. John's property and to understand the nature and extent of possible subsurface soil impacts and groundwater impacts at the site. The Remedial Investigation (RI) was comprised of two major phases, with the first phase performed in April 2004 to augment the initial evaluation of potential subsurface vapor intrusion performed by RETEC in February 2003. This work was centered within the building footprints of the rectory building, the school building, and the gymnasium building. A second remedial investigation phase was performed in July 2004 south and west of the school and gymnasium buildings to delineate the extent of deep soil impacts noted during the April 2004 work. Following this work, a deep groundwater monitoring well was installed and sampled at the site in September 2004. Overall, the RI was prompted by the results of a subsurface investigation that was conducted by Con Edison at the adjacent former manufactured gas plant (MGP) site to the north of St. John's property. Results of that investigation indicated the potential for impacts to soil and possibly groundwater migrating from the former MGP site beneath the St. John's property. The overall goals of the RI were to 1) determine whether the air quality within the school, rectory, and gymnasium buildings was being adversely affected by potential residual subsurface impacts beneath the St. John's property at depth, and 2) delineate the horizontal and vertical extent of potential impacts migrating from the former MGP site beneath the St. John's property.

An initial and follow-on evaluation of indoor air quality was conducted at the St. John's property in February 2003 and April 2004. The work performed consisted of a walk-through of the buildings, and collection of ambient air (outdoor), indoor air, and soil gas samples. The April 2004 work also included the installation of soil borings and the collection of soil and groundwater samples at depth beneath the footprint of the St. John's School building. In addition, a second, post-investigation round of indoor air samples was collected. In July 2004, twelve additional soil borings were installed and soil samples collected. In September 2004, one deep downgradient monitoring well was installed at the site and sampled along with select wells at the adjacent MGP.

In total, 38 subsurface soil samples and seven groundwater samples were collected during the RI and tested for MGP-related constituents. Two soil samples were also submitted for gas chromatography with flame ionization detector (GC/FID) fingerprint analysis to determine the likely source of impacts noted in the samples. Similar to the initial vapor intrusion evaluation performed in February 2003, a total of 18 air samples and one field duplicate sample for quality assurance/quality control purposes were collected in April 2004 from the basement and first floors of the rectory and school buildings, and the floor of the gymnasium. In addition, five soil gas samples were collected from within and outside of the buildings. The air samples were submitted to a commercial laboratory for chemical analysis of volatile organic compounds (VOCs) by USEPA Method TO-15. During the April 2004 work, pressure differential measurements through the basement floor slabs were also recorded to aid in the evaluation of potential vapor intrusion.

After the April 2004 investigation work was completed, a set of 14 post-investigation air samples and one duplicate sample for quality assurance/quality control purposes were collected to determine whether the investigation activities had impacted indoor air quality. The air samples were submitted to a commercial laboratory for chemical analysis of VOCs (USEPA Method TO-15).

A volatilization study was also performed using samples of groundwater and visibly impacted soils collected at depth beneath the school building in April 2004. The volatilization study also included a soil sample collected in the southern former MGP relief holder area of the White Plains Substation property during the IRM activities and that was known to be impacted by MGP tar materials. The groundwater and impacted soil samples containing visible non-aqueous phase liquid (NAPL) were submitted to Air Toxics Ltd. (ATL) laboratories to qualitatively analyze the volatile fraction of the MGP-impacted material (referred to as analysis of the headspace). The suite of constituents detected in the volatile fraction of the materials was then compared to those compounds detected in indoor air and soil gas to further evaluate if the source of the VOCs detected in indoor air or soil gas was MGP-related.

Soil analytical data and laboratory data collected during the RI were used to delineate the horizontal and vertical extent of deep soil impacts at the St. John's property. Based on results of this investigation, combined with existing site data and data generated during previous investigations at the adjacent former MGP site, deep soil impacts extend from the MGP site under a narrow stretch of New Street, and beneath a portion of the footprint of the school building. These impacts further extend to the south and west under a portion of the courtyard area and likely extend beneath a portion of the eastern edge of the gymnasium building. Deep soils are visibly impacted with NAPL residuals and samples from this zone contained VOCs and semi-volatile organic compounds (SVOCs) above New York State Department of Environmental Conservation (NYSDEC) Recommended Soil Cleanup Objectives (RSCOs) for both VOCs and SVOCs. The vertical extent of these exceedances was determined and impacts are largely limited to the visibly impacted zone present at depths between 35 and 53 feet below ground surface (bgs), with no impacts noted in soils from shallower depths. Samples collected beneath the visibly impacted zone provide data to vertically delineate subsurface soil impacts at depth. Laterally, no deep soil impacts were noted visually or through laboratory analysis between the school and the rectory to the east or beneath the boiler room area near the western end of the school or west of the gymnasium building.

Groundwater impacts beneath the site are associated with the same interval of deep NAPL-impacted soil. Groundwater at depth immediately downgradient of this zone contained several VOCs and SVOCs above NYSDEC guidance/cleanup values. No groundwater impacts were detected beneath the school building at the water table (approximately 20-24 feet beneath the basement floor) in areas that are underlain by deep NAPL impacts, confirming that the upward vertical extent of groundwater impacts associated with deep NAPL is limited. Geochemical data collected to identify the presence of natural biodegradation processes and apparent decreases in observed concentrations of dissolved constituents in groundwater at the adjacent MGP site indicate that natural attenuation is occurring at some level in the site area. It is anticipated that active source removal, coupled with natural attenuation at the MGP site, will support further degradation of dissolved constituents in groundwater over time.

Concentrations of Possibly MGP-Related VOCs in indoor air were detected within, or only slightly above, the range considered typical by the NYSDOH for residential indoor air. One compound, iso-octane, was detected at an elevated concentration during a sampling event; however, its presence does not appear to be associated with the subsurface MGP contamination and is most likely due to a temporary gasoline source present in indoor air.

VOCs were found to be present in the soil gas samples beneath the buildings. However, a detailed comparison of the soil gas VOCs and the VOCs detected in the volatile fraction of known MGP-impacted materials (headspace analysis) indicated that the soil gas VOCs originated from non-MGP sources.

Furthermore, the potential concern that VOCs from soil gas beneath the buildings could be migrating upward through the concrete slab and impacting indoor air quality does not appear to be warranted, based on a close examination of the indoor air data, soil gas data, and the shallow groundwater data.

Based on these findings, there are no migration pathways by which compounds in the deep NAPL-impacted soil can reach any of the potential receptors at the school, gymnasium, or church. Given the lack of migration pathways at the site, there is no indication that any of the receptors associated with the St. John's school, gymnasium, or church are at risk from MGP-related compounds.

1 Introduction

This report has been prepared for Consolidated Edison Company of New York, Inc. (Con Edison) to present the results of a recent investigation performed at the Saint John the Evangelist R.C. Church and Elementary School property in White Plains, New York (St. John's property). The investigation was performed in two phases beginning in April 2004 and ending in September 2004. The April 2004 work was performed to evaluate potential subsurface vapor intrusion at the St. John's property. It included an evaluation and collection of soil, soil gas, groundwater, and indoor air samples within and beneath the school, rectory, and gymnasium buildings (both before and after the investigation program was completed). The soil gas and indoor air work represent a continuation of earlier soil gas and indoor air investigation work performed in February 2003 at the site by The RETEC Group, Inc. (RETEC) on behalf of Con Edison. The results of this investigation are presented in the Report on Evaluation of Sub-Surface Vapor Intrusion (RETEC, 2003). The soil and groundwater samples were collected to supplement the soil gas and indoor air data and also to better delineate the horizontal and vertical extent of soil impacts detected at depth [approximately 35-40 feet below ground surface (bgs)] at boring SB-24, completed along the southern edge of New Street. This boring was installed as part of Con Edison's Site Investigation of the former Manufactured Gas Plant (MGP) site that is currently occupied by a Con Edison electric distribution substation adjacent to and north of the St. John's property. Results of this study are presented in the Site Investigation Report (Parsons, 2004). The second phase of work, performed between July and September 2004, included the advancement of additional soil borings and one groundwater monitoring well, and associated soil and groundwater sampling to further delineate subsurface impacts noted during the April 2004 work.

The indoor air and soil gas work was performed in accordance with the Work Plan for Evaluation of Sub-Surface Vapor Intrusion (RETEC, 2002), and in cooperation with the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH). This work plan was prepared for general use in the program that Con Edison has initiated to evaluate potential subsurface vapor intrusion that may be associated with its former MGP sites. The soil boring/groundwater/soil sampling program was conducted in accordance with the NYSDEC-approved Work Plan for Additional Indoor Air/Soil Gas/Soil Investigation dated April 5, 2004. Additional details and procedures for the recent work are outlined in the site-specific Health and Safety Plan (HASP) (RETEC, 2003a) developed for the February 2003 site work, and the standard operating procedure (SOP) for soil gas sampling developed for this project. Representatives from the NYSDEC were also present on site for portions of the investigation program performed in 2004 to ensure consistency with the work plans.

This report describes the field investigation activities and associated methodologies, the observations made during the field investigation, analyses of environmental samples, and site conditions. It also provides an assessment of potential risks associated with subsurface environmental conditions encountered at the site and a summary and conclusions based on data generated during this investigation. The report has been prepared in accordance with the most recent and applicable guidelines of the NYSDEC, the NYSDOH, and the United States Environmental Protection Agency (USEPA) as well as the National Contingency Plan (NCP).

1.1 Report Objectives

This report describes the various investigation activities performed in 2004, presents and documents the results, and provides an interpretation of the results. The primary objectives of the report are to:

- Determine whether potential MGP byproducts and/or other chemical constituents are present at the site in subsurface soil and groundwater as a result of natural migration from the adjacent former MGP site and whether their extent has been fully delineated during the Remedial Investigation (RI); and

- Determine whether potential MGP residuals and associated constituents identified at the site present a threat to human health and/or the environment.

1.2 Scope of Work

The scope of work for the April 2004 evaluation at the St. John's property is described in the NYSDEC-approved Work Plan for Additional Indoor Air/Soil Gas/Soil Investigation dated April 5, 2004. A representative from the NYSDEC, Mr. Joseph Moloughney, was present during a site visit on March 17, 2004 to confirm the sampling program locations. The July 2004 investigation program is described in the NYSDEC-approved Work Plan for Additional Soil Investigation dated June 16, 2004. The September 2004 groundwater monitoring well installation at the site was conducted as described in Con Edison's letter to the NYSDEC dated August 31, 2004 and was verbally approved by the Department.

In summary, the RI scope of work for the included:

- A building inspection to identify the presence of various chemicals that could be sources of volatile organic compounds (VOCs) in indoor air (April 2004);

- Collection of indoor air and ambient air samples within three buildings of the parish (the rectory, school, and school gymnasium) prior to advancement of the soil borings (April 2004);
- Collection of soil gas samples beneath the floor of the school and gymnasium buildings (April 2004);
- Collection of sub-slab differential pressure data in the school and gymnasium buildings to measure building pressures with respect to the shallow subsurface (April 2004);
- Advancement of soil borings and the collection of soil samples (for both laboratory characterization and chemical fingerprinting), and shallow groundwater samples beneath the floor slab of the school building and between the school and the rectory (April 2004);
- Collection of post-investigation indoor air and ambient air samples (April 2004);
- Performance of a volatilization study and forensic comparison of the integrated data set to determine the most likely source of petroleum hydrocarbons detected in indoor air and soil gas beneath the St. John's Parish property (April 2004);
- Advancement of additional soil borings and the collection of soil samples for laboratory characterization south and west of the school building and gymnasium building to delineate the extent of subsurface impacts identified during the April 2004 investigation phase. Performance of community air monitoring during this phase of work (July 2004);
- Installation and sampling of one groundwater monitoring well just downgradient of the identified subsurface impact zone at the site (September 2004);
- Gauging and/or sampling of the existing monitoring wells at the adjacent former MGP site (September 2004); and
- Collection of an additional MGP-impacted soil sample from the area of the former southern relief holder at the former MGP site for inclusion into the volatilization study for comparison of headspace vapors to those collected in indoor air and soil gas beneath the St. John's property (December 2004).

1.3 Report Organization

The remainder of this report is organized in the following manner:

Section 2 – provides a description of the St. John's site and surrounding properties and summary information regarding site history.

Section 3 – provides a description of field investigation activities, including the sampling locations and procedures.

Section 4 – provides a discussion of the geologic and hydrogeologic setting at the site, as well as observations and measurements made during ambient air, indoor air, and soil gas sampling.

Section 5 – provides a discussion of chemical analyses performed and analytical results for environmental and quality control and quality assurance samples.

Section 6 – provides a discussion of the potential risks present at the site.

Section 7 – presents a summary and conclusions for the site based on available data; and

Section 8 – provides a list of references cited in this report.

Tables and Figures are provided in their own respective sections following Section 8.

Appendix A – NYSDOH Questionnaires

Appendix B – Subsurface Soil Boring Logs

Appendix C – Photographic Records of Representative Sampling Activities

Appendix D – Groundwater Sampling Forms

Appendix E – Monitoring Well Development Record (MW-9)

Appendix F – PID, Cyanide, and Meteorological Observations and Measurements During Indoor Air and Soil Gas Sampling

Appendix G – Data Usability Reports and Laboratory Analytical Data

Appendix H – Evaluation of Chromatographic and Mass Spectral Data

2 Site Description and History

2.1 Site Description

The site description and historical information provided in this section has been summarized from a Site Investigation Report prepared for the former MGP site located adjacent to the St. John's property (Parsons, 2004).

The site is located at 146-148 Hamilton Avenue in White Plains, New York (Figure 2-1). It is comprised of a rectangular parcel covering a total land area of approximately 1.75 acres. Site features include the Parish of St. John the Evangelist consisting of four buildings, a parking lot, and grassy areas. The four buildings include a church, the rectory, a school, and a gymnasium.

- Across the street from the site is a piece of property that formerly operated as an MGP. The MGP was in operation from approximately the mid-1800s to approximately 1930. Gas was initially produced from coal ("coal gas") and later, from oil and water ("carburetted water gas"). Detailed information regarding operational dates and the locations of structures related to the former MGP are included in the Site Investigation Report (Parsons, 2004). The former MGP property is currently occupied by a Con Edison electric distribution substation (9 New Street) and a commercial office building and parking lot (12 Water Street). To assess the potential subsurface impacts associated with the former MGP operations, a site investigation was conducted at the substation property and the adjacent 12 Water Street and 170 Hamilton Avenue properties in several phases between March 2000 and May 2003. A site layout map showing the current structures at both the electric substation and adjacent properties, along with the locations of the primary former MGP structures, is shown on Figure 2-2.

- In September 2002, Con Edison and the NYSDEC entered into a Voluntary Cleanup Agreement (VCA) for the former MGP operations on the White Plains Substation and 12 Water Street properties. Con Edison recently completed an interim remedial measures (IRM) project that was approved by the NYSDEC under the VCA for the southern former relief holder area at the White Plains Substation property. As part of the approved IRM, Con Edison demolished and removed the buried foundation of the southern former relief holder and excavated MGP coal tar-contaminated soil that was present in the remnant structure. To prevent any potential off-site migration of MGP residuals and contaminants towards New Street and the St. John's property, the completed IRM also included the installation of an underground cutoff wall and a series of MGP coal tar recovery wells just north of the cutoff wall and along the New Street side of the White Plains Substation property.

2.2 Adjoining Property Description

Surrounding properties include the former MGP site/electric substation and commercial office building (12 Water Street) to the north, Hamilton Avenue, open space, and commercial buildings to the south, North Lexington Avenue, open space and an above-ground parking garage to the west, and office buildings and above-ground parking garage to the east.

2.3 Previous Investigations

Previous investigative work at the St. John's property included the advancement of two soil borings south and west of the school building during the MGP site investigation in 2001. Data collected from these borings are provided in the Site Investigation Report (Parsons, 2004) and also summarized in Section 3 of this RI Report. In addition, RETEC performed an evaluation of the potential for subsurface vapor intrusion at the St. John's property in February 2003 (RETEC, 2003b). This work included the collection of several ambient and indoor air samples and soil gas samples collected from beneath and adjacent to the rectory, school, and gymnasium buildings.

3 Investigation Activities

This section provides a description of the methodologies used for conducting the field investigation at the St. John's property. Specific tasks performed during the RI consisted of the following:

- A building inspection to evaluate potential vapor intrusion pathways and document site conditions
- An inventory of all chemicals in the various school buildings with the potential to be present in indoor air
- Underground utility clearance and geophysical survey
- Collection of indoor air, ambient air, and soil gas samples
- Collection of subsurface soil samples (both inside and outside of various buildings)
- Collection of shallow groundwater samples using a direct push technology
- Collection of post-investigation indoor air samples
- Community air monitoring
- Monitoring well installation and development
- Groundwater sampling
- Site survey
- Investigation waste management

All field activities were conducted in accordance with the methods and procedures specified in the NYSDEC-approved Work Plans for the St. John's property site and Site Investigation Work Plan for the former MGP/substation site (Parsons, 1999), and in cooperation with the NYSDEC and the NYSDOH. All subsurface investigation locations were pre-cleared using Ground Penetrating Radar (GPR) and a magnetometer prior to each investigation phase.

3.1 Building Inspection and Chemical Inventory

Representatives of RETEC conducted a walk-through inspection of the buildings on April 9, 2004. The purpose of the walk-through was to identify potential vapor intrusion pathways, identify the presence of chemicals that could be sources of VOCs, and to determine the appropriate sampling locations. RETEC inspected the basement and first floors of the rectory and school, including the classrooms, boiler rooms, storage rooms, and the gymnasium.

The information obtained during the building inspection is summarized in the NYSDOH Indoor Air Quality Questionnaire and Building Inventory, provided in Appendix A. Observations were made regarding potential indoor sources of hydrocarbon vapors, as further described in Section 5 of this report.

3.2 Underground Utility Clearance and Geophysical Survey

Prior to the initiation of all phases of intrusive field work, RETEC contacted Dig Safely New York to arrange for the location and marking of all underground utilities in the vicinity of the proposed soil gas locations, soil borings, and monitoring well locations.

Utility clearance outside of the public properties was performed by Enviroprobe Service, Inc. (Enviroprobe), under contract to RETEC. Enviroprobe used ground-penetrating radar (GPR) and magnetic survey methods to scan each area where borings, wells, or test pits were scheduled for completion. During the course of the utility survey, Enviroprobe also noted the locations of any underground structures that were detected. As-built drawings for the various St. John's school and rectory buildings were reviewed during sampling placement. Subsurface features detected by the geophysical survey included drain lines from the gymnasium roof to sewer lines in the parking lot, and cable/telephone lines in and around the various buildings. Gas lines were located extending along New Street and entering the site buildings between the rectory and the school building. Two water lines were detected extending from Hamilton Avenue to the fire hydrants located adjacent to the gym.

Following the completion of the utility mark-out, each intrusive sampling location was hand or vacuum excavated to a depth of 5 feet (bgs) to confirm the absence of subsurface utilities. Each location was approved for drilling/probing upon completion of the confirmatory hand or vacuum excavation.

3.3 Indoor and Ambient Air Sampling

Sampling locations inside and outside of the buildings were determined with reference to the previous sampling activities at the property, the results of the investigation activities at the adjacent former MGP site (Parsons, 2004) and the building floor plans.

The rationale for selecting the locations of the ambient samples was to "bracket" the building by collecting air from the prevailing upwind direction and the prevailing downwind direction. Figure 3-1 shows the location of the ambient air samples. These locations are the same as those used during the initial evaluation in February 2003.

The rationale for selection of indoor air sample locations in the basement of the rectory and school building, as well as the gymnasium, was based on the results of the site investigation conducted by Con Edison at the adjacent former MGP site (Parsons, 2004). This investigation indicated that MGP residuals had migrated south of the former MGP site and likely beneath a portion of the St. John's property. Some sample locations were selected based on known or suspected areas of subsurface impacts. The remaining sample locations were selected from other areas for comparison purposes. The rationale for selection of first floor samples was to match the locations of the basement samples. With the exception of one location (103, school kitchen), all indoor air samples were collected from the same locations as during the February 2003 sampling event.

Figures 3-2 and 3-3 show the indoor air sampling locations for the April 2004 sampling event with abbreviated sample numbers. Table 3-1 lists the full sample numbers, locations, and sampling details. Sampling locations and data from the February 2003 sampling event are summarized in the Evaluation of Sub-Surface Vapor Intrusion Report (RETEC, 2003b).

Two initial ambient air samples, 14 indoor air samples, one field duplicate for quality assurance/quality control purposes, and two final ambient air samples were collected on April 12, 2004 by RETEC. Six-liter Summa canisters with flow regulators were used to collect each sample over a period of approximately one hour. Samples were submitted for laboratory analysis as described in Section 5.1. Collection of meteorological data was conducted on the day of sampling.

Assessment of VOCs in air from potential vapor intrusion points using a photoionization detector (PID), and measurement of cyanide in air were also conducted by RETEC in the school, rectory and gymnasium buildings on April 9, 2004.

Additional ambient and indoor air samples were collected by RETEC on April 24, 2004, after the investigation work was complete. This post-investigation sampling consisted of two initial ambient air samples, nine indoor air samples, one field duplicate for quality assurance/quality control purposes, and two final ambient air samples. These samples were collected from the same locations as those on April 12, 2004. To distinguish these post-investigation samples, a sample identification prefix of "St-J2" was added to the indoor sample names, as noted on Figures 3-2 and 3-3. The purpose of this sampling was to determine if the soil boring and sampling activities had adversely affected the indoor air quality in the school building where these activities had been conducted. Six-liter Summa canisters with flow regulators were used to collect each sample over a period of approximately one hour. Samples were submitted for the same laboratory analyses as the initial indoor and ambient air samples as described in Section 5.1.

3.4 Soil Gas Sampling

Soil gas sampling locations inside and outside of the buildings were established and marked during the site walk-through on March 29, 2004 and confirmed during the initial building inspection on April 9, 2004. The locations were determined with reference to the previous soil gas sampling locations collected on February 23, 2003 (RETEC, 2003b), the results of the investigation activities at the adjacent former MGP site (Parsons, 2004), and the building floor plans. Soil gas sample locations were also selected to match the indoor air sample locations for comparison purposes. As discussed, ground penetrating radar and a magnetometer were used at the locations as a utility clearance safety measure. The selected locations were then adjusted as necessary based on the building floor plans and the utility clearance results so as to avoid any subsurface interference.

Figure 3-4 shows the soil gas sampling locations with abbreviated sample numbers. A summary of field observations for each soil gas sample location, including differential pressure measurements, is provided in Table 3-2. Soil gas sampling occurred on April 12, 2004, immediately after the indoor and ambient air sampling. A total of five soil gas samples (SC-101, SG-102, SG-103, SG-104, and SG-106) were collected by RETEC. Collection of the samples required coring of concrete on the bottom floor of the building. Thickness of the cores ranged from 4.5 to 9 inches.

Prior to the installation of the soil gas probes, the differential pressure between the sub-slab space and the above ground area was measured. A 4-inch diameter rubber "J" plug was inserted into the open concrete core. Hydrated bentonite was applied around the joint separating the plug material and the concrete, creating an air-tight seal. The "J" plug was fitted with an open air probe so that a Dwyer Magnahelic pressure gauge could be affixed by using a section of poly tubing and the pressure could be measured in inches of water. The "J" plug was then removed and the soil gas sampling procedure was conducted.

Hand auguring of the soils was performed as part of Con Edison's standard safety procedures for invasive soil work. Soil gas samples required hand auguring to 1-foot below the sub-slab surface. Prior to soil gas sampling, the sample probes were advanced by hand and then backfilled to ensure that a representative sample of the soil gas was collected. The backfill consisted of a

6-inch layer of hydrated bentonite and the soil cuttings generated during hand advancement. This seal ensured that indoor air was not entrained into the soil gas sample. A steel sample probe, containing disposable tubing and sealed at the tip, was hand driven to the desired depth of approximately 2 feet below the bottom of the floor slab into undisturbed soils. The probe was then removed from the drive point and the equipment was purged using a PID as a vacuum pump. Upon completion of purging, a soil gas sample was collected from undisturbed soils approximately 2 feet below the floor slab.

Six-liter, laboratory-certified Summa canisters with flow regulators were used to collect each sample over a one-hour period. Samples were submitted for laboratory analysis as described in Section 5.1. All borings and concrete coring holes were then backfilled with bentonite, the concrete core, and cement to match the grade of the surrounding floor.

3.5 Soil Borings and Soil Sampling

A total of six soil borings were completed during the April 2004 phase of the investigation. Borings were advanced by Aquifer Drilling and Testing Company (ADT). The borings were advanced to better delineate the extent of subsurface impacts noted at SB-24 during the investigation at the adjacent former MGP site (Parsons, 2004). Five borings (B-102, B-103, B-104, B-107, and B-108) were installed in the basement of the school building. At these locations, soil gas and indoor air samples were also collected. The sixth boring (B-101) was located between the rectory and the school building. Locations of the borings are presented on Figure 3-5.

An additional 12 borings were advanced in July 2004 by Zebra Environmental (Zebra). These borings were completed to further delineate the extent of deep soil impacts noted during the April 2004 investigation phase. The borings were placed in three primary transects oriented in an east-west direction, with the first transect installed adjacent to the southern side of the school building (B-109 through B-111) and subsequent transects installed south (B-114 though B-118) and west (B-119 and B-120) of this transect as needed to fully delineate the horizontal and vertical extent of deep soil impacts (Figure 3-5).

During soil boring advancement, soils were logged for composition and for the presence of visual impacts and field screened with a PID for the presence of VOCs. With the exception of B-102 and B-104, all soil borings were installed with a track-mounted, direct-push Geoprobe® drill rig. Borings B-102 and B-104 were advanced manually using a jackhammer and standard Geoprobe® tooling. A 2-inch diameter and 4-foot long sampling tube (Macro-core sampler) equipped with a plastic liner was used to collect soil samples. The liner containing the soil was extracted from the sampling tube and split lengthwise to access the soil inside. To ensure that only soil from the target depth interval could enter the sampler, a discrete sampler was used during sample collection. This sampling device, containing a plug on the bottom, was inserted into the macro core sampler. When the top of the sample interval was reached, the plug was removed and the sampler was driven to the desired depth allowing only soil from the sample interval to enter the sampler.

Continuous soil sampling using a Macro-core sampler equipped with a discrete sampler was conduced from 5 feet bgs to the final depth at each soil boring location during the April 2004 investigation. Given the considerable amount of information regarding subsurface stratigraphy and impacted zone depth obtained during the April investigation phase, the July 2004 borings were advanced to a target depth prior to sampling to improve the efficiency of the program. During both the April and July investigation phases, the upper 5 feet of soil column were logged and sampled during the hand-excavated utility clearance test pits. Soil samples were described and classified using the modified Burmeister system. In addition, soil samples were screened in the field for VOC "head space" concentrations. Soil from each macro-core sampler was placed into plastic storage bags and allowed to warm. The inlet probe of the PID was then used to pierce the bag and measure total VOC concentration in the bag headspace.

All soil borings were advanced until the bottom of impacted soil horizons (if encountered) was determined, with the exception of one location (B-102). At B-102, equipment limitations forced termination of the boring at 40 feet below the basement floor slab prior to encountering the base of the impacted soil horizon. However, complete vertical delineation of soil impacts was performed at several borings adjacent to and downgradient from B-102. Completion depths for the soil borings ranged from 40 feet below the basement floor slab (B-102 and B-104) to 88 feet bgs (B-110). Two of the soil borings (B-101 and B-110) were advanced to the bedrock surface to define the site geology and assess the soil conditions at the bedrock interface. Boring B-110 was also used to provide a full stratigraphic record of subsurface conditions along the "centerline" of the area of deep soil impacts. Copies of subsurface boring logs including boring depths, visual descriptions of soil types, and the presence of subsurface impacts and field screening results are provided in Appendix B. Photographs showing representative investigation activities and examples of impacted soil horizons are included in Appendix C.

The sample designation, sample rationale, sample depth, and laboratory analyses performed at each soil boring location are provided on Table 3-3. Analytical methods for all soil samples are also summarized in Section 5.1. The primary objectives of the sampling program were to delineate the horizontal and vertical extent of deep soil impacts migrating from the adjacent former MGP site beneath the St. John's property. Sampling protocols were consistent with those outlined in the Site Investigation Work Plan for the former MGP/substation site (Parsons, 1999). In summary, one soil sample from each boring was collected in the zone of highest impacts based on field and visual screening and one soil sample was collected in the first apparent clean interval below the impacted zone. If no impacts were detected, one sample was collected from the base of each borehole and one from just above the water table. To prevent the loss of VOCs from the soil during sampling, samples for VOCs analysis were placed in clean laboratory-supplied sample jars first, followed by the jars for the remaining analytical parameters.

In addition, on December 1, 2004, a sample of NAPL-impacted soil was collected by Parsons from the former southern relief holder area at the former MGP/substation site during the IRM excavation activities. Soil samples selected for laboratory analysis were packed in a cooler with ice and sent by overnight courier under proper chain-of-custody procedures to Severn Trent Laboratories, Inc. of Pittsburgh, Pennsylvania (STL-Pittsburgh). Aliquots of select soil samples collected beneath the school building and the soil sample collected from the area of the former southern relief holder at the former MGP site were also sent to Air Toxics, Ltd. (ATL) of Folsom, California, and to Dr. Steven Hawthorne of SOTA Analytical, Inc. of Grand Forks, North Dakota, for headspace vapor analysis.

Once the boring was complete, all unused soil cores were placed in 55-gallon drums. Soil borings in which monitoring wells were not installed were grouted immediately following completion. All subsurface drilling equipment was decontaminated and power-washed after completing each boring to avoid cross-contamination between boring locations.

3.6 Shallow Groundwater Sampling

During the April 2004 investigation phase, shallow groundwater samples were collected from borings B-101 through B-104 during advancement for comparison to the soil, soil gas, and indoor air data (Figure 3-6). All shallow groundwater samples were collected by ADT. The sample designation, sample rationale, sample depth, and laboratory analyses performed for each groundwater sample are summarized on Table 3-4. Analytical methods for these samples are also summarized in Section 5.1. The samples were collected once each borehole reached the water table by inserting a stainless steel temporary screen point inside the borehole. The screen point was exposed to allow groundwater to enter the tooling, and new polyethylene tubing connected to a peristaltic pump was inserted into the screen point. Once in place, the temporary screen points were purged until they were relatively free of sediment. Water quality parameters including dissolved oxygen, oxidation-reduction potential, temperature, pH, conductivity, and turbidity were recorded, and when stable, the well points were sampled (Appendix D). Upon completion, the screen points were removed and the soil sampling tooling replaced to allow continuation of the borehole advancement until the target depth was reached.

Following collection, groundwater samples were packed in a cooler with ice and sent by overnight courier under proper chain-of-custody procedures to STL-Pittsburgh for analyses. Aliquots of selected groundwater samples were also sent to ATL and to Dr. Stevén Hawthorne of SOTA Analytical, Inc. for headspace vapor analysis.

3.7 Community Air Monitoring

During the July 2004 investigation phase, community air monitoring was performed to provide real-time concentrations of total VOCs and particulates in air surrounding the worksite, as well as indications of MGP-related odors, if any, at the downwind perimeter of each designated work area when outdoor intrusive investigation activities were in progress at the site. The purpose of the monitoring was to provide a measure of protection for the downwind community, such as residences, businesses, and on-site workers not directly involved with the project, from potential releases of airborne contaminants resulting from the investigation activities. Community air monitoring was not performed during the April 2004 investigation phase since all of the work except one boring location was performed inside various school buildings. VOCs and particulates were monitored continuously with an organic vapor meter equipped with a PID and a dust meter, respectively, located upwind and downwind of each work zone. The VOC and particulate levels at each location were recorded every 15 minutes. The PID and dust meter were equipped with data loggers capable of calculating a 15-minute average concentration. Action levels for VOCs and particulates are provided in the HASP (RETEC, 2003a). Action levels were never reached during the recent investigation and no response actions were required.

3.8 Monitoring Well Installation

One deep overburden monitoring well (MW-9) was installed along the identified groundwater flow path "centerline" and downgradient of the impacted soil area at the site. The location of the well, along with the locations of the four groundwater grab samples, is shown on Figure 3-6.

The monitoring well was installed by ADT by first advancing a soil boring to the desired depth using 4¼-inch inside diameter (ID) hollow stem augers on a truck-mounted drill rig. The screen interval for the well was determined using field screening data obtained from adjacent soil boring B-119 (shown on Figure 3-5) and designed to target the area with the highest probability of impacts, if present. The well was constructed of 10 feet of 2-inch ID, threaded, 0.010-inch slot, PVC well screen set at 52 to 62 feet bgs. From 62 to 64 feet bgs, a 2-foot PVC sump was constructed for the collection of any denser than water non-aqueous phase liquid (DNAPL) that might enter the well (not expected based on field observations), and for the settling of suspended sediments. Two-inch PVC riser was installed extending from the ground surface to the top of the well screen. The annular space between the borehole and the well was backfilled with filter sand to 2 feet above the well screen, bentonite chips to 3 feet above the filter sand, grout to 10 feet bgs, and clean native material (set aside from the same interval during drilling) to the ground surface. The surface was completed with a flush-mounted road box in a cement pad cut into the asphalt surface. An expandable plug and lock were placed on the top of the PVC riser to seal and lock the well from surface run-off and tampering. Monitoring well construction details are shown on the monitoring well log provided in Appendix B.

3.8.1 Monitoring Well Development

The monitoring well was developed the day following installation to remove fine sediments (e.g., clays and silts) from within the well, well screen, sand pack, and the aquifer to promote good hydraulic communication between the well and the formation. A surge and pump method using a submersible pump was used to complete well development. The pump itself fits tightly into the well and acts as a surge block as it is risen and dropped within the screened interval while simultaneously removing water and fine sediments suspended as a result of surging action. Surging and pumping was continued until approximately 10 to 15 well volumes had been removed and the well was observed to have clear, low turbidity discharge (less than 50 NTU), and until water quality parameters were relatively stable. Water quality data monitored during development included temperature, pH, and conductivity. These results are summarized on the well development form included in Appendix E.

3.9 Deeper Groundwater Sampling

In addition to the four shallow groundwater samples collected beneath the St. John's School building during the April 2004 investigation phase, groundwater samples were collected from well MW-9 installed along the identified groundwater flow path "centerline" at the site, and two wells located on and adjacent to the former MGP site upgradient/presumed source area well MW-5 and cross-gradient well MW-7. The rationale for the selection of wells MW-5 and MW-7 for inclusion in the groundwater sampling program at the site was based on historical groundwater analytical results and their positioning with respect to groundwater flow beneath both properties.

A summary of the groundwater samples collected and the rationale for their collection is provided in Table 3-4. Monitoring well and groundwater grab sample locations are shown on Figure 3-6. Additional information regarding laboratory analytical methods for all groundwater samples is provided in Section 5.1. Detailed information regarding well gauging, sampling methods, and methods used to evaluate intrinsic biodegradation/natural attenuation (NA) processes are discussed in the following sections.

3.9.1 Depth to Groundwater Measurements

Prior to groundwater sampling, the depths to groundwater and well bottom and the thickness of any non-aqueous phase liquid (NAPL), if present, were measured in each well using an electronic oil/water interface probe. The probe was thoroughly washed with Alconox®, distilled water, and methanol to prevent cross-contamination between wells. The gauging data, collected on September 14, 2004, were used to generate a groundwater contour and flow map for the site, which is discussed later in this report.

3.9.2 Groundwater Sample Collection Methods

Groundwater samples were collected for laboratory analysis from three monitoring wells (MW-5, MW-7, and MW-9). The monitoring wells were purged prior to sampling to ensure that the samples collected were representative of conditions in the aquifer. The wells were purged using sampling procedures and protocol described in USEPA's current editions of the "Practical Guide for Ground-Water Sampling" and "RCRA Ground-Water Monitoring Enforcement Guidance." In brief, these procedures specify purging at a rate of 80 to 300 milliliters per minute, and monitoring of water quality parameters until stabilization, followed by sample collection. Purging was performed using a submersible pump connected to new polyethylene tubing. During purging, water quality criteria, including temperature, specific conductance, pH, dissolved oxygen, oxidation/reduction potential (ORP), and turbidity were measured and recorded every three to five minutes. With the exception of turbidity, these parameters were measured with a Hydrolab Quanta multi-parameter water quality meter attached to a flow-through cell connected to the pump discharge tubing. Turbidity was measured with a Lamott® 2020 turbidimeter. Groundwater samples were collected after the water quality parameters stabilized. Following collection, groundwater samples were packed in a cooler with ice and sent by overnight courier under proper chain-of-custody procedures to STL-Pittsburgh for analysis. The data obtained during purging and sampling were recorded on the groundwater sampling forms, which are included in Appendix D.

3.9.3 Evaluation of Intrinsic Biodegradation/Natural Attenuation Processes

At sites containing volatile and semi-volatile hydrocarbons, intrinsic biodegradation is by far the most significant mass degradation mechanism for organic constituents in groundwater. To evaluate the potential for intrinsic biodegradation/natural attenuation of groundwater impacts in the site area, groundwater samples were collected at three monitoring wells including MW-5 and MW-7 on and adjacent to the former MGP site and well MW-9 at the St. John's property (Figure 3-6). The term "intrinsic bioremediation" refers to the removal of environmental contaminants in soil, surface water, and groundwater through the activity of naturally-occurring microbial populations without the imposition of active, engineered systems or processes. Intrinsic bioremediation is one of several NA mechanisms by which environmental contaminants may be attenuated in the environment. Other mechanisms include sorption, dissolution, volatilization, and physical/chemical decomposition (i.e., hydrolysis, photolysis).

The typical approach for assessing intrinsic biodegradation is based on a common strategy in which site-specific data are gathered to show three lines of evidence used to support active intrinsic biodegradation, including:

- Monitoring data showing a stable or shrinking dissolved contaminant plume over time and/or loss of contaminant mass over time

- A relationship between geochemical parameters indicative of subsurface microbial activity and contaminant distributions

- Direct microbiological data from laboratory or field pilot studies demonstrating the ability of naturally-occurring microbial populations to biodegrade constituents of concern

The first two lines of evidence were evaluated during this RI.

When dissolved oxygen (DO) is present in the groundwater at sites impacted by non-chlorinated organic contaminants, microorganisms will use the oxygen as a terminal electron acceptor (TEA) as they oxidize the organic compounds to carbon dioxide and water. However, when oxygen is not present, microorganisms may use alternate terminal electron acceptors in order to metabolize available organics. Alternate TEAs for anaerobic contaminant biodegradation include nitrate, ferric iron (Fe^{+3}), manganese (Mn^{+3}), sulfate, and carbon dioxide. During this process, microbes sequentially utilize TEAs that yield the most free energy during the respiration process, causing a sequential depletion of electron acceptors in the environment. As discussed, oxygen is the most thermodynamically favorable TEA and gets depleted first, followed by nitrate (reduction), iron (reduction), sulfate (reduction), and lastly carbon dioxide (methanogenesis). Consequently, measuring the concentrations of potential electron acceptors and their reduced byproducts and comparing them to concentrations of dissolved organic constituents often reveals a pattern indicative of biodegradation activity and provides information on which electron acceptors are "active" at the site.

Conceptually, sites with active intrinsic biodegradation processes contain upgradient areas with aerobic conditions, source areas with anaerobic conditions (due to active biodegradation processes within the plume), and downgradient areas with a mixture of aerobic and anaerobic conditions that ultimately become aerobic at some point downgradient from the source area. It is important to note that the use of TEA data to support conditions reflective of intrinsic biodegradation is based on generalizations of the entire grouped data set. Stable or shrinking COI plumes represent the strongest evidence of NA processes at any given site.

3.10 NAPL Impacted Soil Testing

Two samples of the NAPL-impacted soil present beneath the St. John's School Building were collected at B-107 (40-42') and B-108 (40-43') for laboratory fingerprint analysis. The samples were sealed, labeled, packed in a plastic bag, and placed in a cooler with ice and vermiculite and sent by overnight courier under proper chain-of-custody procedures to META Environmental, Inc. (META) of Watertown, Massachusetts, for fingerprint analysis by gas chromatography with flame ionization detector (GC/FID).

3.11 Site Survey

Following the completion of the investigation program, a site survey was performed by Chazen Engineering & Land Surveying Company, a New York State-licensed surveyor. The horizontal coordinates were tied into the New York State Plane Coordinate System (East Zone) and the vertical elevations were tied into the North American Vertical Datum of 1988 (NAVD88). This allowed the survey data from the St. John's property to be merged with the survey data from the adjacent former MGP site. The purpose of the survey was to create a base map that accurately shows the investigation sample locations and key physical features of the site (*e.g.*, building corners, fences, sidewalks, curbs, driveways, and utilities that were within the property boundary of the former MGP, etc.). The location and ground surface elevation of the soil borings and monitoring well were also surveyed. In addition, the casing elevation and top of PVC riser elevation (highest point on the riser and marked in ink) were surveyed on well MW-9. All site figures presented in this document were developed using the survey results.

3.12 Investigation Waste Management

All soil cuttings, monitoring well development and purge water, decontamination fluids, soiled towels and plastic, and used personal protective equipment (PPE) generated during the investigation phases (April, July, and September) were placed in drums separated by media, and staged in a secure location within the former coal storage area located off the boiler room of the St. John's School basement. Prior to positioning the drums, plastic sheeting was placed on the floor to provide secondary containment for the drums. The drums were then placed on wooden pallets in the plastic-lined containment area. Drums were clearly labeled with the media, the date of waste generation, source, and contact information. Upon receipt of waste characterization results, the drums were disposed of by Con Edison at properly licensed off-site disposal facilities.

4 Field Investigation Results

4.1 Regional Geology

As summarized in the Site Investigation Report for the adjacent MGP (Parsons, 2004), the site is located in Westchester County within the Manhattan and Reading Prongs of the New England Uplands physiographic province. This province is described as being comprised of mature and complex geology (Parsons, 2004). The regional unconsolidated deposits in the site area contain glacial deposits overlying metamorphic sedimentary and igneous rocks. Hilly areas are reportedly underlain by erosion-resistant gneiss and schist of the Fordham and Manhattan Formations (Parsons, 2004).

4.2 Site Topography and Drainage

The United States Geologic Survey (USGS) topographic map for the White Plains, New York Quadrangle was reviewed to provide information about the topography of the site. The map shows that relief at the site is generally flat at a typical elevation of approximately 205 feet and with a gradual slope to the west towards the Bronx River, and to the north and east towards New Street and Grove Street (Dr. Martin Luther King Jr. Blvd.).

Based on the topography of the general area, the surface water would be expected to flow west and south and north across the site; however, runoff from the site would be captured by local storm drains given the urban nature of the site area. Several storm drain catch basins were also noted within and adjacent to the site area.

The nearest surface water body is the Bronx River, which is approximately 900 feet west of the site. The Bronx River in Westchester County is designated as "Class C" surface water. Class C surface water is defined as follows: "Class C, fresh surface waters, best usage is fishing. Waters shall be suitable for fish propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes."

4.3 Site Geology

Information concerning the site stratigraphy and hydrogeology were obtained from observations made during the installation of soil borings. Two geologic cross-sections, one oriented northeast and extending from the southern edge of the former MGP property across the St. John's property and one trending roughly east-west across the St. John's property (shown on Figure 4-1) are presented as Figures 4-2 and 4-3.

As shown on the cross sections and boring logs, the site geology consists of two distinct unconsolidated lithologic units overlying bedrock. A fill unit was observed across the site beneath the ground surface in approximate thicknesses ranging from 5 to 8 feet. This unit is composed primarily of reworked brown, dry, fine sand from the unit below. Defining the contact between the fill unit and the undisturbed native glacial deposits was difficult given the similar composition of material; nevertheless, the contact with the underlying native material was determined based on the observation of organic matter (*i.e.*, roots) and/or depositional structures (*i.e.*, bedding) at the top of the interpreted native material compared to the fill unit.

Beneath the fill is a thick sequence of fine interbedded sands up to 81 feet thick at B-110 (Appendix B). The unit was observed at soil boring B-101 and B-110 to extend from the base of the fill to the bedrock surface encountered at approximately 64 and 86 feet bgs, respectively. The sand unit was also encountered at depth above the refusal surface in borings SB-28 and SB-29 installed as part of the MGP site investigation (Parsons, 2004). This lower sand unit is comprised of brown and gray fine sand with trace layers of silt and some gravel. The bedding is marked by slight changes in color and composition. Specks of black minerals (mica) are common throughout, giving the material a salt and pepper appearance.

The limited samples of weathered bedrock in the tip of the macro-cores at B-101 and B-110 were observed to be consistent with a mica-schist. The bedrock depth and its composition are consistent with the bedrock described at the adjacent MGP site, classified by Parsons (2004) as the Manhattan Schist. A bedrock elevation contour map based on four borings advanced to the bedrock surface at the St. John's property (B-101, B-110, SB-28, and SB-29) and four locations at the adjacent MGP site (SB-12, SB-26, SB-30, and MW-7) is provided as Figure 4-4. As shown on the figure, the bedrock slopes to the southwest and south in the site area.

4.4 Regional Hydrogeology

The regional groundwater flow is assumed to generally mimic the surface topography and flow to the west/southwest towards the Bronx River. Groundwater is present in unconsolidated glacial deposits and in the metamorphosed bedrock. A map entitled "Unconsolidated Aquifers of Westchester County, New York" (Keneally, 2001) was reviewed to determine if the site is located within the footprint of a significant unconsolidated groundwater aquifer. According to Keneally, the site area is near the eastern edge of an aquifer which extends along the valley of the Bronx River. This aquifer is mapped as having a yield of greater than 100 gallons per minute (gpm). According to the Site Investigation Report for the MGP site (Parsons, 2004), the City of White Plains Water Department reported that the closest public water supply wells are located approximately 1.5 miles northeast (upgradient) of the site. The water supply wells are likely drilled within this aquifer. Closer to the site area, Keneally (2001) reported that two bedrock wells were installed by the Suburban Laundry Company approximately one block north of the St. John's property. These wells were presumably installed to find an alternate source of fresh wash water other than the city water for their laundry operations. One well, installed to 700 feet, was abandoned due to insufficient yield (2 gpm), and the other well that was reportedly 250 feet deep was also abandoned. This well was reportedly pumped at 14 gpm for 24 hours.

Groundwater in the vicinity of the site is classified as GA - Fresh groundwaters with best usage as a source of potable water supply. However, this area is not classified as a primary water supply aquifer (*i.e.*, significant unconsolidated aquifer) or a principal aquifer.

4.5 Site Hydrogeology

Data regarding site hydrogeology is based on a groundwater monitoring well network comprised of wells installed at the MGP site adjacent to the St. John's property, observations of groundwater elevations in soil borings installed beneath the school building in April 2004, and one monitoring well installed at the St. John's property. Groundwater was consistently observed in the soil borings at depths ranging from 20 (B-102) to 23 (B-107) feet (Appendix B) beneath the basement floor of the school building and approximately 29 to 30 feet bgs at borings outside the school building. While groundwater was observed in boring B-104 at 19.5 feet below the basement floor of the school building, the surface elevation of the boring was approximately 3 feet lower than the surface elevation of borings B-101 through B-103 and B-107 and B-108. Overall, the groundwater elevations observed in the soil borings beneath the school building are consistent with the data collected from the monitoring well network, as described below.

The groundwater monitoring well network is comprised of twelve wells at the MGP site (MW-1 through MW-8, SB-1, TB-5, RW-4, and RW-5) and one downgradient well at the site (MW-9). Groundwater was encountered under unconfined conditions within the unconsolidated sand deposits at depths ranging from approximately 5 to 30 feet bgs in the well network. The range in groundwater depths is due to varying surface elevations in the site area. Table 4-1 provides a chronological summary of groundwater elevations, including data from the most recent gauging event performed on September 14, 2004. Figure 4-5 provides a groundwater elevation contour map across the site. The map shows that groundwater flow between the central portion of the adjacent former MGP site and across the St. John's property is from the northeast to the southwest, which is consistent with the presumed regional groundwater flow direction based on local topography and with earlier groundwater maps generated at the MGP (Parsons, 2004). The horizontal gradient measured parallel to groundwater flow ranged from 0.0087 ft/ft between wells MW-8 and MW-9 beneath the St. John's site to 0.035 ft/ft between wells MW-5 and MW-2 at the adjacent MGP site.

4.6 Ambient Air, Indoor Air, and Soil Gas Sampling

Observations made during air sampling performed in April 2004 included meteorological data, PID measurements, and cyanide in air measurement. RETEG's records of these observations are provided in Appendix F.

Meteorological data showed a relatively constant outdoor barometric pressure (30.17-30.24 inches Hg) throughout the day during the April 2004 investigation phase. Wind speed was mostly from the east-southeast at 4.6 to 11.5 mph.

PID measurements showed no intrusion of VOCs from potential vapor intrusion points such as the sump pit and sewer pit in the school boiler room. A more sensitive part-per billion (ppb) RAE PID was used to record results. The PID readings from the school boiler room were 35-60 ppb. The PID readings taken from the indoor air within the rectory boiler room were 45 ppb. These readings are similar to the PID measurements from within the rectory basement, first floor, and similar to those in the school basement, first floor, and outdoors.

Gyanide samples were taken in the St. John's school, rectory, and gymnasium buildings using Gastec colorimetric tubes. There was no color change in the Gastec colorimetric tubes indicating the presence of cyanide in the indoor air. Thus, it is concluded that the presence of cyanide in air was not detected above 0.36 parts per million (ppm), the detection limit of the colorimetric tubes. The record of these measurements and locations are provided in Appendix F.

Differential air pressure measurements between the sub-slab soil gas and the indoor air at the soil gas sampling locations indicated a range of values, with negative pressures of –0.015 inches of water at locations SG-102 and SG-103, 0 inches of water at location SG-106, and +0.015 inches of water at SG-104. Positive pressure measurements indicate pressure upward from below the slab (and possibly into the building through floor cracks, etc.) and negative pressures in the soil gas points indicate pressure downward from the building into the subsurface. A pressure measurement at location SG-101 was not made because the location was outside.

5 Analytical Results

This section presents the analytical laboratory program and results for the April, July, and September 2004 investigation phases, and provides an interpretation of the results. The laboratory data quality is also discussed in this section, with the applicable Data Usability Summary Reports (DUSRs) and laboratory analytical data provided in Appendix G. It is concluded that the data quality meets all applicable requirements. A discussion of the results of the analyses and a comparison to applicable NYSDEC/NYSDOH guidance values or standards is provided in the following sections. The most recent background indoor air data available from the NYSDOH (November 16, 2004) was used in the evaluation of the potential vapor intrusion pathway (NYSDOH 2004).

5.1.1 Chemical Analyses

Soil

The soil samples collected during the RI were analyzed for:

- Volatile organic compounds by USEPA SW-846 Method 8260B
- Semivolatile organic compounds by USEPA SW-846 Method 8260C
- Trace metals by USEPA SW-846 Method 6010B and 7471A (April 2004 phase only)
- Total cyanide by USEPA SW-846 Method 9012A (April 2004 phase only)
- Available cyanide by USEPA MCAWW 1677 (April 2004 phase only)

During the July investigation, soil samples were not analyzed for metals and cyanide since they were not determined to be constituents of concern at the site based on a review of the April 2004 investigation results. In addition, two NAPL-impacted samples were submitted to META Environmental, Inc., (META) in Watertown, Massachusetts for fingerprint analysis by gas chromatography with flame ionization detector (GC/FID) in April 2004.

Groundwater

The shallow groundwater samples collected from borings B-101 through B-104 and the groundwater sample collected from monitoring well MW-9 were analyzed for:

- Volatile organic compounds by USEPA SW-846 Method 8260B

- Semivolatile organic compounds by USEPA SW-846 Method 8260C
- Metals by USEPA SW-846 Method 6010B and 7471A
- Total cyanide by USEPA SW-846 Method 9012A
- Available cyanide by USEPA MCAWW 1677 (April 2004 phase only)

In addition, groundwater samples collected from wells MW-5 and MW-7 at the substation/former MGP property and MW-9 at the St. John's property were analyzed for the following NA parameters:

- Sulfide by USEPA Method 376.2
- Sulfate by USEPA SW-846 Method 9056
- Nitrate by USEPA SW-846 Method 9056
- Total iron and manganese by USEPA SW-846 Method 6010B
- Dissolved iron and manganese by USEPA SW-846 Method 6010B
- Alkalinity by USEPA Method 310.1
- Unionized hydrogen sulfide by USEPA Method 4500 SF
- Dissolved gasses (carbon dioxide, methane, nitrogen, and oxygen) by Method AM20GAX

Ambient Air, Indoor Air, and Soil Gas

Ambient air, indoor air, and soil gas samples were analyzed for:

- VOCs by USEPA Method TO-15, with an extended analyte list to include 68 compounds.

Headspace above Groundwater and Soil

Samples of groundwater and NAPL-impacted soil were prepared in a headspace chamber under controlled laboratory conditions. The headspace vapors were then analyzed for:

- VOCs by USEPA Method TO-15, with an extended analyte list to include 68 compounds.

5.1.2 Quality Control

To meet the data quality objectives for the RI, NYSDEC Analytical Service Protocols (ASP) were used and all results were reported in Category B deliverables. These analyses were completed by STL-Pittsburgh. Dissolved gases data from groundwater samples collected at select wells were managed by STL-Pittsburgh but analyzed by MicroSeeps of Pittsburgh, Pennsylvania. STL is a current participant in the NYSDOH Environmental Accreditation Program (ELAP) and has current CLP certification for all analyte categories.

Table 5-1 lists the quality assurance/quality control (QA/QC) samples collected during the April, July, and September, 2004 investigation phases. To evaluate laboratory analytical quality and accuracy, RETEC submitted field duplicates for two soil samples, one groundwater sample, and one indoor air sample. To evaluate the effect of the natural chemical composition of the sample medium on the efficiency and accuracy of the analytical methods, RETEC submitted two soil samples and one groundwater sample for matrix spike and matrix spike duplicate analysis. One rinse blank was collected from the down-hole drilling equipment to evaluate the effectiveness of the decontamination procedures and the possibility of cross contamination between samples. In addition, a trip blank accompanied all aqueous VOC samples to determine if environmental conditions encountered during transportation of the samples may have impacted the sample analytical results. The results of the QA/QC samples were used by the laboratory to qualify data and by RETEC in the completion of a DUSR. QA/QC analytical results for the samples mentioned above are included in the analytical summary tables and the analytical reports provided in Appendix G.

The data collected during this RI were managed using the EQuIS data management system. Analytical data was produced by the laboratory in hard copy and electronic data deliverable (EDD) format. The data packages were reviewed by a RETEC chemist, who prepared a DUSR for each data delivery group. The DUSRs are included in Appendix G of this report. As part of the data review process, the analytical results were qualified, as appropriate in accordance with the data review protocols. The data summary tables included in this report reflect the findings of the DUSR. In summary, 14 volatile organic results from soil samples were rejected due to low instrument sensitivity. Some of these rejections were for four non-MGP compounds in samples SB-3 (13-13.5) and SB-4 (4-8). All of the other results were deemed usable with some qualification, as outlined in the DUSR reports.

5.2 Ambient, Indoor Air, and Soil Gas Results

The ambient air, indoor air, and soil gas samples collected on April 12, 2004 were analyzed for VOCs (USEPA Method TO-15) by ATL. The results are summarized in Table 5-2. Analytical laboratory reports are provided in Appendix G.

In Table 5-2, the ambient air results are presented to the left of the table. The two right-most columns present background indoor air values obtained from the New York State analyses of air samples from within typical residences heated with fuel oil. The background values are expressed as the 75^{th} and 90^{th} percentile values derived statistically from the datasets [NYSDOH, 2004]. Values within the 90^{th} percentile are considered to be within the range of typical background, especially considering that the background data were obtained primarily from residences. Apartment buildings, schools, and commercial buildings may contain higher VOC concentrations than residences because of the presence of larger quantities and use of products such as industrial-strength floor tile cleaners, floor polishes, and more frequent use of paints and other products by contractors operating within the buildings.

The following compounds were added to the typical analyte list for USEPA Method TO-15: naphthalene, indene, indan, thiophene, 2-methylpentane, isopentane, 2,3-dimethylpentane, and 2,2,4-trimethylpentane. The 68 VOCs that were analyzed are divided into two categories in Table 5-2:

1) Compounds including such compounds as benzene, naphthalene, and indene, that could possibly be related to MGP sources, but may also be related to non-MGP sources; and

2) Compounds including chlorinated hydrocarbons and MTBE (the gasoline additive) that are certainly not related to MGP sources.

As anticipated based on the results obtained from investigations in similar buildings, VOCs were detected in all of the air samples, including the ambient samples. However, the VOCs were detected at low concentrations, as compared to worker guidance values and as compared to typical VOC concentrations found in residences in New York State.

The VOC concentrations in indoor air were first compared to worker guidance values (the lowest of the OSHA-PEL, NIOSH-REL, or ACGIH-TLV). It is recognized that worker guidance values are not appropriate for evaluation of long-term health considerations for these buildings. The intent of this comparison was to identify immediate health considerations that might warrant immediate corrective action. All of the results were several orders of magnitude below the worker guidance values, and no immediate health concerns were identified.

The VOC concentrations in indoor air were then evaluated to determine whether the measured indoor air concentrations fell within the ranges that are typical of air inside residences. The typical background ranges are provided by the NYSDOH air quality database, and are expressed statistically as percentiles of the range (NYSDOH, 2004). The 90th percentile value means that 90 percent of the background results were below this value, and 10 percent were above this value.

In all of the indoor air samples collected from the St. John's School buildings on April 12, 2004, concentrations of VOCs categorized as Possibly MGP Related were substantively within the range of the 90th percentile of residential background. One compound, 4-methyl-2-pentanone, was detected in one sample at a concentration of 3.4 $\mu g/m^3$, as compared to the 90th percentile value of 3$\mu g/m^3$, and is not significantly different from this value.

Nine VOCs that were categorized as Non-MGP Related had indoor air concentrations exceeding the 90th percentile of residential background. These compounds were 1,1,1-trichloroethane, 1,1-dichloroethene, 1,1-dichloroethane, 1,2-dichloroethane, 1,4 dichlorobenzene, bromomethane, ethanol, tetrachloroethene, and trichloroethene. Sources of these VOCs include cleaning products, deodorants, dry-cleaned clothes, and solvents.

One VOC, categorized as Non-MGP Related, 1,2 dichlorobenzene, was detected in an ambient (outdoor) air sample at a concentration exceeding the 90th percentile of residential background.

The soil gas samples contained VOCs that were categorized as being possibly related to MGP materials, as well as VOCs that were categorized as being non-MGP related. The Possibly MGP-related VOCs detected in soil gas consisted of: 1,2,4-trimethylbenzene, 2,2,4 trimethylpentane, ethylbenzene, toluene, m/p xylenes and o-xylene. The Non-MGP Related VOCs detected in the soil gas consisted of: acetone, ethanol, tetrachloroethene, 2-butanone, methylene chloride, 2-propanol, Freon 12, and chloroform. To evaluate whether the soil gas VOCs were in fact related to MGP materials, the soil gas results were closely examined and compared with the results from the headspace analysis results as described in Section 5.5 of this report.

5.3 Groundwater and Soil Headspace Analyses Results

Shallow groundwater samples and NAPL-impacted soil samples collected during the April 2004 investigation phase and during the IRM activities at the former MGP site in December 2004 were prepared in a headspace chamber under controlled laboratory conditions. The headspace vapors were then analyzed for VOCs (USEPA Method TO-15) by ATL. The results are summarized in Table 5-3. Analytical laboratory reports are provided in Appendix G.

As indicated in Table 5-3, some of the soil headspace concentrations were higher than the instrument calibration range. Therefore, one of the samples, B-108 (36-40) was analyzed both at full volume (designated as "High") and diluted by analyzing a reduced volume aliquot (designated as "Low") to enable a more complete quantitation of the relative concentrations. ATL also analyzed headspace vapors from clean background soils (provided by the laboratory). These are designated as the Soil Blank and Water Blank in Table 5-3.

No VOCs were detected in the groundwater headspace samples. The VOCs detected in the soil headspace samples included 19 of the 23 VOCs categorized as Possibly MGP Related. The Non-MGP Related VOCs tetrachloroethene and acetone were also detected, but at low concentrations. Further discussion of these results is provided in Section 5.5.

5.4 Post-Investigation Ambient and Indoor Air Results

The post-investigation ambient air and indoor air samples collected on April 24, 2004 were analyzed for VOCs (USEPA Method TO-15) by ATL. The sample results are summarized in Table 5-4. Analytical laboratory reports are provided in Appendix G.

Table 5-4 presents the results and the background values for comparison in the same manner as described in Section 5.2 for Table 5-2.

The results of the post-investigation sampling conducted on April 24, 2004 were similar to the results of the April 12, 2004 sampling event, and indicated the investigation had no significant affects on indoor air quality.

The VOC concentrations in indoor air were first compared to worker guidance values (the lowest of the OSHA-PEL, NIOSH-REL, or ACGIH-TLV). It is recognized that worker guidance values are not appropriate for evaluation of long-term health considerations for these buildings. The intent of this comparison was to identify immediate health considerations that might warrant immediate corrective action. All of the results were several orders of magnitude below the worker guidance values.

The VOC concentrations in indoor air were then evaluated to determine whether the measured indoor air concentrations fell within the ranges that are typical of air inside of residential buildings. In all of the indoor air samples, the concentrations of the compounds categorized as Possibly MGP Related were all substantively within the range of the 90th percentile of residential background. One VOC, cyclohexane, was detected in one sample (basement of school, play room) at a concentration of 13$\mu g/m^3$, which is slightly, but not significantly, above the 90th percentile value of 9.1 $\mu g/m^3$. Two Non-MGP

Related compounds had indoor air concentrations exceeding the 90th percentile of residential background. These compounds were chloroform and, chloromethane.. The sources of these VOCs include refrigerators, air conditioners, and cleaning products.

The indoor air sample from the boiler room, near where the drums of drilling cutting and decontamination water were temporarily stored, had results that were comparable to ambient air and most other indoor air results, thus indicating that the waste storage had no adverse affects on indoor air quality.

The highest VOC levels were detected in the play room. Isopentane, which was detected at 170 $\mu g/m^3$, is not listed in the NYSDOH values of background concentrations and therefore no comparison to background could be made. Isopentane was not detected in any of the soil gas samples and thus its presence is not attributable to vapor intrusion. It is a common constituent of gasoline (United States Department of Health and Human Services, 1993; Merck, 1989) and it is a low level constituent of natural gas. Its presence is most likely attributable to either natural gas use in the building or a gasoline source such as a staff person who used the room having filled their car or gas-powered equipment (such as a lawnmower or leaf blower).

5.5 Evaluation of Vapor Intrusion

At the Site, the two potential concerns with regard to vapor intrusion were: (1) that MGP-related VOCs could be present in soil gas directly beneath the lowest elevation floor slabs of the school and gymnasium buildings; and (2) that these VOCs could be impacting indoor air quality by the process of upward intrusion of the soil gas vapors through these slabs. These concerns were addressed by examining all of the relevant data collected, including analytical results from the soil gas and indoor air samples, results from analysis of headspace vapors from groundwater and soil samples, and measurements made of the air pressure differential through the lowest elevation floor slabs. In addition, the soil gas results were compared with the headspace vapors of a sample that was collected in the southern former MGP relief holder area of the White Plains Substation property during the IRM activities and that was known to be impacted by MGP tar materials.

The soil gas results indicate that the soil gas samples collected below the floor slabs of the school and gymnasium buildings contained VOCs that were categorized by NYSDOH as being possibly related to MGP materials. In order to evaluate whether these VOCs were related to the MGP materials found at the White Plains substation site and at the St. John's property, the soil gas results were compared to the results of the headspace analyses performed on the MGP-impacted soil sample collected in the southern former relief holder area at the substation property and the four MGP-impacted soil samples collected at depths of 36 to 40 feet beneath the school building. This data comparison indicates that, although the sub-slab soil gas samples from the Site and the headspace above all of the MGP-impacted soil samples all contained toluene, xylenes, and other alkyl benzenes, the composition of the other chemicals in these samples was significantly different, indicating that MGP materials are not responsible for the VOCs detected in the soil gas samples from the Site. Specifically, the headspace of the MGP-impacted soil sample contained very high concentrations of naphthalene, indene, indane, and styrene as well as G-6 to G-11 alkanes that were not detected in the sub-slab soil gas samples from the Site. Additional detail is provided in a report prepared by Dr. Steven Hawthorne of SOTA Analytical, Inc. The report evaluates the chromatographic and mass spectral data and the USEPA TO-15 analyses data for the sub-slab soil gas samples, and soil and groundwater headspace samples. This report is provided in Appendix H.

The above conclusion is further supported by consideration of the soil and groundwater investigation results collected beneath the school building. The MGP-impacted soils were first encountered at a depth of approximately 40 feet below the basement floor. These soils were saturated with groundwater, which was first encountered at a depth of approximately 20 feet below the basement floor, thus eliminating a direct migration pathway of impacted soil vapors to the soil gas. The concentrations of VOGs in the groundwater samples collected at the water table were below detection limit for all MGP-related and possibly MGP-related compounds (as further described in Section 5.7). The concentrations of all VOCs in the headspace vapors from the groundwater samples were also below detection limits. The data therefore, demonstrate there to be no active migration pathway of MGP-related vapors to the soil gas below the school building and gymnasium floor slabs.

To evaluate the potential concern of vapor intrusion of soil gas into indoor air, the soil gas results were closely examined in comparison to the indoor air and ambient results to determine if there was evidence for vapor intrusion. This evaluation focused on 2,2,4-trimethylpentane. This compound, also known as iso-octane, is a common constituent of gasoline, typically comprising approximately 10% of unleaded gasoline (United States. Department of Health and Human Services, 1993; Merck, 1989). All five soil gas samples had very high concentrations of 2,2,4-trimethylpentane. In fact, the highest VOG concentration measured in the soil gas samples was that of 2,2,4-trimethylpentane, which was detected at a concentration of 1,700 $\mu g/m^3$ in the soil gas samples collected beneath the school kitchen and cafeteria floor. Because 2,2,4-trimethylpentane is relatively volatile, it would be expected to be found in indoor air if soil gas was a significant source of the VOGs in indoor air. The potential migration pathway from soil gas through a concrete slab to indoor air is quantified by relating soil gas concentrations to indoor air concentrations by an attenuation factor which is applied to the soil gas concentrations. Using the typical, conservatively high attenuation factor of

0.1, which can be applied to shallow soil gas results for screening purposes (USEPA, 2002), the estimated indoor air concentration of 2,2,4-trimethylpentane within the school cafeteria and kitchen would be 170 μg/m^3. However, this compound was only detected in one indoor air sample, at a concentration of 3.5 μg/m^3 (slightly above the detection limit), in the entry of the school basement (STJ2-IA-SB-101). It was not detected in indoor air samples collected from the school cafeteria and kitchen. This suggests that the actual attenuation factor for these areas of the school building is less than 3.5/1,700 or 0.002, indicating that the potential for vapor intrusion into the school building is very low. This also indicates that soil gas is an unlikely source of benzene or any other VOCs found in the indoor air samples. It should be noted that application of an attenuation factor implies that migration of soil gas from the sub-slab soil into the indoor air is occurring. However, the actual presence of this migration pathway was not established in this study.

In addition, the air pressure differential through the slabs was measured at low values, and even negative values, indicating air pressure from the indoor air down into the soil gas. These measurements further support the conclusion that vapor intrusion was not contributing to VOCs detected in indoor air in the buildings.

5.6 Subsurface Soil Results

5.6.1 Laboratory Analytical Results

A summary of the subsurface soil samples collected and analyzed during the April and July 2004 RI are summarized in Table 3-3. VOCs, SVOCs, trace metals, and total and available cyanide analytical results for all soil samples are summarized on Tables 5-5 through 5-7. Given the absence of cyanide in the April 2004 dataset, cyanide samples were not collected during the July investigation phase. The analytical results for total VOCs and SVOCs (compounds commonly associated with the operations of MGPs) detected in subsurface soil are also presented on Figure 5-1. As described below, the soil analytical results are compared to the concentrations listed in NYSDEC Technical Administrative Guidance Memorandum (TAGM) HWR-94-4046 – Determination of Soil Cleanup Objectives and Cleanup Levels ([NYSDEC, 1994). It should be noted that all soil sample depths are referenced to grade, whether it be the basement floor for samples collected inside the school building (borings B-102 through B-108) or the ground surface for samples outside the school building.

VOC and SVOC Results

The BTEX compounds (benzene, toluene, ethylbenzene, and xylenes) and PAHs are typically the most commonly detected VOCs and SVOCs at former MGP sites. These compounds are known to occur in tars, and, therefore, are useful MGP indicator compounds although they are also present in other petroleum hydrocarbons that may or may not be associated with former MGPs.

One or more of the BTEX compounds were detected in five of the 14 subsurface soil samples collected in April 2004 and 11 of the 22 samples collected in July 2004. Beneath the school, total BTEX concentrations ranged from 0.0562 mg/Kg at B-108 (50′-52′) to 478 mg/Kg at B-108 (40′-43′). Outside the school footprint, detected BTEX concentrations ranged from 0.0008 mg/Kg at B-111 (56′-60′) to 213 mg/Kg at B-109 (50′-51.5′). One or more of the PAH compounds were detected in seven of the 14 subsurface soil samples collected in April, and 18 of the 22 samples collected in July 2004. Concentrations of detected total PAHs ranged from 0.11 mg/Kg at B-103 (55.5′-56′) to 8,360 mg/Kg at B-107 (40′-42′). Individual BTEX and PAH compounds were detected above their TAGM recommended soil clean up objectives (RSCOs) in borings B-102, B-103, B-107, B-108, B-109, B-110, B-111, B-113, B-114, and B-117 in samples collected from depths ranging from 39 to 60 feet either below the ground surface for borings placed outside of building footprints or below the basement floor for borings placed within building footprints (Table 5-5 and 5-6). These samples were collected from visually impacted soils. Samples collected from the first apparent clean interval below the impacted zone were below RSCOs at all locations for BTEX compounds and all but three of the boring locations (B-108, B-113, and B-117) for PAHs. At these locations, concentrations in the deeper samples at each boring location were considerably lower in concentration than those detected in the shallower sample interval at the same location (Tables 5-5 and 5-6). Many of the SVOC exceedances at B-108 and B-113 were for two or three PAH compounds with the lowest RSCOs. Despite these exceedances, there are sufficient data from adjacent borings at depth to fully delineate the extent of RSCO exceedances in subsurface soils. One VOC compound (2-Butanone) not contained in the BTEX list was also detected above its RSCO value of 0.3 mg/kg (Table 5-5). Dibenzofuran, a SVOC, was also detected at estimated concentrations above the TAGM RSCO of 8.2 mg/Kg in three samples (B-107, B-108, and B-109) at depths of 40-42 feet, 40-43 feet, and 50-51.5 feet, respectively (Table 5-6).

No VOCs or SVOCs were detected in samples collected from borings B-101, B-104, and B-118, or in samples collected just above the water table (16 to 20 feet bgs) at all borings sampled at this depth interval (B-102 through B-104) beneath the school building. At those borings where VOCs and SVOCs were detected in the saturated soils, the highest concentrations detected were limited to depths ranging from 39 to 43 feet below the basement floor within visibly impacted soils beneath the school and at 50 to 53 feet bgs in borings outside the school footprint, and concentrations below these depths were significantly lower or below analytical detection limits at all boring locations except B-102.

Metals and Cyanide Results

A total of 17 metals were detected in subsurface soils. As shown on Table 5-7, these metals have a relatively consistent distribution indicating that they are likely present from natural soil conditions rather than from an MGP source. In addition, comparison of the metals concentrations with Eastern USA background concentrations (as cited in TAGM 4046) reveals that magnesium was the only metal detected above the specified background range of 100 to 5,000 mg/kg (Table 5-7). Given the widespread exceedances of typical background concentrations for magnesium in the site soil samples, it is inferred that these results represent a localized natural occurrence of higher than normal magnesium concentrations in the White Plains area rather than being associated with the former MGP or activities that have occurred at the St. John's property. This is also supported by the sample collection depths (deep and in natural soils and not likely affected by surface activities). Cyanide concentrations were below detection limits in all samples collected in April 2004 with the exception of an estimated concentration of total cyanide (0.27 mg/Kg) detected at B-102 (36-40). TAGM 4046 does not currently list a RSCO for cyanide; however, the concentration of total cyanide at B-102 is well below typical risk-based screening levels. As stated previously, no cyanide analyses were performed on the samples collected in July 2004 given the general lack of cyanide in worst-case samples collected in April 2004.

5.6.2 NAPL Delineation Results

The approximate horizontal extent of deep subsurface NAPL is illustrated in map view on Figure 5-2. All of the NAPL identified at the site was denser than water. The horizontal limits of NAPL were extrapolated from visual observations made during the recent investigation and from borings installed during the investigation at the former MGP site (Parsons, 2004). As shown on the figure, impacts were observed in four of the six soil borings (B-102, B-103, B-107, and B-108) advanced in April 2004 and six of the 12 borings (B-109 through B-111, B-113, B-114, and B-117) advanced in July 2004. In contrast, no gross-impacts or NAPL were observed at soil borings B-101, B-104, B-112, B-115, B-116, B-118, B-119, and B-120 or borings SB-23, SB-25, SB-28, and SB-29 installed during the investigation of the former MGP site (Figure 5-2).

Visual impacts consisted of elevated PID readings and varying quantities of NAPL-impacted soils or residual NAPL stringers observed from approximately 39 feet bgs at borings along New Street between the former MGP site and the St. John's property to up to 52.75 feet bgs south and west of the school building. No gross visual impacts were noted in the soil above these depths at any of the April 2004 investigation locations. Figures 5-3 and 5-4 show the observed vertical extent of deep subsurface NAPL in two cross-sections across the site. The locations of these cross-sections are shown on Figure 4-1. As shown on Figure 5-3, the NAPL gradually deepens within the unconsolidated deposits. Data presented on Figures 5-3 and 5-4 are also summarized on Table 5-8. All of the borings, with the exception of B-102, were advanced to sufficient depths to vertically delineate the extent of NAPL. At B-102, equipment limitations forced termination of the boring before complete vertical delineation could be obtained. However, complete vertical delineation of NAPL was performed at numerous borings adjacent to and downgradient from B-102 (Figures 5-3 and 5-4, Table 5-8).

The upper most part of the impacted zone consists of thin horizontal bands of residual NAPL, which increase in frequency and thickness with depth until the natural soil coloration is completely stained. The impacts were observed in the fine sand unit with no observation of a confining unit. Despite the lack of an apparent confining layer, the bottom of the impacted zone contains a distinct base, with soils in close proximity to the NAPL being free of visible contamination. These observations are supported by the analytical data presented in Tables 5-5 and 5-6. Examples of the distinct nature of the impact zone are shown in Appendix C. Based on a review of the locations of historical structures at the former MGP site (Figure 2-1), the suspected source of the deep subsurface NAPL beneath the St. John's property is the area including and north of the former southern relief holder located at the substation property. As discussed in Section 2.1, the former southern relief holder and associated impacted materials above the water table have been removed as part of the IRM project recently completed by Con Edison at the former MGP site. In addition, an impermeable NAPL cut-off wall was installed just downgradient of the southern relief holder area to contain and prevent potential migration of any remaining contamination toward the St. John's property. Field PID screening results for VOCs are included on the boring logs in Appendix B. In general, PID readings were less than 10 ppm in the soils with no visual impacts or odors. It should be noted that PID readings less than approximately 10 ppm are considered background due to likely moisture effects within the bagged samples screened for PID readings. PID readings within impacted material typically ranged from 600 ppm to 930 ppm and were as high as 2,470 ppm at B-109. Beneath the impacted zones, PID readings rapidly decreased (Appendix B). As expected, the decrease in PID readings corresponds with decreases in visual impacts. In addition, no elevated PID readings were noted in the soil samples collected at the water table in any of the borings advanced during the RI.

5.7 Groundwater Results

Groundwater sampling locations for this RI are shown on Figure 3-6. A list of the groundwater samples collected and the analyses completed is shown on

Table 3-4. A summary of groundwater purging field parameters is provided on Table 5-9. VOCs, SVOCs, metals, and available cyanide results for groundwater are summarized on Tables 5-10 through 5-12. The analytical results for total VOCs, total SVOCs, and total cyanide detected in groundwater are also presented on Figure 5-5. The following two sections discuss the groundwater analytical results based on a comparison to either guidance values or standards listed in NYSDEC – Division of Water – TOGS (1.1.1) – 6 NYCRR 703.5 (NYSDEC, 1998).

5.7.1 VOC and SVOC Results

The BTEX and PAH compounds, typically the most commonly detected VOCs and SVOCs at former MGP sites, were below detection limits in all shallow groundwater samples collected in April 2004 from borings B-101 through B-104 using the direct-push sampling method. Detected VOC compounds at these locations were limited to trace concentrations of chloroform, a common laboratory contaminant, and tetrachloroethene, a solvent not typically associated with former MGPs. At deep well MW-9, six VOCs and seven SVOCs were detected in September 2004. Of these, the BTEX compounds, styrene, naphthalene, and phenol were detected at concentrations exceeding the NYSDEC standard values.

5.7.2 Metals and Cyanide Results

A total of nine metals were detected in the shallow groundwater samples collected at B-101 through B-104 (Table 5-12). Of these, magnesium was detected in two of the four samples at concentrations in exceedance of the NYSDEC standard values, and sodium was detected in all of the samples at concentrations above the NYSDEC standard value. Both of these metals commonly occur naturally in the environment and are not considered associated with MGP sites. Twelve metals were detected in the groundwater sample from deep well MW-9. In addition to magnesium and sodium, iron and manganese were detected at concentrations in exceedance of the NYSDEC standard values at MW-9. Similar to magnesium and sodium, iron and manganese are considered to be naturally occurring in the site area and are not considered MGP contaminants.

Total cyanide concentrations detected in the shallow groundwater samples ranged from 5 μg/L (estimated) at B-104 to 38 μg/L at B-103. These concentrations are below the NYSDEC groundwater standard value of 200 μg/L. Total cyanide was not detected in well MW-9. Available cyanide was not detected in any of the samples (Table 5-12).

5.7.3 Evaluation of Natural Attenuation

As discussed in Section 3.9.3, groundwater samples were collected at three monitoring wells including MW-5 and MW-7 on and adjacent to the former

MGP site, and well MW-9 at the St. John's property to evaluate the potential for NA at the St. John's School site (Figure 3-6). Wells MW-5 and MW-7 are screened across the water table and MW-9 is screened within the aquifer at depth. Hydrogeologic data presented in this RI show that the aquifer acts as a single aquifer with slight downward gradients (as demonstrated at the MW-8 and RW-4 "well pair"), thus facilitating the comparison of data within the shallow and deeper portions of the aquifer. The purpose of this baseline evaluation was to determine whether NA of dissolved phase impacts is occurring at some level at the site.

Initially, based on historical data and the proximity of the former MGP structures and possible source areas to the upgradient site boundary, MW-7 was chosen as a potential background/cross-gradient well (since MW-6 and MW-5, the other two wells near the upgradient boundary at the substation contained known MGP-impacts), well MW-5 as a potential "source area" well based on the BTEX and PAH concentrations in this well in April 2000 and August 2001, and MW-9 as a downgradient well along the presumed center-line of the groundwater plume. However, during the September 2004 groundwater sampling event, MW-5 contained NA "signatures" more consistent with an upgradient location, resulting in its classification as a combined upgradient/former source area well as described below. In addition, based on the groundwater flow conditions at the substation observed during the September 2004 sampling event, well MW-7 was determined to be hydraulically downgradient of MW-5. This condition, while not reflected in available historical data, resulted in NA "signatures" at MW-7 that were more consistent with a cross-gradient or downgradient well location than a background location as initially selected.

A summary of the geochemical data used to evaluate NA at the site is included on Table 5-9. As shown on the table, wells MW-5, MW-7, and MW-9 were sampled for the full suite of potential TEAs listed in Section 3.9.3, as well as for field water quality parameters including dissolved oxygen (DO), oxidation reduction potential (ORP), temperature, pH, and conductivity. Based on a review of the data presented in Table 5-9, the following key geochemical parameters/TEAs were noted for the site. The significance of these parameters in the evaluation of the potential for NA at the site is discussed following the presentation of these key parameters:

Alkalinity – Increases in alkalinity concentrations across a contaminant plume are potentially an indicator of biological activity (API, 1997).

Oxygen and Oxidation Reduction Potential – Since oxygen is the most thermodynamically favorable TEA, depletion of oxygen in areas of dissolved COI is expected compared to background locations as a result of the use of oxygen as the preferred TEA under aerobic biodegradation processes. Highly positive ORP values indicate areas where natural contaminant biodegradation is taking place under aerobic conditions while lower to negative values indicate areas where anaerobic biodegradation reactions (lower energy yield to microbes) predominate. ORP values tend to be lowest within or immediately downgradient of current or former source areas, and higher in outlying areas.

Nitrate and Ferric Iron – Under anaerobic conditions, microbes may use nitrate and ferric iron (Fe^{+3}) as terminal electron acceptors, resulting in the depletion of nitrate and the accumulation of ferrous iron (Fe^{+2}) in areas of residual dissolved organics or in areas immediately downgradient of these areas.

Carbon Dioxide – Petroleum hydrocarbon degradation under both aerobic and anaerobic processes produces carbon dioxide (API, 1997). An increase in CO2 across a site can therefore be used as an indicator of biological activity. The CO2 produced during these processes can in turn be consumed during further biodegradation through the process known as methanogenesis, or CO2 reduction.

Summary

The key geochemical data (listed above) collected from these wells and summarized on Table 5-9 fit the conceptual model discussed in Section 3.9.3. For example, upgradient/former source area well MW-5 contained the lowest alkalinity concentration, no dissolved iron, the highest nitrate concentrations, and lowest carbon dioxide concentrations. Combined, these results are indicative of background conditions which can be explained by the hydraulically upgradient position of this well within the former MGP site. A "fresh" supply of TEAs are available at this location, and allow for efficient biodegradation of COI to take place under aerobic to sub-aerobic conditions. In comparison, well MW-7 contained elevated alkalinity, dissolved iron, methane; and carbon dioxide concentrations, lower nitrate concentrations, and negative ORP values. These data are typical of groundwater that has been "treated" through NA biological processes (Weidemeier *et. al.*, 2000). In comparison to both MW-5 and MW-7, downgradient well MW-9 contained the highest alkalinity concentration, elevated dissolved iron compared to MW-5, and the highest carbon dioxide concentrations at the site. These findings are indicative of wells located within or directly downgradient of a dissolved phase plume undergoing intrinsic biodegradation. These findings are also consistent with hydraulic data for the site that show slight downward gradients within the aquifer that allow migration of geochemical constituents used to evaluate NA from shallower portions of the aquifer to deeper portions of the aquifer. It should be noted that all three wells exhibited very low levels of dissolved oxygen, which provides evidence that aerobic respiration occurred near to or upgradient of these locations.

Overall, the analysis of the geochemical data collected for the site during the RI indicates that NA of dissolved COI is occurring to some extent in groundwater beneath the site. This conclusion is further supported by decreases in dissolved COI concentrations over time observed at MW-5. At this well, total BTEX concentrations decreased from 701 µg/L in April 2000 (Parsons, 2004) to 128.2 µg/L in August 2001 (the most recent sampling event) and total PAH concentrations decreased from 3,303 µg/L to 1.48 µg/L over the same time period. (While the apparent dramatic decrease in dissolved COI at MW-5 might be related to possible sampling or well installation artifacts [that could artificially elevate the initial sampling data and thus help create the dramatic decrease in COIs noted at this well over time], a review of the analytical data and sampling dates in relation to the installation date for this well and all other wells showed no apparent issues. Well MW-5 was installed in March of 2000 and the initial sampling data were collected in August of 2000, giving ample time for groundwater equilibration.) In addition to the geochemical and COI data, the overall lack of shallow zone impacts the St. John's property compared to the substation area provides indirect evidence that NA is occurring to some extent in the shallow groundwater zone. While NA is likely limiting the horizontal extent of the shallow groundwater plume emanating from the substation, downward vertical gradients in the aquifer (as noted in the MW-8 and RW-4 "well pair") are likely prohibiting the upward migration of deeper groundwater impacts into clean shallow groundwater beneath the St. John's property.

GC/FID Fingerprinting Results

Soil samples collected from borings B-107 (40-42) and B-108 (40-43) were prepared by solvent extraction (USEPA 3570) and fingerprinted by gas chromatography with a flame ionization detector (GC/FID) by META Environmental, Inc. Both samples contained the same material, which was identified as MGP tar, probably from a carbureted water gas process. These findings are generally consistent with the fingerprint work done at the former MGP site, which reported the NAPL as "MGP tar" (Parsons, 2004). The presence of mono-aromatic hydrocarbons (MAHs) and high concentration of naphthalene relative to other analytes indicate that these samples have not been subjected to substantial weathering. The laboratory report is provided in Appendix G.

6 Qualitative Exposure Assessment

This section integrates the data and information gathered during the RI and provides a qualitative assessment of potential risks that could be associated with the subsurface environmental conditions encountered at the Site. This assessment was performed by identifying potential sources, migration routes for the constituents of interest (COI) discussed in Section 5, receptors, and exposure pathways at the Site. A review of the significance of each element identified as being present was then performed. The assessment presented below includes a review of the site setting and identifies and defines site areas of interest according to current building and land uses. The exposure considerations listed below are discussed as they relate to each use area and are summarized in Table 6-1:

- Potential receptors
- Sources of COI
- Exposure medium to the receptors
- Receptor intake routes and exposure pathways
- Significance of the exposure pathway and potential exposure

6.1 Site Setting

The RI focused on the subsurface conditions present at the St. John's property. This investigation included analysis of the potential for migration of vapors from subsurface contamination into the school building, gymnasium, rectory, and church present at the site. Both the buildings and grounds are addressed in this qualitative risk assessment. Receptors associated with New Street, other public streets surrounding the property, and other off-site receptors are not addressed in this risk assessment.

The St. John's property is located in an urban area. The school and associated church, rectory, and grounds comprise nearly the entire block, and is surrounded by city roadways. The northern, eastern, and western portions of the property are covered by buildings and paved parking areas. The central and southern portions of the property are covered by a grass lawn. This lawn area is accessible to members of the school, but it does not appear to be used as a playground or sports field. Fencing surrounds portions of the property; however, the entryways to the property are open and there is no control over pedestrian traffic across the site.

The site is generally flat, with a gradual slope along the west side towards the Bronx River to the west, and a slope at the north side towards the north and northeast. The area along the eastern side of the block slopes to the east, away from the church. No surface water bodies are found on the property.

6.2 Conceptual Site Model

Table 6-1 presents the potential subsurface sources, migration pathways, receptors, and potentially complete exposure pathways for each area of interest. Each of these considerations are identified and discussed below.

6.2.1 Sources and Migration Pathways

The presence of NAPL in the subsurface of the Site presents the potential for exposure to VOCs, PAHs, and metals. This NAPL migrated at depth (>35 feet bgs) onto the property from the former MGP site to the north. The NAPL is located at the center of the site, beneath the school building, and extending to the area beneath the gymnasium at depths ranging from approximately 35 to 53 feet bgs (Figure 5-2). Soils which exceed NYSDEC recommended cleanup objectives are found exclusively at a depth greater than 35 feet below the ground surface near the northern edge of the St. John's property and deepen to depths below 50 feet to the south and southwest.

The contaminants in soil have the potential to impact groundwater or volatilize into soil gas or ambient air. Groundwater is found approximately 20 to 23 feet below the basement floor of the school, and approximately 30 feet bgs at the surrounding areas. Groundwater at the water table is not impacted by MGP-related compounds; however, it is inferred that groundwater in direct contact with the DNAPL-impacted soils does contain dissolved VOCs and SVOCs since groundwater immediately downgradient of the NAPL zone at MW-9 contains BTEX, styrene, naphthalene, and phenols in excess of standard guidance values. The relevance of these impacts is discussed later in this section. Groundwater flow is generally to the southwest, in alignment with the NAPL plume. While the downgradient edge of the dissolved plume has not been confirmed, it is highly unlikely that the plume reaches the nearest discharge location, the Bronx River, given the considerable distance (approximately 900 feet) between the site and the river. Therefore, it is very unlikely that there will be dissolved-phase impact to a receptor via this potential exposure pathway.

As discussed previously, an indoor air quality assessment was conducted at the St. John's school building, gymnasium, and rectory to evaluate potential intrusion of VOCs into the buildings. The results of that assessment showed that no impacts due to the NAPL beneath the school were detected. VOCs were detected in the indoor air; however, the concentrations measured in indoor air were within the range considered typical by NYSDOH for residential buildings.

6.2.2 Receptors and Exposure Pathways

Identification of potential human receptors requires an analysis of complete exposure pathways. A complete pathway is one that meets the following criteria (USEPA, 1989):

- A source of COI must be present;
- Release and transport mechanisms and media must be available to move the chemicals from the source medium (*e.g.*, soil) to the exposure medium (*e.g.*, groundwater);
- An opportunity must exist for receptors to contact the affected media; and
- A means for chemical uptake (*e.g.*, ingestion, inhalation, *etc.*) must exist.

Only exposure pathways that meet all of these four criteria are included in the risk assessment.

Potential current receptors at the Site include the following:

- Students and staff of the St. John's School
- The residents of the St. John's Church Rectory
- Workers who maintain the buildings and grounds
- Utility workers who maintain or repair subsurface utility lines beneath the property
- Visitors to the property, pedestrians who walk on or through the site, and those who attend the St. John's Church

As described above, the primary impacts to site receptors are associated with subsurface soils impacted by NAPL, and groundwater containing dissolved COI. Factors related to both of these media are described below.

Soil Exposure

The relevant potential direct soil exposure pathways for each receptor are described below, and summarized in Table 6-1.

- **Students and Staff**: Students and the school staff occupy the school building, gymnasium, and school and church grounds. These receptors are not exposed to subsurface soil or groundwater.

Surface soils are not expected to be impacted given the discrete nature of the deep soil and groundwater impacts identified beneath the site and the history of site use as residential property and as a school and church (see Section 6.3.1). Therefore, the only potential exposure pathway is by inhalation of indoor air if it has been impacted by intrusion of impacted soil gas.

- **Rectory Residents**: Residents are present in the church rectory, located immediately east of the portion of the site where NAPL is present in the subsurface. As with the school staff and students, the only potentially complete pathway for these residents would be through the intrusion of impacted soil gas from the site soils to the inside of the building.

- **Grounds and Building Maintenance Workers**: Outdoor workers may potentially be exposed to constituents in surface soil via direct contact (*i.e.*, incidental ingestion, dermal contact, and inhalation of volatiles or particulates) while performing light maintenance activities such as lawn care and other landscaping activities. As stated previously and summarized in Section 6.3.1, surface soils are not expected to be impacted given the discrete nature of the deep soil and groundwater impacts identified beneath the site and the history of site use as residential property and as a school and church. Building and grounds workers will not be directly exposed to subsurface soil contamination because contaminants are located at depths greater than 35 feet bgs near the northeastern site boundary and greater than 50 feet in the courtyard area of the school.

- **Utility Workers**: Periodically, utility lines associated with the site buildings may need to be accessed by utility workers for maintenance or repair purposes. The utility workers will not be directly exposed to subsurface soil contamination because contaminants are located at depths greater than 35 feet bgs near the northeastern site boundary and greater than 50 feet in the courtyard area of the school.

- **Churchgoers, Visitors, and Pedestrians**: A number of people enter the grounds of the property for short periods of time. People enter the church building at the southeast side of the site for services; visitors to the school, church, or rectory enter the grounds and buildings; and pedestrians walk through the site as they use it as a shortcut across the neighborhood. No exposure to subsurface soils and groundwater is possible. If any of these receptors enter buildings at the site then they would be exposed to indoor air.

Groundwater Exposure

A number of migration and exposure pathways are potentially relevant for groundwater. These are described below.

- **Groundwater as a Source of Drinking Water**: No water supply wells are present at the site or in the area, and the site and the surrounding areas are serviced by a municipal water supply. This exposure pathway is therefore incomplete and will not be considered further.

- **Incidental Contact with Groundwater**: Groundwater is found 20 feet or more below the basement floor of the school. It is very unlikely that a utility line excavation would extend this deeply.

- **Groundwater to Surface Water Migration Pathway**: There are no surface water bodies at the site or in the immediate vicinity, therefore this migration and exposure pathway is not complete.

- **Volatilization of VOCs from Groundwater**: Deep groundwater in contact with NAPL beneath the school or migrating onto the site from the MGP site contains dissolved VOCs and SVOCs. However, shallow groundwater present at the water table was found not to be impacted by COI. Surface groundwater will not act as a source of contaminants for soil gas, as there is no pathway for COI from the NAPL to the water table.

Soil Gas Exposure

It is important to note that impacted soil gas is not a primary source medium like soil or water, but the result of the volatilization of VOCs from soil or water to air. Impacted soil gas can be generated at a site by releases from source materials, or it may migrate onto a site from other sources. MGP-related soil gas sources for the St. John's property include both on-site source materials, and sources at the adjacent MGP site. The potential exists for migration of impacted soil gas vapors from the MGP site to the property. Note also that soil gas can be impacted by a wide array of non-MGP sources, such as petroleum products. This risk assessment does not address-risk associated with non-MGP materials.

6.3 Evaluation of Environmental Data

Soil, groundwater, soil gas, and indoor air were sampled and analyzed during this investigation. In Section 5, soils were compared to the RSCOs and Eastern USA Background concentrations, groundwater data were compared to NYSDEC drinking water guidance and standard values, and soil gas and indoor air data compared to concentrations found inside of typical residential dwellings. A summary and review of the significance of these data is presented below.

6.3.1 Soil

Surface soils

Surface soils were not analyzed during this investigation. Based on the history of site use as residential property and as a school and church, it is likely that the surface soils contain concentrations of COI typical of urban soils. The transport of COI from the MGP site to the school via windblown deposition of contaminated dust was not examined in this RI. However, this is considered an unlikely route for contaminant migration from the MGP site.

Subsurface soils

Subsurface soils exhibited a wide range of conditions. Most subsurface soils did not exhibit evidence of gross contamination. Soils above and below the NAPL plume were found to meet NYSDEC RSCOs for all COI except for PAHs in the deepest samples collected at three of the boring locations. The greatest soil impacts were due to the presence of NAPL at depths from 36 below the basement floor of the school to 53 feet bgs in the school courtyard area. The area extent of NAPL impact is shown on Figure 5-2, and in cross-sections in Figures 5-3 and 5-4. Soils within this NAPL plume contain high concentrations of VOCs and SVOCs.

6.3.2 Groundwater

Groundwater was not sampled from within the NAPL-impacted zone beneath the site. Groundwater sampled at the downgradient edge of this zone contained dissolved phase VOCs and SVOCs above NYSDEC guidance values and standards. These compounds include the more soluble VOCs and SVOCs including benzene, ethylbenzene, toluene, xylenes, styrene, and naphthalene. Despite these impacts at depth, groundwater at the water table was found not to be impacted, indicating that there is no mixing of groundwater from the NAPL zone to the water table. Significant decreases in concentrations of a similar suite of COI at the adjacent former MGP site, coupled with geochemical data collected at the former MGP site and the St. John's property, indicate that natural attenuation is occurring at the site. Source removal at the former MGP site, together with ongoing natural attenuation of COI in groundwater, is expected to further degrade dissolved phase COI in groundwater over time beneath the St. John's property.

Groundwater movement beneath the site is to the southwest towards the Bronx River, approximately 900 feet west of the site. Based on the attenuation of COI in groundwater observed at the site, it is unlikely that any impacts from groundwater would be detectable in the Bronx River.

6.3.3 Soil Gas and Indoor Air

The sampling of soil gas and indoor air indicated the following:

- Concentrations of MGP-Related VOCs in indoor air were substantively within the 90^{th} percentile of residential background concentrations.

- Elevated VOC concentrations were detected in soil gas samples; however, these compounds were attributed to potential gasoline sources.

- A comparison of soil gas to indoor air data indicated that migration of soil gas from the subsurface to indoor air was an unlikely migration pathway.

Note that this is consistent with the groundwater observations. Since COI are not migrating from the NAPL zone to the water table, there is no mechanism for the generation and release of impacted soil gas vapors to the vadose zone.

6.4 Evaluation of Potential Risk

This section presents an evaluation of potential risk for each receptor that could be exposed to COI at the Site. Based on the results of the evaluation of complete exposure pathways, the potential risks to each receptor have been identified and are discussed below.

6.4.1 Students and Staff

This investigation and risk evaluation found that there is no exposure of this receptor group to MGP-related COI due to the factors listed below:

- Although the NAPL plume is located directly beneath the school building, impacted soils and groundwater are not accessible to this receptor group, and the impacts are found at significant depths below the building basement (greater than 30 feet) and the ground surface (greater than 35 feet bgs near the northern site boundary and greater than 50 feet in the courtyard area of the school).

- MGP Related VOCs were not detected in air inside the school building or gymnasium at concentrations in excess of those found in typical residential homes.

Based on the findings of the RI and the indoor air sampling of the school and gymnasium buildings, there are no significant COI levels present within the buildings or at a reasonable depth (up to 20 feet) beneath the buildings. In addition, there are no exposure pathways which would allow students or staff to come into contact with subsurface soil or groundwater which might contain COI.

6.4.2 Rectory Residents

Residents are present at the northeast side of the site in the rectory building. This investigation found that there is no exposure to residents of this building to MGP-related COI due to the factors listed below:

- The rectory is not located over the NAPL and groundwater plume. Although this plume is very close to the western edge of the rectory, it is well below the building and ground surface.

- Indoor air sampling within the rectory and soil gas sampling at an outside adjacent location indicated that MGP-related COI are not present inside or in close proximity beneath the building.

Based on the findings of the RI and the indoor air sampling in the rectory, there are no significant COI levels nor exposure pathways present within or in close proximity to the rectory building.

6.4.3 Indoor and Outdoor Workers

Workers who maintain the school grounds and the exterior of the buildings or indoor workers will not be exposed to MGP-related COI for the same reasons listed in Section 6.4.1. No MGP-related COI were present in indoor air, soil gas, or groundwater samples collected near the water table.

6.4.4 Utility Workers

Subsurface utility lines may need to be accessed by utility workers for maintenance or repair purposes. Workers may also be exposed to soil gas released during excavations. However, no MGP impacts are present above the water table, and NAPL is found at depths greater than 30 feet below the basement of the school, and at greater depths below the ground surface. It is very unlikely that excavations for utility lines or other purposes would be advanced to a depth where MGP impacts would be encountered. Therefore, this exposure pathway is incomplete and exposure is highly unlikely.

6.4.5 Churchgoers, Visitors, and Pedestrians

A number of people enter the grounds of the school, church, and rectory on an infrequent basis or for a short duration. Entry into any of the site buildings will expose visitors and churchgoers to indoor air; however, no exposure or risk is associated with these activities in the school, rectory, or gymnasium buildings due to the absence of MGP-related impacts to soil gas and indoor air. No indoor air or soil gas impacts are anticipated in the church because it is located outside of the area of the identified subsurface NAPL plume.

6.5 Ecological Risks

The Site is located in an urban residential and commercial area. There are no natural areas or surface water bodies at or in the vicinity of the site; therefore there are no ecological receptors which may be impacted by MGP residuals. The nearest receptor for groundwater is the Bronx River, 900 feet downgradient of the site. Source removal activities at the MGP, coupled with natural attenuation of the groundwater plume at depth, would eliminate impacts prior to groundwater discharge into the river.

6.6 Conclusions

NAPL from the White Plains MGP has migrated beneath the St. John's School buildings and grounds. However, there are no migration pathways by which compounds in the NAPL can reach any of the potential receptors at the school or church. Direct testing of the indoor air in the basement of the school building, the gymnasium, and the rectory confirm that MGP GOI are not present inside these structures at concentrations substantively above the typical range of VOCs found in residences in New York State. Based on these findings, there is no indication that any of the receptors associated with the St. John's School or Church are at risk from MGP-related compounds. Note that this conclusion excludes any exposure which may be related to surface soil since no testing of surface soil was performed. However, surface soil is not anticipated to be impacted by MGP-related GOI based on the history of site use. In addition, the transport of COI from the MGP site to the school via windblown deposition is considered an unlikely contaminant migration route at this site.

7 Summary and Conclusions

This section summarizes the findings of the RI investigation of the St. John's School and Rectory property as a result of its proximity to the White Plains former MGP site. An overview of the nature and extent of COI is presented by media and area, and locations of known or potential source material are identified.

7.1 Site Geology

The soils at the site consist of two units above the bedrock, including:

- A fill unit was observed across the site beneath the ground surface in thicknesses ranging from 5 to 8 feet. This unit is composed primarily of reworked brown, dry, fine sand from the native unit below.

- Beneath the fill is a thick sequence of fine interbedded sands up to approximately 81-feet thick at B-110 (Appendix B). This lower sand unit is comprised of brown and gray, fine sand with trace layers of silt and gravel. The bedding is marked by slight changes in color and composition. Specks of black minerals (mica) are common throughout, giving the material a salt and pepper appearance.

- Weathered bedrock, identified as the Manhattan Schist, was encountered below the interbedded sand unit at approximately 64 feet bgs between the rectory and the school building, where it deepens to approximately 86 feet bgs on the southern edge of the school building.

7.2 Site Hydrogeology

There are no surface water bodies at or in the immediate vicinity of the site. Precipitation at the site drains into the stormwater sewer system or infiltrates to the subsurface in the landscaped areas. The water table is found at a depth of approximately 20 to 23 feet below the school basement and 21 to 30 feet bgs outside of the school building at the St. John's property. Groundwater in the overburden soils is unconfined and flows from northeast to the southwest in the general direction of the Bronx River.

7.3 Nature and Extent of Constituents of Interest

Four media of concern were investigated at the site: subsurface soil, soil gas, air (indoor air and ambient air), and groundwater. A summary of the conclusions related to each media are presented below.

7.3.1 Evaluation of Indoor Air Impacts

As anticipated based on the results obtained from investigations in similar buildings, VOCs were detected in all of the air samples, including the ambient samples. However, the VOCs were detected at low concentrations, as compared to worker guidance values and as compared to typical VOC concentrations found in similar buildings.

The results of the post-investigation sampling conducted on April 24, 2004 were similar to the results of the April 12, 2004 sampling event, and indicated the investigation activities had no adverse affects on indoor air quality. All of the results were several orders of magnitude below the worker guidance values. In all of the indoor air samples collected on April 24, 2004, the concentrations of the compounds categorized as Possibly MGP Related were all substantively within the 90th percentile of residential background.

7.3.2 Evaluation of Potential MGP Vapor Intrusion

At the Site, the two potential concerns with regard to vapor intrusion were: (1) that MGP-related VOCs could be present in soil gas directly beneath the lowest elevation floor slabs of the school and gymnasium buildings; and (2) that these VOCs could be impacting indoor air quality by the process of upward intrusion of the soil gas vapors through these slabs. These concerns were addressed by examining all of the relevant data collected, with the following associated conclusions:

- A comparison of soil gas and indoor air sample results showed that it is unlikely that soil gas is the source of benzene or other VOCs found in the indoor air samples.

- The chemical profile of headspace vapors from MGP-impacted soil samples differed substantially from the chemical profile of the soil gas samples. This indicates that the source of the VOCs detected in the soil gas is not related to MGP impacts.

- The air pressure differential through the lowest elevation floor slabs was measured at low values, and even negative values, indicating air pressure from the indoor air down into the soil gas. These measurements further support the conclusion that vapor intrusion was not contributing to VOCs detected in indoor air in the school or gymnasium buildings.

- The soil and groundwater investigation results indicate that the MGP-impacted soils were first encountered at a depth of approximately 40 feet below the basement slab. These soils were saturated with groundwater, which was first encountered at a depth of approximately 20 feet below the school basement (or approximately 21 to 30 feet bgs outside the school. No COI were detected in soil samples collected at the water table or in shallow groundwater samples (or their headspace vapors) collected at the water table below the slab, thus eliminating a direct migration pathway of impacted soil vapors from deep soil impacts to the shallow groundwater and to the soil gas.

7.3.3 Delineation of Subsurface Soil Impacts

Soil data collected at depth revealed the presence of deep soil impacts (greater than 20 feet bgs) at the southern edge of New Street in the vicinity of boring SB-24 (Parsons, 2004) extending to the south and slightly to the west beneath the majority of the St. John's School building and likely a portion of the eastern edge of the gymnasium building. The results of the laboratory analyses of soil samples were consistent with the field findings presented on Figure 5-2 and show a discrete, thin zone of impacts within the zone of DNAPL-impacted soils. Vertical delineation of these impacts was accomplished by sampling the first zone below the zone of visual impacts. Lateral delineation of deep soil impacts is provided by the existing soil boring network using data from B-101 and B-112 to the east, B-112, B-115, B-116, B-118, and SB-28 to the south and southwest, B-104, SB-29, B-119, and B-120 to the west, and SB-23 and SB-25 to the north (Figure 5-2).

In summary, the data collected from this RI investigation indicate that:

- NAPL impacts are defined laterally and vertically to a thin zone typically only a few inches thick beneath the St. John's property;
- Impacts beneath the St. John's property do not represent a source to groundwater impacts at the water table; and
- The deep soil impacts are not adversely affecting soil gas or indoor air within the school or gymnasium buildings which overlie the deep soil impact zone.

7.3.4 Delineation of Groundwater Impacts

The groundwater data collected during the recent investigation at both the John's property and the adjacent former MGP site indicate the following:

- Groundwater concentrations at well MW-5 near a source area at the former MGP site have decreased significantly over time. Geochemical data used to evaluate NA support this finding and indicate that active biodegradation of dissolved COI is occurring in the site area. The recently completed IRM and planned remediation activities at the former MGP site will further enhance the effectiveness of NA through removal of source material and by further limiting the off-site migration of dissolved COI onto the St. John's property.

- Groundwater data collected at the water table at several locations beneath the footprint of the St. John's School building do not contain any dissolved MGP constituents. The lack of impacts at these locations supports the NA evaluation by showing that dissolved MGP COI are not migrating in the direction of groundwater flow off the MGP site at shallow depths and it provides data to show that the groundwater plume associated with the isolated zone of deep NAPL-impacted soils is isolated and not degrading groundwater quality at the water table.

- Groundwater at depth in contact with the zone of isolated residual NAPL beneath the St. John's property is impacted with dissolved phase COI. The positioning of MW-9 (immediately downgradient and along the centerline of the zone of deep NAPL impacts) provides a good monitoring point to assess groundwater quality at depth beneath the St. John's property and detect possible changes in groundwater concentrations over time. Given the age of the former MGP and the deep NAPL impacts resulting from the MGP, it is likely that the concentrations of dissolved COI within this deep groundwater plume have reached steady state and therefore will remain consistent and/or eventually decrease as a result of ongoing intrinsic biodegradation of dissolved COI over time. Dissolved phase constituents are not expected to migrate a significant distance and the vertical extent of dissolved phase impacts at depth is expected to be limited based on the discrete and thin nature of the impact zone present beneath the site.

7.4 Qualitative Exposure Assessment

A qualitative exposure assessment was completed to assess whether the MGP residuals present beneath the site in soil or groundwater pose a potential threat to human health at the St. John's school. The risk associated with the subsurface contamination is low due to the following factors:

a. No pathway is present for direct exposure of receptor groups to impacted subsurface soil or groundwater contamination.

b. Although the potential for exposure may exist to intrusion of vapors to indoor areas, MGP-related COI were not found in groundwater at the water table, or in soil gas beneath the site.

c. Movement of non-MGP related VOCs in soil gas to indoor air was not found to be occurring; therefore soil gas intrusion is not a complete migration or exposure pathway.

d. MGP-related COI were not found in indoor air in the school, gymnasium, or rectory in concentrations substantively above those found in a typical residence.

e. Surface soil sampling was not performed as part of this RI, therefore the significance of potential exposure to surface soil could not be evaluated. However, surface soils are not expected to be impacted given the discrete nature of the deep soil and groundwater impacts identified beneath the site, and the historical site use as residential property and as a school and church.

8 References

American Petroleum Institute (API), 1997, *Methods for Measuring Indicators of Intrinsic Bioremediation: Guidance Manual.* Health and Human Services Department, Publication Number 4658, November 1997.

Keneally, June 2001. Map entitled "Unconsolidated Aquifers of Westchester County, New York."

Merck, 1989. The Merck Index, An Encyclopedia of Chemicals, Drugs, and Biologicals. 11th ed. Ed. S. Budavari. Merck and Co. Inc., Rahway, NJ.

New York State Department of Environmental Conservation (NYSDEC), 2000. NYSDEC Analytical Services Protocol, 1995, revised June 2000.

NYSDEC, 1994. Division Technical and Administrative Guidance Memorandum {TAGM 4046}: Determination of Soil Cleanup Objectives and Cleanup Levels. Division of Hazardous Waste Remediation, Albany, New York.

NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values, Division of Water Technical and Operational Guidance Series (TOGS) I.I.I, October 1998.

NYSDEC, 1999, Water Quality Regulations: *Surface Water and Groundwater Classification and Standards*, 6 NYCRR Parts 700-706, effective August 4, 1999, Albany, New York.

New York State Department of Health (NYSDOH), *2004. Background Indoor/Outdoor Air Levels of Volatile Organic Compounds in Homes Heated with Fuel Oil Sampled by the New York State Department of Health, 1997-2003*, New York State Department of Health, Bureau of Toxic Substance Assessment, November 16, 2004.

Parsons, 1999. *Site Investigation Work Plan, White Plains Substation, White Plains*, New York, December 1999.

Parsons, 2004. *Site Investigation Report. White Plains Former MGP Site*, February 2004.

The RETEC Group, Inc. (RETEC), 2002. *Work Plan for Evaluation of Sub-Surface Vapor Intrusion at Con Edison MGP Sites*, June 26, 2002.

RETEC, 2003a. *Health and Safety Plan, Soil Gas and Indoor Air Quality Monitoring, St. John's School and Rectory, 148 Hamilton Avenue, White Plains, New York.*

RETEC, 2003b. *Report on Evaluation of Sub-Surface Vapor Intrusion, St. John's School and Rectory, 148 Hamilton Avenue, White Plains, New York,* August 5, 2003.

United States Department of Health and Human Services. 1993. Hazardous Substances Data Bank (HSDB, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD.

United States Environmental Protection Agency (USEPA), 1989. *Risk Assessment Guidance for Superfund, Volume I. Human Health Evaluation Manual (Part A),* Office of Emergency and Remedial Response: Washington, DC, EPA 540/1-89/002.

USEPA, 1992. *Assessing Potential Indoor Air Impacts for Superfund Sites*. United States Environmental Protection Agency, Office of Air Quality, Research Triangle Park, North Carolina. September 1992.

USEPA, 2002. *OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils*, November 2002.

Wiedemeier, T. H., Lucas, M. A., and Haas, P. E., 2000. *Designing Monitoring Programs for Effectively Evaluate the Performance of Natural Attenuation.* Air Force Center for Environmental Excellence, Technology Transfer Division, Brooks Air Force Base, Texas.

Tables

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Table 3-1
Summary of Ambient and Indoor Air Sample Locations and Collection Parameters
April 12, 2004
St. John's School

Sample ID	Location	Time		Pressure (in. Hg)	
		Start	End	Start	End
AMB-101	Outdoor, near the corner of the intersection of Lexington Avenue and Hamilton Avenue, southwest of the gymnasium.	6:04	7:17	-28.5	-4.0
AMB-102	Outdoor, on New Street, northeast of the rectory.	6:10	7:18	-27.0	-3.0
IA-SB-101	School basement, northeast entry room.	7:29	8:54	-29.5	-3.5
IA-SB-102	School basement kitchen.	7:29	8:56	-30.0	-4.5
IA-SB-103	School basement cafeteria.	7:32	8:50	-29.0	-4.0
IA-SB-104	School basement boiler room.	9:04	10:28	-25.0	-4.0
IA-SB-104FD	Field duplicate of IA-SB-104.	9:04	10:27	-28.5	-3.5
IA-SB-105	Southwest corner of school basement, in the playroom.	7:34	9:17	-30.0	-5.0
IA-G106	Middle of the gymnasium.	7:39	9:06	-30.0	-4.0
IA-S1-101	First floor of the school, in the boys bathroom.	7:28	8:46	-28.5	-3.5
IA-S1-102	First floor of the school, in classroom # 3.	7:27	8:48	-29.5	-4.0
IA-S1-103	First floor of the school, in classroom # 2.	7:23	8:38	-29.0	-4.0
IA-S1-104	First floor of the school, in classroom # 1.	7:25	8:40	-29.0	-4.5
IA-RB-101	Rectory basement hallway.	8:31	9:50	-29.5	-4.0
IA-RB-102	Rectory basement boiler room.	8:32	9:44	-25.0	0.0
IA-R1-101	First floor of the rectory, in the pantry.	8:35	9:35	-29.0	-3.5
IA-R1-102	First floor of the rectory, in the hallway.	8:32	9:37	-29.0	-4.0
AMB-103	Outdoor, near the corner of the intersection of Lexington Avenue and Hamilton Avenue, southwest of the gymnasium.	10:33	12:00	-30.0	-3.0
AMB-104	Outdoor, on New Street, northeast of the rectory.	10:40	11:56	-28.0	-4.0

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Table 3-2
Summary of Soil Gas Sample Locations and Collection Parameters
April 12, 2004
St. John's School

Sample ID	Locations and Observations	Differential Pressure (in. H_2O)	Core Thickness (in.)	Time		Pressure (in. Hg)		Final PID Reading
				Start	End	Start	End	
SG-101	Outside, northeast corner of school building.	NA	NA	14:01	15:19	-29.5	-5.0	NA
SG-102	School basement kitchen.	-0.015	6.0	15:15	16:31	-29.5	-4.5	
SG-103	School basement cafeteria.	-0.015	6.5	15:36	16:53	-28.5	-3.0	3.0 ppm
SG-104	School basement boiler room.	+0.00 - 0.015	4.5	16:23	17:39	-29.5	-4.5	1.8 ppm
SG-106	Gymnasium, bottom of the stairs.	0	9.0	17:20	18:27	-28.0	-5.0	2.1 ppm

Note:
Positive values indicate pressure upward from beneath the slab into the building.
NA - Sample taken outdoors, no reading taken.
Differential pressure measured between sub slab soil gas and indoor air.

Table 3-3
Summary of Subsurface Soil Samples Collected, Sample Rationale, and Analyses
Remedial Investigation - 2004
Saint John's School
White Plains, New York

Sample Location	Sample Designation	Sample Rationale	Depth Interval (feet bgs)	Laboratory Analysis Completed
B-101	B101 (16-20)	Determine soil conditions above the water table for comparison to soil gas and indoor air samples, and provide delineation of NAPL impacts to the southeast of SB-24.	16 - 20	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-101	B101 (36-40).	Provide vertical delineation of NAPL impacts to the southeast of SB-24.	36 - 40	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-101	B101 (60-64)	Determine soil conditions at the bedrock surface and provide delination of NAPL impacts to the southeast of SB-24.	60 - 64	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-102	B102 (16-20)	Determine soil conditions above the water table for comparison to soil gas and indoor air samples, and provide delineation of NAPL impacts to the south of SB-24.	16 - 20*	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-102	B102 (36-40)	Provide vertical delineation of NAPL impacts to the south of SB-24.	36 - 40*	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-103	B103 (16-20)	Determine soil conditions above the water table for comparison to soil gas and indoor air samples, and provide delineation of NAPL impacts to the southwest of SB-24.	16 - 20*	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-103	B103 (40-40.5)	Provide vertical delineation of NAPL impacts to the southwest of SB-24.	40 - 40.5*	VOCs
	B103 (39-40.5)	Provide vertical delineation of NAPL impacts to the southwest of SB-24.	39 - 40.5*	SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-103	B103 (55.5-56)	Provide vertical delineation of NAPL impacts to the southwest of SB-24.	55.5 - 56*	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-104	B104 (16-20)	Determine soil conditions above the water table for comparison to soil gas and indoor air samples, and provide delineation of NAPL impacts detected at B-103.	16 - 20*	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-104	B104 (36-40)	Provide delineation of NAPL impacts along the west wall of the school building SB-24.	36 - 40*	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-107	B107 (40-42)	Provide vertical delineation of NAPL impacts to the south of SB-102	40 - 42*	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-107	B107 (44-48)	Provide vertical delineation of NAPL impacts to the south of SB-102	44 - 48*	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-108	B108 (40-43)	Provide vertical delineation of NAPL impacts to the south of SB-103	40 - 43*	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-108	B108 (50-52)	Provide vertical delineation of NAPL impacts to the south of SB-103	50 - 52*	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide,
B-109	B109 (50-51.5)	Provide vertical delineation of NAPL impacts to the southwest of SB-108	50 - 51.5	VOCS, SVOCs
B-109	B109 (59-60)	Provide vertical delineation of NAPL impacts to the southwest of SB-108	59 - 60	VOCs, SVOCs
B-110	B110 (52)	Evaluate conditions at top of bedrock surface.	52	VOCs, SVOCs
B-110	B110 (60-64)	Provide vertical delineation of NAPL impacts to the south of SB-108	60 - 64	VOCs, SVOCs
B-110	B110 (84-88)	Provide vertical delineation of NAPL impacts to the south of SB-108	84 - 88	VOCs, SVOCs

Table 3-3
Summary of Subsurface Soil Samples Collected, Sample Rationale, and Analyses
Remedial Investigation - 2004
Saint John's School
White Plains, New York

RETEC

Sample Location	Sample Designation	Sample Rationale	Depth Interval (feet bgs)	Laboratory Analysis Completed
B-111	B111 (51-52)	Provide vertical delineation of NAPL impacts to the south of SB-107	51 - 52	VOCs, SVOCs
B-111	B111 (56-60)	Provide vertical delineation of NAPL impacts to the south of SB-107	56 - 60	VOCs, SVOCs
B-112	B112 (51-52)	Provide vertical delineation of NAPL impacts to the southeast of SB-107	51 - 52	VOCs, SVOCs
B-112	B112 (56-60)	Provide vertical delineation of NAPL impacts to the southeast of SB-107	56 - 60	VOCs, SVOCs
B-113	B113 (52.5-53.5)	Provide vertical vertical delineation of NAPL impacts to the south of SB-109	52.5 - 53.5	VOCs, SVOCs
B-113	B113 (56-60)	Provide vertical delineation of NAPL impacts to the south of SB-109	56 - 60	VOCs, SVOCs
B-114	B114 (52-53)	Provide vertical delineation of NAPL impacts to the southwest of SB-109	52 - 53	VOCs, SVOCs
B-114	B114 (58-60)	Provide vertical delineation of NAPL impacts to the southwest of SB-109	58 - 60	VOCs, SVOCs
B-115	B115 (54-56)	Provide verticaldelineation of NAPL impacts to the south of SB-114	54 - 56	VOCs, SVOCs
B-115	B115 (62-64)	Provide vertical delineation of NAPL impacts to the south of SB-114	62 - 64	VOCs, SVOCs
B-116	B116 (54-56)	Provide vertical delineation of NAPL impacts to the south of SB-113	54 - 56	VOCs, SVOCs
B-117	B117 (52-53)	Provide vertical delineation of NAPL impacts to the south of SB-110 and to the east of SB-113	52 - 53	VOCs, SVOCs
B-117	B117 (56-60)	Provide delineation of NAPL impacts to the south of SB-110 and to the east of SB-113	56 - 60	VOCs, SVOCs
B-118	B118 (52-56)	Provide vertical delineation of NAPL impacts to the south of SB-111	52 - 56	VOCs, SVOCs
B-119	B119 (56-60)	Provide vertical delineation of NAPL impacts to the southwest of SB-114	56 - 60	VOCs, SVOCs
B-119	B119 (60-64)	Provide delineation of NAPL impacts to the west and southwest of SB-114	60 - 64	VOCs, SVOCs
B-120	B120 (56-60)	Provide vertical delineation of NAPL impacts to the west and southwest of SB-115	56 - 60	VOCs, SVOCs
B-120	B120 (60-64)	Provide vertical delineation of NAPL impacts to the west and southwest of SB-115	60 - 64	VOCs, SVOCs

Notes: * boring installed inside school basement; depth referenced to basement floor.
VOCs - TCL volatile organic compounds
SVOCs - TCL semivolatile organic compounds
PCBs - polychlorinated biphenyls
TCL - Target Compound List
TAL - Target Analyte List

RETEC

Table 3-4
Summary of Groundwater Samples Collected, Sample Rationale, and Analyses
Remedial Investigation - 2004
Saint John's School
White Piains, New York

Sample Designation	Screen Depth (feet bgs)	Approximate Depth to Water (feet bgs)	Sample Rationale	Laboratory Analysis Completed
B101-041304	20 - 24	22	Determine groundwater conditions downgradient of the former MGP and to the southeast of SB-24, and collect groundwater for comparison to the soil, soil gas, and indoor air data.	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B102-041604	20 - 24*	20*	Determine groundwater conditions downgradient of the former MGP and to the south of SB-24, and collect groundwater for comparison to the soil, soil gas, and indoor air data.	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B103-041404	20 - 24*	21*	Determine groundwater conditions downgradient of the former MGP and to the southwest of SB-24, and collect groundwater for comparison to the soil, soil gas, and indoor air data.	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B104-041504	20 - 24*	19.5*	Determine groundwater conditions downgradient of the former MGP and along the west wall of the school building, and collect groundwater for comparison to the soil, soil gas, and indoor air data.	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
MW9-091404	52 - 62	29.63	Determine groundwater conditions at depth downgradient from NAPL impacted soils.	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide, MNA Parameters
MW5-091404	4 - 11	5.92	Determine groundwater conditions within the boundary of the former MGP.	MNA Parameters
MW7-091404	7 - 17	7.88	Determine groundwater conditions upgradient/cross-gradient of the former MGP.	MNA Parameters

Notes:
* boring installed inside school basement; depth referenced to basement floor.
VOCs - TCL volatile organic compounds
SVOCs - TCL semivolatile organic compounds
PCBs - polychlorinated biphenyls
TCL - Target Compound List
TAL - Target Analyte List
Groundwater grab samples collected with direct push temporary slotted tooling screened at the water table.
Grab samples collected with a peristaltic pump following low-flow protocol.

MNA Parameters Include:
nitrate
sulfate
sulfide
total iron and manganese
dissolved iron and manganese
unionized hydrogen sulfide
alkalinity
dissolved gasses (nitogen, oxygen, methane, carbon dioxide)

RETEC

Table 4-1
Summary of Monitoring Well Construction, Weil Survey, and Water Level Gauging Results
Remedial Investigation - 2004
Saint John's School
White Plains, New York

Monitoring Weil ID	Top of PVC Riser Elevation (AMSL)	Ground-surface Elevation (AMSL)	Installation Date	Surface Construction	Screen Interval (feet bgs)	Well Diameter (inch)	March 22, 2000		April 6, 2000	
							Depth to Water (feet bgs)	Groundwater Elevation (AMSL)	Depth to Water (feet bgs)	Groundwater Elevation (AMSL)
MW-1	206.35	206.51	March 22, 2000	Flush with Grade	24 - 34	2	27.71	178.64	27.74	178.61
MW-2	190.54	190.72	March 15, 2000	Flush with Grade	7 - 17	2	11.24	179.30	11.26	179.28
MW-3	201.58	202.03	March 21, 2000	Flush with Grade	20 - 30	2	22.60	178.98	22.56	179.02
MW-4	194.92	195.09	March 15, 2000	Flush with Grade	13 - 23	2	15.61	179.31	15.64	179.28
MW-5	189.12	189.56	March 15, 2000	Flush with Grade	4 - 11	2	6.81	182.31	7.13	181.99
MW-6	187.82	188.53	August 16, 2000	Flush with Grade	5 - 15	2	NA	NA	NA	NA
MW-7	189.51	190.27	June 22, 2001	Flush with Grade	7 - 17	2	NA	NA	NA	NA
MW-8	202.08	202.37	August 30, 2000	Flush with Grade	20 - 40	2	NA	NA	NA	NA
MW-9	207.34	207.69	September 2, 2004	Flush with Grade	52 - 62	2	NA	NA	NA	NA
SB-1	189.10	189.41	March 16, 2000	Flush with Grade	0 - 20		NM	NM	8.56	180.54
TB-5	189.50	189.54	March 16, 2000	Flush with Grade	0 - 16.5		NM	NM	6.79	182.71
RW-4	200.90	201.20		Flush with Grade		4	NA	NA	NA	NA
RW-5	200.04	200.42		Flush with Grade		4	NA	NA	NA	NA

Notes:
bgs - below ground surface
Elevations tied to on-site datum of 204.65 ft above mean sea level (AMSL), which is permanentiy marked on substation
NA - Not Availabie or not instaiied
NM - Not Measured
Groundwater gauging data provided by Parsons
Weiis MW-1 through MW-8 iocation within and adjacent to former MGP north of New Street
MW-9 located at St. John's property

RETEC

Table 4-1
Summary of Monitoring Well Construction, Well Survey, and Water Level Gauging Results
Remedial Investigation - 2004
Saint John's School
White Plains, New York

Monitoring Well ID	Top of PVC Riser Elevation (AMSL)	December 1, 2000		July 16, 2001		July 26, 2001		August 1, 2001	
		Depth to Water (feet bgs)	Groundwater Elevation (AMSL)	Depth to Water (feet bgs)	Groundwater Elevation (AMSL)	Depth to Water (feet bgs)	Groundwater Elevation (AMSL)	Depth to Water (feet bgs)	Groundwater Elevation (AMSL)
MW-1	206.35	28.37	177.98	NA	NA	27.80	178.55	27.85	178.50
MW-2	190.54	11.82	178.72	NA	NA	10.39	180.15	NA	NA
MW-3	201.58	23.11	178.47	NA	NA	22.44	179.14	22.60	178.98
MW-4	194.92	16.17	178.75	NA	NA	15.57	179.35	15.65	179.27
MW-5	189.12	7.89	181.23	NA	NA	5.22	183.90	NA	NA
MW-6	187.82	9.41	178.41	NA	NA	8.75	179.07	NA	NA
MW-7	189.51	NA	NA	8.53	180.98	8.31	181.20	NA	NA
MW-8	202.08	23.65	178.43	NA	NA	23.10	178.98	NA	NA
MW-9	207.34	NA	NA	NA	NA	NA	NA	NA	NA
SB-1	189.10	8.61	180.49	NM	NM	9.00	180.10	NM	NM
TB-5	189.50	8.60	180.90	NM	NM	7.38	182.12	NM	NM
RW-4	200.90	NA	NA	NA	NA	NA	NA	NA	NA
RW-5	200.04	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
bgs - below ground surface
Elevations tied to on-site datum of 204.65 ft above mean sea level (AMSL), which is permanently marked on substation
NA - Not Available or not installed
NM - Not Measured
Groundwater gauging data provided by Parsons
Wells MW-1 through MW-8 location within and adjacent to former MGP north of New Street
MW-9 located at St. John's property

RETEC

Table 4-1
Summary of Monitoring Well Construction, Well Survey, and Water Level Gauging Results
Remedial Investigation - 2004
Saint John's School
White Plains, New York

Monitoring Well ID	Top of PVC Riser Elevation (AMSL)	August 3, 2001		August 8, 2001		August 11, 2001		September 14, 2004	
		Depth to Water (feet bgs)	Groundwater Elevation (AMSL)	Depth to Water (feet bgs)	Groundwater Elevation (AMSL)	Depth to Water (feet bgs)	Groundwater Elevation (AMSL)	Depth to Water (feet bgs)	Groundwater Elevation (AMSL)
MW-1	206.35	NA	NA	27.88	178.47	27.91	178.44	NA	NA
MW-2	190.54	11.24	179.30	10.82	179.72	NA	NA	10.22	180.32
MW-3	201.58	NA	NA	22.55	179.03	NA	NA	NA	NA
MW-4	194.92	NA	NA	16.66	178.26	NA	NA	14.80	180.12
MW-5	189.12	7.19	181.93	7.23	181.89	NA	NA	5.88	183.24
MW-6	187.82	NA	NA	NA	NA	NA	NA	5.28	182.54
MW-7	189.51	NA	NA	NA	NA	NA	NA	7.80	181.71
MW-8	202.08	NA	NA	NA	NA	NA	NA	22.42	179.66
MW-9	207.34	NA	NA	NA	NA	NA	NA	29.63	177.71
SB-1	189.10	10.40	178.70	10.47	178.63	NM	NM	7.91	181.19
TB-5	189.50	15.89	173.61	8.66	180.84	NM	NM	5.92	183.58
RW-4	200.90	NA	NA	NA	NA	NA	NA	22.56	178.34
RW-5	200.04	NA	NA	NA	NA	NA	NA	21.61	178.43

Notes:

bgs - below ground surface

Elevations tied to on-site datum of 204.65 ft above mean sea level (AMSL), which is permanently marked on substation

NA - Not Available or not installed

NM - Not Measured

Groundwater gauging data provided by Parsons

Wells MW-1 through MW-8 location within and adjacent to former MGP north of New Street

MW-9 located at St. John's property

Table 5-1
Summary of Quality Assurance / Quality Control Samples Collected, Sample Rationale, and Analyses
Remedial Investigation - 2004
Saint John's School
White Plains, New York

Sample Location	Sample Designation	Date	Matrix	Sample Rationale	Laboratory Analysis Completed
B-102	B-102 (16-20) Dup	16-Apr-04	S	Field Duplicate Sample of B-102 (16-20)	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-103	B-103D-041404	14-Apr-04	AQ	Duplicate Sample of B-103-041404	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-104	B-104 MS - 041504	15-Apr-04	AQ	Matrix Spike of B-104-041504	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-104	B-104 MSD - 041504	15-Apr-04	AQ	Matrix Spike Duplicate of B-104-041504	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-108	B-108 (40-43) MS	17-Apr-04	S	Matrix Spike of B-108 (40-43)	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-108	B-108 (40-43) MSD	17-Apr-04	S	Matrix Spike Duplicate of B-108 (40-43)	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
B-113	Dup01-071604	16-Jul-04	S	Field Duplicate Sample of B-119 (60-64)	VOCs, SVOCs
B-119	B-119 (60-64) MS	22-Jul-04	S	Matrix Spike of B-119 (60-64)	VOCs, SVOCs
B-119	B-119 (60-64) MSD	22-Jul-04	S	Matrix Spike Duplicate of B-119 (60-64)	VOCs, SVOCs
Rinse Blank	RB01-041704	17-Apr-04	AQ	Rinse Blank of Drilling Equipment	VOCs, SVOCs, TAL Metals, Total Cyanide, Available Cyanide
Trip Blank	TB-041704	17-Apr-04	AQ	Trip Blank	VOCs
Trip Blank	Trip Blank	14-Sep-04	AQ	Trip Blank	VOCs
B-104	1A-SB-104FD	12-Apr-04	Air	Field Duplicate Sample of IA-SB-704	VOCs

Notes:
bgs - below ground surface
VOCs - TCL volatile organic compounds
SVOCs - TCL semivolatile organic compounds
PCBs - polychlorinated biphenyls
TCL - Target Compound List
TAL - Target Analyte List

Air - air
S - soil
AQ - aqueous
MS, MSD, and duplicate samples collected one per every 20 groundwater and soil samples
Rinse blanks collected one per twenty soil samples.
Trip Blanks occupied each shipment of VOC samples

Table 5-2
Summary Table of Ambient, Indoor Air, and Soil Gas Results
St. John's School and Rectory
Resampling Event - April 12, 2004

RETEC

Compound	CAS number	Sample Number, Location, and Results in ug/m³																								Background Indoor Air Values[3]	
Type of Sample		Ambient Air	Ambient Air	Ambient Air	Ambient Air	Soil Gas	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Soil Gas	Indoor Air	Soil Gas	Indoor Air	Soil Gas	Indoor Air	Indoor Air-FD	Soil Gas	Indoor Air	DOH 75th ug/m³	DOH 90th ug/m³
Sample Location		Outdoor Southwest	Outdoor Northeast	Outdoor Southwest	Outdoor Northeast	Gym Floor, at foot of Stairs	Center of Gymnasium	Rectory 1st Floor	Rectory 1st Floor	Rectory Basement	Rectory Basement	1st Floor of School, Men's Restroom	1st Floor of School, Classroom No. 3	1st Floor of School, Classroom No. 2	1st Floor of School, Classroom No. 1	Basement of School, Entry	Outside, NE Corner of School Beneath Sidewalk	Basement of School, Kitchen	Basement of School, Kitchen	Basement of School, Cafeteria	Basement of School, Cafeteria	Basement of School, Boiler Room	Field Duplicate Basement of School, Boiler Room	Basement of School, Boiler Room	Basement of School, Play Room		
Sampling Date		4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004		
Sample ID		AMB-101	AMB-102	AMB-103	AMB-104	SG-106	IA-G106	IA-R1-101	IA-R1-102	IA-RB-101	IA-RB-102	IA-S1-101	IA-S1-102	IA-S1-103	IA-S1-104	IA-SB-101	SG-101	IA-SB-102	SG-102	IA-SB-103	SG-103	IA-SB-104	IA-SB-104FD	SG-104	IA-SB-105		
Possibly MGP Related or Other Sources [1]																											
1,2,4-Trimethylbenzene	95-63-6	-	-	0.88	2.8	16	0.85	-	-	-	-	-	-	-	-	1.9	5.0	0.86	15	4.3	18	0.97	0.74	13	0.77	4.4	11
1,3,5-Trimethylbenzene	108-67-8	-	-	-	0.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	-	-	-	-	1.7	3.8
2,3-Dimethylpentane	565-59-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	7.9
2-Hexanone	591-78-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
2-Methylpentane	107-83-5	-	-	-	6.3	-	-	-	-	-	4.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
4-Ethyltoluene	622-96-8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
4-Methyl-2-pentanone	108-10-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	-	-	-	-	-	0.98	3
Benzene	71-43-2	1.5	1.0	2.2	2.8	-	1.3	1.8	1.6	-	2.8	1.6	1.3	2.9	1.7	1.5	-	1.5	-	1.6	-	1.5	1.6	-	1.5	5.7	15
Carbon Disulfide	75-15-0	-	-	-	-	-	4.3	-	-	-	-	-	-	-	-	-	-	-	-	3.0	-	-	5.5	-	-	NA	NA
Cyclohexane	110-82-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	9.1
Ethylbenzene	100-41-4	-	-	0.71	1.7	-	-	-	-	-	-	-	-	-	-	-	12	-	12	3.4	9.6	-	-	-	-	2.8	7.3
Heptane	142-82-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.7	19
Hexane	110-54-3	-	-	-	3.5	-	-	-	-	-	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5	19
2,2,4-Trimethylpentane	540-84-1	-	-	-	-	1100	-	-	-	-	-	-	-	-	-	-	580	-	1700	-	1700	-	-	1200	-	2.6	7.3
Indan	496-11-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Indene	95-13-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Isopentane	78-784	-	-	2.6	7.6	-	-	9.9	3.6	-	11	3.9	-	-	-	3.5	-	3.1	-	3.5	-	7.9	7.7	-	11	NA	NA
Naphthalene	91-20-3	-	-	-	-	-	-	-	-	-	-	-	-	-	6.2 J	-	-	-	-	4.2 J	-	-	-	-	-	NA	NA
Styrene	100-42-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.68	1.3
Thiophene	110-02-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Toluene	108-88-3	3.1	3.1	3.9	9.3	59	1.8	3.5	2.5	-	3.1	2.4	1.6	2.0	1.9	4.6	40	2.6	79	6.9	80	2.6	2.6	64	3.7	25	59
m/p-Xylenes	136777-61-2	1.1	2.6	2.0	6.0	21	1.4	1.1 J	1.1 J	-	1.2 J	1.2 J	0.90 J	-	1.0 J	1.9	38	1.2 J	38	8.4	31	1.4	1.4	28	1.2	4.7	12
o-Xylene	95-47-6	-	0.94	0.75	2.3	-	0.61 J	-	-	-	-	-	-	-	-	0.73	10	-	12	3.1	8.8 J	-	-	-	-	3.1	7.9
Not MGP Related [2]																											
1,1,1-Trichloroethane	71-55-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	1.4	3.5
1,1,2,2-Tetrachloroethane	79-34-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.23
1,1,2-Trichloroethane	79-00-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.24
1,1-Dichloroethane	75-34-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.67	-	-	-	-	-	-	-	-	-	0.19	0.23
1,1-Dichloroethene	75-35-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	-	-	0.19	0.23
1,2,4-Trichlorobenzene	120-82-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.24	3
1,2-Dibromoethane (EDB)	106-93-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.19	0.23
1,2-Dichlorobenzene	95-50-1	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.24	0.78
1,2-Dichloroethane	107-06-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2	-	-	-	-	-	-	-	-	-	0.19	0.22
1,2-Dichloropropane	78-87-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.24
1,3-Butadiene	106-99-0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
1,3-Dichlorobenzene	541-73-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.24	0.66
1,4-Dichlorobenzene	106-46-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.9	-	-	-	-	-	0.54	1.3
1,4-Dioxane	123-91-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
2-Butanone (MEK)	78-93-3	-	-	2.2	-	-	-	-	-	-	-	-	-	-	-	-	21	-	-	12	-	-	3.2	-	-	7.5	14
Acetone	67-64-1	7.3	6.0	15	11	28	6.9	6.7	12	14	6.0	11	6.8	13	17	8.0	84	6.2	44	14	37	14	17	49	7.8	46	110
Benzyl Chloride	100-44-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Bromodichloromethane	75-27-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Bromoform	75-25-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Bromomethane	74-83-9	-	-	-	-	-	-	-	-	-	-	-	0.59 J	-	-	-	-	-	-	-	-	-	-	-	-	0.24	0.58
Carbon Tetrachloride	56-23-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.68	0.87
Chlorobenzene	108-90-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.19	0.23
Chloroethane	75-00-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.25
Chloroform	67-66-3	-	-	-	-	-	-	-	-	-	1.1	0.75	-	-	-	-	-	-	80	-	-	0.87	0.76	-	-	0.54	1.4
Chloromethane	74-87-3	1.2	1.2	1.0	0.95	-	0.88	1.1	1.1	-	0.92	0.88	0.99	1.3	0.94	1.0	-	0.88	-	1.1	-	0.85	0.92	-	0.91	2	3.3
cis-1,2-Dichloroethene	156-59-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.24
cis-1,3-Dichloropropene	10061-01-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.24
Dibromochloromethane	124-48-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Ethanol	64-17-5	14	4.7	7.0	14	26	5.1	81 J	93 J	3800 J	15	12	8.0	16	32	24	73	15	26	76 J	-	3.8	6.9	22	49 J	610	1600
Trichlorofluoromethane (Freon 11)	75-69-4	2.0	2.0	1.6	1.6	-	1.5	2.5	1.8	-	1.5	1.5	1.6	2.0	1.6	1.5	-	1.4	-	1.5	-	1.5	1.5	-	1.4	5.5	17
1,1,2-Trichlorotrifluoroethane (Freon 113)	76-13-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	1.8
1,2-Dichlorotetrafluoroethane	76-14-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.21	0.63
Dichlorodifluoromethane (Freon 12)	75-71-8	3.6	3.8	2.6	2.6	-	2.7	2.8	2.8	-	2.6	2.4	2.8	3.8	2.8	2.8	-	2.7	28	2.5	12	2.7	2.8	-	2.6	5.6	15
Hexachlorobutadiene (C-46)	87-68-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.25	4.8
Methyl tert-Butyl Ether	1634-04-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7	27
Methylene Chloride (Dichloromethane)	75-09-2	-	-	0.98	3.3	-	-	0.75	1.0	-	0.64	-	-	-	-	1.8	5.6	-	-	-	-	0.71	0.73	-	0.50	6.3	22
2-Propanol	67-63-0	-	-	-	-	-	-	2.8	13	-	-	2.2	1.9	-	-	4.2	31	1.8 J	-	8.8	-	32	-	-	-	NA	NA
Propene	115-07-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Tetrachloroethene	127-18-4	1.2	-	-	-	98	9.2	-	-	-	-	-	-	-	-	2.5	-	-	-	-	24	-	-	22	-	1.2	2.9
Tetrahydrofuran	109-99-9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3	-	-	-	-	-	0.32	3.3
trans-1,2-Dichloroethene	156-60-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
trans-1,3-Dichloropropene	10061-02-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.18	0.22
Trichloroethene	79-01-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	0.23	0.48
Vinyl Acetate	108-05-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Vinyl Chloride	75-01-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.23

Notes:

[1] These compounds may be related to either MGP sources or non-MGP sources, or both. MGP sources include MGP tars and petroleum feedstocks used in MGP processes, such as the carburetted water gas process. Non-MGP sources include cleaning products, floor wax and polish, vehicle exhaust, construction materials, and cigarette smoke.

[2] *These compounds are not related to MGP sources and are present due to non-MGP sources, such as vehicle exhaust,* heating and air conditioning *systems, cleaning agents, art supplies, paints,* etc.

[3] Background Indoor/Outdoor Air Levels of Volatile Organic Compounds in Homes Heated with Fuel Oil, Sampled by the New York State Department of Health, 1997-2003, New York State Department of Health, Bureau of Toxic Substance Assessment, Nov. 16, 2004 [NYSDOH, 2004].

NA - Not Available. No data available for background concentrations of these compounds.

- Not Detected.

J - Estimated Concentration.

Lab Rev 2

Table 5-3
Summary Table of Volatilization Study Headspace Analysis
St. John's School and Rectory
Resampling Event - April 13-17, 2004, and December 1, 2004

RETEC

Compound	CAS number	Sample Number, Location, and Results in ug/m[3]											
Type of Sample		Groundwater	Groundwater	Groundwater	Groundwater	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Groundwater
Sample Location		Outside, Northeast Corner of School	Basement of School, Kitchen	Basement of School, Cafeteria	Basement of School, Boiler Room	Basement of School, Kitchen	Basement of School, Cafeteria	Basement of School, Kitchen	Basement of School, Cafeteria	Basement of School, Cafeteria	White Plains Site Excavation	Lab	Lab
Sample Depth		20-23	20-23	20-23	20-23	39.5-40	39-40.5	40-42	36-40	36-40	Relief Holder[8]	NA	NA
Sampling Date		4/13/2004	4/16/2004	4/14/2004	4/15/2004	4/16/2004	4/14/2004	4/15/2004	4/17/2004	4/17/2004	12/1/2004		
Sample ID		B-101	B-102	B-103	B-104	B-102 (39.5-40)	B-103 (39-40.5)	B-107 (40-42)	B-108 (36-40) High	B-108 (36-40) Low[7]	WP-1	Soil Blank	Water Blank
Possibly MGP Related or Other Sources [1]													
1,2,4-Trimethylbenzene	95-63-6	-	-	-	-	260 J[4]	260 J[4]	270 J[4]	310 J[4]	22 J[6]	400	-	-
1,3,5-Trimethylbenzene	108-67-8	-	-	-	-	220 J[4]	220 J[4]	240 J[4]	260 J[4]	8.5 J[6]	770	-	-
2,3-Dimethylpentane	565-59-3	-	-	-	-	300 J[5]	61 J[6]	400 J[5]	140 J[5]	-	-	-	-
2-Hexanone	591-78-6	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylpentane	107-83-5	-	-	-	-	150 J[5]	31 J[6]	170 J[5]	62 J[6]	-	900	-	-
4-Ethyltoluene	622-96-8	-	-	-	-	300 J[4]	310 J[4]	320 J[4]	360 J[4]	10 J[6]	2100	-	-
4-Methyl-2-pentanone	108-10-1	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	71-43-2	-	-	-	-	-	-	-	-	-	4200	-	-
Carbon Disulfide	75-15-0	-	-	-	-	-	-	-	-	-	390	-	-
Cyclohexane	110-82-7	-	-	-	-	140 J[5]	25 J[6]	190 J[5]	68 J[6]	-	2900	-	-
Ethylbenzene	100-41-4	-	-	-	-	480 J[4]	230 J[5]	450 J[4]	520 J[4]	2.5 J[6]	490	-	-
Heptane	142-82-5	-	-	-	-	520 J[4]	280 J[5]	580 J[4]	520 J[5]	-	5900	-	-
Hexane	110-54-3	-	-	-	-	390 J[5]	87 J[5]	460 J[5]	180 J[5]	-	1800	-	-
2,2,4-Trimethylpentane	540-84-1	-	-	-	-	-	-	-	-	-	-	-	-
Indan	496-11-7	-	-	-	-	230 J[5]	190 J[5]	200 J[5]	270 J[5]	5.0 J[6]	9500	-	-
Indene	95-13-6	-	-	-	-	600 J[4]	620 J[4]	610 J[4]	720 J[4]	120 J[5]	-	-	2.6
Isopentane	78-784	-	-	-	-	1.5 J[6]	-	2.1 J[6]	1.9 J[6]	-	-	-	-
Naphthalene	91-20-3	-	-	-	-	2700 J[4]	2400 J[4]	2700 J[4]	3100 J[4]	110 J[5]	990 J	-	9.2 J
Styrene	100-42-5	-	-	-	-	350 J[4]	300 J[4]	370 J[4]	450 J[4]	20 J[6]	84	-	0.53
Thiophene	110-02-1	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	108-88-3	-	-	-	-	38 J[6]	64 J[6]	280 J[4]	400 J[4]	2.8 J[6]	540	-	-
m/p-Xylenes	136777-61-2	-	-	-	-	690 J[4]	540 J[4]	700 J[4]	740 J[4]	21 J[6]	1500	-	0.62 J
o-Xylene	95-47-6	-	-	-	-	570 J[4]	480 J[4]	560 J[4]	650 J[4]	10 J[6]	370	-	-
Not MGP Related [2]													
1,1,1-Trichloroethane	71-55-6	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	79-34-5	-	-	-	-	-	-	-	130 J[6]	-	-	-	-
1,1,2-Trichloroethane	79-00-5	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	75-34-3	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	75-35-4	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	120-82-1	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	106-93-4	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	95-50-1	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	107-06-2	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	78-87-5	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Butadiene	106-99-0	-	-	-	-	-	-	-	-	-	-	-	-
1.3-Dichlorobenzene	541-73-1	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	106-46-7	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	123-91-1	-	-	-	-	-	-	-	-	-	-	-	-
2-Butanone (MEK)	78-93-3	-	-	-	-	-	-	-	-	-	-	-	-
Acetone	67-64-1	-	-	-	-	2.3 J[6]	2.4 J[6]	3.0 J[6]	2.1 J[6]	-	210	-	-
Benzyl Chloride	100-44-7	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	75-27-4	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	75-25-2	-	-	-	-	-	-	-	-	-	-	-	-
Bromomethane	74-83-9	-	-	-	-	-	-	-	-	-	-	-	-
Carbon Tetrachloride	56-23-5	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	108-90-7	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	75-00-3	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	67-66-3	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	74-87-3	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	156-59-2	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	10061-01-5	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	124-48-1	-	-	-	-	-	-	-	-	-	-	-	-
Ethanol	64-17-5	-	-	-	-	-	-	-	1.4 J[6]	-	-	-	-
Trichlorofluoromethane (Freon 11)	75-69-4	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichlorotrifluoroethane (Freon 113)	76-13-1	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorotetrafluoroethane	76-14-2	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (Freon 12)	75-71-8	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene (C-46)	87-68-3	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-Butyl Ether	1634-04-4	-	-	-	-	-	-	-	-	-	-	-	-
Methylene Chloride (Dichloromethane)	75-09-2	1.1 U[3]	1.0 U[3]	1.0 U[3]	1.4 U[3]	3.5 U[3]	2.8 U[3]	0.82 U[3]	2.5 U[3]	-	62	1.3	1.7
2-Propanol	67-63-0	-	-	-	-	-	-	-	-	-	-	-	-
Propene	115-07-1	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	127-18-4	-	-	-	-	35 J[6]	24 J[6]	53 J[6]	3.1 J[6]	-	-	-	-
Tetrahydrofuran	109-99-9	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	156-60-5	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	10061-02-6	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	79-01-6	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl Acetate	108-05-4	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl Chloride	75-01-4	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
[1] These compounds may be related to either MGP sources or non-MGP sources, or both. MGP sources include MGP tars and petroleum feedstocks used in MGP processes, such as the carburetted water gas process. Non-MGP sources include cleaning products, floor wax and polish, vehicle exhaust, construction materials, and cigarette smoke.
[2] These compounds are not related to MGP sources and are present due to non-MGP sources, such as vehicle exhaust, heating and air conditioning systems, cleaning agents, art supplies, paints, etc.
[3] The positive methylene chloride results were qualified "U," as undetected because of laboratory contamination.
[4] The analyte concentration in the headspace saturated the detector. The result was qualified "J," as an estimate.
[5] One or more surrogate recoveries exceeded the uppr QC limits. The result was qualified "J," as an estimate and may be biased high.
[6] The analyte concentration exceeded the calibration range. The result was qualified "J," as an estimate.
[7] Sample B-108 (36-40) was analyzed at a reduced aliquot because of the high number of compounds that saturated the detector in the full volume aliquot "high" analysis.
[8] From a representative sample of impacted material from pipes associated with the former southern relief holder at the White Plains former MGP site.
- Not detected.
J - Estimated Concentration.

Table 5-4
Summary Table of Ambient and Indoor Air Results
St. John's School
Post-Investigation Sampling Event - April 24, 2004

RETEC

Compound	CAS number	Sample Number, Location, and Results in ug/m³															Background Indoor Air Values[3]	
Type of Sample		Ambient Air	Ambient Air	Ambient Air	Ambient Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air-FD	Indoor Air	Indoor Air	DOH 75th ug/m³	DOH 90th ug/m³
Sample Location		Outdoor Southwest	Outdoor Northeast	Outdoor Southwest	Outdoor Northeast	Center of Gymnasium	1st Floor of School, Men's Restroom	1st Floor of School, Classroom No. 3	1st Floor of School, Classroom No. 2	1st Floor of School, Classroom No. 1	Basement of School, Entry	Basement of School, Kitchen	Basement of School, Cafeteria	Field Duplicate Basement of School, Cafeteria	Basement of School, Boiler Room	Basement of School, Play Room		
Sampling Date		4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004		
Sample ID		STJ2-Amb-101	STJ2-Amb-102	STJ2-Amb-103	STJ2-Amb-104	STJ2-IA-GI-106	STJ2-IA-S1-101	STJ2-IA-SI-102	STJ2-IA-SI-103	STJ2-IA-SI-104	STJ2-IA-SB-101	STJ2-IA-SB-102	STJ2-IA-SB-103	STJ2-IA-SB-103 Dup	STJ2-IA-SB-104	STJ2-IA-SB-105		
Possibly MGP Related or Other Sources[1]																		
1,2,4-Trimethylbenzene	95-63-6	-	1.0	-	-	0.79	1.5	-	-	-	4.1	-	-	-	-	-	4.4	11
1,3,5-Trimethylbenzene	108-67-8	-	-	-	-	-	-	-	-	-	1.1	-	-	-	-	-	1.7	3.8
2,3-Dimethylpentane	565-59-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	7.9
2-Hexanone	591-78-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
2-Methylpentane	107-83-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
4-Ethyltoluene	622-96-8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
4-Methyl-2-pentanone	108-10-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.98	3
Benzene	71-43-2	1.1	0.76	0.83	-	0.76	0.91	1.0	2.2	0.95	0.78	1.1	0.85	0.77	0.63	-	5.7	15
Carbon Disulfide	75-15-0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Cyclohexane	110-82-7	-	-	-	-	-	-	-	-	-	3.3	-	-	-	-	13	2.9	9.1
Ethylbenzene	100-41-4	-	-	-	-	-	-	-	-	-	1.1	-	-	-	-	2.1	2.8	7.3
Heptane	142-82-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.7	19
Hexane	110-54-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5	19
2,2,4-Trimethylpentane	540-84-1	-	-	-	-	-	-	-	-	-	3.5	-	-	-	-	-	2.6	7.3
Indan	496-11-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Indene	95-13-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Isopentane	78-784	-	-	-	-	-	4.2	-	-	4.2	44	10	11	9.7	2.4	170	NA	NA
Naphthalene	91-20-3	-	-	-	-	-	-	-	-	-	4.6 J	-	-	-	-	-	NA	NA
Styrene	100-42-5	-	-	-	-	-	-	-	0.83	0.78	0.99	-	-	-	-	3.9	0.68	1.3
Thiophene	110-02-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Toluene	108-88-3	2.6	2.2	1.4	0.64	2.7	3.9	1.8	3.0	2.3	13	2.1	2.2	2.0	1.3	18	25	59
m/p-Xylenes	136777-61-2	1.2	1.7	0.74	-	1.6	1.8	0.67	0.98	0.98	3.4	1.1	0.85	0.86	0.63	3.5	4.7	12
o-Xylene	95-47-6	-	-	-	-	0.64	0.67	-	-	-	1.4	-	-	-	-	-	3.1	7.9
Not MGP Related[2]																		
1,1,1-Trichloroethane	71-55-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	3.5
1,1,2,2-Tetrachloroethane	79-34-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.23
1,1,2-Trichloroethane	79-00-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.24
1,1-Dichloroethane	75-34-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.19	0.23
1,1-Dichloroethene	75-35-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.19	0.23
1,2,4-Trichlorobenzene	120-82-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.24	3
1,2-Dibromoethane (EDB)	106-93-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.19	0.23
1,2-Dichlorobenzene	95-50-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.24	0.78
1,2-Dichloroethane	107-06-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.19	0.22
1,2-Dichloropropane	78-87-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.24
1,3-Butadiene	106-99-0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
1,3-Dichlorobenzene	541-73-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.24	0.66
1,4-Dichlorobenzene	106-46-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.54	1.3
1,4-Dioxane	123-91-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
2-Butanone (MEK)	78-93-3	-	-	-	-	-	-	-	-	-	2.1	-	-	-	-	-	7.5	14
Acetone	67-64-1	5.4	11	4.3	4.4	6.4	16	8.9	18	12	15	8.4	7.0	12	5.5	40	46	110
Benzyl Chloride	100-44-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Bromodichloromethane	75-27-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Bromoform	75-25-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Bromomethane	74-83-9	-	-	-	-	-	-	-	-	-	0.56	-	-	11	-	-	0.24	0.58
Carbon Tetrachloride	56-23-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.68	0.87
Chlorobenzene	108-90-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.19	0.23
Chloroethane	75-00-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.25
Chloroform	67-66-3	-	-	-	-	-	2.2	-	-	-	3.8	0.79	-	3.0	-	-	0.54	1.4
Chloromethane	74-87-3	0.94	0.92	0.91	0.89	0.87	0.94	1.1	1.3	0.91	1.2	0.94	0.86	7.9	0.99	1.1	2	3.3
cis-1,2-Dichloroethene	156-59-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.24
cis-1,3-Dichloropropene	10061-01-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.24
Dibromochloromethane	124-48-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Ethanol	64-17-5	3.0	3.3	1.9	-	4.2	19	10	21	38	27	18	25	17	3.6	270 J	610	1600
Trichlorofluoromethane (Freon 11)	75-69-4	1.5	1.6	1.6	1.6	1.6	1.6	1.8	1.7	1.7	1.6	1.7	1.6	1.3	1.6	-	5.5	17
1,1,2-Trichlorotrifluoroethane (Freon 113)	76-13-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	1.8
1,2-Dichlorotetrafluoroethane	76-14-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.21	0.63
Dichlorodifluoromethane (Freon 12)	75-71-8	2.8	3.1	2.9	2.7	2.9	3.0	3.3	3.1	2.9	3.0	2.9	2.9	2.4	2.8	3.2	5.6	15
Hexachlorobutadiene (C-46)	87-68-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.25	4.8
Methyl tert-Butyl Ether	1634-04-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7	27
Methylene Chloride (Dichloromethane)	75-09-2	-	-	-	-	-	0.54	-	1.6	0.52	2.2	-	-	0.87	-	-	6.3	22
2-Propanol	67-63-0	-	-	-	-	-	3.5	3.3	3.6	2.6	2.1	2.1	-	8.3	-	8.9	NA	NA
Propene	115-07-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Tetrachloroethene	127-18-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	2.9
Tetrahydrofuran	109-99-9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.32	3.3
trans-1,2-Dichloroethene	156-60-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
trans-1,3-Dichloropropene	10061-02-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.18	0.22
Trichloroethene	79-01-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.23	0.48
Vinyl Acetate	108-05-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Vinyl Chloride	75-01-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.23

Notes:
[1] These compounds may be related to either MGP sources or non-MGP sources, or both. MGP sources include MGP tars and petroleum feedstocks used in MGP processes, such as the carburetted water gas process. Non-MGP sources include cleaning products, floor wax and polish, vehicle exhaust, construction materials, and cigarette smoke.
[2] These compounds are not related to MGP sources and are present due to non-MGP sources, such as vehicle exhaust, heating and air conditioning systems, cleaning agents, art supplies, paints, etc.
[3] Background Indoor/Outdoor Air Levels of Volatile Organic Compounds in Homes Heated with Fuel Oil, Sampled by the New York State Department of Health, 1997-2003, New York State Department of Health, Bureau of Toxic Substance Assessment, Nov. 16, 2004 [NYSDOH, 2004].
NA - Not Available. No data available for background concentrations of these compounds.
- Not Detected.
J - Estimated Concentration.

Lab Rev 1

Table 5-5
Summary of Analytical Results for VOCs in Subsurface Soil
Remedial Investigation - 2004
Saint John's School
White Plains, New York

Location ID	B-101	B-101	B-101	B-102	B-102	B-102	B-103	B-103	B-103	B-104	B-104	B-107	B-107	B-108	B-108	NYSDEC
Sample ID	B101(16-20)-041304	B101(36-40)-041304	B101(60-64)-041304	B102(16-20)-041604	B102(16-20)-041604DUP	B102(36-40)-041604	B103(16-20)-041404	B103(40-40.5)-041404	B103(55.5-56)-041404	B104(16-20)-041504	B104(36-40)-041504	B107(40-42)-041604	B107(44-48)-041604	B108(40-43)-041704	B108(50-52)-041704	Recommended
Sample Date	4/13/2004	4/13/2004	4/13/2004	4/16/2004	4/16/2004	4/16/2004	4/14/2004	4/14/2004	4/15/2004	4/15/2004	4/15/2004	4/16/2004	4/16/2004	4/17/2004	4/17/2004	Soil Cleanup
Depth Interval (feet)	16 - 20	36 - 40	60 - 64	16 - 20	16 - 20	36 - 40	16 - 20	40 - 40.5	55.5 - 56	16 - 20	36 - 40	40 - 42	44 - 48	40 - 43	50 - 52	Objective
BTEX (mg/Kg)																
Benzene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	0.06
Ethylbenzene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	**1.9 D**	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	**23**	< 0.006 U	**32**	**0.0022 J**	6
Toluene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	**0.036 J**	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	**28**	< 0.006 U	**56**	**0.012**	2
Xylenes (total)	< 0.017 U	< 0.018 U	< 0.018 U	< 0.016 U	< 0.016 U	**22 D**	< 0.016 U	**2**	< 0.018 U	< 0.017 U	< 0.018 U	**400**	< 0.018 U	**390 D**	**0.042**	1
Total BTEX	0	0	0	0	0	**23.9**	0	2	0	0	0	**451**	0	**478**	**0.0562**	NL
Other VOCs (mg/Kg)																
1,1,1-Trichloroethane	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	0.8
1,1,2,2-Tetrachloroethane	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	0.6
1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
1,1,2-Trichloroethane	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	0.1
1,1-Dichloroethane	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
1,1-Dichloroethene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	0.4
1,2,4-Trichlorobenzene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	**0.075 J**	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	**4.7 J**	< 0.006 U	**3**	< 0.0061 U	NL
1,2-Dibromo-3-chloropropane	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 UJ	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
1,2-Dibromoethane	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
1,2-Dichlorobenzene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
1,2-Dichloroethane	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
1,2-Dichloropropane	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	0.3
1,3-Dichlorobenzene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
1,4-Dichlorobenzene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
2-Butanone	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 UJ	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	0.3
2-Hexanone	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 UJ	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
4-Methyl-2-pentanone	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	1
Acetone	< 0.022 U	< 0.024 U	< 0.024 U	< 0.021 U	< 0.021 U	< 1.2 U	< 0.021 U	< 1.3 U	< 0.024 U	< 0.022 U	< 0.024 U	< 24 U	< 0.024 U	< 12 U	< 0.025 U	0.2
Bromodichloromethane	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
Bromoform	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
Bromomethane	< 0.0056 UJ	< 0.006 UJ	< 0.0059 R	< 0.0052 R	< 0.0053 R	< 0.3 UJ	< 0.0053 UJ	< 0.31 U	< 0.0059 UJ	< 0.0055 R	< 0.006 R	< 6 UJ	< 0.006 R	< 2.9 UJ	< 0.0061 R	NL
Carbon disulfide	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	3
Carbon tetrachloride	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	0.6
Chlorobenzene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	2
Chloroethane	< 0.0056 UJ	< 0.006 UJ	< 0.0059 R	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 UJ	< 0.31 U	< 0.0059 U	< 0.0055 R	< 0.006 R	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 R	2
Chloroform	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	0.3
Chloromethane	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
cis-1,2-Dichloroethene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
cis-1,3-Dichloropropene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
Cyclohexane	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	**0.29 J**	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	**8.5**	< 0.006 U	**3.8**	< 0.0061 U	NL
Dibromochloromethane	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
Dichlorodifluoromethane	< 0.0056 UJ	< 0.006 UJ	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 UJ	< 0.31 U	< 0.0059 UJ	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
Isopropylbenzene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	**6.3**	< 0.006 U	**2.7 J**	< 0.0061 U	NL
Methyl acetate	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 UJ	< 0.0053 UJ	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 UJ	< 2.9 U	< 0.0061 U	NL
Methyl tert-butyl ether	< 0.0056 UJ	< 0.006 UJ	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 UJ	< 0.31 U	< 0.0059 UJ	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
Methylcyclohexane	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	**1.5**	< 0.0053 U	**0.044 J**	< 0.0059 U	< 0.0055 U	< 0.006 U	**31**	< 0.006 U	**14 J**	< 0.0061 U	NL
Methylene chloride	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	0.1
Styrene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	**7.9 D**	< 0.0053 U	**0.68**	< 0.0059 U	< 0.0055 U	< 0.006 U	**210**	< 0.006 U	**260**	**0.028**	NL
Tetrachloroethene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	1
trans-1,2-Dichloroethene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
trans-1,3-Dichloropropene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
Trichloroethene	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	NL
Trichlorofluoromethane	< 0.0056 U	< 0.006 U	< 0.0059 UJ	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 UJ	< 0.006 UJ	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 UJ	NL
Vinyl chloride	< 0.0056 U	< 0.006 U	< 0.0059 U	< 0.0052 U	< 0.0053 U	< 0.3 U	< 0.0053 U	< 0.31 U	< 0.0059 U	< 0.0055 U	< 0.006 U	< 6 U	< 0.006 U	< 2.9 U	< 0.0061 U	0.2
Total VOCs	0	0	0	0	0	**33.7**	0	**2.72**	0	0	0	**712**	0	**762**	**0.0842**	10

Notes:

U indicates Undetected
J indicates Estimated Concentration
R indicates Rejected Concentration - See DUSR
NL indicates the compound is not listed
MDL is Method Detection Limit

Bolded values are detected compounds
Bolded and Shaded values are detected compounds above the NYSDEC Recommended Soil Cleanup Objective.
mg/Kg - millograms per kilogram
VOCs - volatile organic compounds
Dup - field duplicate

RETEC

Table 5-5
Summary of Analytical Results for VOCs in Subsurface Soil
Remedial Investigation - 2004
Saint John's School
White Plains, New York

Location ID Sample ID Sample Date Depth Interval (feet)	B-109 B109(50-51.5)-071504 7/15/2004 50 - 51.5	B-109 B109(59-60)-071504 7/15/2004 59 - 60	B-110 B110(52)-071304 7/13/2004 52	B-110 B110(60-64)071304 7/13/2004 60 - 64	B-110 B110(84-88)-071404 7/14/2004 84 - 88	B-111 B111(51-52)-071404 7/14/2004 51 - 52	B-111 B111(56-60)-071404 7/14/2004 56 - 60	B-112 B112(51-52)-071504 7/15/2004 51 - 52	B-112 B112(56-60)-071504 7/15/2004 56 - 60	B-113 B113(52.5-53.5)-071604 7/16/2004 52.5 - 53.5	B-113 B113(56-60)-071604 7/16/2004 56 - 60	B-113 DUP01-071604 7/16/2004 56 - 60	B-114 B114(52-53)-071604 7/16/2004 52 - 53	B-114 B114(58-60)-071604 7/16/2004 58 - 60	B-115 B115(54-56)-071904 7/19/2004 54 -56	NYSDEC Recommended Soil Cleanup Objective
BTEX (mg/Kg)																
Benzene	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	0.06
Ethylbenzene	**16**	< 0.0062 U	**0.99**	< 0.0064 U	< 0.0055 U	**1.7**	< 0.0062 U	< 0.0059 U	< 0.0062 U	**2.5**	< 0.006 U	< 0.0061 U	**0.52**	< 0.0061 U	< 0.0061 U	6
Toluene	**17**	**0.005 J**	**0.96**	< 0.0064 U	< 0.0055 U	**0.079 J**	**0.00081 J**	**0.0035 J**	**0.0028 J**	**2.5**	< 0.006 U	< 0.0061 U	**0.87**	**0.0088**	< 0.0061 U	2
Xylenes (total)	**180 J**	< 0.019 U	**9.5 J**	< 0.019 U	< 0.017 U	**9.3 J**	< 0.018 U	< 0.018 U	< 0.019 U	**27 J**	< 0.018 U	< 0.018 U	**7.4 J**	< 0.018 U	< 0.018 U	1
Total BTEX	**213**	**0.005**	**11.45**	0	0	**11.079**	**0.00081**	**0.0035**	**0.0028**	**32**	0	0	**8.79**	**0.0088**	0	NL
Other VOCs (mg/Kg)																
1,1,1-Trichloroethane	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	0.8
1,1,2,2-Tetrachloroethane	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	0.6
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
1,1,2-Trichloroethane	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	0.1
1,1-Dichloroethane	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
1,1-Dichloroethene	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	0.4
1,2,4-Trichlorobenzene	< 5.6 UJ	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 UJ	< 0.006 U	< 0.0061 U	< 0.31 UJ	< 0.0061 U	< 0.0061 UJ	NL
1,2-Dibromo-3-chloropropane	< 5.6 UJ	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 UJ	< 0.006 U	< 0.0061 U	< 0.31 UJ	< 0.0061 U	< 0.0061 UJ	NL
1,2-Dibromoethane	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
1,2-Dichlorobenzene	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
1,2-Dichloroethane	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
1,2-Dichloropropane	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	0.3
1,3-Dichlorobenzene	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
1,4-Dichlorobenzene	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
2-Butanone	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 UJ	< 0.0055 UJ	**0.53**	< 0.0062 UJ	< 0.0059 UJ	< 0.0062 UJ	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 UJ	< 0.0061 U	0.3
2-Hexanone	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
4-Methyl-2-pentanone	< 5.6 U	< 0.0062 UJ	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 UJ	< 0.0061 UJ	< 0.31 U	< 0.0061 U	< 0.0061 U	1
Acetone	< 22 U	< 0.025 U	< 1.2 U	< 0.026 UJ	< 0.022 UJ	< 1.2 U	< 0.025 UJ	< 0.024 UJ	< 0.025 UJ	< 2.4 U	< 0.024 U	< 0.024 U	< 1.2 U	< 0.024 UJ	< 0.025 U	0.2
Bromodichloromethane	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
Bromoform	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
Bromomethane	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 UJ	< 0.0055 UJ	< 0.31 U	< 0.0062 UJ	< 0.0059 UJ	< 0.0062 UJ	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 UJ	< 0.0061 U	NL
Carbon disulfide	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	3
Carbon tetrachloride	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	0.6
Chlorobenzene	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	2
Chloroethane	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 R	< 0.0055 R	< 0.31 U	< 0.0062 R	< 0.0059 R	< 0.0062 R	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 R	< 0.0061 U	2
Chloroform	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	0.3
Chloromethane	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
cis-1,2-Dichloroethene	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
cis-1,3-Dichloropropene	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
Cyclohexane	**1.3 J**	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	**0.2 J**	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
Dibromochloromethane	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
Dichlorodifluoromethane	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
Isopropylbenzene	**7.4**	< 0.0062 U	**0.42**	< 0.0064 U	< 0.0055 U	**0.81**	< 0.0062 U	< 0.0059 U	< 0.0062 U	**0.82**	< 0.006 U	< 0.0061 U	**0.38**	< 0.0061 U	< 0.0061 U	NL
Methyl acetate	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 UJ	< 0.0055 UJ	< 0.31 U	< 0.0062 UJ	< 0.0059 UJ	< 0.0062 UJ	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 UJ	< 0.0061 U	NL
Methyl tert-butyl ether	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 UJ	< 0.0055 UJ	< 0.31 U	< 0.0062 UJ	< 0.0059 UJ	< 0.0062 UJ	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 UJ	< 0.0061 U	NL
Methylcyclohexane	**5.4 J**	< 0.0062 U	**0.35**	< 0.0064 U	< 0.0055 U	**0.24 J**	< 0.0062 U	< 0.0059 U	< 0.0062 U	**0.78**	< 0.006 U	< 0.0061 U	**0.2 J**	< 0.0061 U	< 0.0061 U	NL
Methylene chloride	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	0.01 U	< 0.31 U	< 0.0062 U	**0.059**	**0.033**	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	0.011 U	< 0.0061 U	0.1
Styrene	**120**	**0.0024 J**	**6.2**	< 0.0064 U	< 0.0055 U	**1.5**	< 0.0062 U	< 0.0059 U	< 0.0062 U	19	< 0.006 U	< 0.0061 U	**5.1**	**0.011**	< 0.0061 U	NL
Tetrachloroethene	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	1
trans-1,2-Dichloroethene	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
trans-1,3-Dichloropropene	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
Trichloroethene	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
Trichlorofluoromethane	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	NL
Vinyl chloride	< 5.6 U	< 0.0062 U	< 0.3 U	< 0.0064 U	< 0.0055 U	< 0.31 U	< 0.0062 U	< 0.0059 U	< 0.0062 U	< 0.61 U	< 0.006 U	< 0.0061 U	< 0.31 U	< 0.0061 U	< 0.0061 U	0.2
Total VOCs	**347.1**	**0.0074**	**18.42**	0	0	**14.159**	**0.00081**	**0.0625**	**0.0358**	**52.8**	0	0	**14.47**	**0.0198**	0	10

Notes:

U indicates Undetected
J indicates Estimated Concentration
R indicates Rejected Concentration - See DUSR
NL indicates the compound is not listed
MDL is Method Detection Limit

Bolded values are detected compounds
Bolded and Shaded values are detected compounds above the NYSDEC Recommended Soil Cleanup Objective.
mg/Kg - milligrams per kilogram
VOCs - volatile organic compounds
Dup - field duplicate

Table 5-5
Summary of Analytical Results for VOCs in Subsurface Soil
Remedial Investigation - 2004
Saint John's School
White Plains, New York

Location ID	B-115	B-116	B-117	B-117	B-118	B-119	B-119	B-120	B-120	NYSDEC
Sample ID	B115(62-64)-071904	B116(54-56)-071904	B117(52-53)-072104	B117(56-60)-072104	B118(52-56)-072104	B119(56-60)-072204	B119(60-64)-072204	B120(56-60)-072204	B120(60-64)-072204	Recommended
Sample Date	7/19/2004	7/19/2004	7/21/2004	7/21/2004	7/21/2004	7/22/2004	7/22/2004	7/22/2004	7/22/2004	Soil Cleanup
Depth Interval (feet)	62 - 64	54 - 56	53 - 53	56 - 60	52 -56	56 - 60	60 - 64	56 - 60	60 - 64	Objective
BTEX (mg/Kg)										
Benzene	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	0.06
Ethylbenzene	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	6
Toluene	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	**0.0016 J**	< 0.0058 U	< 0.0062 U	**0.0017 J**	2
Xylenes (total)	< 0.018 U	< 0.019 U	**0.0073 J**	< 0.018 U	< 0.018 U	< 0.018 U	< 0.017 U	< 0.019 U	< 0.018 U	1
Total BTEX	**0**	**0**	**0.0073**	**0**	**0**	**0.0016**	**0**	**0**	**0.0017**	NL
Other VOCs (mg/Kg)										
1,1,1-Trichloroethane	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	0.8
1,1,2,2-Tetrachloroethane	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	0.6
1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
1,1,2-Trichloroethane	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	0.1
1,1-Dichloroethane	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
1,1-Dichloroethene	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	0.4
1,2,4-Trichlorobenzene	< 0.006 UJ	< 0.0062 UJ	< 0.0062 UJ	< 0.0061 UJ	< 0.0062 UJ	< 0.0061 UJ	< 0.0058 UJ	< 0.0062 UJ	< 0.0059 UJ	NL
1,2-Dibromo-3-chloropropane	< 0.006 UJ	< 0.0062 UJ	< 0.0062 UJ	< 0.0061 UJ	< 0.0062 UJ	< 0.0061 UJ	< 0.0058 UJ	< 0.0062 UJ	< 0.0059 UJ	NL
1,2-Dibromoethane	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
1,2-Dichlorobenzene	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
1,2-Dichloroethane	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
1,2-Dichloropropane	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	0.3
1,3-Dichlorobenzene	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
1,4-Dichlorobenzene	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
2-Butanone	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	0.3
2-Hexanone	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
4-Methyl-2-pentanone	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	1
Acetone	< 0.024 U	< 0.025 U	< 0.025 U	< 0.024 U	< 0.025 U	< 0.024 U	< 0.023 U	< 0.025 U	< 0.024 U	0.2
Bromodichloromethane	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
Bromoform	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
Bromomethane	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
Carbon disulfide	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	3
Carbon tetrachloride	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	0.6
Chlorobenzene	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	2
Chloroethane	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	2
Chloroform	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	0.3
Chloromethane	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
cis-1,2-Dichloroethene	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
cis-1,3-Dichloropropene	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
Cyclohexane	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
Dibromochloromethane	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
Dichlorodifluoromethane	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
Isopropylbenzene	< 0.006 U	< 0.0062 U	**0.016**	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
Methyl acetate	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
Methyl tert-butyl ether	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
Methylcyclohexane	< 0.006 U	< 0.0062 U	**0.0017 J**	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
Methylene chloride	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	0.1
Styrene	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	**0.0012 J**	< 0.0058 U	< 0.0062 U	**0.0014 J**	NL
Tetrachloroethene	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	1
trans-1,2-Dichloroethene	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
trans-1,3-Dichloropropene	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
Trichloroethene	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
Trichlorofluoromethane	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	NL
Vinyl chloride	< 0.006 U	< 0.0062 U	< 0.0062 U	< 0.0061 U	< 0.0062 U	< 0.0061 U	< 0.0058 U	< 0.0062 U	< 0.0059 U	0.2
Total VOCs	**0**	**0**	**0.025**	**0**	**0**	**0.0028**	**0**	**0**	**0.0031**	10

Notes:

U indicates Undetected
J indicates Estimated Concentration
R indicates Rejected Concentration - See DUSR
NL indicates the compound is not listed
MDL is Method Detection Limit

Bolded values are detected compounds
Bolded and Shaded values are detected compounds above the NYSDEC Recommended Soil Cleanup Objective.
mg/Kg - milligrams per kilogram
VOCs - volatile organic compounds
Dup - field duplicate

Table 5-6
Summary of Analytical Results for SVOCs in Subsurface Soil
Remedial Investigation - 2004
Saint John's School
White Plains, New York

Location ID / Sample ID / Sample Date / Depth Interval (feet)	B-101 B101(16-20)-041304 4/13/2004 16 - 20	B-101 B101(36-40)-041304 4/13/2004 36 - 40	B-101 B101(60-64)-041304 4/13/2004 60 - 64	B-102 B102(16-20)-041604 4/16/2004 16 - 20	B-102 B102(16-20)-041604DUP 4/16/2004 16 - 20	B-102 B102(36-40)-041604 4/16/2004 36 - 40	B-103 B103(16-20)-041404 4/14/2004 16 - 20	B-103 B103(39-40.5)-041404 4/14/2004 39 - 40.5	B-103 B103(55.5-56)-041404 4/15/2004 55.5 - 56	B-104 B104(16-20)-041504 4/15/2004 16 - 20	B-104 B104(36-40)-041504 4/15/2004 36 - 40	B-107 B107(40-42)-041604 4/16/2004 40 - 42	B-107 B107(44-48)-041604 4/16/2004 44 - 48	B-108 B108(40-43)-041704 4/17/2004 40 - 43	B-108 B108(50-52)-041704 4/17/2004 50 - 52	NYSDEC Recommended Soil Cleanup Objective
PAH Compounds (mg/Kg)																
2-Methylnaphthalene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	280 D	< 0.35 U	0.055 J	< 0.39 U	< 0.36 U	< 0.39 U	1100 D	0.087 J	760 D	0.16 J	36.4
Acenaphthene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	18 J	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	71 J	< 0.39 U	44	< 0.4 U	50
Acenaphthylene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	160	< 0.35 U	0.3 J	< 0.39 U	< 0.36 U	< 0.39 U	760 D	0.23 J	490 D	0.26 J	41
Anthracene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	70	< 0.35 U	0.54 J	< 0.39 U	< 0.36 U	< 0.39 U	280	0.14 J	150	0.16 J	50
Benzo(a)anthracene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	50	< 0.35 U	0.51 J	< 0.39 U	< 0.36 U	< 0.39 U	200	0.068 J	120	0.13 J	0.224/MDL
Benzo(a)pyrene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	42	< 0.35 U	0.71 J	< 0.39 U	< 0.36 U	< 0.39 U	170	0.056 J	100	0.11 J	0.061/MDL
Benzo(b)fluoranthene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	32	< 0.35 U	2	< 0.39 U	< 0.36 U	< 0.39 U	130	0.043 J	81	0.086 J	1.1
Benzo(ghi)perylene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	20	< 0.35 U	1.2	< 0.39 U	< 0.36 U	< 0.39 U	85	< 0.39 U	55	< 0.4 U	50
Benzo(k)fluoranthene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	12 J	< 0.35 U	0.45 J	< 0.39 U	< 0.36 U	< 0.39 U	51 J	< 0.39 U	30	< 0.4 U	1.1
Chrysene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	44	< 0.35 U	0.88	< 0.39 U	< 0.36 U	< 0.39 U	180	0.059 J	110	0.11 J	0.4
Dibenz(a,h)anthracene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	4.1 J	< 0.35 U	0.26 J	< 0.39 U	< 0.36 U	< 0.39 U	17 J	< 0.39 U	11 J	< 0.4 U	0.014/MDL
Fluoranthene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	97	< 0.35 U	0.77	< 0.39 U	< 0.36 U	< 0.39 U	390	0.16 J	250 DJ	0.25 J	50
Fluorene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	90	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	350	0.072 J	230 DJ	0.14 J	50
Indeno(1,2,3-cd)pyrene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	16 J	< 0.35 U	1	< 0.39 U	< 0.36 U	< 0.39 U	66 J	< 0.39 U	44	< 0.4 U	3.2
Naphthalene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	760 D	< 0.35 U	0.15 J	0.05 J	< 0.36 U	< 0.39 U	2900 D	0.21 J	2400 D	0.34 J	13
Phenanthrene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	280 D	< 0.35 U	0.37 J	0.06 J	< 0.36 U	< 0.39 U	1100 D	0.6	720 D	0.62	50
Pyrene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	120	< 0.35 U	0.91	< 0.39 U	< 0.36 U	< 0.39 U	510	0.22 J	370 DJ	0.35 J	50
Total cPAHs	0	0	0	0	0	#VALUE!	0	4.295	0	0	0	7546	1.719	5469	2.39	NL
Total PAH	0	0	0	0	0	2095	0	10.105	0.11	0	0	8360	1.945	5965	2.716	NL
Other SVOCs (mg/Kg)																
1,1'-Biphenyl	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	44	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	170	0.055 J	100	0.039 J	NL
2,2'-oxybis(1-Chloropropane)	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
2,4,5-Trichlorophenol	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
2,4,6-Trichlorophenol	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	0.4
2,4-Dichlorophenol	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
2,4-Dimethylphenol	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
2,4-Dinitrophenol	< 1.8 U	< 1.9 U	< 1.9 U	< 1.7 U	< 1.7 U	< 95 U	< 1.7 U	< 3.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 380 U	< 1.9 U	< 94 U	< 2 U	0.2/MDL
2,4-Dinitrotoluene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
2,6-Dinitrotoluene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	1
2-Chloronaphthalene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
2-Chlorophenol	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	0.8
2-Methylphenol	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	0.1/MDL
2-Nitroaniline	< 1.8 U	< 1.9 U	< 1.9 U	< 1.7 U	< 1.7 U	< 95 U	< 1.7 U	< 3.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 380 U	< 1.9 U	< 94 U	< 2 U	0.43/MDL
2-Nitrophenol	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	0.3/MDL
3,3'-Dichlorobenzidine	< 1.8 U	< 1.9 U	< 1.9 U	< 1.7 U	< 1.7 U	< 95 U	< 1.7 U	< 3.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 380 U	< 1.9 U	< 94 U	< 2 U	NL
3-Nitroaniline	< 1.8 U	< 1.9 U	< 1.9 U	< 1.7 U	< 1.7 U	< 95 U	< 1.7 U	< 3.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 380 U	< 1.9 U	< 94 U	< 2 U	0.5/MDL
4,6-Dinitro-2-methylphenol	< 1.8 U	< 1.9 U	< 1.9 U	< 1.7 U	< 1.7 U	< 95 U	< 1.7 U	< 3.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 380 U	< 1.9 U	< 94 U	< 2 U	NL
4-Bromophenyl phenyl ether	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
4-Chloro-3-methylphenol	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	0.24/MDL
4-Chloroaniline	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	0.22/MDL
4-Chlorophenyl phenyl ether	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
4-Methylphenol	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	900
4-Nitroaniline	< 1.8 U	< 1.9 U	< 1.9 U	< 1.7 U	< 1.7 U	< 95 U	< 1.7 U	< 3.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 380 U	< 1.9 U	< 94 U	< 2 U	NL
4-Nitrophenol	< 1.8 U	< 1.9 U	< 1.9 U	< 1.7 U	< 1.7 U	< 95 U	< 1.7 U	< 3.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 380 U	< 1.9 U	< 94 U	< 2 U	0.1/MDL
Acetophenone	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
Atrazine	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
Benzaldehyde	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
bis(2-Chloroethoxy)methane	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
bis(2-Chloroethyl) ether	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
bis(2-Ethylhexyl) phthalate	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	50
Butyl benzyl phthalate	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	50
Caprolactam	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
Carbazole	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	0.22 J	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
Dibenzofuran	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	4.1 J	< 0.35 U	0.085 J	< 0.39 U	< 0.36 U	< 0.39 U	15 J	< 0.39 U	9.8 J	< 0.4 U	8.1
Diethyl phthalate	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	50
Dimethyl phthalate	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	6.2
Di-n-butyl phthalate	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	7.1
Di-n-octyl phthalate	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	2
Hexachlorobenzene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	0.41
Hexachlorobutadiene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
Hexachlorocyclopentadiene	< 1.8 U	< 1.9 U	< 1.9 U	< 1.7 U	< 1.7 U	< 95 U	< 1.7 U	< 3.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 380 U	< 1.9 U	< 94 U	< 2 U	NL
Hexachloroethane	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
Isophorone	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	4.4
Nitrobenzene	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
N-Nitrosodi-n-propylamine	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	NL
N-Nitrosodiphenylamine	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	0.2/MDL
Pentachlorophenol	< 1.8 U	< 1.9 U	< 1.9 U	< 1.7 U	< 1.7 U	< 95 U	< 1.7 U	< 3.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 380 U	< 1.9 U	< 94 U	< 2 U	1
Phenol	< 0.37 U	< 0.4 U	< 0.39 U	< 0.34 U	< 0.35 U	< 20 U	< 0.35 U	< 0.77 U	< 0.39 U	< 0.36 U	< 0.39 U	< 79 U	< 0.39 U	< 19 U	< 0.4 U	0.03/MDL
Total SVOCs	0	0	0	0	0	#VALUE!	0	4.6	0	0	0	7731	2	5579	2.43	< 500

Notes:
U indicates Undetected
J indicates Estimated Concentration
NL indicates the compound is not listed
MDL is Method Detection Limit
Bolded values are detected compounds
Bolded and Shaded values are detected compounds above the NYSDEC Recommended Soil Cleanup Objective.

PAHs - polynuclear aromatic hydrocarbons
cPAHs - carcinogenic polynuclear aromatic hydrocarbons
Carcinogenic PAHs are in italics
SVOCs - semivolatile organic compounds
µg/Kg - micrograms per kilogram
Dup - field duplicate

RETEC

Table 5-6
Summary of Analytical Results for SVOCs In Subsurface Soil
Remedial Investigation - 2004
Saint John's School
White Plains, New York

Location ID	B-109	B-109	B-110	B-110	B-110	B-111	B-111	B-112	B-112	B-113	B-113	B-113	B-114	B-114	B-115	B-115	B-116	B-117	NYSDEC
Sample ID	B109(50-51.5)-071504	B109(59-60)-071504	B110(52)-071304	B110(60-64)071304	B110(84-88)-071404	B111(51-52)-071404	B111(56-60)-071404	B112(51-52)-071504	B112(56-60)-071504	B113(52.5-53.5)-071604	B113(56-60)-071604	DUP01-071604	B114(52-53)-071604	B114(58-60)-071604	B115(54-56)-071904	B115(62-64)-071904	B116(54-56)-071904	B117(52-53)-072104	Recommended
Sample Date	7/15/2004	7/15/2004	7/13/2004	7/13/2004	7/14/2004	7/14/2004	7/14/2004	7/15/2004	7/15/2004	7/16/2004	7/16/2004	7/16/2004	7/16/2004	7/16/2004	7/19/2004	7/19/2004	7/19/2004	7/21/2004	Soil Cleanup
Depth Interval (feet)	50 - 51.5	59 - 60	52	60 - 64	84 - 88	51 - 52	56 - 60	51 - 52	56 - 60	52.5 - 53.5	56 - 60	56 - 60	52 - 53	58 - 60	54 - 56	62 - 64	54 - 56	52 - 53	Objective
PAH Compounds (mg/Kg)																			
2-Methylnaphthalene	**940**	**0.05 J**	**67**	< 0.42 U	< 0.37 U	**93**	< 0.41 U	< 0.39 U	< 0.41 U	**140**	**0.034 J**	**0.055 J**	**180**	**0.023 J**	**0.016 J**	**0.019 J**	< 0.41 U	**3**	36.4
Acenaphthene	**59 J**	< 0.41 U	**5.7 J**	< 0.42 U	< 0.37 U	**7.8 J**	< 0.41 U	< 0.39 U	< 0.41 U	**12 J**	**0.013 J**	**0.011 J**	**12 J**	**0.014 J**	< 0.41 U	< 0.39 U	< 0.41 U	**1.1**	50
Acenaphthylene	**670**	**0.01 J**	**54**	< 0.42 U	< 0.37 U	**76**	< 0.41 U	< 0.39 U	< 0.41 U	**120**	**0.016 J**	**0.041 J**	**140**	**0.016 J**	**0.011 J**	**0.015 J**	< 0.41 U	**3.2**	41
Anthracene	**270**	< 0.41 U	**28**	< 0.42 U	< 0.37 U	**36**	< 0.41 U	< 0.39 U	< 0.41 U	**58**	< 0.39 U	**0.033 J**	**57**	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	**5.2 D**	50
Benzo(a)anthracene	**180 J**	< 0.41 U	**20**	< 0.42 U	< 0.37 U	**25**	< 0.41 U	< 0.39 U	< 0.41 U	**40**	< 0.39 U	**0.027 J**	**38 J**	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	**3.9 D**	0.224/MDL
Benzo(a)pyrene	**140 J**	< 0.41 U	**16**	< 0.42 U	< 0.37 U	**20**	< 0.41 U	< 0.39 U	< 0.41 U	**32**	< 0.39 U	**0.02 J**	**31 J**	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	**3.3 D**	0.061/MDL
Benzo(b)fluoranthene	**110 J**	< 0.41 U	**11 J**	< 0.42 U	< 0.37 U	**14 J**	< 0.41 U	< 0.39 U	< 0.41 U	**25**	< 0.39 U	**0.015 J**	**22 J**	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	**1.3 DJ**	1.1
Benzo(ghi)perylene	**82 J**	< 0.41 U	**9.6 J**	< 0.42 U	< 0.37 U	**12 J**	< 0.41 U	< 0.39 U	< 0.41 U	**19 J**	< 0.39 U	**0.01 J**	**18 J**	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	**2**	50
Benzo(k)fluoranthene	**34 J**	< 0.41 U	**4.4 J**	< 0.42 U	< 0.37 U	**5.1 J**	< 0.41 U	< 0.39 U	< 0.41 U	**7.3 J**	< 0.39 U	< 0.4 U	**7.1 J**	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	1.1
Chrysene	**160 J**	< 0.41 U	**17**	< 0.42 U	< 0.37 U	**22**	< 0.41 U	< 0.39 U	< 0.41 U	**34**	< 0.39 U	**0.024 J**	**33 J**	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	**3.6 D**	0.4
Dibenz(a,h)anthracene	**6.3 J**	< 0.41 U	**0.63 J**	< 0.42 U	< 0.37 U	**0.88 J**	< 0.41 U	< 0.39 U	< 0.41 U	**1.4 J**	< 0.39 U	< 0.4 U	**1.3 J**	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	**0.47**	0.014/MDL
Fluoranthene	**370**	< 0.41 U	**39**	< 0.42 U	< 0.37 U	**50**	< 0.41 U	< 0.39 U	< 0.41 U	**79**	**0.0098 J**	**0.048 J**	**78**	< 0.4 U	**0.0087 J**	< 0.39 U	< 0.41 U	**8 D**	50
Fluorene	**340**	< 0.41 U	**33**	< 0.42 U	< 0.37 U	**43**	< 0.41 U	< 0.39 U	< 0.41 U	**70**	**0.014 J**	**0.035 J**	**71**	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	**2.9**	50
Indeno(1,2,3-cd)pyrene	**54 J**	< 0.41 U	**6.1 J**	< 0.42 U	< 0.37 U	**7.8 J**	< 0.41 U	< 0.39 U	< 0.41 U	**12 J**	< 0.39 U	< 0.4 U	**11 J**	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	**1.4**	3.2
Naphthalene	**2800 D**	**0.27 J**	**140 D**	< 0.42 U	< 0.37 U	**200 D**	< 0.41 U	< 0.39 U	**0.024 J**	**300 D**	**0.091 J**	**0.073 J**	**490 D**	**0.12 J**	**0.066 J**	**0.039 J**	**0.013 J**	**2.9**	13
Phenanthrene	**950**	**0.039 J**	**89**	< 0.42 U	< 0.37 U	**120**	< 0.41 U	< 0.39 U	< 0.41 U	**180**	**0.05 J**	**0.16 J**	**200**	**0.06 J**	**0.029 J**	< 0.39 U	< 0.41 U	**16 D**	50
Pyrene	**520**	**0.011 J**	**54**	< 0.42 U	< 0.37 U	**70**	< 0.41 U	< 0.39 U	< 0.41 U	**110**	**0.017 J**	**0.084 J**	**110**	< 0.4 U	**0.021 J**	< 0.39 U	< 0.41 U	**13 D**	50
Total cPAHs	684.3	0	75.13	0	0	94.78	0	0	0	151.7	0	0.086	143.4	0	0	0	0	13.97	NL
Total PAH	7685.3	0.38	494.43	0	0	673.58	0	0	0.024	1239.7	0.2448	0.636	1499.4	0.233	0.1517	0.073	0.013	54.77	NL
Other SVOCs (mg/Kg)																			
1,1'-Biphenyl	**160 J**	< 0.41 U	**14**	< 0.42 U	< 0.37 U	**19**	< 0.41 U	< 0.39 U	< 0.41 U	**30**	< 0.39 U	< 0.4 U	**32 J**	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	**1**	NL
2,2'-oxybis(1-Chloropropane)	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
2,4,5-Trichlorophenol	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
2,4,6-Trichlorophenol	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
2,4-Dichlorophenol	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	0.4
2,4-Dimethylphenol	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
2,4-Dinitrophenol	< 900 U	< 2 U	< 58 U	< 2 U	< 1.8 U	< 80 U	< 2 U	< 1.9 U	< 2 U	< 120 U	< 1.9 U	< 1.9 U	< 200 U	< 2 U	< 2 U	< 1.9 U	< 2 U	< 2 U	0.2/MDL
2,4-Dinitrotoluene	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
2,6-Dinitrotoluene	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	1
2-Chloronaphthalene	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
2-Chlorophenol	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	0.8
2-Methylphenol	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	0.1/MDL
2-Nitroaniline	< 900 U	< 2 U	< 58 U	< 2 U	< 1.8 U	< 80 U	< 2 U	< 1.9 U	< 2 U	< 120 U	< 1.9 U	< 1.9 U	< 200 U	< 2 U	< 2 U	< 1.9 U	< 2 U	< 2 U	0.43/MDL
2-Nitrophenol	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	0.3/MDL
3,3'-Dichlorobenzidine	< 900 U	< 2 U	< 58 U	< 2 U	< 1.8 U	< 80 U	< 2 U	< 1.9 U	< 2 U	< 120 U	< 1.9 U	< 1.9 U	< 200 U	< 2 U	< 2 U	< 1.9 U	< 2 U	< 2 U	NL
3-Nitroaniline	< 900 U	< 2 U	< 58 U	< 2 U	< 1.8 U	< 80 U	< 2 U	< 1.9 U	< 2 U	< 120 U	< 1.9 U	< 1.9 U	< 200 U	< 2 U	< 2 U	< 1.9 U	< 2 U	< 2 U	0.5/MDL
4,6-Dinitro-2-methylphenol	< 900 U	< 2 U	< 58 U	< 2 U	< 1.8 U	< 80 U	< 2 U	< 1.9 U	< 2 U	< 120 U	< 1.9 U	< 1.9 U	< 200 U	< 2 U	< 2 U	< 1.9 U	< 2 U	< 2 U	NL
4-Bromophenyl phenyl ether	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
4-Chloro-3-methylphenol	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	0.24/MDL
4-Chloroaniline	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	0.22/MDL
4-Chlorophenyl phenyl ether	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
4-Methylphenol	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	900
4-Nitroaniline	< 900 U	< 2 U	< 58 U	< 2 U	< 1.8 U	< 80 U	< 2 U	< 1.9 U	< 2 U	< 120 U	< 1.9 U	< 1.9 U	< 200 U	< 2 U	< 2 U	< 1.9 U	< 2 U	< 2 U	NL
4-Nitrophenol	< 900 U	< 2 U	< 58 U	< 2 U	< 1.8 U	< 80 U	< 2 U	< 1.9 U	< 2 U	< 120 U	< 1.9 U	< 1.9 U	< 200 U	< 2 U	< 2 U	< 1.9 U	< 2 U	< 2 U	0.1/MDL
Acetophenone	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
Atrazine	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
Benzaldehyde	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	<41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
bis(2-Chloroethoxy)methane	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
bis(2-Chloroethyl) ether	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
bis(2-Ethylhexyl) phthalate	< 190 U	**0.084 J**	< 12 U	< 0.42 U	**0.071 J**	< 16 U	**0.05 J**	**0.033 J**	**0.037 J**	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	**0.1 J**	**0.071 J**	**0.052 J**	**0.063 J**	50
Butyl benzyl phthalate	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	50
Caprolactam	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
Carbazole	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
Dibenzofuran	**19 J**	< 0.41 U	**1.8 J**	< 0.42 U	< 0.37 U	**1.9 J**	< 0.41 U	< 0.39 U	< 0.41 U	**3.7 J**	< 0.39 U	< 0.4 U	**3.1 J**	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	8.1
Diethyl phthalate	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	50
Dimethyl phthalate	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	6.2
Di-n-butyl phthalate	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	7.1
Di-n-octyl phthalate	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	2
Hexachlorobenzene	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	0.41
Hexachlorobutadiene	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
Hexachlorocyclopentadiene	< 900 U	< 2 U	< 58 U	< 2 U	< 1.8 U	< 80 U	< 2 U	< 1.9 U	< 2 U	< 120 U	< 1.9 U	< 1.9 U	< 200 U	< 2 U	< 2 UJ	< 1.9 UJ	< 2 UJ	< 2 UJ	NL
Hexachloroethane	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
Isophorone	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	4.4
Nitrobenzene	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
N-Nitrosodi-n-propylamine	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	NL
N-Nitrosodiphenylamine	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	0.2/MDL
Pentachlorophenol	< 900 U	< 2 U	< 58 U	< 2 U	< 1.8 U	< 80 U	< 2 U	< 1.9 U	< 2 U	< 120 U	< 1.9 U	< 1.9 U	< 200 U	< 2 U	< 2 U	< 1.9 U	< 2 U	< 2 U	1
Phenol	< 190 U	< 0.41 U	< 12 U	< 0.42 U	< 0.37 U	< 16 U	< 0.41 U	< 0.39 U	< 0.41 U	< 24 U	< 0.39 U	< 0.4 U	< 41 U	< 0.4 U	< 0.41 U	< 0.39 U	< 0.41 U	< 0.41 U	0.03/MDL
Total SVOCs	7864.3	0.084	510.23	0	0.071	694.48	0.05	0.033	0.061	1273.4	0.2448	0.636	178.5	0	0.1	0.071	0.052	15.033	< 500

Notes:
U indicates Undetected
J indicates Estimated Concentration
NL indicates the compound is not listed
MDL is Method Detection Limit
Bolded values are detected compounds
Bolded and Shaded values are detected compounds above the NYSDEC Recommended Soil Cleanup Obje

PAHs - polynuclear aromatic hydrocarbons
cPAHs - carcinogenic polynuclear aromatic hydrocarbons
Carcinogenic PAHs are in italics
SVOCs - semivolatile organic compounds
µg/Kg - micrograms per kilogram
Dup - field duplicate

RETEC

Table 5-6
Summary of Analytical Results for SVOCs in Subsurface Soil
Remedial Investigation - 2004
Saint John's School
White Plains, New York

Location ID Sample ID Sample Date Depth Interval (feet)	B-117 B117(56-60)-072104 7/21/2004 56 - 60	B-118 B118(52-56)-072104 7/21/2004 52 - 56	B-119 B119(56-60)-072204 7/22/2004 56 - 60	B-119 B119(60-64)-072204 7/22/2004 60 - 64	B-120 B120(56-60)-072204 7/22/2004 56 - 60	B-120 B120(60-64)-072204 7/22/2004 60 - 64	NYSDEC Recommended Soil Cleanup Objective
PAH Compounds (mg/Kg)							
2-Methylnaphthalene	< 0.4 U	< 0.41 U	**0.022 J**	< 0.38 U	**0.038 J**	**0.027 J**	36.4
Acenaphthene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	50
Acenaphthylene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	**0.017 J**	**0.013 J**	41
Anthracene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	50
Benzo(a)anthracene	**0.0097 J**	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	0.224/MDL
Benzo(a)pyrene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	0.061/MDL
Benzo(b)fluoranthene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	1.1
Benzo(ghi)perylene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	50
Benzo(k)fluoranthene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	1.1
Chrysene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	0.4
Dibenz(a,h)anthracene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	0.014/MDL
Fluoranthene	**0.014 J**	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	50
Fluorene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	**0.0099 J**	< 0.39 U	50
Indeno(1,2,3-cd)pyrene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	3.2
Naphthalene	< 0.4 U	< 0.41 U	**0.11 J**	< 0.38 U	**0.14 J**	**0.12 J**	13
Phenanthrene	**0.027 J**	< 0.41 U	**0.013 J**	< 0.38 U	**0.023 J**	**0.034 J**	50
Pyrene	**0.027 J**	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	50
Total cPAHs	**0.0097**	**0**	**0**	**0**	**0**	0	NL
Total PAH	**0.0777**	**0**	**0.145**	**0**	**0.2279**	**0.194**	NL
Other SVOCs (mg/Kg)							
1,1'-Biphenyl	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
2,2'-oxybis(1-Chloropropane)	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
2,4,5-Trichlorophenol	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
2,4,6-Trichlorophenol	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	0.4
2,4-Dichlorophenol	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
2,4-Dimethylphenol	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
2,4-Dinitrophenol	< 1.9 U	< 2 U	< 2 U	< 1.9 U	< 2 U	< 1.9 U	0.2/MDL
2,4-Dinitrotoluene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
2,6-Dinitrotoluene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	1
2-Chloronaphthalene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
2-Chlorophenol	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	0.8
2-Methylphenol	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	0.1/MDL
2-Nitroaniline	< 1.9 U	< 2 U	< 2 U	< 1.9 U	< 2 U	< 1.9 U	0.43/MDL
2-Nitrophenol	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	0.3/MDL
3,3'-Dichlorobenzidine	< 1.9 U	< 2 U	< 2 U	< 1.9 U	< 2 U	< 1.9 U	NL
3-Nitroaniline	< 1.9 U	< 2 U	< 2 U	< 1.9 U	< 2 U	< 1.9 U	0.5/MDL
4,6-Dinitro-2-methylphenol	< 1.9 U	< 2 U	< 2 U	< 1.9 U	< 2 U	< 1.9 U	NL
4-Bromophenyl phenyl ether	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
4-Chloro-3-methylphenol	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	0.24/MDL
4-Chloroaniline	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	0.22/MDL
4-Chlorophenyl phenyl ether	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
4-Methylphenol	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	900
4-Nitroaniline	< 1.9 U	< 2 U	< 2 U	< 1.9 U	< 2 U	< 1.9 U	NL
4-Nitrophenol	< 1.9 U	< 2 U	< 2 U	< 1.9 U	< 2 U	< 1.9 U	0.1/MDL
Acetophenone	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
Atrazine	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
Benzaldehyde	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
bis(2-Chloroethoxy)methane	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
bis(2-Chloroethyl) ether	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
bis(2-Ethylhexyl) phthalate	**0.12 J**	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	**0.095 J**	50
Butyl benzyl phthalate	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	50
Caprolactam	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
Carbazole	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
Dibenzofuran	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	8.1
Diethyl phthalate	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	50
Dimethyl phthalate	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	6.2
Di-n-butyl phthalate	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	7.1
Di-n-octyl phthalate	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	2
Hexachlorobenzene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	0.41
Hexachlorobutadiene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
Hexachlorocyclopentadiene	< 1.9 UJ	< 2 UJ	< 2 UJ	< 1.9 UJ	< 2 U	< 1.9 U	NL
Hexachloroethane	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
Isophorone	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	4.4
Nitrobenzene	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
N-Nitrosodi-n-propylamine	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	NL
N-Nitrosodiphenylamine	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	0.2/MDL
Pentachlorophenol	< 1.9 U	< 2 U	< 2 U	< 1.9 U	< 2 U	< 1.9 U	1
Phenol	< 0.4 U	< 0.41 U	< 0.4 U	< 0.38 U	< 0.41 U	< 0.39 U	0.03/MDL
Total SVOCs	**0.1297**	**0**	**0**	**0**	**0**	**0.289**	< 500

Notes:
U indicates Undetected
J indicates Estimated Concentration
NL indicates the compound is not listed
MDL is Method Detection Limit
Bolded values are detected compounds
Bolded and Shaded values are detected compounds above the NYSDEC Recommended Soil Cleanup Objective.

PAHs - polynuclear aromatic hydrocarbons
cPAHs - carcinogenic polynuclear aromatic hydrocarbons
Carcinogenic PAHs are in italics
SVOCs - semivolatile organic compounds
μg/Kg - micrograms per kilogram
Dup - field duplicate

Table 5-7
Summary of Analytical Results for Metals and Cyanide in Subsurface Soil
Remedial Investigation - 2004
Saint John's School
White Plains, NY

Location ID Sample ID Sample Date Depth Interval (feet)	B-101 B101(16-20)-041304 4/13/2004 16 - 20	B-101 B101(36-40)-041304 4/13/2004 36 - 40	B-101 B101(60-64)-041304 4/13/2004 60 - 64	B-102 B102(16-20)-041604 4/16/2004 16 - 20	B-102 B102(16-20)-041604DUP 4/16/2004 16 - 20	B-102 B102(36-40)-041604 4/16/2004 36 - 40	B-103 B103(16-20)-041404 4/14/2004 16 - 20	B-103 B103(39-40.5)-041404 4/14/2004 39 - 40.5	Eastern USA Background Concentrations
Metals (mg/Kg)									
Aluminum	**6860**	**4030**	**4380**	**5010**	**4590**	**3190**	**6030**	**2800**	33,000
Antimony	< 1.1 UJ	< 1.2 UJ	< 1.2 UJ	< 1.0 UJ	< 1.1 UJ	< 1.2 UJ	< 1.1 UJ	< 1.2 UJ	N/A
Arsenic	< 1.1 U	< 1.2 U	**0.56 J**	**0.39 J**	**0.43 J**	< 1.2 U	< 1.1 U	< 1.2 U	3 - 12
Barium	**68.3**	**35.4**	**47.7**	**43.6**	**38.6**	**22.9 J**	**50.3**	**22.1 J**	15 - 600
Beryllium	**0.58**	**0.52**	< 0.47 U	**0.54**	**0.54**	**0.60**	**0.53**	< 0.47 U	0 - 1.75
Cadmium	< 0.56 U	< 0.60 U	< 0.59 U	< 0.52 U	< 0.53 U	< 0.60 U	< 0.53 U	< 0.59 U	0.1 - 1
Calcium	**1720 J**	**35700 J**	**20600 J**	**20200 J**	**23600 J**	**25600 J**	**19500 J**	**25000 J**	130 - 35,000
Chromium	**10.5**	**7.0**	**9.2**	**8.3 J**	**7.4 J**	**6.4 J**	**10.0**	**5.9**	1.5 - 40**
Cobalt	**7.9**	< 6.0 U	**5.9**	**5.2**	< 5.3 U	< 6.0 U	**6.4**	< 5.9 U	2.5 - 60**
Copper	**17.8 J**	**8.1 J**	**13.0 J**	**10 J**	**10.1 J**	**5.8 J**	**10.5 J**	**6.4 J**	1 - 50
Iron	**11800**	**6890**	**8400**	**7760 J**	**7250 J**	**5010 J**	**9090**	**5170**	2,000 - 550,000
Lead	**2.2**	**1.9**	**1.8**	**2.0**	**1.9**	**1.4**	**2.0**	**1.5**	200 - 500
Magnesium	**4000**	**20600**	**11200**	**13500**	**14000**	**13700**	**13900**	**13500**	100 - 5,000
Manganese	**181**	**128**	**122**	**119 J**	**112 J**	**69.0 J**	**122**	**79.4**	50 - 5,000
Mercury	< 0.037 UJ	< 0.040 UJ	< 0.039 UJ	< 0.034 UJ	< 0.035 UJ	< 0.039 UJ	< 0.035 UJ	< 0.039 UJ	0.001 - 0.2
Nickel	**11.2**	**6.2**	**8.1**	**8.0**	**7.0**	**4.6 J**	**8.8**	**4.5 J**	0.5 - 25
Potassium	**2750**	**1320**	**1990**	**1700**	**1540**	**862**	**2100**	**770**	8,500 - 43,000
Selenium	< 0.56 U	< 0.60 U	< 0.59 U	< 0.52 U	< 0.53 U	< 0.60 U	< 0.53 U	< 0.59 U	0.1 - 3.9
Silver	< 0.56 U	< 0.60 U	< 0.59 U	< 0.52 U	< 0.53 U	< 0.60 U	< 0.53 U	< 0.59 U	N/A
Sodium	< 558 U	< 603 U	< 591 U	< 520 U	< 526 U	< 595 U	< 531 U	< 586 U	6,000 - 8,000
Thallium	< 1.1 U	< 1.2 U	< 1.2 U	< 1 U	< 1.1 U	< 1.2 U	< 1.1 U	< 1.2 U	N/A
Vanadium	**18.0 J**	**10.7 J**	**13.8 J**	**12.6 J**	**11.7 J**	**8.5 J**	**15.3 J**	**7.8 J**	1 - 300
Zinc	**34.0**	**19.9**	**23.8**	**26.9 J**	**22.2 J**	**17.5 J**	**32.0**	**15.9**	9 - 50
Other (mg/Kg)									
Total Cyanide	< 0.56 U	< 0.60 U	< 0.59 U	< 0.52 U	< 0.53 U	**0.27 J**	< 0.53 U	< 0.59 U	NL
Available Cyanide	< 0.045 U	< 0.048 U	< 0.047 U	< 0.042 U	< 0.042 U	< 0.048 U	< 0.042 U	< 0.047 U	NL

Notes:
U indicates Undetected
J indicates Estimated Concentration
NL indicates the compound is not listed
MDL is Method Detection Limit
Bolded values are detected compounds
N/A indicates that the value is not available
** indicates the New York State Background concentration
- indicates not analyzed
Bolded and Shaded values are detected compounds above the Eastern USA Background Concentrations

SB indicates site background
µg/Kg - micrograms per kilogram
mg/Kg - milligrams per kilogram
Dup - field duplicate
J+ indicates Estimated Concentration biased high due to matrix effects and instrument bias.

Table 5-7
Summary of Analytical Results for Metals and Cyanide In Subsurface Soil
Remedial Investigation - 2004
Saint John's School
White Plains, NY

Location ID Sample ID Sample Date Depth Interval (feet)	B-103 B103(55.5-56)-041404 4/15/2004 55.5 - 56	B-104 B104(16-20)-041504 4/15/2004 16 - 20	B-104 B104(36-40)-041504 4/15/2004 36 - 40	B-107 B107(40-42)-041604 4/16/2004 40 - 42	B-107 B107(44-48)-041604 4/16/2004 44 - 48	B-108 B108(40-43)-041704 4/17/2004 40 - 43	B-108 B108(50-52)-041704 4/17/2004 50 - 52	Eastern USA Background Concentrations
Metals (mg/Kg)								
Aluminum	**2490**	**3660**	**4600**	**2670**	**7130**	**3180**	**2270**	33,000
Antimony	< 1.2 UJ	< 1.1 UJ	< 1.2 UJ	< 1.2 UJ	< 1.2 UJ	< 1.2 U	< 1.2 U	N/A
Arsenic	**1.9**	< 1.1 U	**0.44 J**	**0.62 J**	**0.56 J**	**0.87 J**	**0.61 J**	3 - 12
Barium	**26.5**	**29.8**	**44.3**	**29.2**	**73.8**	**25.4**	**19.4 J**	15 - 600
Beryllium	< 0.47 U	< 0.44 U	**0.48**	**0.56**	**0.67**	< 0.47 U	< 0.49 U	0 - 1.75
Cadmium	< 0.59 U	< 0.55 U	< 0.60 U	< 0.60 U	< 0.60 U	< 0.59 U	< 0.61 U	0.1 - 1
Calcium	**24300 J**	**21200 J**	**22100 J**	**22900 J**	**22000 J**	**23200**	**21600**	130 - 35,000
Chromium	**7.6**	**5.7**	**7.7**	**4.6 J**	**12.3 J**	**6.4**	**4.4**	1.5 - 40**
Cobalt	< 5.9 U	< 5.5 U	< 6.0 U	< 6.0 U	**7.3**	< 5.9 U	**2.3 J**	2.5 - 60**
Copper	**9.7 J**	**7.2 J**	**10.7 J**	**4.9 J**	**12.7 J**	**7.4**	**5.9**	1 - 50
Iron	**6110**	**5780**	**7820**	**4320 J**	**11200 J**	**5750**	**4330**	2,000 - 550,000
Lead	**1.5**	**1.6**	**2.0**	**1.7**	**2.4**	**1.3**	**1.1**	200 - 500
Magnesium	**11900**	**12700**	**12400**	**12300**	**14300**	**13200**	**10900**	100 - 5,000
Manganese	**87.8**	**113**	**105**	**69.8 J**	**136 J**	**138 J+**	**69.2 J+**	50 - 5,000
Mercury	< 0.039 UJ	< 0.036 UJ	< 0.039 UJ	< 0.040 UJ	< 0.039 UJ	< 0.039 UJ	< 0.040 UJ	0.001 - 0.2
Nickel	**6.9**	**6.6**	**7.8**	**4.1 J**	**10.6**	**5.2**	**4.1 J**	0.5 - 25
Potassium	**857**	**1190**	**1800**	**654**	**3160**	**761**	**462 J**	8,500 - 43,000
Selenium	< 0.59 U	< 0.55 U	< 0.60 U	< 0.60 U	< 0.60 U	< 0.59 U	< 0.61 U	0.1 - 3.9
Silver	< 0.59 U	< 0.55 U	< 0.60 U	< 0.60 U	< 0.60 U	< 0.59 U	< 0.61 U	N/A
Sodium	< 588 U	< 553 U	< 597 U	< 601 U	< 598 U	**209 J**	**283 J**	6,000 - 8,000
Thallium	< 1.2 U	< 1.1 U	< 1.2 U	< 1.2 U	< 1.2 U	< 1.2 U	< 1.2 U	N/A
Vanadium	**8.6 J**	**9.1 J**	**12.5 J**	**7.0 J**	**18.7 J**	**8.4**	**6.4**	1 - 300
Zinc	**12.5**	**17.5**	**26.9**	**17.0 J**	**35.4 J**	**20.1**	**8.9**	9 - 50
Other (mg/Kg)								
Total Cyanide	< 0.59 U	< 0.55 U	< 0.60 U	< 0.60 U	< 0.60 U	< 0.59 UJ	< 0.61 UJ	NL
Available Cyanide	< 0.047 U	< 0.044 U	< 0.048 U	< 0.048 U	< 0.048 U	< 0.047 UJ	< 0.049 UJ	NL

Notes:
U indicates Undetected
J indicates Estimated Concentration
NL indicates the compound is not listed
MDL is Method Detection Limit
Bolded values are detected compounds
N/A indicates that the value is not available
** indicates the New York State Background concentration
- indicates not analyzed
Bolded and Shaded values are detected compounds above the Eastern USA Background Concentrations

SB indicates site background
μg/Kg - micrograms per kilogram
mg/Kg - milligrams per kilogram
Dup - field duplicate
J+ indicates Estimated Concentration biased high due to matrix effects and instrument bias.

Table 5-8
Summary of Soil Boring Sampling Program Results
Remedial Investigation - 2004
Saint John's School
White Plains, New York

Boring ID	Completion Date	Total Depth (feet bgs)	Logged Interval (feet bgs)	Sample Depth (feet bgs)	Impact Zone (feet bgs)	Comments:
B-101	13-Apr-04	64	(0 - 64)	(16-20), (36-40), (60-64)	None	No NAPL detected
B-102	16-Apr-04	40*	(0 - 24) & (36 - 40)*	(16-20), (36-40)*	(39.25-40)	NAPL stringers 39.25 to 39.75 ft, NAPL saturated 39.75 to 40
B-103	15-Apr-04	56*	(0 - 56)*	(16-20), (49.5-40.5), (55.5-56)*	(39.5-41)	NAPL stringers 39.5 to 40 ft, NAPL near saturation 40 to 41 ft
B-104	15-Apr-04	40 *	(0 - 40)*	(16-20), (36-40)*	None	No NAPL detected
B-107	16-Apr-04	48*	(0 - 48)*	(40-42), (44-48)*	(39.75-42)	NAPL near saturation 40 to 42 ft
B-108	17-Apr-04	52*	(0 - 5) & (36 - 52)*	(40-43)*	(39.9-43)	NAPL stringers, NAPL saturated 41 to 42.5 ft
B-109	12-Jul-04	60	(36 - 60)	(50-51.5), (59-60)	(50-51.5)	NAPL saturated from 50-51.5
B-110	13-Jul-04	88	(0 - 88)	(52), (60-64)	(52)	NAPL stringer, 1/4-inch thick at 52 ft
B-111	14-Jul-04	60	(32 - 60)	(51-52), (56-60)	(51.5-52.0)	NAPL stringers, (2) 1-inch bands
B-112	15-Jul-04	64	(36 - 64)	(51-52), (56-60)	None	Moved location ~ 25 ft south due to access limitations, approved by NYSDEC while on-site
B-113	16-Jul-04	60	(36 - 60)	(52.5-53.5), (56-60)	(52.5-52.75)	NAPL stringer, 1-inch thick at 52.5 ft.
B-114	16-Jul-04	60	(36 - 60)	(52-53), (58-60)	(52.0-52.5)	NAPL saturated band, 3-inches thick at 52 ft.
B-115	19-Jul-04	64	(40 - 64)	(54-56), (62-64)	None	No NAPL detected, odors from 52-60 ft
B-116	19-Jul-04	60	(40 - 60)	(56-60)	None	No NAPL detected, no odors
B-117	21-Jul-04	64	(40 - 64)	(52-53), (56-60)	(52.5)	One 1 mm thick NAPL stringer at 52.5 ft
B-118	21-Jul-04	60	(40 - 60)	(52-56)	None	No NAPL detected, no odors
B-119	22-Jul-04	64	(40 - 64)	(56-60), (60-64)	None	No NAPL, slight odors from 52-63 ft
B-120	22-Jul-04	64	(40 - 64)	(56-60), (60-64)	None	No NAPL, slight odor from 52-54 ft

Notes: *boring completed inside school basement; depth referenced to basement floor.
ft - feet
NAPL - Non-Aqueous Phase Liquid
Logged interval represents interval inspected by on-site geologist

Table 5-9
Summary of Groundwater Field Parameters and Geochemical Criteria Supportive of Natural Attenuation
Remedial Investigation - 2004
Saint John's School
White Plains, New York

RETEC

		Laboratory Analytical Results														
												Unionized	Dissolved Gasses			
		Dissolved Iron	Total Iron	Dissolved Manganese	Total Manganese	Electrometric pH	Total Alkalinity	Specific Conductance	Nitrate	Sulfate	Total Sulfide	Hydrogen Sulfide	Carbon Dioxide	Oxygen	Nitrogen	Methane
		6010B	6010B	6010B	6010B	150.1	310.1	120.1	300.0A	300.0A	376.2		AM20GAX			
Well	Date	mg/L	mg/L	mg/L	mg/L	S.U.	mg/L	umhos/cm	mg/L as N	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
B-101	13-Apr-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-102	16-Apr-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-103	14-Apr-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-104	15-Apr-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	14-Sep-04	< 0.10 U	0.65	0.069	0.155	6.8	146	319	0.42	52.3	< 1.0 U	< 0.010 U	33	2.8	14	0.32
MW-7	14-Sep-04	5.72	5.63	1.07	0.971	6.8	434	3620	0.021 J	21.7	< 1.0 U	< 0.010 U	77	2.6	13	0.42
MW-9	14-Sep-04	0.548	0.982 J	3.69	3.75	6.6	476	4110	0.10	86.5	< 1.0 U	< 0.010 U	4,110	0.84	15	0.11

		Field Sampling Parameters					
		Low Flow Purging / Flow Through Cell					Lamott 2020
		Temp.	Spec. Conductance	pH	ORP	DO	Turbidity
Well	Date	°C	uS/cm		mv	mg/L	NTU
B-101	13-Apr-04	16.20	5,120	7.15	239	5.25	1.06
B-102	16-Apr-04	18.03	4,150	7.06	201	5.86	2.75
B-103	14-Apr-04	19.44	4,520	7.30	161	5.06	1.54
B-104	15-Apr-04	17.75	1,660	7.32	364	6.42	10.67
MW-5	14-Sep-04	26.35	312	6.57	68	0.44	5.72
MW-7	14-Sep-04	19.16	3,430	6.80	-16	0.16	15.80
MW-9	14-Sep-04	21.89	3,940	6.66	100	0.11	15.30

Notes: Samples for dissolved manganese, dissolved iron, and hydrogen sulfied were field filtered with a 45 micron in-line barrel filter.
-- = Not Analyzed
DO = Dissolved Oxygen
ORP = Oxidation/Reduction Potential
mg/L = ~ppm
S.U. - Standard Unit
NTU - Nephelometric Unit
mv - millivolt
umhos/cm =
uS/cm = millisemens per centimeter
Field generated DO values for B-101 through B-104 collected through direct push tooling are were likely elevated compared to static conditions.

RETEC

Table 5-10
Summary of Analytical Results for VOCs in Groundwater
Remedial Investigation - 2004
Saint John's School
White Plains, New York

Location ID	B-101	B-102	B-103	B-103	B-104	MW-9	EB	NYSDEC
Sample ID	B101-041304	B102-041604	B103-041404	B103-041404DUP	B104-041504	MW9-091404	RB01-041704	Groundwater Guidance
Sample Date	13-Apr-04	16-Apr-04	14-Apr-04	14-Apr-04	15-Apr-04	14-Sep-04	17-Apr-04	or Standard Value
BTEX (µg/L)								
Benzene	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**76**	< 1.0 U	1 s
Ethylbenzene	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**48**	< 1.0 U	5 s
Toluene	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**490**	< 1.0 U	5 s
Xylenes (total)	< 3.0 U	< 3.0 U	< 3.0 U	< 3.0 U	< 3.0 U	**410**	< 3.0 U	5 s
Total BTEX	**0**	**0**	**0**	**0**	**0**	**1024**	**0**	**NL**
Other VOCs (µg/L)								
1,1,1-Trichloroethane	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	5 s
1,1,2,2-Tetrachloroethane	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	5 s
1,1,2-Trichloro-1,2,2-trifluoroetha	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	NL
1,1,2-Trichloroethane	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	1 s
1,1-Dichloroethane	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	5 s
1,1-Dichloroethene	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	5 s
1,2,4-Trichlorobenzene	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	NL
1,2-Dibromo-3-chloropropane	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	NL
1,2-Dibromoethane	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	0.6 s
1,2-Dichlorobenzene	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	NL
1,2-Dichloroethane	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	5 s
1,2-Dichloropropane	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	1 s
1,3-Dichlorobenzene	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	NL
1,4-Dichlorobenzene	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	NL
2-Butanone	< 5.0 UJ	< 5.0 U	< 5.0 UJ	< 5.0 UJ	< 5.0 UJ	< 100 U	< 5.0 U	50 g
2-Hexanone	< 5.0 UJ	< 5.0 U	< 5.0 UJ	< 5.0 UJ	< 5.0 U	< 100 U	< 5.0 U	50 g
4-Methyl-2-pentanone	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 100 U	< 5.0 U	NL
Acetone	< 5.0 UJ	< 5.0 U	< 5.0 UJ	< 5.0 UJ	< 5.0 UJ	< 100 U	< 5.0 U	50 g
Bromodichloromethane	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	50 g
Bromoform	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	50 g
Bromomethane	< 1.0 UJ	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ	< 20 U	< 1.0 U	5 s
Carbon disulfide	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	60 g
Carbon tetrachloride	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	5 g
Chlorobenzene	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	5 s
Chloroethane	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	5 s
Chloroform	**0.94 J**	**0.31 J**	**0.20 J**	**0.27 J**	< 1.0 U	< 20 U	< 1.0 U	7 s
Chloromethane	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	5 s
cis-1,2-Dichloroethene	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	NL
cis-1,3-Dichloropropene	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	0.4 s*
Cyclohexane	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	NL
Dibromochloromethane	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	50 g
Dichlorodifluoromethane	< 1.0 U	< 1.0 UJ	< 1.0 UJ	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	NL
Isopropylbenzene	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	NL
Methyl acetate	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	NL
Methyl tert-butyl ether	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**8.6 J**	< 1.0 U	10 g
Methylcyclohexane	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	NL
Methylene chloride	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	5 s
Styrene	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**360**	< 1.0 U	5 s
Tetrachloroethene	**0.49 J**	**0.46 J**	**0.33 J**	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	5 s
trans-1,2-Dichloroethene	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	NL
trans-1,3-Dichloropropene	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	0.4 s*
Trichloroethene	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	5 s
Trichlorofluoromethane	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	NL
Vinyl chloride	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 20 U	< 1.0 U	2 s
Total VOC	**1.43**	0.77	0.53	**0.27**	0	**1392.6**	**0**	NL

Notes:

U indicates Undetected
J indicates Estimated Concentration
NL indicates the compound is not listed
MDL is Method Detection Limit
Bolded values are detected compounds
Bolded and Shaded values are detected compounds above the NYSDEC Recommended Guidance or Standard Value
Guidance or Standard Values - NYSDEC, Division of Water, TOGS (1.1.1) - 6 NYCRR 703.5 (NYSDEC, 1998).
VOCs - volatile organic compounds
s = Standard Value
g = Guidance Value
pg/L - microgram per liter
* - applies to the sum of cis- and trans-1,3-dichloropropene

EB - Equipment blank
Dup - field duplicate

Table 5-11
Summary of Analytical Results for SVOCs in Groundwater
Remedial Investigation - 2004
Saint John's School
White Plains, New York

Location ID Sample ID Sample Date	B-101 B101-041304 13-Apr-04	B-102 B102-041604 16-Apr-04	B-103 B103-041404 14-Apr-04	B-103 B103-041404DUP 14-Apr-04	B-104 B104-041504 15-Apr-04	MW-9 MW9-091404 14-Sep-04	EB RB01-041704 17-Apr-04	NYSDEC Groundwater Guidance or Standard Value
PAH Compounds (µg/L)								
2-Methylnaphthalene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	**30**	< 11 U	NL
Acenaphthene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	**1.2 J**	< 11 U	20 g
Acenaphthylene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	**6.4 J**	< 11 U	NL
Anthracene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	50 g
Benzo(a)anthracene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	0.002 g
Benzo(a)pyrene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	ND
Benzo(b)fluoranthene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	0.002 g
Benzo(ghi)perylene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
Benzo(k)fluoranthene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	0.002 g
Chrysene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	0.002 g
Dibenz(a,h)anthracene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
Fluoranthene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	50 g
Fluorene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	50 g
Indeno(1,2,3-cd)pyrene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	0.002 g
Naphthalene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	**600 D**	< 11 U	10 g
Phenanthrene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	**2.2 J**	< 11 U	50 g
Pyrene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	50 g
Total cPAHs	**0**	**0**	**0**	**0**	**0**	**0**	**0**	NL
Total PAHs	**0**	**0**	**0**	**0**	**0**	**639.8**	**0**	NL
Other SVOCs (µg/L)								
1,1'-Biphenyl	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	**2.8 J**	< 11 U	NL
2,2'-oxybis(1-Chloropropane)	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
2,4,5-Trichlorophenol	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
2,4,6-Trichlorophehol	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
2,4-Dichlorophenol	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	5 s
2,4-Dimethylphenol	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	50 g
2,4-Dinitrophenol	< 48 U	< 48 U	< 50 U	< 49 U	< 48 U	< 48 U	< 54 U	10 g
2,4-Dinitrotoluene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	5 s
2,6-Dinitrotoluene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	5 s
2-Chloronaphthalene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	10 g
2-Chlorophenol	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
2-Methylphenol	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
2-Nitroaniline	< 48 U	< 48 U	< 50 U	< 49 U	< 48 U	< 48 U	< 54 U	5 s
2-Nitrophenol	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
3,3'-Dichlorobenzidine	< 48 U	< 48 U	< 50 U	< 49 U	< 48 U	< 48 U	< 54 U	5 s
3-Nitroaniline	< 48 U	< 48 U	< 50 U	< 49 U	< 48 U	< 48 U	< 54 U	5 s
4,6-Dinitro-2-methylphenol	< 48 U	< 48 U	< 50 U	< 49 U	< 48 U	< 48 U	< 54 U	NL
4-Bromophenyl phenyl ether	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
4-Chloro-3-methylphenol	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
4-Chloroaniline	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	5 s
4-Chlorophenyl phenyl ether	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
4-Methylphenol	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
4-Nitroaniline	< 48 U	< 48 U	< 50 U	< 49 U	< 48 U	< 48 U	< 54 U	5 s
4-Nitrophenol	< 48 U	< 48 U	< 50 U	< 49 U	< 48 U	< 48 U	< 54 U	NL
Acetophenone	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
Atrazine	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
Benzaldehyde	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
bis(2-Chloroethoxy)methane	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	5 s
bis(2-Chloroethyl) ether	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	1 s
bis(2-Ethylhexyl) phthalate	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	**4.4 J**	< 11 U	5 s
Butyl benzyl phthalate	< 9.6 UJ	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	50 g
Caprolactam	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
Carbazole	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
Dibenzofuran	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	50 s
Diethyl phthalate	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
Dimethyl phthalate	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	NL
Di-n-butyl phthalate	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	50 g
Di-n-octyl phthalate	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	50 g
Hexachlorobenzene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	0.4 s
Hexachlorobutadiene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	0.5 s
Hexachlorocyclopentadiene	< 48 U	< 48 U	< 50 U	< 49 U	< 48 U	< 48 U	< 54 U	5 s
Hexachloroethane	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	5 s
Isophorone	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	50 g
Nitrobenzene	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	50 g
N-Nitrosodi-n-propylamine	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	50 g
N-Nitrosodiphenylamine	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	< 9.5 U	< 11 U	0.4
Pentachlorophenol	< 48 U	< 48 U	< 50 U	< 49 U	< 48 U	< 48 U	< 54 U	1 s
Phenol	< 9.6 U	< 9.5 U	< 10 U	< 9.8 U	< 9.5 U	**3.8 J**	< 11 U	1 s
Total SVOCs	**0**	**0**	**0**	**0**	**0**	**650.8**	**0**	NL

Notes:

U indicates Undetected
J indicates Estimated Concentration
NL indicates the compound is not listed
MDL is Method Detection Limit
Bolded values are detected compounds
Bolded and Shaded values are detected compounds above the NYSDEC Recommended Guidance or Standard Value
s = Standard Value
g = Guidance Value
Guidance or Standard Values - NYSDEC, Division of Water, TOGS (1.1.1) - 6 NYCRR 703.5 (NYSDEC, 1998).
PAHs - polynuclear aromatic hydrocarbons
cPAHs - carcinogenic polynuclear aromatic hydrocarbons carcinogenic PAHs are in italics
SVOCs - Semivolatile organic hydrocarbons
µg/L - microgram per liter

EB - Equipment blank
Dup - field duplicate

Table 5-12
Summary of Analytical Results for Metals and Cyanide in Groundwater
Remedial Investigation - 2004
Saint John's School
White Plains, New York

Location ID Sample ID Sample Date	B-101 B101-041304 13-Apr-04	B-102 B102-041604 16-Apr-04	B-103 B103-041404 14-Apr-04	B-103 B103-041404DUP 14-Apr-04	B-104 B104-041504 15-Apr-04	MW-9 MW9-091404 14-Sep-04	EB RB01-041704 17-Apr-04	NYSDEC Groundwater Guidance or Standard Value
Metals (µg/L)								
Aluminum	< 200 U	< 200 U	< 200 U	< 200 U	< 200 U	**155 J**	< 200 U	NL
Antimony	< 10.0 U	< 10.0 U	< 10.0 U	< 10.0 U	< 10.0 U	< 10.0 U	< 10.0 U	3 g
Arsenic	< 10.0 U	< 10.0 U	< 10.0 U	< 10.0 U	< 10.0 U	< 10.0 U	< 10.0 U	25 s
Barium	**196 J**	**200**	**153 J**	**148 J**	**91.9 J**	**514**	< 200 U	1,000 s
Beryllium	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	4.0 U	< 4.0 U	3 g
Cadmium	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	10 s
Calcium	**102000**	**85000**	**62500**	**60300**	**83100**	**280000**	**50.6 J**	NL
Chromium	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	**10.4**	< 5.0 U	50 s
Cobalt	< 50.0 U	< 50.0 U	< 50.0 U	< 50.0 U	< 50.0 U	50.0 U	< 50.0 U	NL
Copper	< 25.0 U	< 25.0 U	< 25.0 U	< 25.0 U	< 25.0 U	**2.2 J**	**1.4 J**	200 s
Iron	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	**982 J**	< 100 U	300 s
Lead	< 3.0 U	**1.6 J**	< 3.0 U	< 3.0 U	< 3.0 U	**1.9 J+**	< 3.0 U	25 s
Magnesium	**29700**	**35700**	**24700**	**23900**	**42300**	**138000**	**22.2 J**	35,000 s
Manganese	**64.6**	**69.3**	**112**	**110**	**85.6**	**3750**	**0.27 J**	300 s
Mercury	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	2 s
Nickel	< 40.0 U	< 40.0 U	< 40.0 U	**1.3 J**	< 40.0 U	< 40.0 U	< 40.0 U	NL
Potassium	**11100**	**5250 J**	**6080**	**5890**	< 5000 U	**18900 J+**	< 5000 U	NL
Selenium	< 5.0 U	< 5.0 U	< 5.0 U	**2.6 J**	< 5.0 U	< 5.0 U	< 5.0 U	10 s
Silver	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	50 s
Sodium	**937000**	**666000**	**839000**	**819000**	**182000**	**283000**	< 5000 U	20,000 s
Thallium	< 10.0 U	< 10 U	< 10.0 U	< 10.0 U	< 10 U	< 10 U	< 10.0 U	4 g
Vanadium	< 50.0 U	< 50.0 U	< 50.0 U	< 50.0 U	< 50.0 U	< 50.0 U	< 50.0 U	NL
Zinc	< 20.0 U	< 20.0 U	< 20.0 U	< 20.0 U	< 20.0 U	**17.3 J**	**3.7 J**	300 s
Other (µg/L)								
Total Cyanide	**11.0**	**13.0**	**38.0**	**38.0**	**5.0 J**	< 10.0 U	< 10.0 U	200s
Available Cyanide	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.002	< 0.0020 U	NL

Notes:

EB - Equipment blank
Dup - field duplicate
s = Standard Value
g = Guidance Value
MDL is Method Detection Limit
Bolded values are detected compounds
Bolded and Shaded values are detected compounds above the NYSDEC Recommended Guidance or Standard Value
Guidance or Standard Values - NYSDEC, Division of Water, TOGS (1.1.1) - 6 NYCRR 703.5 (NYSDEC, 1998).
µg/L - micrograms per liter

U indicates Undetected
J indicates Estimated Concentration
J+ indicates Estimated Concentration biased high due to matrix effects and instrument bias.
NL indicates the compound is not listed

RETEC

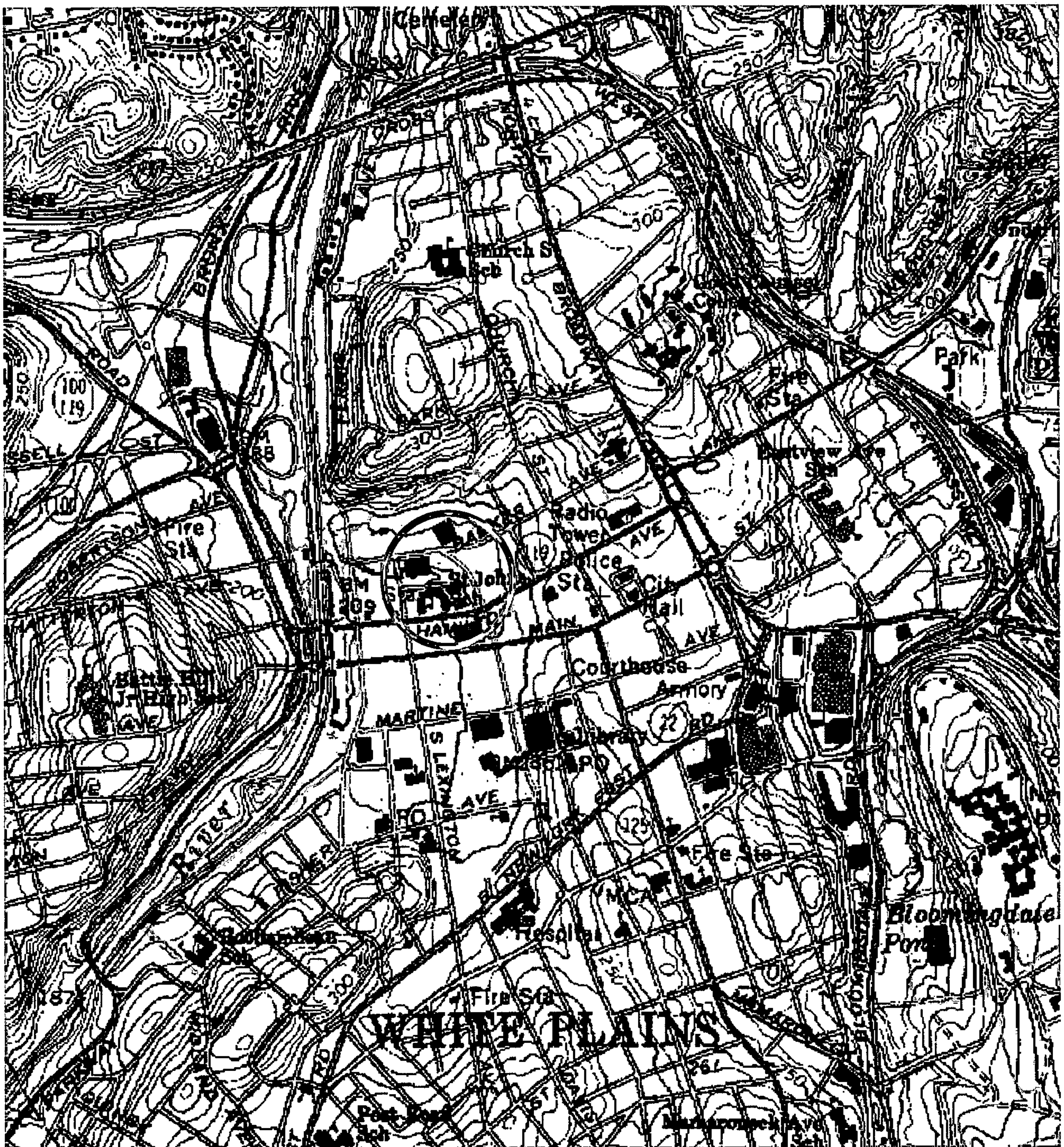
Table 6-1
Summary of Potential Human Health Receptors and Potentially Complete Exposure Pathways
Remedial Investigation - 2004
St. John's School
White Plains, New York

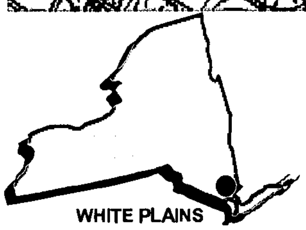
Area of Interest	Source Medium	Exposure Medium	Exposure Pathways	School Children and Staff	Rectory Residents	Subsurface Utility Workers	Outdoor and Maintenance Workers	Churchgoers, Visitors, Pedestrians
School Buildings, Rectory	Soil	Subsurface Soil	Incidental ingestion			X		
		Subsurface Soil	Dermal contact			X		
		Indoor Air	Volitalization/Soil gas intrusion	X	X		X	X
	Groundwater	Groundwater	Incidental ingestion			X		
		Groundwater	Dermal contact			X		
		Indoor Air	Volitalization/Soil gas intrusion	X	X		X	X
Church Building	Soil	Subsurface Soil	Incidental Ingestion			X		
		Subsurface Soil	Dermal contact			X		
		Indoor Air	Volitalization/Soil gas intrusion	X	X		X	X
	Groundwater	Groundwater	Incidental ingestion			X		
		Groundwater	Dermal contact			X		
		Indoor Air	Volitalization/Soil gas intrusion	X	X		X	X
School Grounds	Soil	Subsurface Soil	Incidental ingestion					
		Subsurface Soil	Dermal contact					
	Groundwater	Groundwater	Incidental ingestion					
		Groundwater	Dermai contact					
		Outdoor Air	Volatilization					

X - Potentially complete exposure pathway. Significance of the pathway is described in the text.

Note that an evaluation of risk associated with surface soil was not performed.

Figures





New York
Quadrangle

LATITUDE: N42° 02' 00"
LONGITUDE: W73° 46' 16"

N

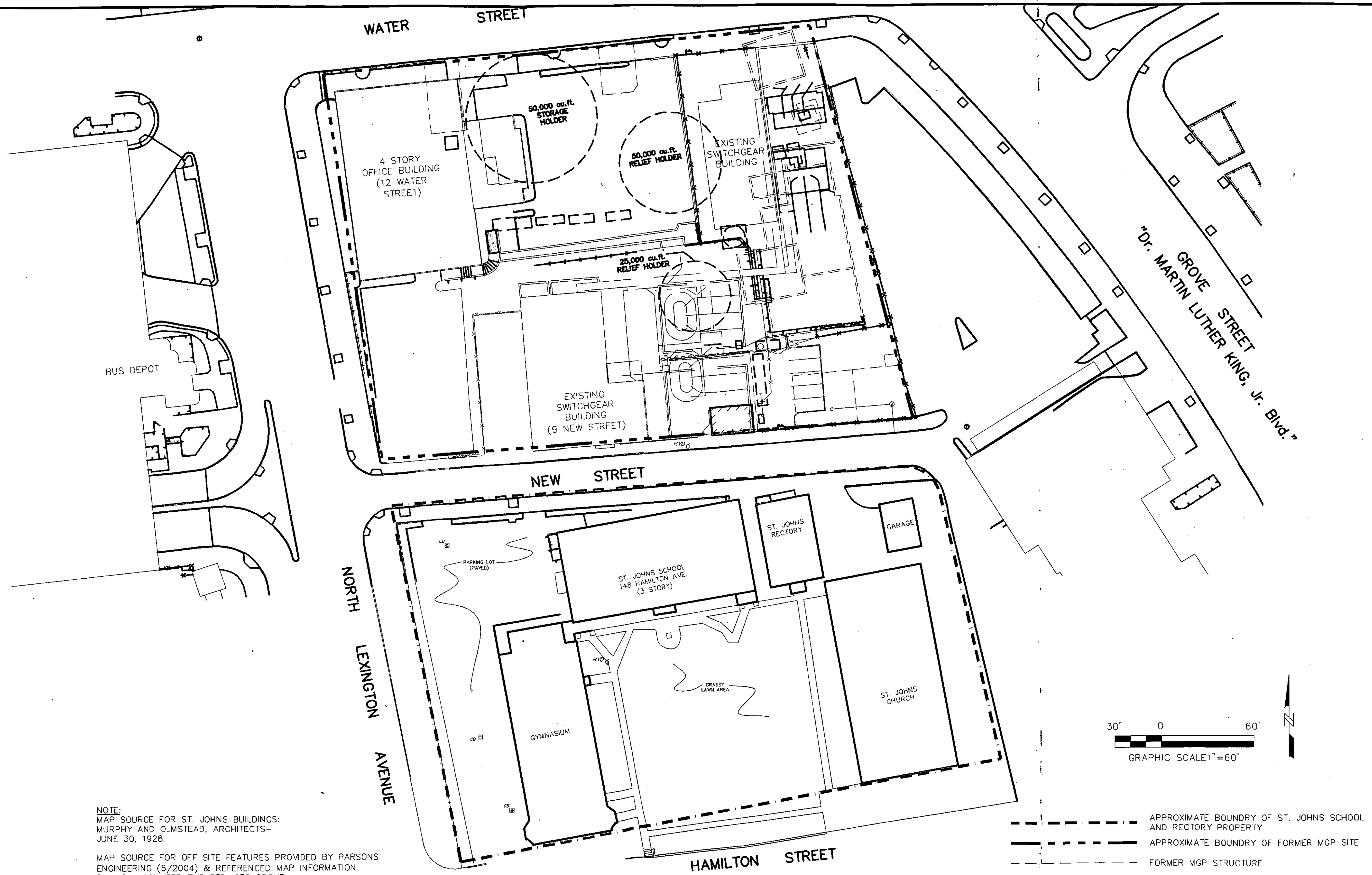
Not to Scale

SOURCE:
DeLORME 3-D TOPOQUAD PROGRAM
Provided by
PARSONS ENGINEERING

RETEC

WHITE PLAINS FORMER MGP SITE CECN3-16922-288	SITE LOCATION MAP SAINT JOHNS SCHOOL AND RECTORY WHITE PLAINS, NEW YORK
DATE: 11/10/05 DRWN: NOCAD FILE: 16922-SLOC.ppt	FIGURE: 2-1

F:\PROJECTS\Consolidated Edison NY\St Johns\16922\16922SLOC.ppt



NOTE:
MAP SOURCE FOR ST. JOHNS BUILDINGS:
MURPHY AND OLMSTEAD, ARCHITECTS–
JUNE 30, 1928.

MAP SOURCE FOR OFF SITE FEATURES PROVIDED BY PARSONS ENGINEERING (5/2004) & REFERENCED MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

APPROXIMATE BOUNDRY OF ST. JOHNS SCHOOL AND RECTORY PROPERTY

APPROXIMATE BOUNDRY OF FORMER MGP SITE

FORMER MGP STRUCTURE

RETEC

WHITE PLAINS FORMER MGP SITE WHITE PLAINS, NEW YORK CECN3-16922	HISTORICAL USE PLAN ST. JOHNS SCHOOL & RECTORY PROPERTY
DATE: 11/10/05 — DRWN: BcV/CON	FIGURE 2-2

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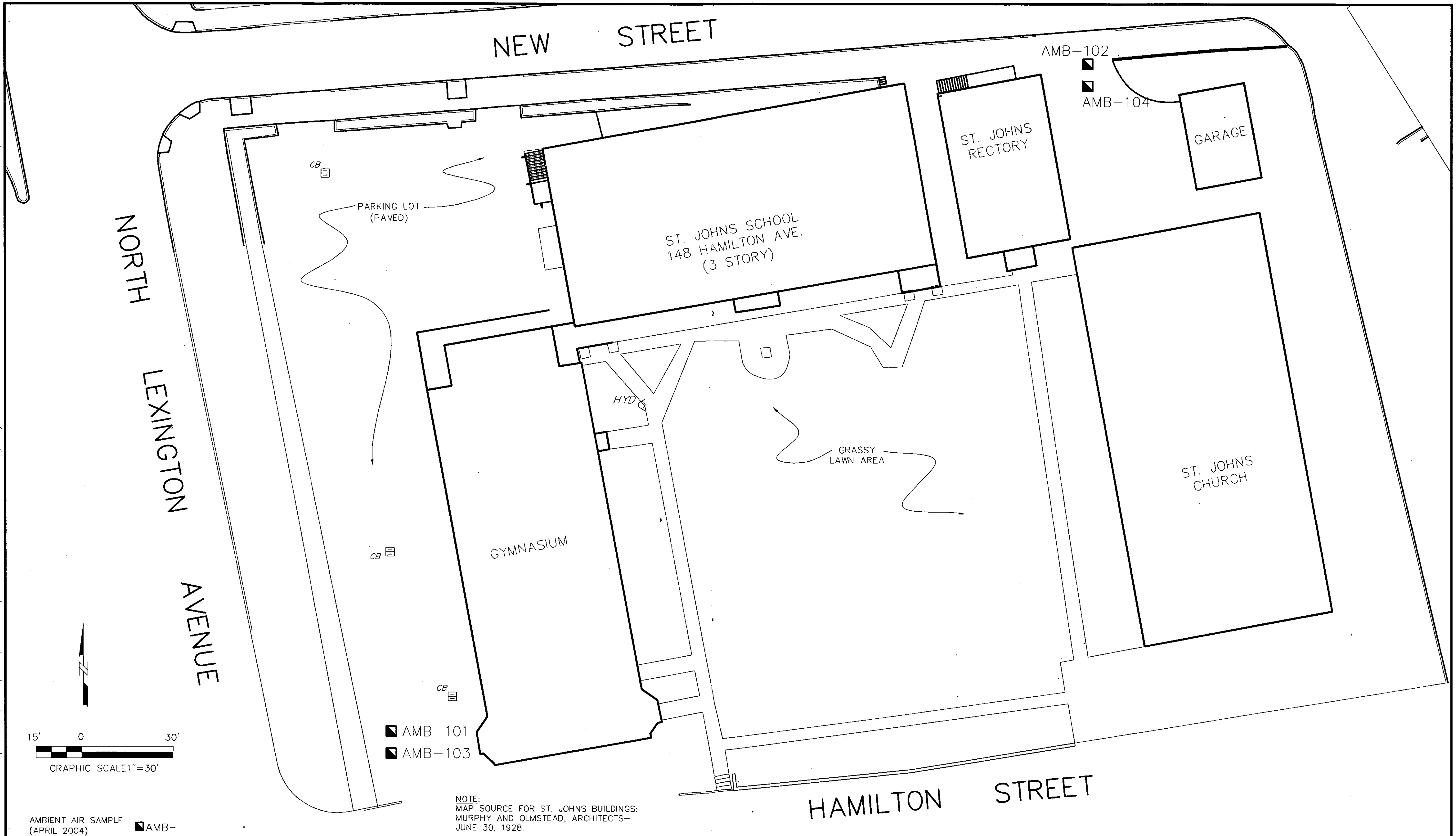

NOTE:
MAP SOURCE FOR ST. JOHNS BUILDINGS:
MURPHY AND OLMSTEAD, ARCHITECTS–
JUNE 30, 1928.

MAP SOURCE FOR OEF SITE FEATURES PROVIDED BY PARSONS ENGINEERING (5/2004) & REFERENCED MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

POST INVESTIGATION AIR SAMPLES COLLECTED ON APRIL 24, 2004 WERE TAKEN IN THE SAME LOCATIONS AS THESE SAMPLES AND WERE DISTINGUISHED USING "ST-J2" SAMPLE NAME PREFIX.

RETEC

WHITE PLAINS FORMER MGP SITE WHITE PLAINS, NEW YORK CECN3-16922	AMBIENT AIR SAMPLE LOCATIONS ST. JOHNS SCHOOL & RECTORY PROPERTY
DATE: 11/10/05 DRWN: BcV/CON	FIGURE 3-1

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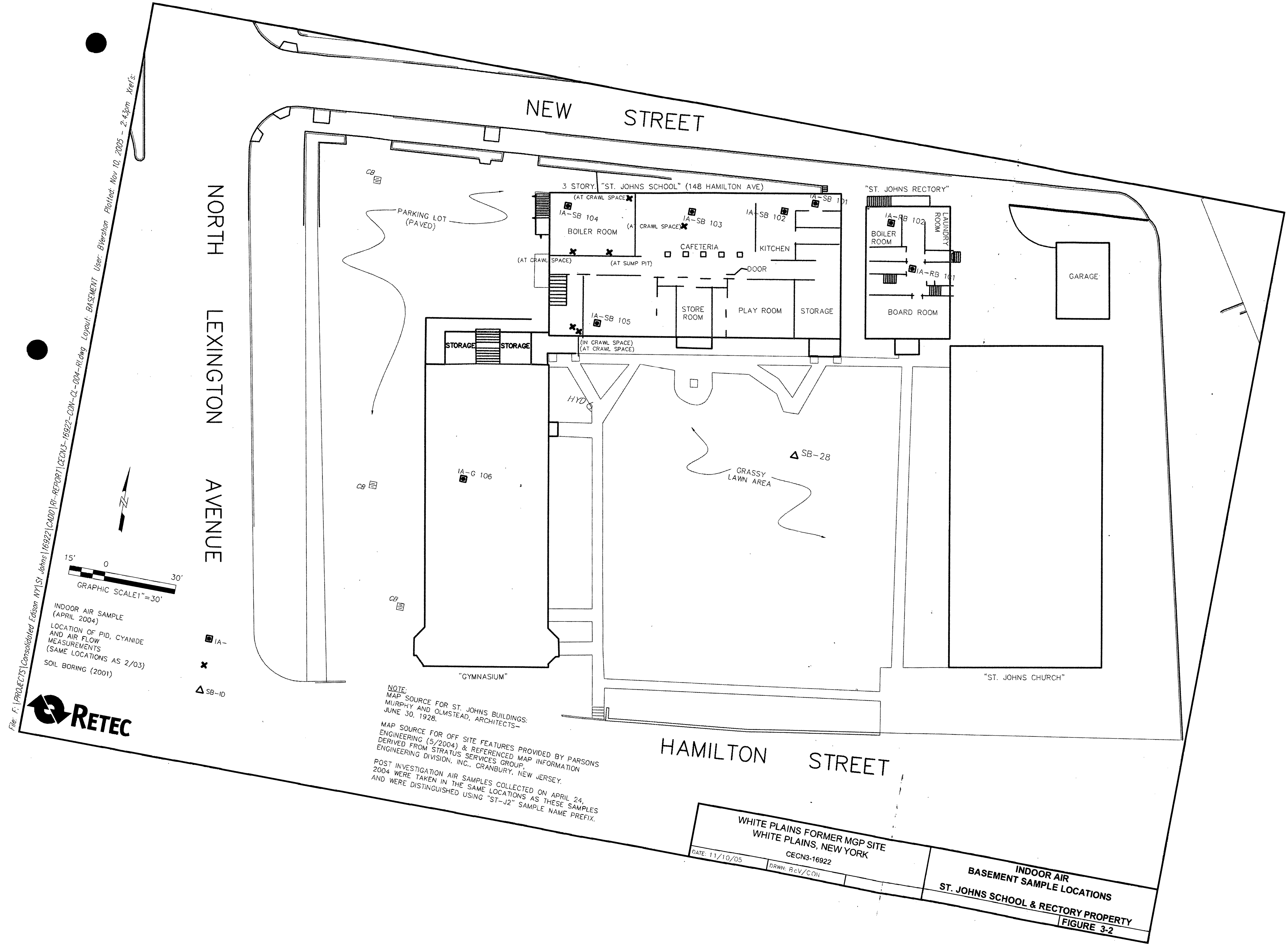
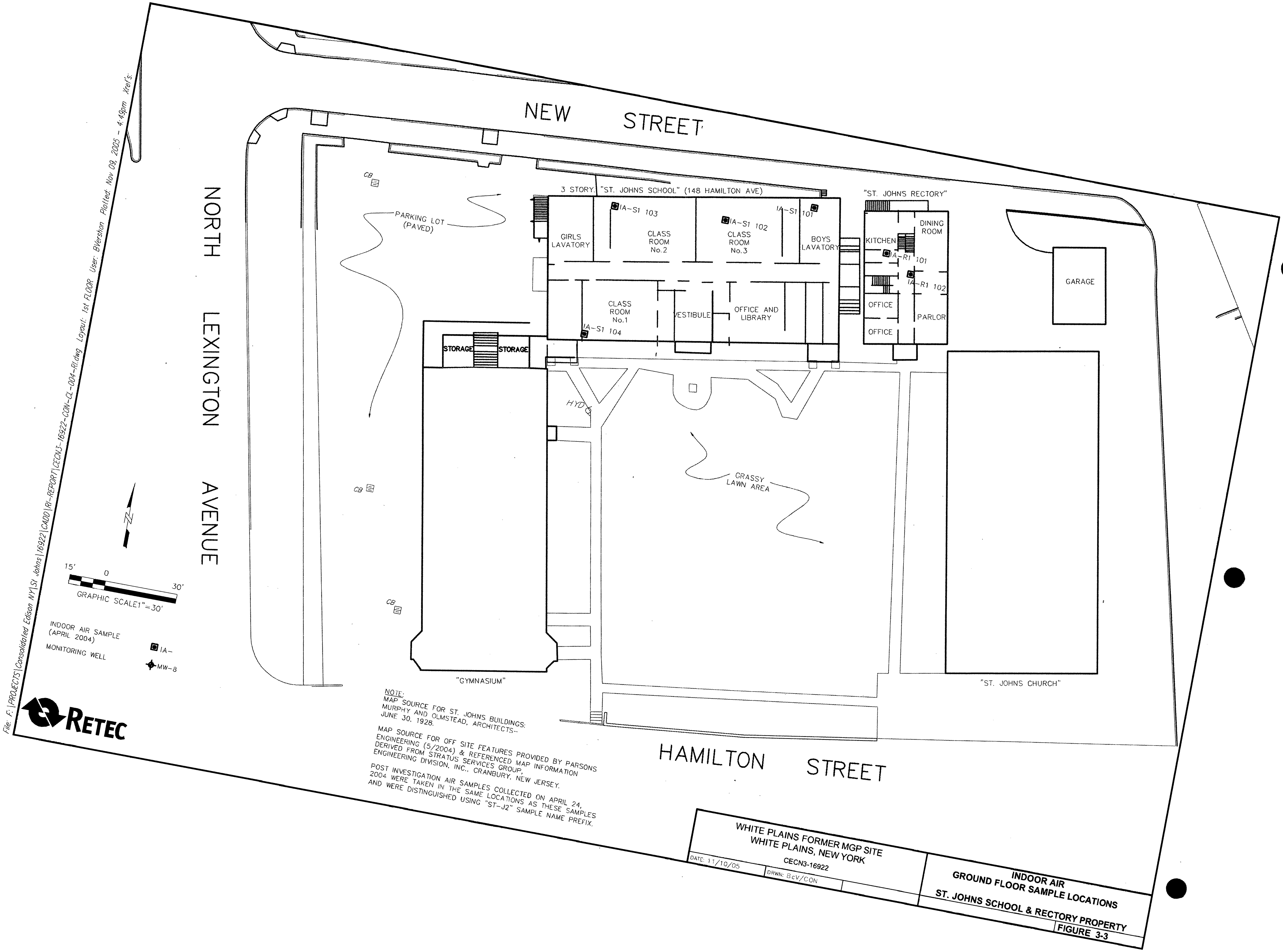


NEW STREET
NORTH LEXINGTON AVENUE
HAMILTON STREET
3 STORY "ST. JOHNS SCHOOL" (148 HAMILTON AVE)
"ST. JOHNS RECTORY"
"GYMNASIUM"
"ST. JOHNS CHURCH"
GARAGE
PARKING LOT (PAVED)
GRASSY LAWN AREA
CB
HYD
BOILER ROOM
CAFETERIA
KITCHEN
DOOR
STORE ROOM
PLAY ROOM
STORAGE
BOARD ROOM
LAUNDRY ROOM
(AT CRAWL SPACE)
(AT SUMP PIT)
(IN CRAWL SPACE)
IA-SB 101
IA-SB 102
IA-SB 103
IA-SB 104
IA-SB 105
IA-RB 101
IA-RB 102
IA-G 106
SB-28
15' 0 30'
GRAPHIC SCALE 1"=30'
INDOOR AIR SAMPLE (APRIL 2004)
IA-
LOCATION OF PID, CYANIDE AND AIR FLOW MEASUREMENTS (SAME LOCATIONS AS 2/03)
SOIL BORING (2001)
SB-ID
RETEC
NOTE:
MAP SOURCE FOR ST. JOHNS BUILDINGS: MURPHY AND OLMSTEAD, ARCHITECTS– JUNE 30, 1928.
MAP SOURCE FOR OFF SITE FEATURES PROVIDED BY PARSONS ENGINEERING (5/2004) & REFERENCED MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.
POST INVESTIGATION AIR SAMPLES COLLECTED ON APRIL 24, 2004 WERE TAKEN IN THE SAME LOCATIONS AS THESE SAMPLES AND WERE DISTINGUISHED USING "ST-J2" SAMPLE NAME PREFIX.
WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK
CECN3-16922
DATE: 11/10/05
DRWN: RcV/CON
INDOOR AIR
BASEMENT SAMPLE LOCATIONS
ST. JOHNS SCHOOL & RECTORY PROPERTY
FIGURE 3-2



NEW STREET
NORTH LEXINGTON AVENUE
HAMILTON STREET
3 STORY "ST. JOHNS SCHOOL" (148 HAMILTON AVE)
"ST. JOHNS RECTORY"
PARKING LOT (PAVED)
CB
GIRLS LAVATORY
CLASS ROOM No.2
CLASS ROOM No.3
BOYS LAVATORY
CLASS ROOM No.1
VESTIBULE
OFFICE AND LIBRARY
IA-S1 101
IA-S1 102
IA-S1 103
IA-S1 104
KITCHEN
DINING ROOM
IA-R1 101
IA-R1 102
OFFICE
OFFICE
PARLOR
GARAGE
STORAGE
STORAGE
HYD
GRASSY LAWN AREA
"GYMNASIUM"
"ST. JOHNS CHURCH"
15' 0 30'
GRAPHIC SCALE1"=30'
INDOOR AIR SAMPLE (APRIL 2004)
IA-
MONITORING WELL
MW-8
RETEC
NOTE:
MAP SOURCE FOR ST. JOHNS BUILDINGS: MURPHY AND OLMSTEAD, ARCHITECTS-- JUNE 30, 1928.
MAP SOURCE FOR OFF SITE FEATURES PROVIDED BY PARSONS ENGINEERING (5/2004) & REFERENCED MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.
POST INVESTIGATION AIR SAMPLES COLLECTED ON APRIL 24, 2004 WERE TAKEN IN THE SAME LOCATIONS AS THESE SAMPLES AND WERE DISTINGUISHED USING "ST-J2" SAMPLE NAME PREFIX.
WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK
CECN3-16922
DATE: 11/10/05
DRWN: BcV/CON
INDOOR AIR
GROUND FLOOR SAMPLE LOCATIONS
ST. JOHNS SCHOOL & RECTORY PROPERTY
FIGURE 3-3
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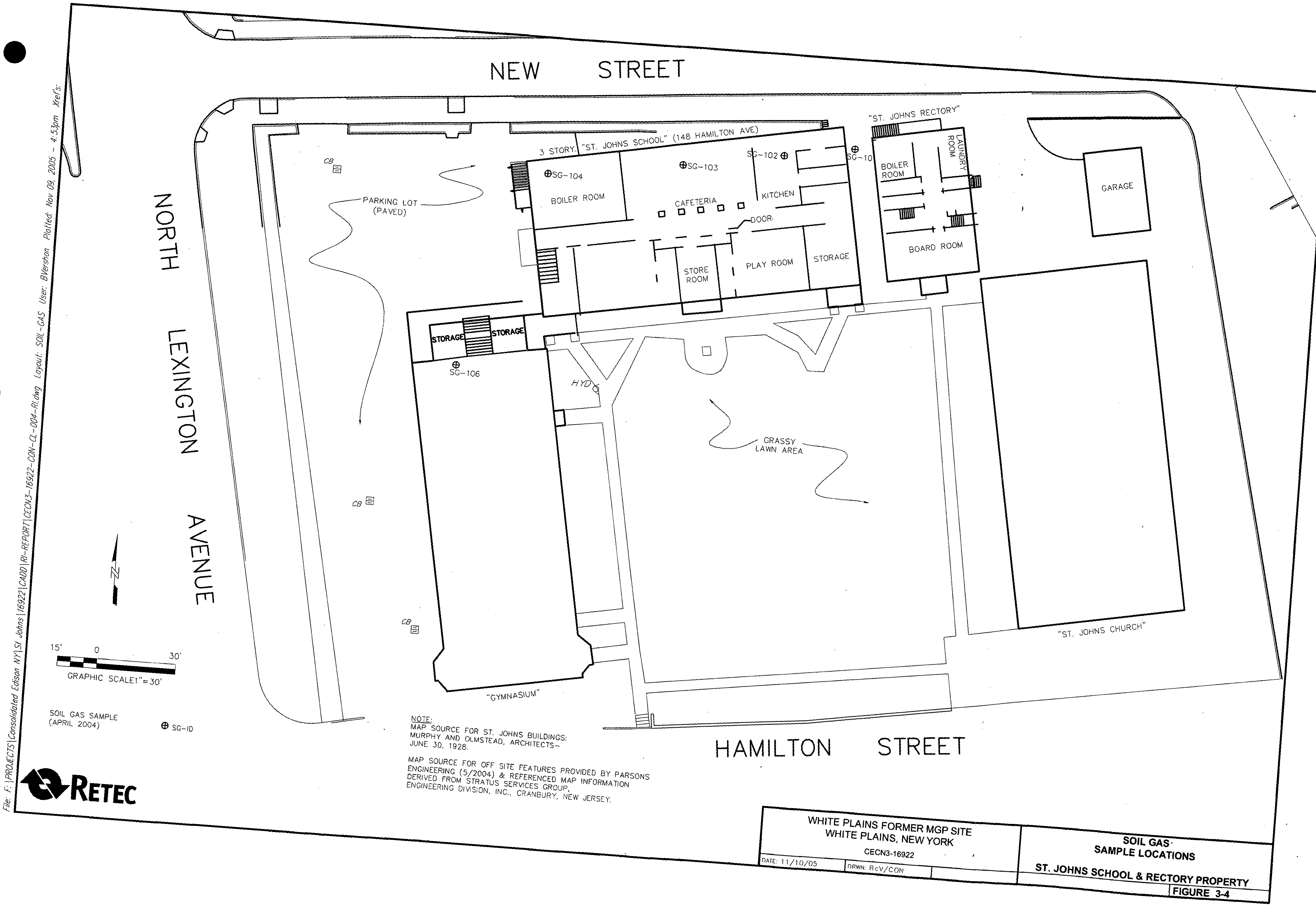

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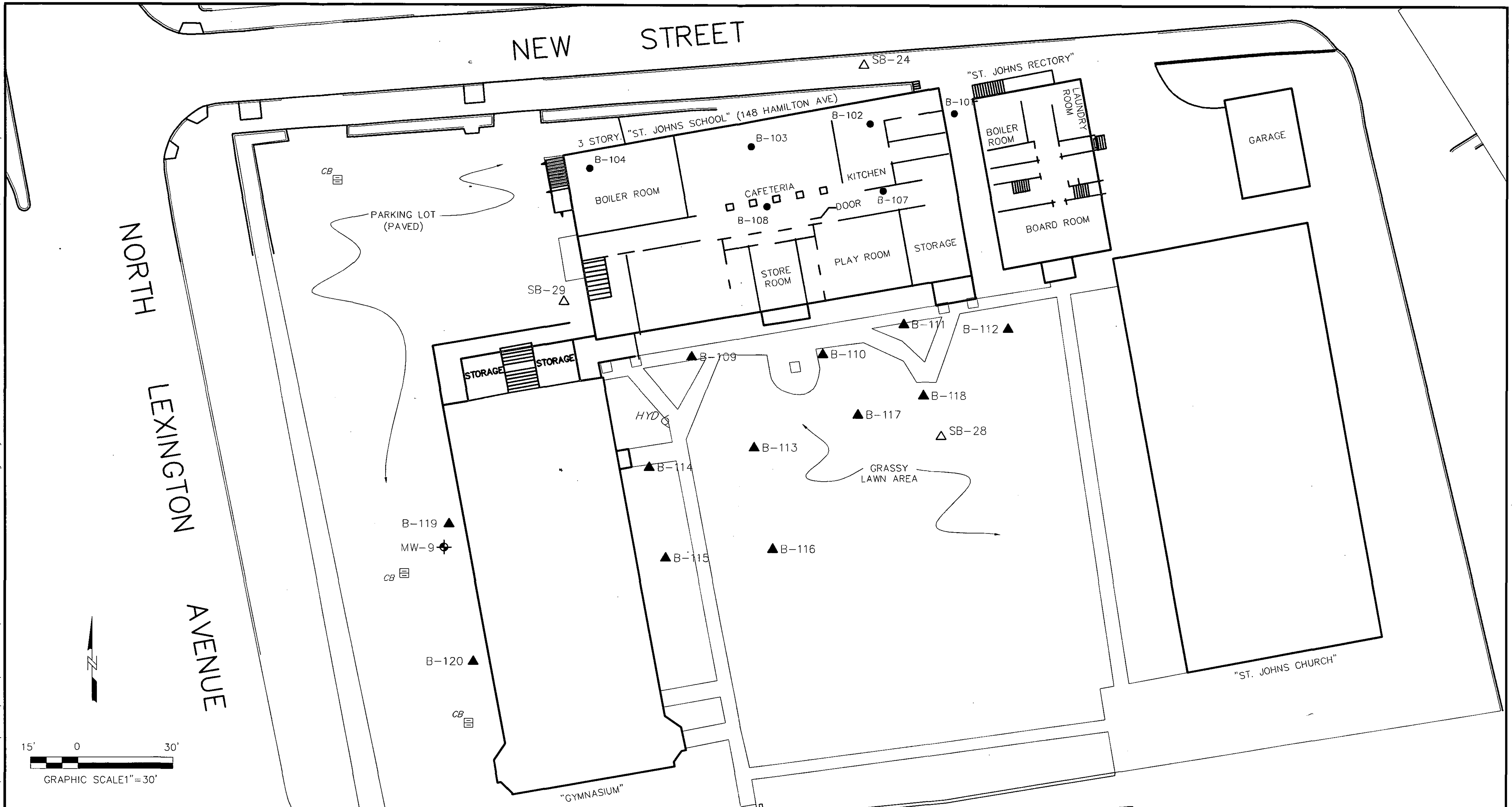


MONITORING WELL (SEPTEMBER 2004) — MW-9
SOIL BORING (JULY 2004) — B-111
SOIL BORING (APRIL 2004) — B-107
SOIL BORING (2001) — SB-ID

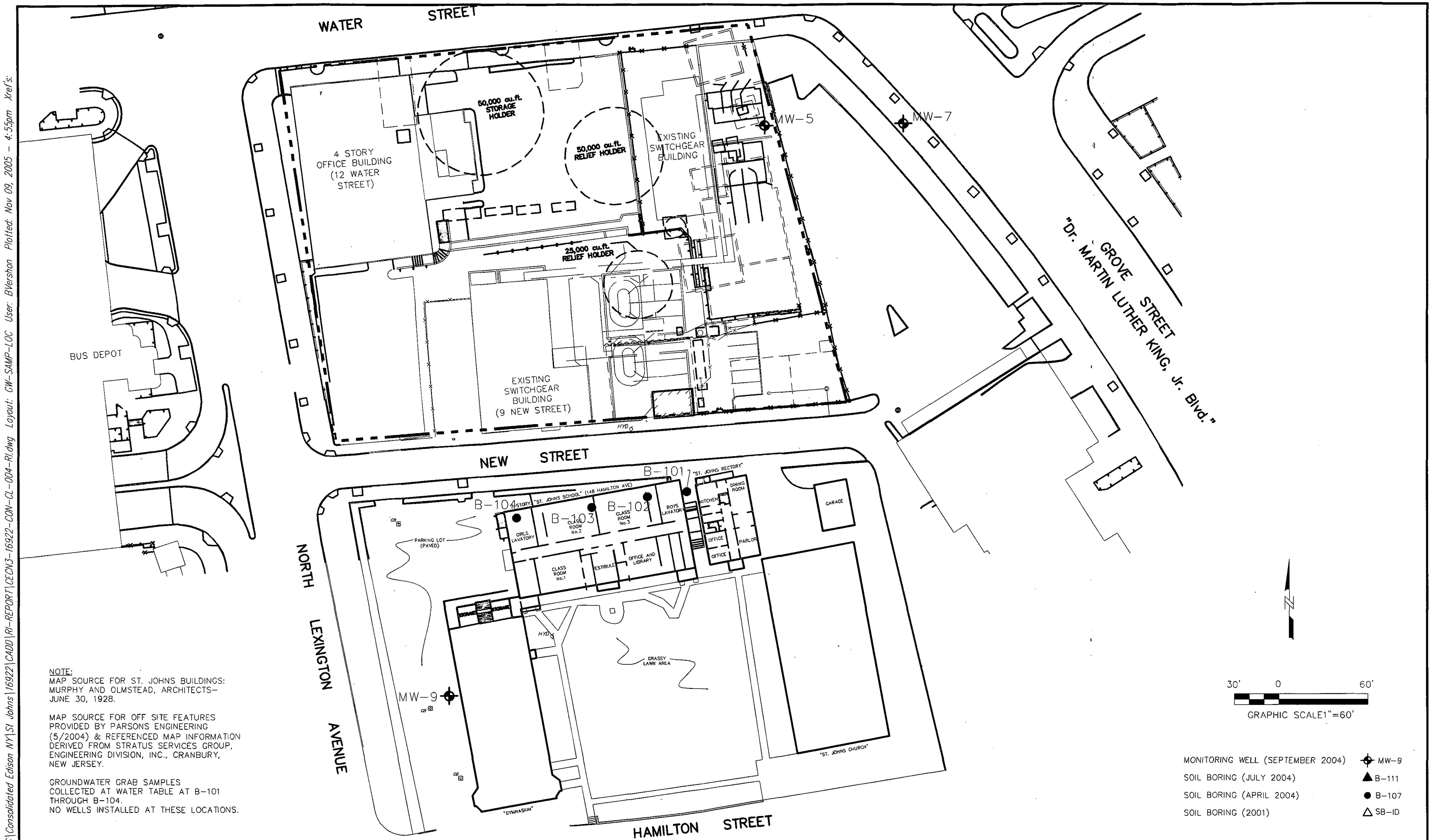
NOTE:
MAP SOURCE FOR ST. JOHNS BUILDINGS:
MURPHY AND OLMSTEAD, ARCHITECTS–
JUNE 30, 1928.

MAP SOURCE FOR OFF SITE FEATURES PROVIDED BY PARSONS ENGINEERING (5/2004) & REFERENCED MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

RETEC

WHITE PLAINS FORMER MGP SITE WHITE PLAINS, NEW YORK CECN3-16922	SOIL BORING SAMPLE LOCATIONS ST. JOHNS SCHOOL & RECTORY PROPERTY
DATE: 11/10/05 · DRWN: BcV/CON	FIGURE 3-5

File: F:\PROJECTS\Consolidated Edison NY\St Johns\16922\CADD\RI-REPORT\CECN3-16922-CON-CL-004-RI.dwg Layout: SOIL-BORING User: BVershon Plotted: Nov 09, 2005 - 4:54pm Xref's:



NOTE:
MAP SOURCE FOR ST. JOHNS BUILDINGS: MURPHY AND OLMSTEAD, ARCHITECTS– JUNE 30, 1928.

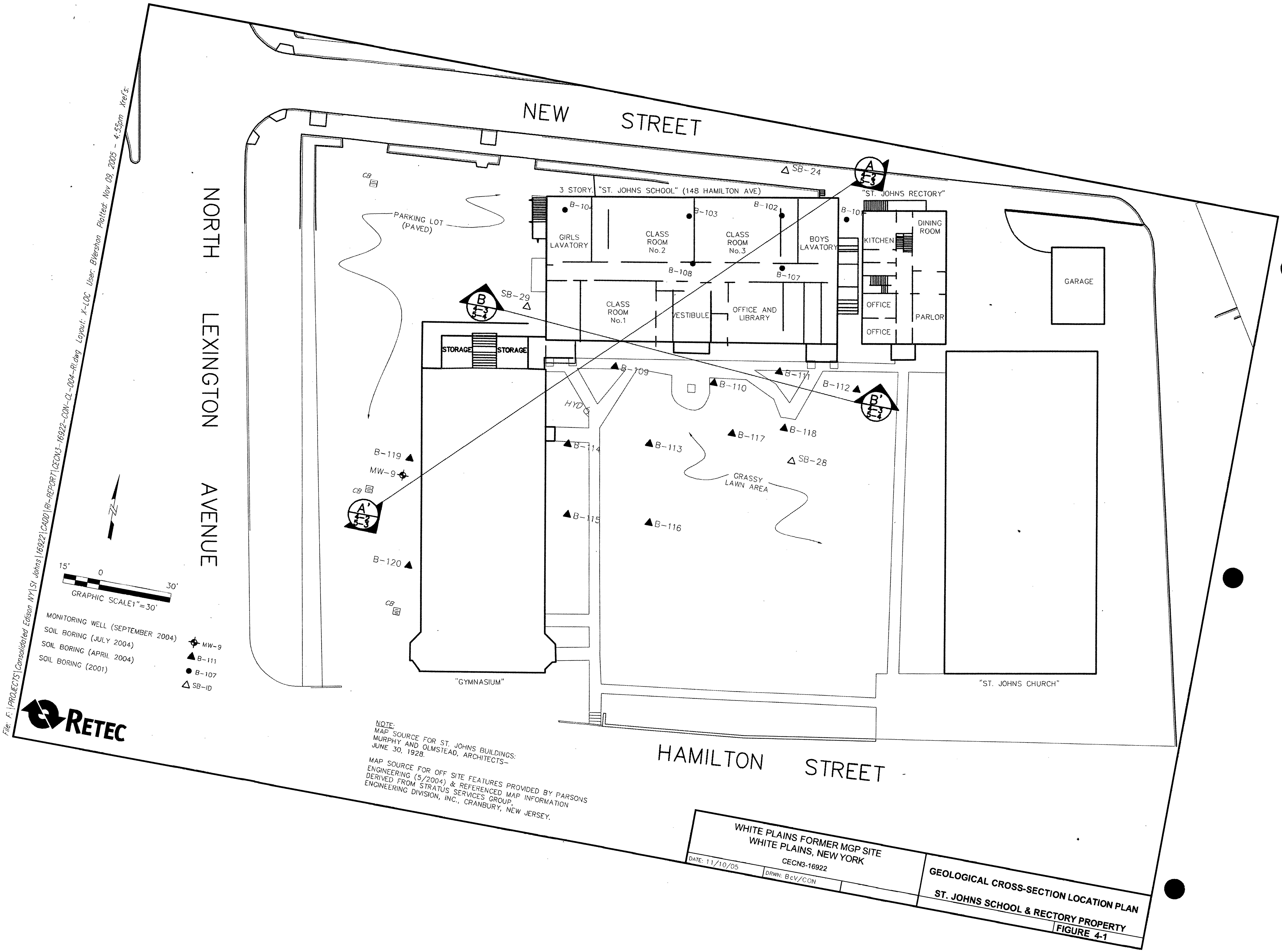
MAP SOURCE FOR OFF SITE FEATURES PROVIDED BY PARSONS ENGINEERING (5/2004) & REFERENCED MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

GROUNDWATER GRAB SAMPLES COLLECTED AT WATER TABLE AT B-101 THROUGH B-104. NO WELLS INSTALLED AT THESE LOCATIONS.

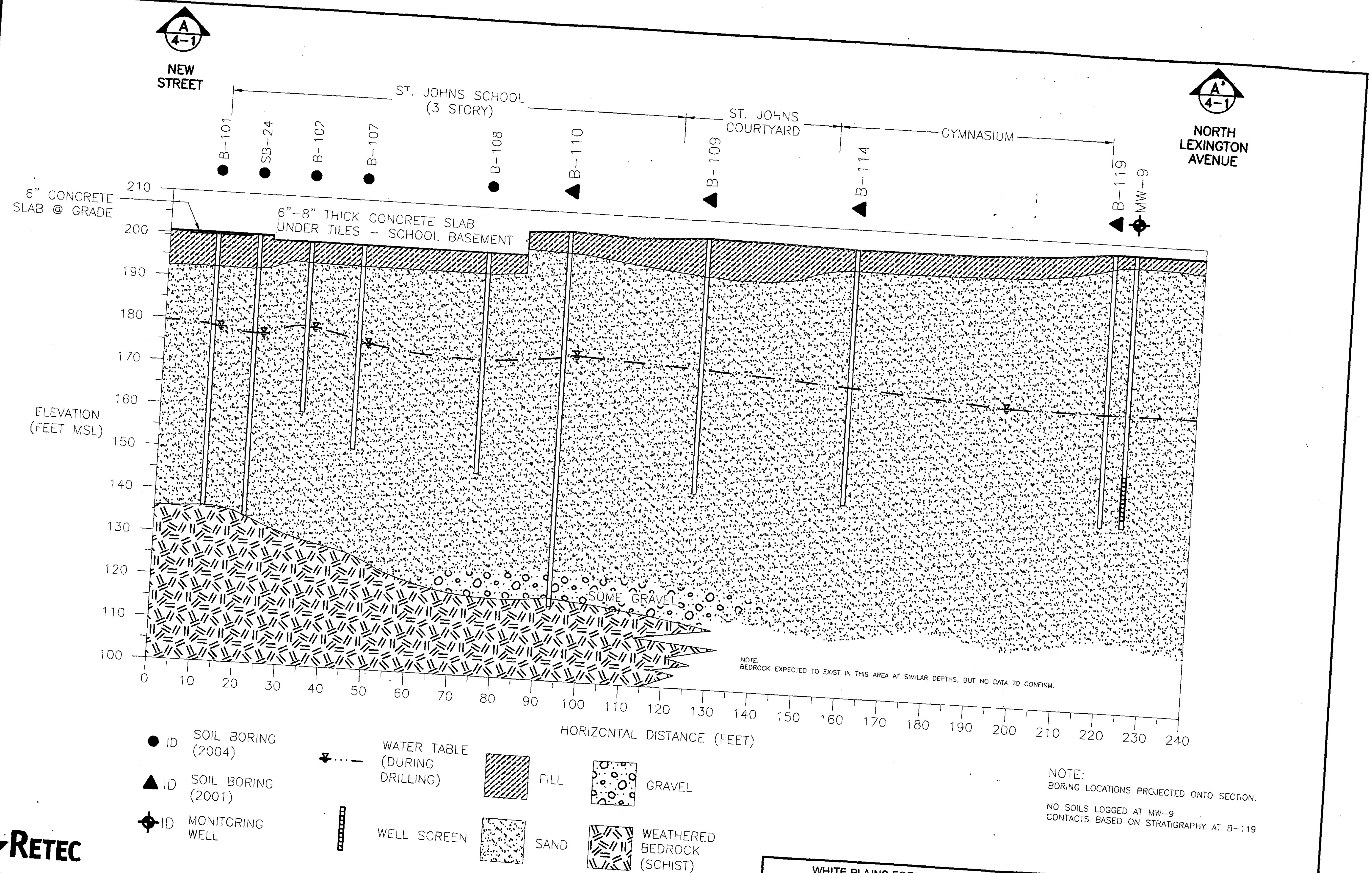
RETEC

WHITE PLAINS FORMER MGP SITE WHITE PLAINS, NEW YORK CECN3-16922	RI GROUNDWATER SAMPLE LOCATIONS ST. JOHNS SCHOOL & RECTORY PROPERTY
DATE: 11/10/05 DRWN: BcV/CON	FIGURE 3-6

File: F:\PROJECTS\Consolidated Edison NY\St Johns\16922\CADD\RI-REPORT\CECN3-16922-CON-CL-004-RI.dwg Layout: GW-SAMP-LOC User: BVershon Plotted: Nov 09, 2005 - 4:55pm Xref's:



NEW STREET
NORTH LEXINGTON AVENUE
HAMILTON STREET
3 STORY "ST. JOHNS SCHOOL" (148 HAMILTON AVE)
"ST. JOHNS RECTORY"
"ST. JOHNS CHURCH"
"GYMNASIUM"
GARAGE
PARKING LOT (PAVED)
GRASSY LAWN AREA
GIRLS LAVATORY
CLASS ROOM No.2
CLASS ROOM No.3
BOYS LAVATORY
CLASS ROOM No.1
VESTIBULE
OFFICE AND LIBRARY
STORAGE
STORAGE
KITCHEN
DINING ROOM
OFFICE
OFFICE
PARLOR
HYD
CB
CB
CB
A
A'
B
B'
B-101
B-102
B-103
B-104
B-107
B-108
B-109
B-110
B-111
B-112
B-113
B-114
B-115
B-116
B-117
B-118
B-119
B-120
MW-9
SB-24
SB-28
SB-29
15' 0 30'
GRAPHIC SCALE 1"=30'
MONITORING WELL (SEPTEMBER 2004) MW-9
SOIL BORING (JULY 2004) B-111
SOIL BORING (APRIL 2004) B-107
SOIL BORING (2001) SB-ID
RETEC
File: F:\PROJECTS\Consolidated Edison NY\St Johns\16922\CADD\RI-REPORT\CECN3-16922-CON-CL-004-RI.dwg Layout: X-LOC User: Bvershon Plotted: Nov 09, 2005 - 4:55pm Xref's:
NOTE:
MAP SOURCE FOR ST. JOHNS BUILDINGS: MURPHY AND OLMSTEAD, ARCHITECTS- JUNE 30, 1928.
MAP SOURCE FOR OFF SITE FEATURES PROVIDED BY PARSONS ENGINEERING (5/2004) & REFERENCED MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.
WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK
CECN3-16922
DATE: 11/10/05
DRWN: BCV/CON
GEOLOGICAL CROSS-SECTION LOCATION PLAN
ST. JOHNS SCHOOL & RECTORY PROPERTY
FIGURE 4-1

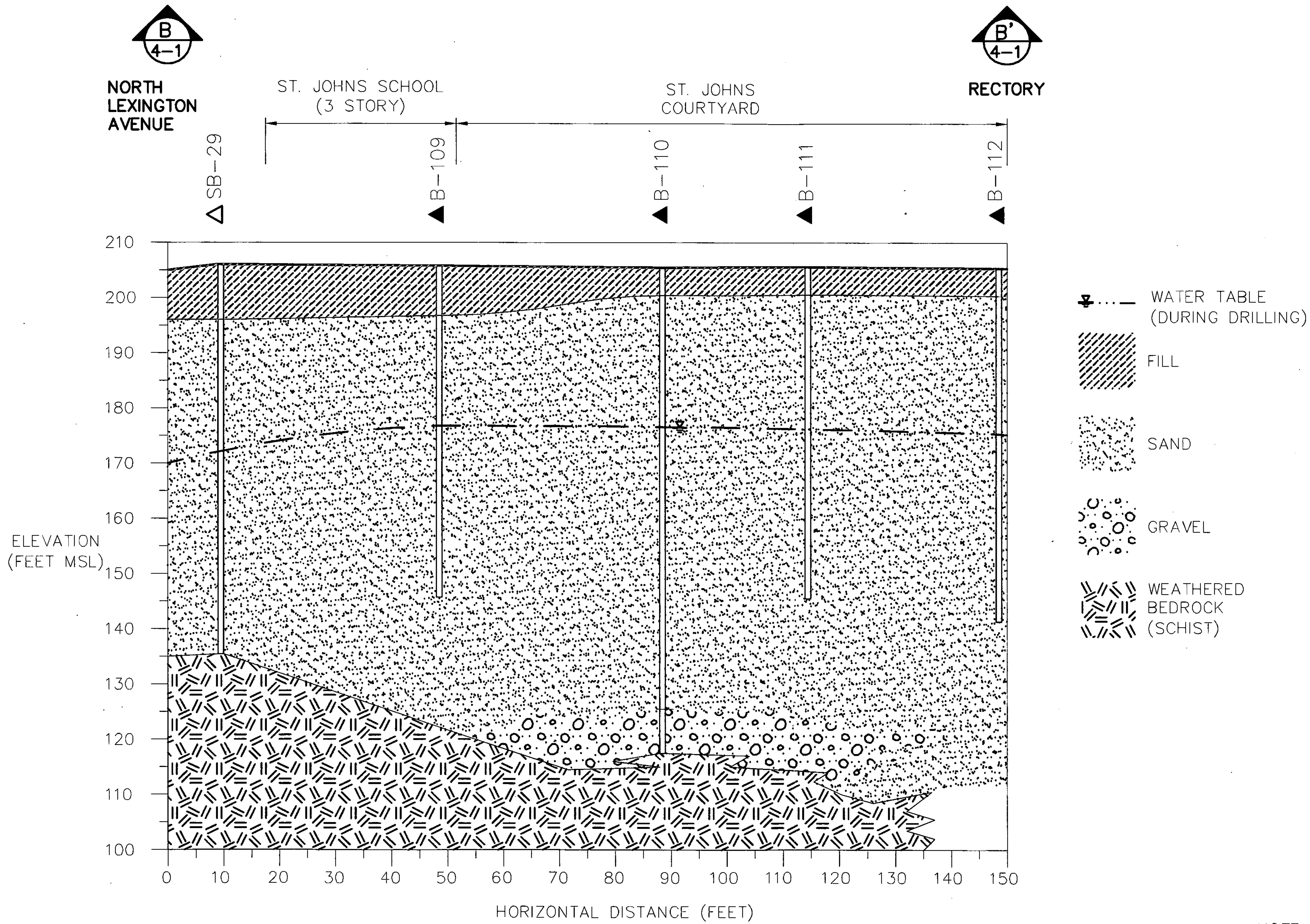


File: F:\PROJECTS\Consolidated Edison NY\St. Johns\16922\CADD\RI-REPORT\CECN3-16922-CON-CX-003-RI.dwg Layout: A-A_4-2(REVISED_7-07) User: BVershon Plotted: Jul 26, 2007 - 12:24pm Xref's:

RETEC

WHITE PLAINS FORMER MGP SITE WHITE PLAINS, NEW YORK	GEOLOGICAL CROSS-SECTION A-A' ST. JOHNS SCHOOL & RECTORY PROPERTY
DATE: 07/25/07 DRWN: BcV/CON	FIGURE 4-2

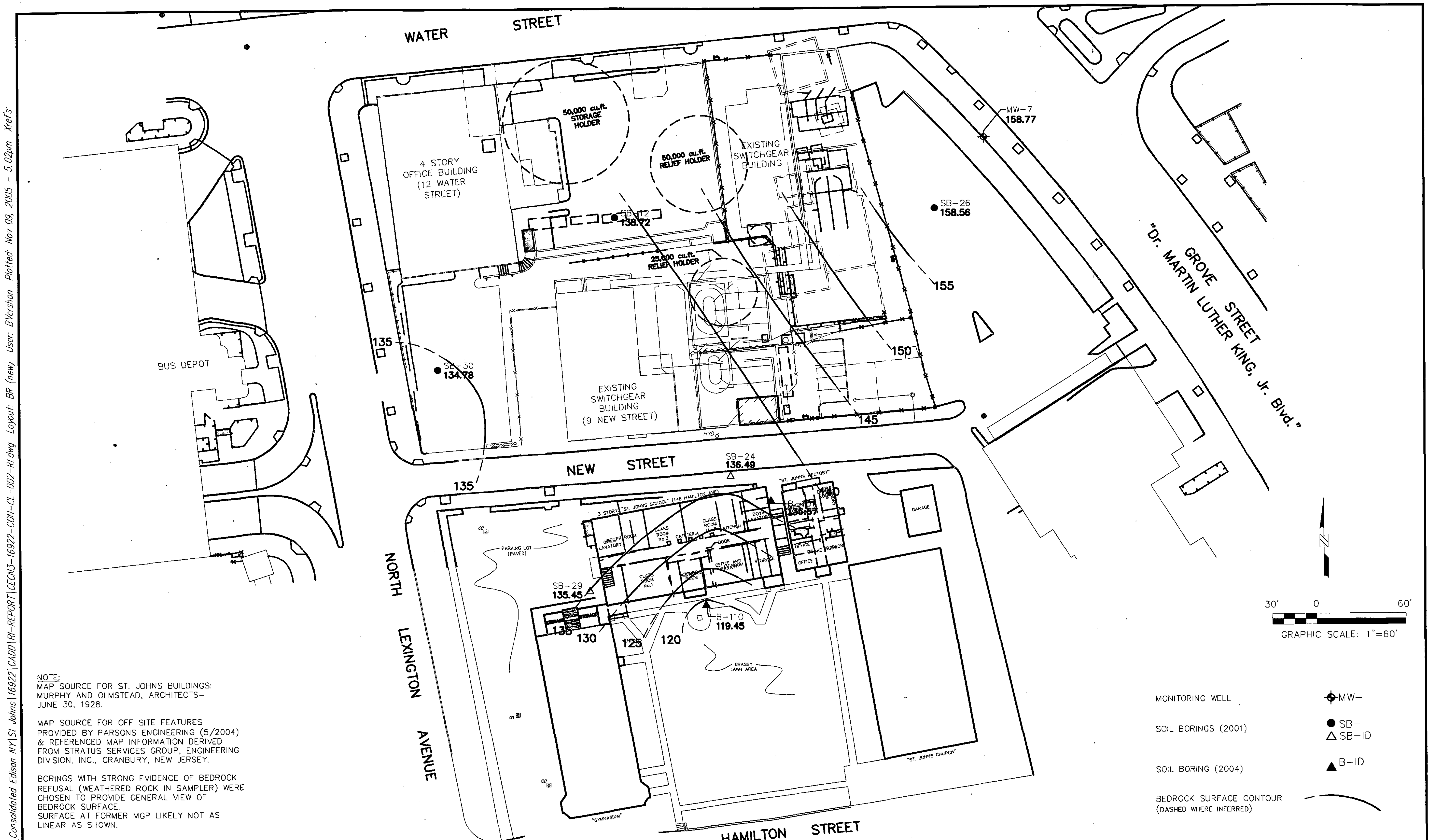
File: F:\PROJECTS\Consolidated Edison NY\St Johns\16922\CADD\RI-REPORT\CECN3-16922-CON-CX-003-RI.dwg Layout: B-B_4-3 User: BVershon Plotted: Nov 09, 2005 - 4:58pm Xref's:



NOTE:
BORING LOCATIONS PROJECTED ONTO SECTION.

RETEC

WHITE PLAINS FORMER MGP SITE WHITE PLAINS, NEW YORK	GEOLOGICAL CROSS SECTION B-B' ST. JOHNS SCHOOL & RECTORY PROPERTY
DATE: 11/10/05 DRWN: BcV/CON	FIGURE 4-3



NOTE:
MAP SOURCE FOR ST. JOHNS BUILDINGS: MURPHY AND OLMSTEAD, ARCHITECTS– JUNE 30, 1928.

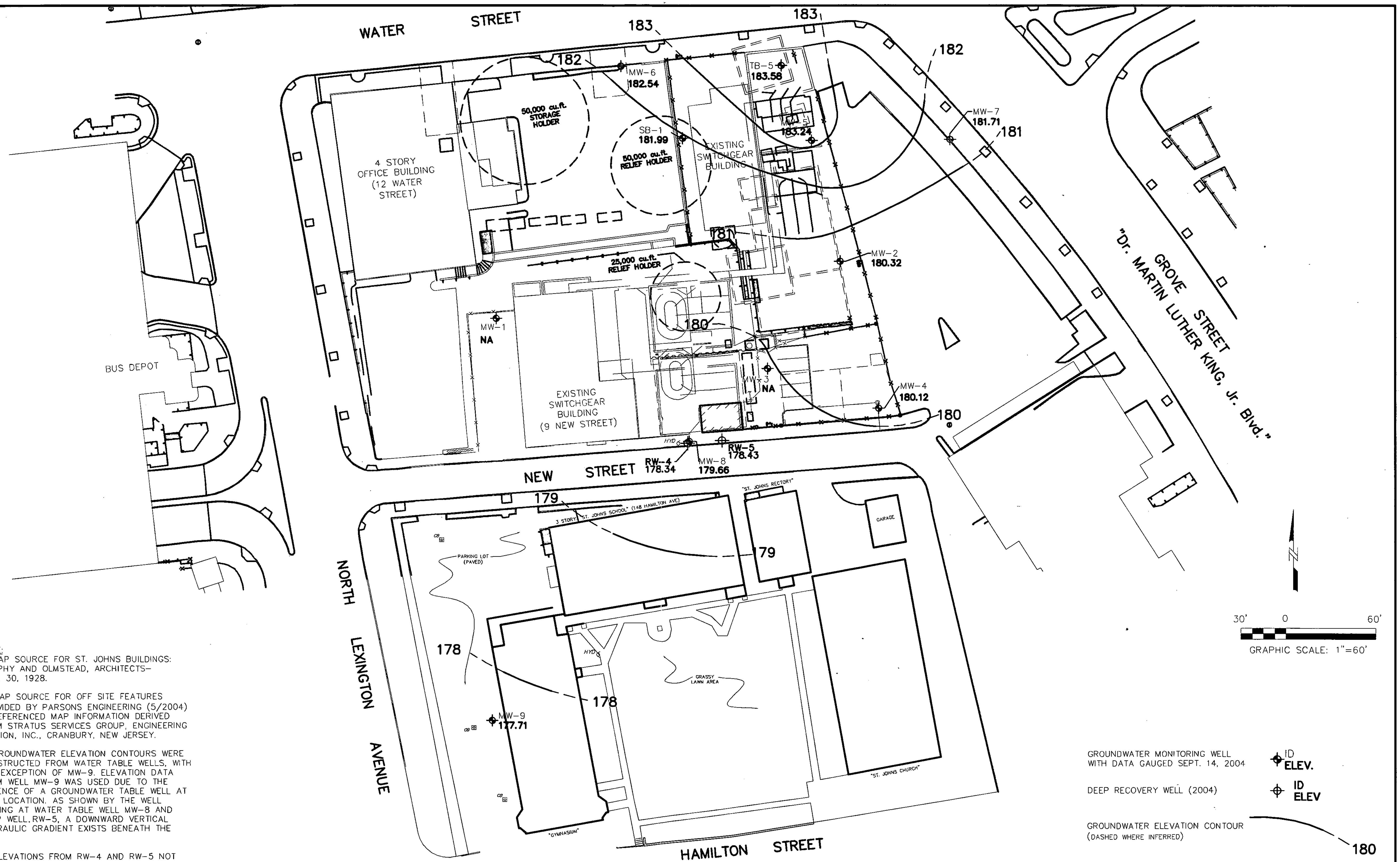
MAP SOURCE FOR OFF SITE FEATURES PROVIDED BY PARSONS ENGINEERING (5/2004) & REFERENCED MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

BORINGS WITH STRONG EVIDENCE OF BEDROCK REFUSAL (WEATHERED ROCK IN SAMPLER) WERE CHOSEN TO PROVIDE GENERAL VIEW OF BEDROCK SURFACE. SURFACE AT FORMER MGP LIKELY NOT AS LINEAR AS SHOWN.

RETEC

WHITE PLAINS FORMER MGP SITE WHITE PLAINS, NEW YORK	BEDROCK SURFACE CONTOUR MAP ST. JOHNS SCHOOL & RECTORY PROPERTY
DATE: 11/10/05 DRWN: BcV/CON	FIGURE 4-4

File: F:\PROJECTS\Consolidated Edison NY\St Johns\16922\CADD\RI-REPORT\CECN3-16922-CON-CL-002-RI.dwg Layout: BR (new) User: BVershon Plotted: Nov 09, 2005 - 5:02pm Xref's:



NOTE:
1. MAP SOURCE FOR ST. JOHNS BUILDINGS: MURPHY AND OLMSTEAD, ARCHITECTS– JUNE 30, 1928.

2. MAP SOURCE FOR OFF SITE FEATURES PROVIDED BY PARSONS ENGINEERING (5/2004) & REFERENCED MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

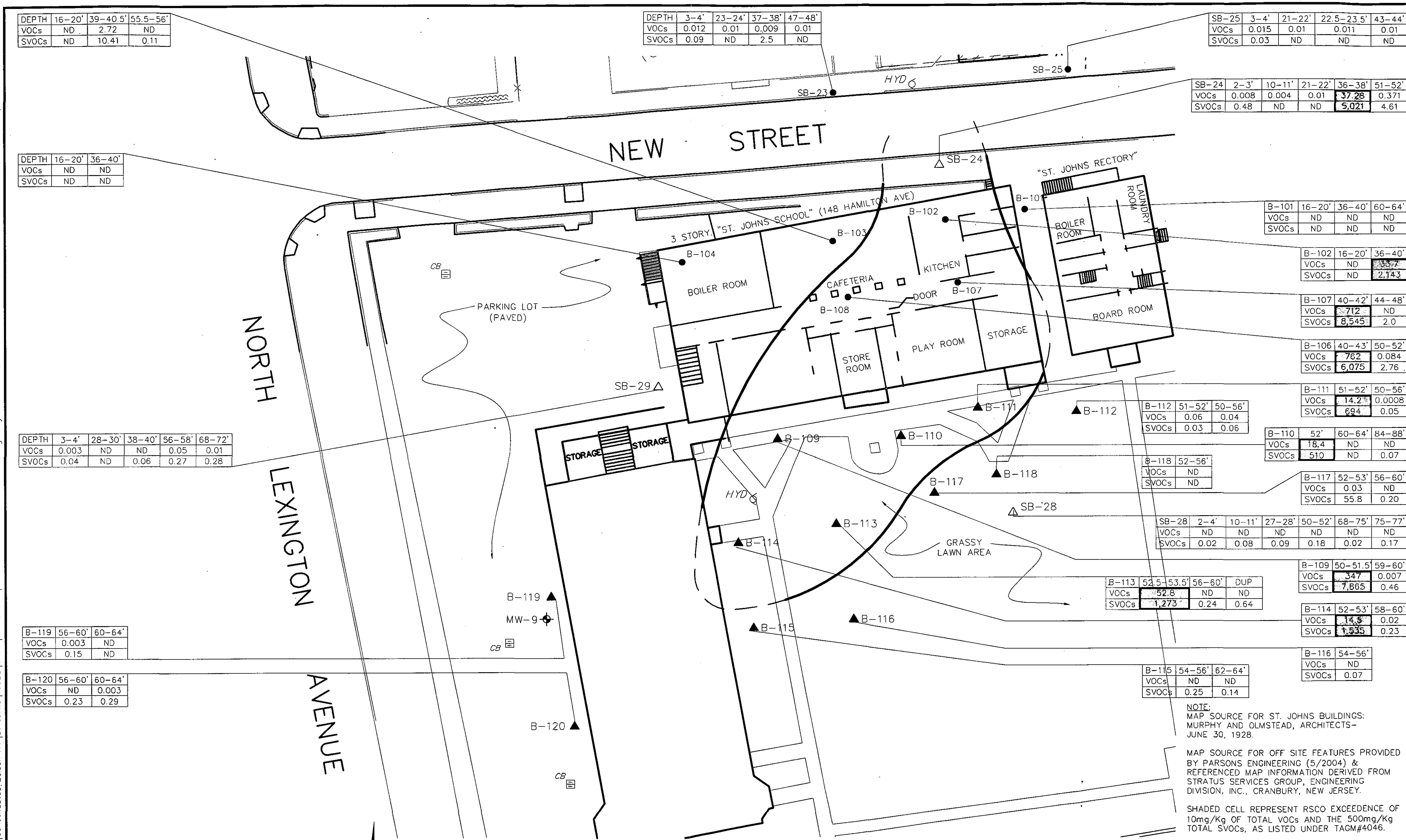
3. GROUNDWATER ELEVATION CONTOURS WERE CONSTRUCTED FROM WATER TABLE WELLS, WITH THE EXCEPTION OF MW-9. ELEVATION DATA FROM WELL MW-9 WAS USED DUE TO THE ABSENCE OF A GROUNDWATER TABLE WELL AT THIS LOCATION. AS SHOWN BY THE WELL PAIRING AT WATER TABLE WELL MW-8 AND DEEP WELL RW-5, A DOWNWARD VERTICAL HYDRAULIC GRADIENT EXISTS BENEATH THE SITE.

4. ELEVATIONS FROM RW-4 AND RW-5 NOT USED FOR GROUNDWATER CONTOURING.

RETEC

WHITE PLAINS FORMER MGP SITE WHITE PLAINS, NEW YORK	GROUNDWATER ELEVATION CONTOUR MAP SEPTEMBER 14, 2004 ST. JOHNS SCHOOL & RECTORY PROPERTY
DATE: 11/10/05 DRWN: BcV/CON	FIGURE 4-5

File: F:\PROJECTS\Consolidated Edison NY\St Johns\16922\CADD\RI-REPORT\CECNJ-16922-CON-CL-002-RI.dwg Layout: GW (new) User: BVershon Plotted: Nov 09, 2005 - 5:03pm Xref's:



DEPTH	16-20'	39-40.5'	55.5-56'
VOCs	ND	2.72	ND
SVOCs	ND	10.41	0.11

DEPTH	3-4'	23-24'	37-38'	47-48'
VOCs	0.012	0.01	0.009	0.01
SVOCs	0.09	ND	2.5	ND

SB-25	3-4'	21-22'	22.5-23.5'	43-44'
VOCs	0.015	0.01	0.011	0.01
SVOCs	0.03	ND	ND	ND

SB-24	2-3'	10-11'	21-22'	36-38'	51-52'
VOCs	0.008	0.004	0.01	37.28	0.371
SVOCs	0.48	ND	ND	5,021	4.61

DEPTH	16-20'	36-40'
VOCs	ND	ND
SVOCs	ND	ND

B-101	16-20'	36-40'	60-64'
VOCs	ND	ND	ND
SVOCs	ND	ND	ND

B-102	16-20'	36-40'
VOCs	ND	33.7
SVOCs	ND	2,143

B-107	40-42'	44-48'
VOCs	712	ND
SVOCs	8,545	2.0

B-106	40-43'	50-52'
VOCs	762	0.084
SVOCs	6,075	2.76

B-111	51-52'	50-56'
VOCs	14.2	0.0008
SVOCs	694	0.05

DEPTH	3-4'	28-30'	38-40'	56-58'	68-72'
VOCs	0.003	ND	ND	0.05	0.01
SVOCs	0.04	ND	0.06	0.27	0.28

B-112	51-52'	50-56'
VOCs	0.06	0.04
SVOCs	0.03	0.06

B-110	52'	60-64'	84-88'
VOCs	18.4	ND	ND
SVOCs	510	ND	0.07

B-118	52-56'
VOCs	ND
SVOCs	ND

B-117	52-53'	56-60'
VOCs	0.03	ND
SVOCs	55.8	0.20

SB-28	2-4'	10-11'	27-28'	50-52'	68-75'	75-77'
VOCs	ND	ND	ND	ND	ND	ND
SVOCs	0.02	0.08	0.09	0.18	0.02	0.17

B-109	50-51.5'	59-60'
VOCs	347	0.007
SVOCs	7,865	0.46

B-113	52.5-53.5'	56-60'	DUP
VOCs	52.8	ND	ND
SVOCs	1,273	0.24	0.64

B-114	52-53'	58-60'
VOCs	14.5	0.02
SVOCs	1,535	0.23

B-119	56-60'	60-64'
VOCs	0.003	ND
SVOCs	0.15	ND

B-116	54-56'
VOCs	ND
SVOCs	0.07

B-120	56-60'	60-64'
VOCs	ND	0.003
SVOCs	0.23	0.29

B-115	54-56'	62-64'
VOCs	ND	ND
SVOCs	0.25	0.14

NOTE:
MAP SOURCE FOR ST. JOHNS BUILDINGS: MURPHY AND OLMSTEAD, ARCHITECTS- JUNE 30, 1928.

MAP SOURCE FOR OFF SITE FEATURES PROVIDED BY PARSONS ENGINEERING (5/2004) & REFERENCED MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

SHADED CELL REPRESENT RSCO EXCEEDENCE OF 10mg/Kg OF TOTAL VOCs AND THE 500mg/Kg TOTAL SVOCs, AS LISTED UNDER TAGM#4046.

RETEC

15' 0 30'
GRAPHIC SCALE 1"=30'

AREA OF SOILS CONTAINING RSCO EXCEEDENCES AT DEPTH (>35' BCS) DASHED WHERE INFERRED.

SOIL BORING (2004) ● B-
MONITORING WELL ⌖ MW-8
SOIL BORING (2001) △ SB-ID

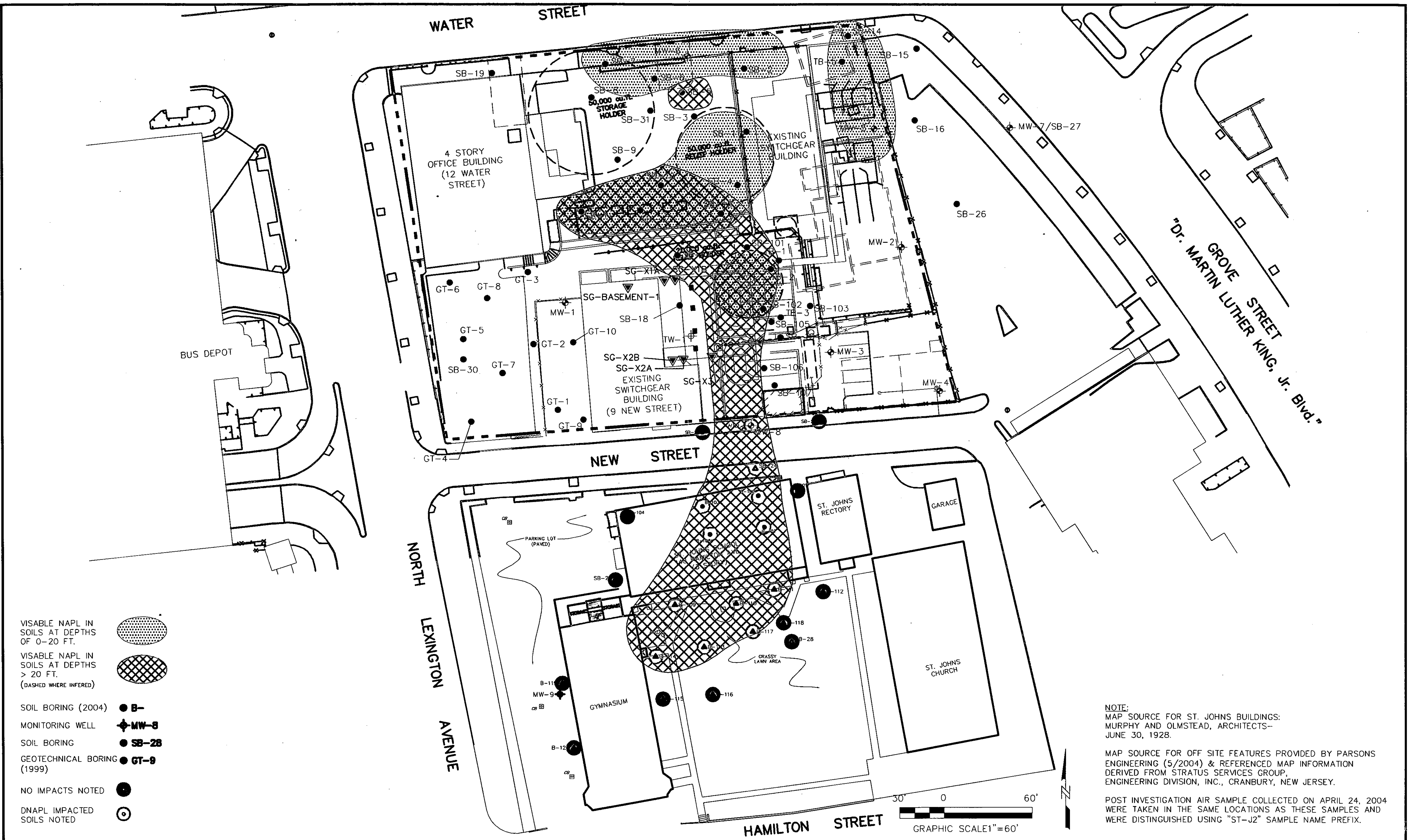
WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

DISTRIBUTION OF TOTAL VOCs AND SVOCs IN SUBSURFACE SOILS (mg\Kg)
ST. JOHNS SCHOOL & RECTORY PROPERTY

DATE: 11/10/05 | DRWN: BcV/CON

FIGURE 5-1

File: F:\PROJECTS\Consolidated Edison NY\St Johns\16922\CADD\RI-REPORT\CECN3-16922-CON-CL-004-RI.dwg Layout: SSSOIL_BOX-DATA User: BVershon Plotted: Nov 09, 2005 - 5:04pm Xref's:



File: F:\PROJECTS\Consolidated Edison NY\St Johns\16922\CADD\RI-REPORT\CECN3-16922-CON-CL-004-RI.dwg Layout: SOIL-DEEP User: BVershon Plotted: Nov 09, 2005 - 5:05pm Xref's:

RETEC

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

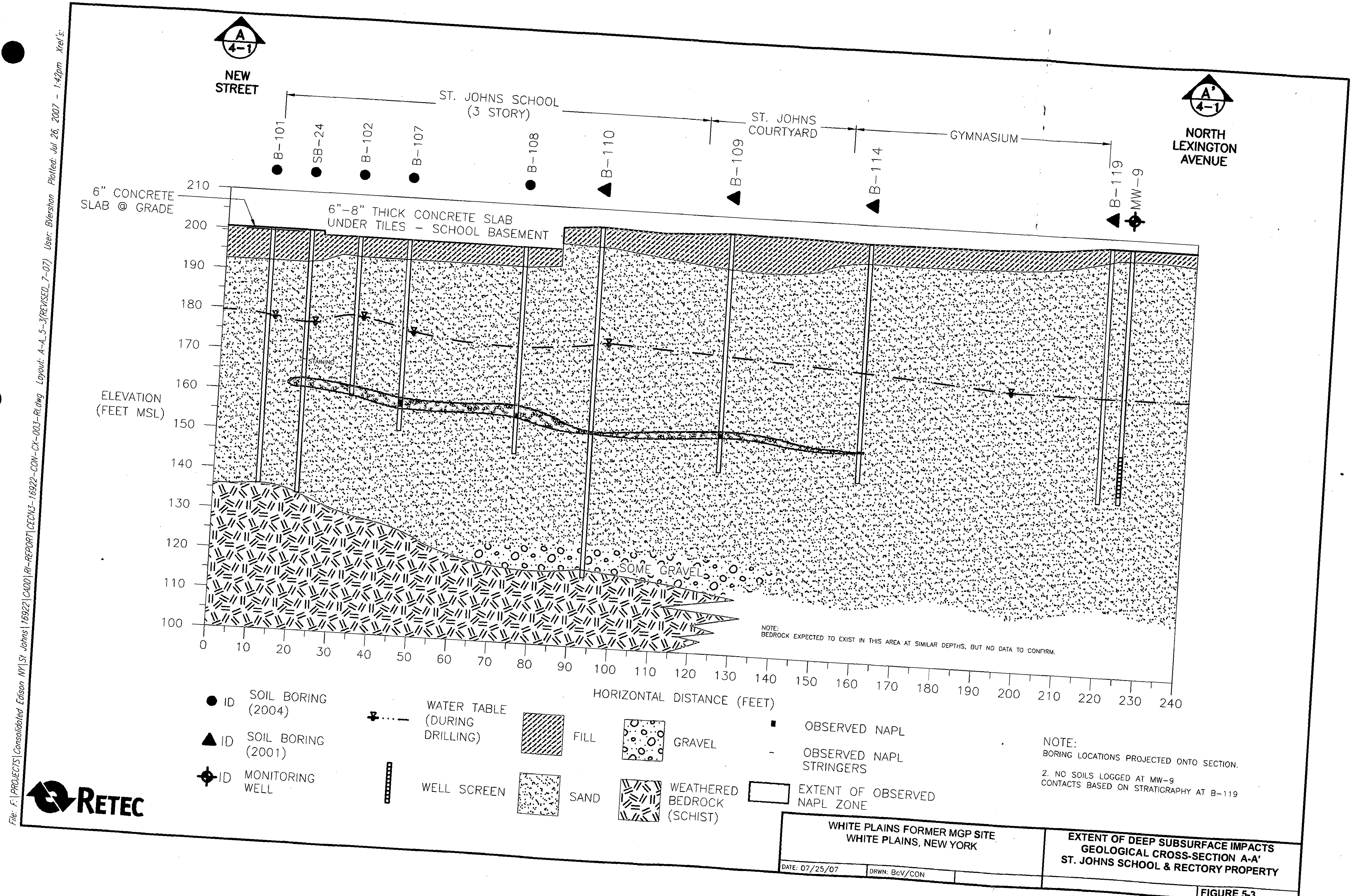
CECN3-16922

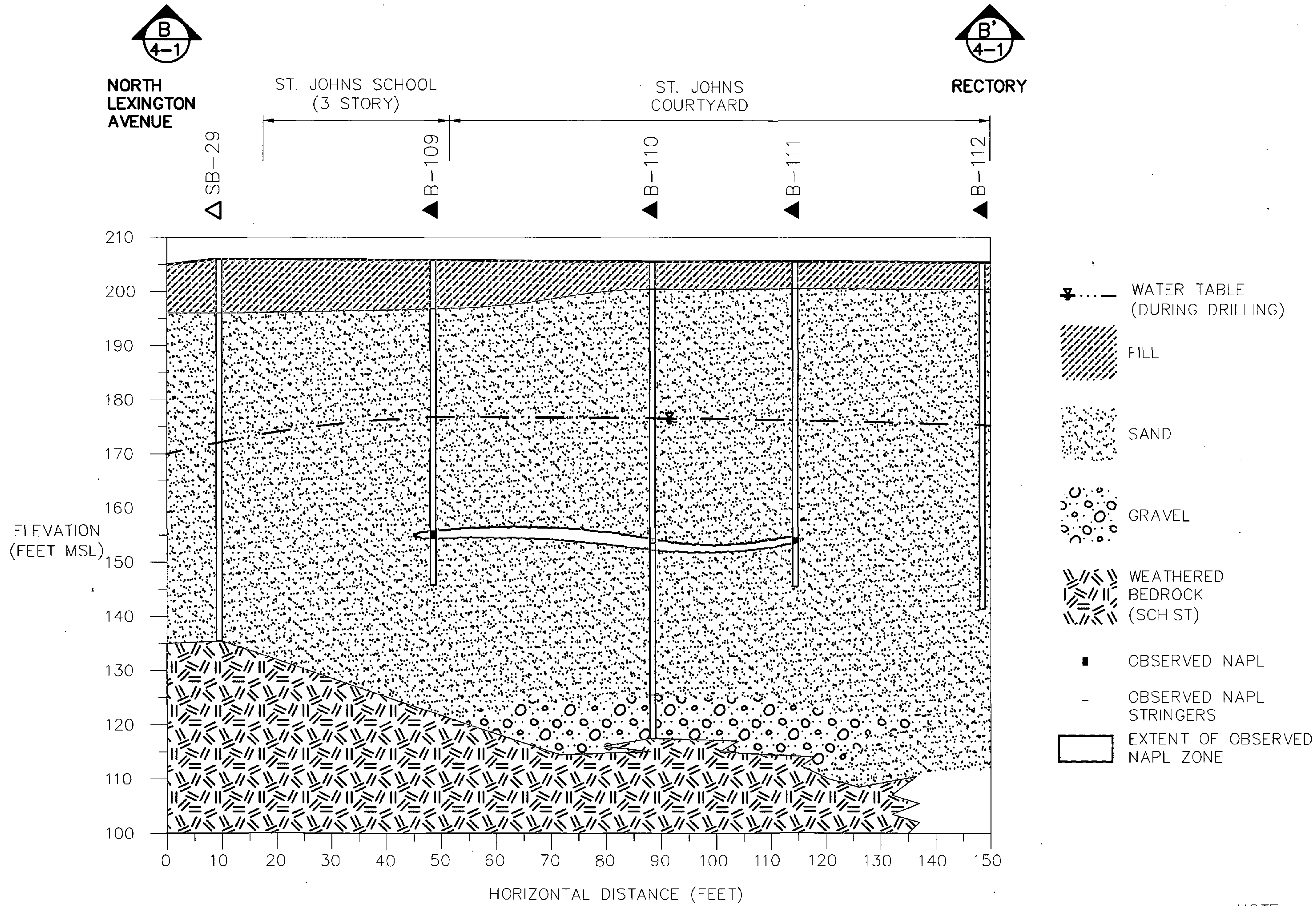
DATE: 11/10/05 DRWN: BcV/CON

INTERPRETED EXTENT OF DEEP SOIL IMPACTS

ST. JOHNS SCHOOL & RECTORY PROPERTY

FIGURE 5-2


A 4-1
NEW STREET
A' 4-1
NORTH LEXINGTON AVENUE
ST. JOHNS SCHOOL (3 STORY)
ST. JOHNS COURTYARD
GYMNASIUM
B-101
SB-24
B-102
B-107
B-108
B-110
B-109
B-114
B-119
MW-9
6" CONCRETE SLAB @ GRADE
6"-8" THICK CONCRETE SLAB UNDER TILES - SCHOOL BASEMENT
ELEVATION (FEET MSL)
210
200
190
180
170
160
150
140
130
120
110
100
STAINING
SOME GRAVEL
NOTE: BEDROCK EXPECTED TO EXIST IN THIS AREA AT SIMILAR DEPTHS, BUT NO DATA TO CONFIRM.
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240
HORIZONTAL DISTANCE (FEET)
ID SOIL BORING (2004)
ID SOIL BORING (2001)
ID MONITORING WELL
WATER TABLE (DURING DRILLING)
WELL SCREEN
FILL
SAND
GRAVEL
WEATHERED BEDROCK (SCHIST)
OBSERVED NAPL
OBSERVED NAPL STRINGERS
EXTENT OF OBSERVED NAPL ZONE
NOTE:
BORING LOCATIONS PROJECTED ONTO SECTION.
2. NO SOILS LOGGED AT MW-9 CONTACTS BASED ON STRATIGRAPHY AT B-119
RETEC
WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK
DATE: 07/25/07
DRWN: BcV/CON
EXTENT OF DEEP SUBSURFACE IMPACTS
GEOLOGICAL CROSS-SECTION A-A'
ST. JOHNS SCHOOL & RECTORY PROPERTY
FIGURE 5-3
File: F:\PROJECTS\Consolidated Edison NY\St Johns\16922\CADD\RI-REPORT\CECN3-16922-CON-CX-003-RI.dwg Layout: A-A_5-3(REVISED_7-07) User: BVershon Plotted: Jul 26, 2007 - 1:42pm Xref's:

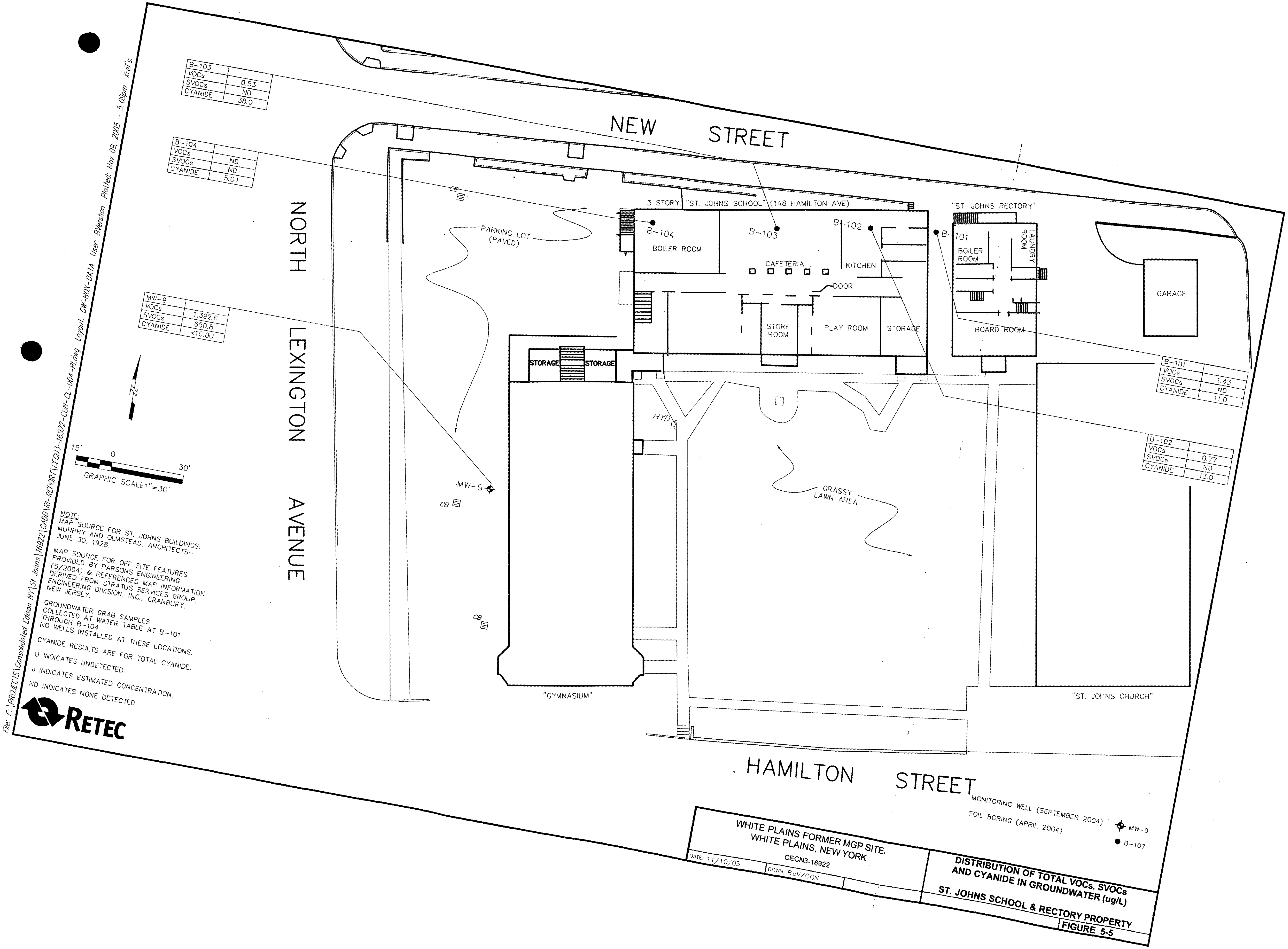


NOTE:
1. BORING LOCATIONS PROJECTED ONTO SECTION.

File: F:\PROJECTS\Consolidated Edison NY\St Johns\16922\CADD\RI-REPORT\CECN3-16922-CON-CX-003-RI.dwg Layout: B-B_5-4 User: BVershon Plotted: Nov 09, 2005 - 5:08pm Xref's:

RETEC

WHITE PLAINS FORMER MGP SITE WHITE PLAINS, NEW YORK	EXTENT OF DEEP SUBSURFACE IMPACTS GEOLOGICAL CROSS SECTION B-B' ST. JOHNS SCHOOL & RECTORY PROPERTY
DATE: 11/10/05 DRWN: BcV/CON	FIGURE 5-4



B-103
VOCs 0.53
SVOCs ND
CYANIDE 38.0
B-104
VOCs
SVOCs ND
CYANIDE ND
5.0J
MW-9
VOCs 1,392.6
SVOCs 650.8
CYANIDE <10.0U
B-101
VOCs 1.43
SVOCs ND
CYANIDE 11.0
B-102
VOCs 0.77
SVOCs ND
CYANIDE 13.0
NEW STREET
NORTH LEXINGTON AVENUE
HAMILTON STREET
PARKING LOT (PAVED)
CB
3 STORY "ST. JOHNS SCHOOL" (148 HAMILTON AVE)
B-104
BOILER ROOM
B-103
CAFETERIA
B-102
KITCHEN
DOOR
STORE ROOM
PLAY ROOM
STORAGE
"ST. JOHNS RECTORY"
B-101
BOILER ROOM
LAUNDRY ROOM
BOARD ROOM
GARAGE
STORAGE
STORAGE
HYD
GRASSY LAWN AREA
MW-9
"GYMNASIUM"
"ST. JOHNS CHURCH"
15' 0 30'
GRAPHIC SCALE 1"=30'
N
NOTE:
MAP SOURCE FOR ST. JOHNS BUILDINGS: MURPHY AND OLMSTEAD, ARCHITECTS- JUNE 30, 1928.
MAP SOURCE FOR OFF SITE FEATURES PROVIDED BY PARSONS ENGINEERING (5/2004) & REFERENCED MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.
GROUNDWATER GRAB SAMPLES COLLECTED AT WATER TABLE AT B-101 THROUGH B-104. NO WELLS INSTALLED AT THESE LOCATIONS.
CYANIDE RESULTS ARE FOR TOTAL CYANIDE.
U INDICATES UNDETECTED.
J INDICATES ESTIMATED CONCENTRATION.
ND INDICATES NONE DETECTED
RETEC
File: F:\PROJECTS\Consolidated Edison NY\St Johns\16922\CADD\RI-REPORT\CECN3-16922-CON-CL-004-RI.dwg Layout: GW-BOX-DATA User: BVershon Plotted: Nov 09, 2005 - 5:09pm Xref's:
MONITORING WELL (SEPTEMBER 2004) MW-9
SOIL BORING (APRIL 2004) B-107
WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK
CECN3-16922
DATE: 11/10/05
DRWN: BcV/CON
DISTRIBUTION OF TOTAL VOCs, SVOCs AND CYANIDE IN GROUNDWATER (ug/L)
ST. JOHNS SCHOOL & RECTORY PROPERTY
FIGURE 5-5

Appendix A
NYSDOH Questionnaires

OSR-3

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH ASSESSMENT
BUREAU OF TOXIC SUBSTANCE ASSESSMENT

INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Dan Shearer (updated Apr 8 2004 by A. Williams) Date Prepared 2/13/2003

Preparer's Affiliation The RETEC Group, Inc. Phone No. 607-277-5716

1. OCCUPANT

Name: St. John's School

Address: 146 Hamilton Avenue

White Plains, New York

County: Westchester

Home Phone No. ________ Office Phone No (914) 949-0439

2. OWNER OR LANDLORD:
(If different than occupant)

Name: Archdiocese of New York

Contact Name: Monsignor Graham

Phone No. (914) 949-0439

A. Building Construction Characteristics

Type (circle appropriate responses): Single Family Multiple Dwelling Commercial

Ranch	2-Family
Raised Ranch	Duplex
Split Level	Apartment House ________ Units
Colonial	Number of floors 4
Mobile Home	Other specify School

Residence Age 75 years General Description of Building Construction Materials concrete with brick

Is the building insulated? Yes / No How air tight is the building Medium

OSR-3 (continued)

B. Basement construction characteristics (circle all that apply):

1. Full basement, crawlspace, slab on grade, other ____
2. Basement floor: concrete, dirt, other ____
3. Concrete floor: unsealed, painted, covered; with ____
4. Foundation walls: poured concrete, block, laid up stone, other concrete block
5. The basement is: wet, damp, dry ____ Sump present? y / n yes Water in sump? y / n yes – water is from discharge of boilers.
6. The basement is: finished, unfinished both – some rooms are used on a daily basis (i.e., the cafeteria)
7. Identify potential soil vapor entry points (e.g., cracks, utility ports, etc.) cracks in floor, duct work, utility ports
8. Describe how air tight the basement is substantially air tight

C. HVAC (circle all that apply):

1. The type of heating system(s) used in this residence is/are:

Hot Air Circulation	Heat Pump
Hot Water Radiation	Unvented Kerosene Heater
Steam Radiation	Wood stove
Electric Baseboard	Other (specify)____

2. The type(s) of fuel(s) used is/are: Natural Gas, Fuel Oil, Electric, Wood, Coal Solar

   Other (specify)____.
3. Is the heating system's power plant located in the basement or another area: Boiler Room ____.
4. Is there air-conditioning? Yes / No Central Air or Window Units?

   Specify the location ____
5. Are there air distribution ducts present? Yes / No
6. Describe the supply and cold air return duct work in the basement including whether there is a cold air return, the tightness of duct joints
   There is an unpowered external air return

OSR-3 (continued)

D. Potential Indoor Sources of Pollution

1. Has the house ever had a fire? Yes / No
2. Is there an attached garage? Yes / No
3. Is a vehicle normally parked in the garage? Yes / No
4. Is there a kerosene heater present? Yes / No
5. Is there a workshop, hobby or craft area in the residence? Yes / No
6. An inventory of all products used or stored in the home should be performed. Any products that contain volatile organic compounds or chemicals similar to the target compounds should be listed. The attached product inventory form should be used for this purpose.
7. Is there a kitchen exhaust fan? Yes / No Where is it vented? To the outside
8. Has the house ever been fumigated? If yes describe date, type and location of treatment. No

E. Water and Sewage (Circle the appropriate response)

Source of Water

Public Water Drilled Well Driven Well Dug Well Other (Specify)________

Water Well Specifications: Not Applicable

Well Diameter ________ Grouted or Ungrouted ________

Well Depth ________ Type of Storage Tank ________

Depth to Bedrock ________ Size of Storage Tank ________

Feet of Casing ________ Describe type(s) of Treatment ________

Water Quality: Not Applicable

Taste and/or odor problems? y / n If so, describe ________

How long has the taste and/or odor been present? ________

Sewage Disposal: Public Sewer Septic Tank Leach Field Other (Specify) ________

Distance from well to septic system ________ Type of septic tank additive ________

OSR-3 (continued)

F. Plan View

Draw a plan view sketch for each floor of the residence and if applicable, indicate air sampling locations, possible indoor air pollution sources and PID meter readings.

Refer to the site specific work plan.

OSR-3 (continued)

G. **Potential Outdoor Sources of Pollution**

Draw a sketch of the area surrounding the residence being sampled. If applicable, provide information on the spill location (if known), potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system if applicable, and a qualifying statement to help locate the site on a topographical map.

Typical urban environment. Refer to the site specific work plan and documents for more information.

Household Products Inventory

Occupant / residence St. John's School 146 Hamilton Avenue

Investigator: Ali Williams Date: April 8, 2004

Product description (dispenser, size, manufacturer …)	VOC Ingredients	PID Reading
Kitchen		33 ppb
Moisturizing Hand Cream	N/A	
Hand Soap	N/A	
Cafeteria		57-75 ppb
See attached Chemical Inventory		
Boiler Room		55-60 ppb
See attached Chemical Inventory		
Playroom		55-63 ppb
See attached Chemical Inventory		
Classroom #1		52 ppb
Lysol (1 can)	79% ethanol	
Elmer's Glue (2- 5 oz. Bottles)	Ethyl 2-cyanoacrylate	
Classroom #2		77 ppb
Elmer's Glue (1-1 gal. Tub, 30-5 0z. bottles)	Ethyl 2-cyanoacrylate	
Classroom #3		72 ppb
See attached Chemical Inventory		
Boy's Bathroom		70 ppb
Hand Soap	N/A	

OSR-3

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH ASSESSMENT
BUREAU OF TOXIC SUBSTANCE ASSESSMENT

INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Dan Shearer (updated Apr 8 2004 by A. Williams) Date Prepared 2/13/2003

Preparer's Affiliation The RETEC Group, Inc. Phone No. 607-277-5716

1. OCCUPANT

Name: St. John's Rectory

Address: 148 Hamilton Avenue

White Plains, New York

County: Westchester

Home Phone No. ________ Office Phone No (914) 949-0439

2. OWNER OR LANDLORD:
(If different than occupant)

Name: Archdiocese of New York

Contact Name: Monsignor Graham

Phone No. (914) 949-0439

A. Building Construction Characteristics

Type (circle appropriate responses): Single Family Multiple Dwelling Commercial

Ranch	2-Family
Raised Ranch	Duplex
Split Level	Apartment House ________ Units
Colonial	Number of floors 3
Mobile Home	Other specify Rectory

Residence Age 75 years General Description of Building Construction Materials concrete slab floors, wood stairs, brick and stone exterior.

Is the building insulated? Yes No How air tight is the building Medium

OSR-3 (continued)

B. **Basement construction characteristics (circle all that apply):**

1. Full basement, crawlspace, slab on grade, other __________
2. Basement floor: concrete, dirt, other __________
3. Concrete floor: unsealed, painted, covered; with __________
4. Foundation walls: poured concrete, block, laid up stone, other concrete block
5. The basement is: wet, damp, dry ______ Sump present? y / n yes Water in sump? y / n no______
6. The basement is: finished, unfinished __________
7. Identify potential soil vapor entry points (e.g., cracks, utility ports, etc.)
   none observed
8. Describe how air tight the basement is substantially air tight

C. **HVAC (circle all that apply):**

1. The type of heating system(s) used in this residence is/are:

Hot Air Circulation	Heat Pump
Hot Water Radiation	Unvented Kerosene Heater
Steam Radiation	Wood stove
Electric Baseboard	Other (specify)__________

2. The type(s) of fuel(s) used is/are: Natural Gas, Fuel Oil, Electric, Wood, Coal Solar

   Other (specify)__________
3. Is the heating system's power plant located in the basement or another area: Rectory Basement, Boiler Room
4. Is there air-conditioning? Yes / No Central Air or Window Units?

   Specify the location 12 units
5. Are there air distribution ducts present? Yes / No
6. Describe the supply and cold air return duct work in the basement including whether there is a cold air return, the tightness of duct joints
   Average, no cold air return

OSR-3 (continued)

D. **Potential Indoor Sources of Pollution**

1. Has the house ever had a fire? Yes / No
2. Is there an attached garage? Yes / No
3. Is a vehicle normally parked in the garage? Yes / No
4. Is there a kerosene heater present? Yes / No
5. Is there a workshop, hobby or craft area in the residence? Yes / No
6. An inventory of all products used or stored in the home should be performed. Any products that contain volatile organic compounds or chemicals similar to the target compounds should be listed. The attached product inventory form should be used for this purpose.
7. Is there a kitchen exhaust fan? Yes / No Where is it vented? To the outside
8. Has the house ever been fumigated? If yes describe date, type and location of treatment. Yes, monthly fumigation for roaches

E. **Water and Sewage (Circle the appropriate response)**

Source of Water

Public Water Drilled Well Driven Well Dug Well Other (Specify)________

Water Well Specifications: Not Applicable

Well Diameter ________ Grouted or Ungrouted ________

Well Depth ________ Type of Storage Tank ________

Depth to Bedrock ________ Size of Storage Tank ________

Feet of Casing ________ Describe type(s) of Treatment ________

Water Quality: Not Applicable

Taste and/or odor problems? y / n If so, describe ________

How long has the taste and/or odor been present? ________

Sewage Disposal: ~~Public Sewer~~ Septic Tank Leach Field Other (Specify) ________

Distance from well to septic system________ Type of septic tank additive ________

OSR-3 (continued)

F. Plan View

Draw a plan view sketch for each floor of the residence and if applicable, indicate air sampling locations, possible indoor air pollution sources and PID meter readings.

Refer to the site specific work plan.

OSR-3 (continued)

G. **Potential Outdoor Sources of Pollution**

Draw a sketch of the area surrounding the residence being sampled. If applicable, provide information on the spill location (if known), potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system if applicable, and a qualifying statement to help locate the site on a topographical map.

Typical urban environment. Refer to the site specific work plan and documents for more information.

Household Products Inventory

Occupant / residence St. John's Rectory 148 Hamilton Avenue

Investigator: Ali Williams Date: April 8, 2004

Product description (dispenser, size, manufacturer …)	VOC Ingredients	PID Reading
Boiler Room		45 ppb
Catchmaster cockroach poison	NA	
Basement Hallway		50-79 ppb
"Sweeping compound"	90% aspirin	
1st Floor Hall		55 ppb
See attached Chemical Inventory		
Pantry		120 ppb
See attached Chemical Inventory		

OSR-3

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH ASSESSMENT
BUREAU OF TOXIC SUBSTANCE ASSESSMENT

INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Dan Shearer (updated on Apr 8 2004 by A. Williams) Date Prepared 2/13/2003

Preparer's Affiliation The RETEC Group, Inc. Phone No. 607-277-5716

1. OCCUPANT

Name: St. John's Gymnasium

Address: 146 Hamilton Avenue

White Plains, New York

County: Westchester

Home Phone No. ________ Office Phone No (914) 949-0439

2. OWNER OR LANDLORD:
(If different than occupant)

Name: Archdiocese of New York

Contact Name: Monsignor Graham

Phone No. (914) 949-0439

A. Building Construction Characteristics

Type (circle appropriate responses): Single Family Multiple Dwelling Commercial

Ranch	2-Family
Raised Ranch	Duplex
Split Level	Apartment House ________ Units
Colonial	Number of floors 1
Mobile Home	Other specify Gymnasium

Residence Age 75 years General Description of Building Construction Materials concrete with brick

Is the building insulated? Yes No How air tight is the building Medium

OSR-3 (continued)

B. **Basement construction characteristics (circle all that apply):**

1. Full basement, crawlspace, slab on grade, other ________
2. Basement floor: concrete, dirt, other ________
3. Concrete floor: unsealed, painted, covered; with ________
4. Foundation walls: poured concrete, block, laid up stone, other concrete block
5. The basement is: wet, damp, dry ____ Sump present? y / n yes Water in sump? y / n yes – water is from discharge of boilers.
6. The basement is: finished, unfinished both – some rooms are used on a daily basis (i.e., the cafeteria)
7. Identify potential soil vapor entry points (e.g., cracks, utility ports, etc.) cracks in floor, duct work, utility ports
8. Describe how air tight the basement is substantially air tight

C. **HVAC (circle all that apply):**

1. The type of heating system(s) used in this residence is/are:

Hot Air Circulation	Heat Pump
Hot Water Radiation	Unvented Kerosene Heater
Steam Radiation	Wood stove
Electric Baseboard	Other (specify) ________

2. The type(s) of fuel(s) used is/are: Natural Gas, Fuel Oil, Electric, Wood, Coal Solar

   Other (specify) ________.

3. Is the heating system's power plant located in the basement or another area: Boiler Room.
4. Is there air-conditioning? Yes / No Central Air or Window Units?

   Specify the location ________

5. Are there air distribution ducts present? Yes / No
6. Describe the supply and cold air return duct work in the basement including whether there is a cold air return, the tightness of duct joints
   There is an unpowered external air return

OSR-3 (continued)

D. **Potential Indoor Sources of Pollution**

1. Has the house ever had a fire? Yes / No
2. Is there an attached garage? Yes / No
3. Is a vehicle normally parked in the garage? Yes / No
4. Is there a kerosene heater present? Yes / No
5. Is there a workshop, hobby or craft area in the residence? Yes / No
6. An inventory of all products used or stored in the home should be performed. Any products that contain volatile organic compounds or chemicals similar to the target compounds should be listed. The attached product inventory form should be used for this purpose.
7. Is there a kitchen exhaust fan? Yes / No Where is it vented? To the outside
8. Has the house ever been fumigated? If yes describe date, type and location of treatment.
   No

E. **Water and Sewage (Circle the appropriate response)**

Source of Water

Public Water Drilled Well Driven Well Dug Well Other (Specify)__________

Water Well Specifications: Not Applicable

Well Diameter __________ Grouted or Ungrouted __________

Well Depth __________ Type of Storage Tank __________

Depth to Bedrock __________ Size of Storage Tank __________

Feet of Casing __________ Describe type(s) of Treatment __________

Water Quality: Not Applicable

Taste and/or odor problems? y / n If so, describe __________

How long has the taste and/or odor been present? __________

Sewage Disposal: Public Sewer Septic Tank Leach Field Other (Specify) __________

Distance from well to septic system __________ Type of septic tank additive __________

F. Plan View

Draw a plan view sketch for each floor of the residence and if applicable, indicate air sampling locations, possible indoor air pollution sources and PID meter readings.

Refer to the site specific work plan.

OSR-3 (continued)

G. **Potential Outdoor Sources of Pollution**

Draw a sketch of the area surrounding the residence being sampled. If applicable, provide information on the spill location (if known), potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system if applicable, and a qualifying statement to help locate the site on a topographical map.

Typical urban environment. Refer to the site specific work plan and documents for more information.

Household Products Inventory

Occupant / residence St. John's Gymnasium 146 Hamilton Avenue

Investigator: Ali Williams

Date: April 8, 2004

Product description (dispenser, size, manufacturer …)	VOC Ingredients	PID Reading
Gymnasium		40-42 ppb
None		

Chemical Inventory
for
St. John the Evangelist Catholic School
146 Hamilton Avenue
White Plains, New York
for
Consolidated Edison Co. of New York, Inc.
RETEC Project Number CECN3-16922
April 9, 2004

Rectory Kitchen

1. Lysol, All-Purpose cleaner, Lemon Breeze
   Benzyl Ammonium Chlorides

2. Mop and Glo
   Rickitt Benckiser Inc.

3. Easy Off Heavy Duty
   Rickitt Benckiser Inc

4. Fantastic Spray Cleaner
   National Brands Inc.

5. Windex
   Drackett Professionals

6. Comet
   Procter and Gamble

7. Brillo Soap Pads
   Katy Ind.

8. Spic and Span
   Procter and Gamble

Rectory Basement Hallway

9. Sweeping Compound, 2 one hundred pound drums
   90% Aspirin

Rectory Boiler Room

10. Catchmaster Roach Poison

School Classroom #1

11. Lysol
    Dimethylbenzyl Ammonium Saccharinate
    Ethanol 79%

12. Elmer's School Glue
    www.elmers.com

School Classroom #3

13. Elmer's School Glue
    www.elmers.com

Chemical Inventory
for
St, John the Evangelist Catholic School
146 Hamilton Avenue
White Plains, New York
for
Consolidated Edison Co. of New York, Inc.

Clayton Project No. 40-03372.00

February 21, 2003

RECTORY

1. Countertop Magic Cleaner polish for formica
   Magic American Corp.
   Cleveland, Ohio

2. Glade, one spray container
   SC Johnson Wax

3. Wisk, two 1-gallon containers

4. Downey Fabric Softener, two 20-ounce containers

5. Windex spray bottle, 5-ounce container

6. Shout, one 60-ounce bottle

7. Bleach, one gallon container

8. Clorox powder detergent, 1 box

9. Niagara Professional Finish Spray Starch
   CPC International

SCHOOL

Basement Shop

10. Wood Finishers Pride Varnish Stripping Gel
    Wm Barr
    Memphis, Tennessee

Chemical Inventory (continued)
for
St. John the Evangelist Catholic School
146 Hamilton Avenue
White Plains, New York
for
Consolidated Edison Co. of New York, Inc.

Clayton Project No. 40-03372.00

February 21, 2003

SCHOOL

Basement Shop

11. Brasso

12. 3-in-1 Oil

13. Acrylic latex semi-gloss paint, one gallon
    Wallauer's

14. Benjamin Moore premium latex interior #592

15. Bernzomatic propane

Boiler Room

16. Spray enamel, gold, one can
    Chase Products
    Maywood, Illinois

17. Zep Reach, one bottle

Basement Play Room

18. Fantastik lemon power, antibacterial
    SC Johnson

Cafeteria

19. Green liquid detergent, one container

20. Grease Relief oven cleaner

Chemical Inventory (continued)
for
St. John the Evangelist Catholic School
146 Hamilton Avenue
White Plains, New York
for
Consolidated Edison Co. of New York, Inc.

Clayton Project No. 40-03372.00

February 21, 2003

SCHOOL

Cafeteria

21. Fantastic spray cleaner

Basement – Storage

22. Spray paints

23. 3M spray adhesive Super 77

24 Wood Finish Products

25. 3M Wax removal

26. Paint thinner

27. Interior and exterior paints, 15 gallons

28. Floor stripper, 10 gallons

First Floor – Classroom #3

29. Elmers Glue

30. Washable paints

31. Rauch Blitz snow spray

First Floor – Classroom #2

32. Formula 409
Clorox Company

Chemical Inventory (continued)
for
St. John the Evangelist Catholic School
146 Hamilton Avenue
White Plains, New York
for
Consolidated Edison Co. of New York, Inc.

Clayton Project No. 40-03372.00

February 21, 2003

SCHOOL

First Floor – Classroom #1

33. Elmers Glue

Basement Storage Closet in Stairwell

34. Trouble Shooter Sunshine, one 5-gallon container
Strauss
(914) 937-0604

Basement Storage Closet in Stairwell

35. Prime Source Oxygen Bleach Cleaner, 19 containers, 21 ounces in each
--Sodium linear alkylbenzene sulfonate
--Sodium carbonate
--Sodium perbonate
Prime Source
St. Louis, Montana 63141

36. Ajax Oxygen Bleach Cleaner Easy Rinse Formula, five 21-ounce containers
--$CaCO_3$
--Na_2CO_3
--Dodecylbenzene sulfonate
Colgate-Palmolive
Morristown, New Jersey 07962

37. Twinkle Stainless Steel Cleaner and Polish, two 17-ounce containers
The Drackett Products Company
Professional Products Division
5020 Spring Grove Avenue
Cincinnati, Ohio 45232-1988

Chemical Inventory (continued)
for
St. John the Evangelist Catholic School
146 Hamilton Avenue
White Plains, New York
for
Consolidated Edison Co. of New York, Inc.

Clayton Project No. 40-03372.00

February 21, 2003

SCHOOL

Basement Storage Closet in Stairwell

38. Febreeze, one 500 milliliter container
Proctor & Gamble
Cincinnati, Ohio 45202

39. Elite Ammonia

40. Gum Remover, Part #04198, one 12-ounce container
--pentane
--1,1,1,2 tetrafluoroethane
SC Johnson Professional

41. Quik Freeze Chewing Gum and Candle Wax Remover, one 5.5-ounce container
--water
--acrylic copolymer
--polydimethyl siloxane
--triethanolamine
Proall Products
Division of Chase Products
P.O. Box 7502
Westchester, Illinois 60154

42. Cello Brite Defoamer, Part #582, one quart container
Sherwin Williams Diversified Brands
1354 Old Post Road
Moure de Grace, Maryland 21078-0366
800-638-4850

Chemical Inventory (continued)
for
St. John the Evangelist Catholic School
146 Hamilton Avenue
White Plains, New York
for
Consolidated Edison Co. of New York, Inc.

Clayton Project No. 40-03372.00

February 21, 2003

SCHOOL

Basement Storage Closet in Stairwell

43. Hydro Sheen Kitchen Metal Polish, one 18-ounce container
--butane
--mineral oil, CAS # 8072-47-5
--propane
--water
Proall

44. Calcium Lime and Rust Remover, Part # HDRust 32, one 32-ounce container
ZEP
P.O. Box 1060
Catersville, Georgia 30120-1060
Website: ZEPcommercial.com

45. D/T Bowl Cleaner, one 32-ounce container
--hydrogen chloride
--n-alkyl(C_{14}60%, C_{16}30%, C_{12}5%, $C_6$5%) dimethylbenzyl ammonium chlorides
--n-alkyl (C_{12}68%, C_{14}32%) dimethyl ethylbenzyl ammonium chlorides
Canberra Corporation
3610 Holland-Sylvania Road
Toledo, Ohio 43615

46. Windex, Part #43664 (00/61), one gallon container
--2-butoxy ethanol
--Ammonium hydroxide
--water
The Drackett Products Company

Chemical Inventory (continued)
for
St. John the Evangelist Catholic School
146 Hamilton Avenue
White Plains, New York
for
Consolidated Edison Co. of New York, Inc.

Clayton Project No. 40-03372.00

February 21, 2003

SCHOOL

Basement Storage Closet in Stairwell

47. Butcher's Major Wax Spray Buff, two 1-gallon containers
--water
--dipropylene glycol
--triethylene glycol
Butcher Company
Marlborough, MA 01752

48. Quantum Spray Buff, Part #MA1900-1, one gallon container
--Blended Acrylic Polymer Latex, CAS#62180-77-2
--Diethylene Glycol Methyl Ether, CAS#111-72-3
--Dibutyl Phthalate, CAS#84-74-2
--polyethylene emulsion
Quantum Products
Carteret, New Jersey 07008
800-922-1998

49. Paint Thinner, one 16-ounce container
EE Zimmerman Company
Pittsburgh, Pennsylvania 15233
412-963-0949

50. Bissell One Step Wood Floor Care, one 32-ounce container
Penn Champ, Inc.
Butler, Pennsylvania 16001

51. Wood Finisher's Pride, one 64-ounce container
Creative Tech Group, Inc.
Greenville, South Carolina 29601
800-45-PRIDE

Chemical Inventory (continned)
for
St. John the Evangelist Catholic School
146 Hamilton Avenue
White Plains, New York
for
Consolidated Edison Co. of New York, Inc.

Clayton Project No. 40-03372.00

February 21, 2003

SCHOOL

Basement Storage Closet in Stairwell

52\.
Mop & Glo, Part# 360258, one 32-ounce container
Reckitt & Coleman
Household Products Division
Montvale, New Jersey 07645

53\. MinWax Anchoring Cement, Part# 12-48205-000, one 5-pound container
MinWax
15 Mercedes Drive 07645
Montvale, New Jersey 07645

54\. AD-52, one gallon container
Congoleum
861 Sloan Avenue
Trenton, New Jersey 08619

55\. DAP wallboard joint compound, three 1-gallon containers

56\. Paint, one gallon container

57\. Behr Premium Plus Interior Semi-Gloss Enamel Wall & Trim, Part# 3400, two 5-gallon containers

58\. US Gypsum Sheetrock All-purpose Joint Compound, three 5-gallon containers
914-948-4000

59\. Wallauer's Wall-Pro Wall & Ceiling Vinyl Flat Paint, Part# 3250-5, one 5-gallon container

60\. Presumably paint, three 5-gallon containers
All-Pro

Chemical Inventory (continued)
for
St. John the Evangelist Catholic School
146 Hamilton Avenue
White Plains, New York
for
Consolidated Edison Co. of New York, Inc.

Clayton Project No. 40-03372.00

February 21, 2003

SCHOOL

Basement Storage Closet in Stairwell

61. Unbelievable Stain Remover and Deodorizer, one gallon container
P.O. Box 669
Canton, Texas 75103
800-925-CORE

62. Professional Spot Lifter, Part# PRSL-1G, two 1-gallon containers
--water
--d-limonene
--2-butoxyethanol
--Alpha Olefin Sulfonate, CAS# 68439-57-6
--Synthetic Isoparaffinic hydrocarbon, CAS# 64742-48-9
Chem Spec
800-638-7370

63. Butcher's Revolver, one gallon container
--water
--naphthalene sodium sulfonate
--viable bacterial cultures, diethylene glycol monobutyl ether, CAS# 1128-34-5
Butcher

64. Hy Gloss Floor Finish, one 5-gallon container
Strauss Paper Company
10 Slater Street
Port Chester, New York 10573
714-937-0004
Fax: 800-833-3538

Chemical Inventory (continued)
for
St. John the Evangelist Catholic School
146 Hamilton Avenue
White Plains, New York
for
Consolidated Edison Co. of New York, Inc.

Clayton Project No. 40-03372.00

February 21, 2003

SCHOOL

Basement Storage Closet in Stairwell

65. Butcher's Breakdown, two 1-gallon containers
--water
--fragrance mix
--viable bacterial cultures, linear primary alcohol ethoxylate, CAS# 34398-01-1
Butcher

Appendix B

Subsurface Soil Boring Logs

The RETEC Group, Inc.
300 Baker Ave, Suite 302
Concord, MA 01742-2851
(978) 371-1422 Phone
(978) 371-1448 Fax
www.retec.com

BOREHOLE LOG

ID: B-101

RETEC

Project Number: CECN3-16922-202	Drilling Co.: Aquifer Drilling and Testing	Surface Elevation: 200.52 NAVD88
Client: Con Edison	Driller: Mark Larable	Water Level During Drilling: 22' bgs
Site Location: St. John's School	Casing ID: 2-Inch	Stickup: NA
Start Date: April 13, 2004	Method: Direct-Push (GeoProbe on ATV)	MP Elevation:
Completion Date: April 13, 2004	Logged By: Joshua Millard	Total Depth: 64' bgs
Location: Between School Building and Rectory		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
0					Ground Surface
					CONCRETE
0-5	NA	0.5	NA		FILL (0 - 2' bgs) - Light brown, dry, SAND, little fine Gravel size slag-like pieces. (2 - 5' bgs) - Moderate brown, damp, dense, medium to fine SAND, trace brown Silt, no staining, no odor.
5-8	100	6.0	NA		(5 - 8' bgs) - Moderate brown, damp, soft, fine SAND, trace Silt.
8-12	100	2.7	NA		SAND (8 - 12' bgs) - Moderate brown, damp, soft, fine SAND, interlayered grain sizes, some Silt, trace roots.
12-16	100	5.3	NA		(12 - 16' bgs) - SAA, lighter brown interlayered with tan Silt.
16-20	100	3.0	NA		(16 - 20' bgs) - SAA, dry.

Remarks: Discrete sampler used below water table

1. bgs - below ground surface
2. SAA - Same as Above
3. groundwater collected 22 - 24' bgs
4. Well point sampled by low flow
5. Heavy rain during drilling
6. NA - Not Applicable
7. Samples w/ < 100% recovery referenced to base of sample for consistency - actual sample depths may be from anywhere w/in the sample interval.
8. Soil gas sample collected from 0-2' bgs

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BOREHOLE LOG

ID: B-101

RETEC

Project Number: CECN3-16922-202	Drilling Co.: Aquifer Drilling and Testing	Surface Elevation: 200.52 NAVD88
Client: Con Edison	Driller: Mark Larable	Water Level During Drilling: 22' bgs
Site Location: St. John's School	Casing ID: 2-inch	Stickup: NA
Start Date: April 13, 2004	Method: Direct-Push (GeoProbe on ATV)	MP Elevation:
Completion Date: April 13, 2004	Logged By: Joshua Millard	Total Depth: 64' bgs
Location: Between School Building and Rectory		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
20-24	100	5.1	NA		(20 - 24' bgs) - SAA, wet at 22' bgs.
24-28	75	4.3	NA		(24 - 28' bgs) - Brown, wet, fine SAND, well sorted, trace Silt, some black heavy minerals (micas).
28-32	100	6.1	NA		(28 - 30' bgs) - SAA, soft, wet, fine SAND. (30 - 32' bgs) - Brown, wet, fine SAND, some Silt, upper 1 foot of spoon is coarse Sand.
32-36	100	4.1	NA		(32 - 36' bgs) - Brown, wet, soft, medium to fine SAND.
36-40	100	6.0	NA		(36 - 40' bgs) - Wet, soft, coarse to medium SAND, some black heavy minerals (mica).

Remarks: Discrete sampler used below water table
1. bgs - below ground surface
2. SAA - Same as Above
3. groundwater collected 22 - 24' bgs
4. Well point sampled by low flow
5. Heavy rain during drilling
6. NA - Not Applicable
7. Samples w/ < 100% recovery referenced to base of sample for consistency - actual sample depths may be from anywhere w/in the sample interval.
8. Soil gas sample collected from 0-2' bgs

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BOREHOLE LOG

ID: B-101

RETEC

Project Number: CECN3-16922-202	Drilling Co.: Aquifer Drilling and Testing	Surface Elevation: 200.52 NAVD88
Client: Con Edison	Driller: Mark Larable	Water Level During Drilling: 22' bgs
Site Location: St. John's School	Casing ID: 2-inch	Stickup: NA
Start Date: April 13, 2004	Method: Direct-Push (GeoProbe on ATV)	MP Elevation:
Completion Date: April 13, 2004	Logged By: Joshua Millard	Total Depth: 64' bgs
Location: Between School Building and Rectory		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
40–44	60	1.6	NA		(40 - 44' bgs) - SAA, wet
44–48	60	1.5	NA		(44 - 48' bgs) - SAA
48–52	80	1.5	NA		(48 - 52' bgs) - SAA
52–56	100	1.7	NA		(52 - 56' bgs) - SAA
56–60	60	4.0	NA		(56 - 60' bgs) - SAA

Remarks: Discrete sampler used below water table
1. bgs - below ground surface
2. SAA - Same as Above
3. groundwater collected 22 - 24' bgs
4. Well point sampled by low flow
5. Heavy rain during drilling
6. NA - Not Applicable
7. Samples w/ < 100% recovery referenced to base of sample for consistency - actual sample depths may be from anywhere w/in the sample interval.
8. Soil gas sample collected from 0-2' bgs

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BOREHOLE LOG

ID: B-101

RETEC

Project Number: CECN3-16922-202	Drilling Co.: Aquifer Drilling and Testing	Surface Elevation: 200.52 NAVD88
Client: Con Edison	Driller: Mark Larable	Water Level During Drilling: 22' bgs
Site Location: St. John's School	Casing ID: 2-Inch	Stickup: NA
Start Date: April 13, 2004	Method: Direct-Push (GeoProbe on ATV)	MP Elevation:
Completion Date: April 13, 2004	Logged By: Joshua Millard	Total Depth: 64' bgs
Location: Between School Building and Rectory		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
61 – 64	100	13.4	NA		(60 - 63.75' bgs) - SAND. (63.75 - 63.85' bgs) - Light grey, fine SAND and SILT.
64 – 65					WEATHERED BEDROCK (63.85 - 64.00' bgs) - Crushed stone / Bedrock.
					Bottom of Borehole
66 – 80					

Remarks: Discrete sampler used below water table
1. bgs - below ground surface
2. SAA - Same as Above
3. groundwater collected 22 - 24' bgs
4. Well point sampled by low flow
5. Heavy rain during drilling
6. NA - Not Applicable
7. Samples w/ < 100% recovery referenced to base of sample for consistency - actual sample depths may be from anywhere w/in the sample interval.
8. Soil gas sample collected from 0-2' bgs

The RETEC Group, Inc.

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www.retec.com

BOREHOLE LOG

ID: B-102

RETEC

Project Number: CECN3-16922-202	**Drilling Co.:** Aquifer Drilling and Testing	**Surface Elevation:** 199.42 NAVD88
Client: Con Edison	**Driller:** Mark Larable and Lloid	**Water Level During Drilling:** 20' bgs
Site Location: St. John's School	**Casing ID:** 2-Inch	**Stickup:** NA
Start Date: April 16, 2004	**Method:** Direct-Push (JH and Geoprobe)	**MP Elevation:**
Completion Date: April 16, 2004	**Logged By:** J. Millard and Jesse Lloyd	**Total Depth:** 40 ' bgs
Location: In the Kitchen, basement of school		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
0					Basement Floor
0–1					**CONCRETE** Six inches of concrete over 4-inch tile.
0–5	NA	6.2	NA		**FILL** (0 - 5' bgs) -Tan, dry (damp at 4' bgs), medium to fine SAND, little medium to fine Gravel.
5–8	50	7.7	NA		**SAND** (5 - 6.5' bgs) - Interbedded tan and light brown, loose, medium to fine SAND. (6.5 - 8' bgs) - Light brown, damp, medium to fine SAND, little Silt.
8–12	90	7.8	NA		(8 - 9' bgs) - Interbedded brown and tan, damp, medium dense, fine SAND, little Silt. (9 - 10' bgs) - Brown, dry, loose, medium to fine SAND. (10 - 12' bgs) - Interbedded brown, damp, medium to fine SAND and tan, moist, fine SAND, little Silt, medium dense.
12–16	90	5.8	NA		(12 - 16' bgs) - Interbedded tan and brown, dry, medium dense, fine to medium SAND.
16–20	90	1.0	NA		(16 - 20' bgs) - Tan, moist, medium dense, medium to fine SAND, few thin beds of brown, fine to medium SAND.
20–21					(20 - 24' bgs) - Tan, wet, dense, fine to medium SAND. 23.5' bgs - Three-inch lens of rounded, medium GRAVEL and SAND.

Remarks: Discrete sampler used below water table

1. bgs - below ground surface / floor
2. SAA - Same as Above
3. Groundwater collected from 20-24' bgs
4. Geoprobe well sampled by low flow
5. NA - Not Applicable
6. JH - Jackhammer
7. Samples w/ <100% recovery referenced to base of sample for consistency - actual depths may be from anywhere w/in the sample interval.
8. Soil gas sample collected from 0-2' bgs

The RETEC Group, Inc.

The RETEC Group, Inc.
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BOREHOLE LOG

ID: B-102

RETEC

Project Number: CECN3-16922-202	Drilling Co.: Aquifer Drilling and Testing	Surface Elevation: 199.42 NAVD88
Client: Con Edison	Driller: Mark Larable and Lloid	Water Level During Drilling: 20' bgs
Site Location: St. John's School	Casing ID: 2-inch	Stickup: NA
Start Date: April 16, 2004	Method: Direct-Push (JH and Geoprobe)	MP Elevation:
Completion Date: April 16, 2004	Logged By: J. Millard and Jesse Lloyd	Total Depth: 40 ' bgs
Location: In the Kitchen, basement of school		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
22–24	90	0.9	NA		
24–36					No Samples Collected 24 - 36' bgs to save time where sufficient data had been collected to characterize zone.
36–40	33	600	NA		(39.25 - 39.75' bgs) - Grey brown, wet, medium to fine SAND, thin veins of residual NAPL increasing in frequency with depth. (39.75 - 40' bgs) - Black, wet, soft, medium to fine SAND, residual NAPL throughout (near saturation).
40–42					Bottom of Borehole

Remarks: Discrete sampler used below water table

1. bgs - below ground surface / floor
2. SAA - Same as Above
3. Groundwater collected from 20-24' bgs
4. Geoprobe well sampled by low flow
5. NA - Not Applicable
6. JH - Jackhammer
7. Samples w/ <100% recovery referenced to base of sample for consistency - actual depths may be from anywhere w/in the sample interval.
8. Soil gas sample collected from 0-2' bgs

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BOREHOLE LOG

ID: B-103

RETEC

Project Number: CECN3-16922-202	Drilling Co.: Aquifer Drilling and Testing	Surface Elevation: 199.44 NAVD88
Client: Con Edison	Driller: Mark Larable	Water Level During Drilling: 21' bgs
Site Location: St. John's School	Casing ID: 2-inch	Stickup: NA
Start Date: April 14, 2004	Method: Direct-Push (GeoProbe on ATV)	MP Elevation:
Completion Date: April 15, 2004	Logged By: Joshua Millard	Total Depth: 56' bgs
Location: Inside Cafeteria, basement of school		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
0					Basement Floor
0 – 5	NA	1.5	NA		**CONCRETE** Six-inches of concrete over four inch red tile. **FILL** (0.8 - 5' bgs) - Light brown, dry, fine SAND.
5 – 8	60	1.3	NA		(5 - 8' bgs) - Brown and moderate brown, damp, loose, medium to fine SAND.
8 – 12	85	0.6	NA		**SAND** (8 - 12' bgs) - Light tan and moderate brown, dry, soft, bedded fine SAND (likely top of natural depositional surface).
12 – 16	95	1.2	NA		(12 - 16' bgs) - SAA. At 14' bgs - material becomes grey, black heavy minerals (mica) scattered throughout (salt and pepper appearance).
16 – 20	95	1.6	NA		(16 - 20' bgs) - SAA, interbedded with dark grey beds.

Remarks: Discrete sampler used below water table
1. bgs - below ground surface / floor
2. SAA - Same as Above
3. Groundwater collected from 20-24' bgs
4. Well point sampled by low flow
5. NA - Not Applicable
6. ATV - All Terrain Vehicle
7. Samples w/ <100% recovery referenced to base of sample for consistency - actual depths may be from anywhere w/in the sample interval.
8. Soil gas sample collected from 0-2' bgs

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BOREHOLE LOG

ID: B-103

RETEC

Project Number: CECN3-16922-202	**Drilling Co.:** Aquifer Drilling and Testing	**Surface Elevation:** 199.44 NAVD88
Client: Con Edison	**Driller:** Mark Larable	**Water Level During Drilling:** 21' bgs
Site Location: St. John's School	**Casing ID:** 2-inch	**Stickup:** NA
Start Date: April 14, 2004	**Method:** Direct-Push (GeoProbe on ATV)	**MP Elevation:**
Completion Date: April 15, 2004	**Logged By:** Joshua Millard	**Total Depth:** 56' bgs
Location: Inside Cafeteria, basement of school		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
20–24	100	1.6	NA		(20 - 21' bgs) - SAA, dry. (21 - 24' bgs) - Brown, wet, soft, mediun to fine SAND, dark grey to tan, coarse to medium Sand in 3 - 4" bands layered with 3 - 4" bands of fine Sand.
24–28	25	1.4	NA		(24 - 28' bgs) - Brown, wet, dense, medium to fine SAND.
28–32	100	4.0	NA		(28 - 29' bgs) - SAA. (29 - 32' bgs) - Layered brown, wet, fine SAND with some black and opaque mica, and fine SAND with little Silt.
32–36	100	11.5	NA		(32 - 36' bgs) - Brown, wet, soft, medium to fine SAND, few grey layers, black heavy minerals throughout.
36–40	100	15.8 295	NA		(36 - 39.5' bgs) - Brown, wet, medium dense, medium to fine SAND. (39.5 - 40' bgs) - SAA with three horizontal 1/4-inch thick layers of residual NAPL, strong petroleum-like odor.

Remarks: Discrete sampler used below water table
1. bgs - below ground surface / floor
2. SAA - Same as Above
3. Groundwater collected from 20-24' bgs
4. Well point sampled by low flow
5. NA - Not Applicable
6. ATV - All Terrain Vehicle
7. Samples w/ <100% recovery referenced to base of sample for consistency - actual depths may be from anywhere w/in the sample interval.
8. Soil gas sample collected from 0-2' bgs

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BOREHOLE LOG

ID: B-103

RETEC

Project Number: CECN3-16922-202	**Drilling Co.:** Aquifer Drilling and Testing	**Surface Elevation:** 199.44 NAVD88
Client: Con Edison	**Driller:** Mark Larable	**Water Level During Drilling:** 21' bgs
Site Location: St. John's School	**Casing ID:** 2-inch	**Stickup:** NA
Start Date: April 14, 2004	**Method:** Direct-Push (GeoProbe on ATV)	**MP Elevation:**
Completion Date: April 15, 2004	**Logged By:** Joshua Millard	**Total Depth:** 56' bgs
Location: Inside Cafeteria, basement of school		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
40–44	15	930	NA		(40 - 41' bgs) - Grey, wet, fine SAND, multiple thin veins of residual NAPL throughout, near saturation, strong MGP-like odor.
44–48	25	26.21	NA		(44 - 44.5' bgs) - Grey brown, wet, fine SAND, moderate MGP-like odor.
48–52	50	1.1	NA		(48 - 52' bgs) - Grey brown, wet, medium to fine SAND, slight MGP-like odor.
52–56	50	2.5 1.1	NA		(52 - 54' bgs) - SAA. (54 - 56' bgs) - Grey, wet, soft, fine SAND, very slight MGP-like odor.
56–60					Bottom of Borehole

Remarks: Discrete sampler used below water table
1. bgs - below ground surface / floor
2. SAA - Same as Above
3. Groundwater collected from 20-24' bgs
4. Well point sampled by low flow
5. NA - Not Applicable
6. ATV - All Terrain Vehicle
7. Samples w/ <100% recovery referenced to base of sample for consistency - actual depths may be from anywhere w/in the sample interval.
8. Soil gas sample collected from 0-2' bgs

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BOREHOLE LOG

ID: B-104

RETEC

Project Number: CECN3-16922-202	Drilling Co.: Aquifer Drilling and Testing	Surface Elevation: 196.22 NAVD88
Client: Con Edison	Driller: Lloid	Water Level During Drilling: 19.5' bgs
Site Location: St. John's School	Casing ID: 2-Inch	Stickup: NA
Start Date: April 15, 2004	Method: Direct-Push (Jackhammer)	MP Elevation:
Completion Date: April 15, 2004	Logged By: Jesse Lloyd	Total Depth: 40' bgs
Location: Inside Boiler Room, basement of school		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
0					Basement Floor
0–1					**CONCRETE** Four inches of concrete floor.
0–5	NA	0.9	NA		**FILL** (0 - 5' bgs) - Tan, damp, medium to fine SAND.
5–8	75	0.9	NA		**SAND** (5 - 8' bgs) - Light tan and brown, moderately dense, interbedded medium to fine SAND.
8–12	95	1.4	NA		(8 - 12' bgs) - Tan and light borwn, damp, moderately dense, interbedded medium to fine SAND beds; brown beds 1/4 to 1/2-inch thick, tan beds 1/2 to 1-inch thick.
12–16	100	1.6	NA		(12 - 13' bgs) - Grey brown, damp, fine SAND. (13 - 15.5' bgs) - Grey brown, medium to fine SAND. (15.5 - 16' bgs) - Tan, moist, fine SAND.
16–20	100	1.4	NA		(16 - 20' bgs) - Brown and greyish brown, mixed medium to fine SAND. Wet at 19.5' bgs.
20–21					(20 - 24' bgs) - Brown, wet, dense, SAND.

Remarks: Discrete sampler used below water table

1. bgs - below ground surface / floor
2. SAA - Same as Above
3. Groundwater collected from 20-24' bgs
4. Geoprobe well sampled by low flow
5. NA - Not Available
6.
7. Samples w/ <100% recovery referenced to base of sample for consistency - actual depths may be from anywhere w/in the sample interval.
8. Soil gas sample collected from 0-2' bgs

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BOREHOLE LOG

ID: B-104

RETEC

Project Number: CECN3-16922-202	**Drilling Co.:** Aquifer Drilling and Testing	**Surface Elevation:** 196.22 NAVD88
Client: Con Edison	**Driller:** Lloid	**Water Level During Drilling:** 19.5' bgs
Site Location: St. John's School	**Casing ID:** 2-Inch	**Stickup:** NA
Start Date: April 15, 2004	**Method:** Direct-Push (Jackhammer)	**MP Elevation:**
Completion Date: April 15, 2004	**Logged By:** Jesse Lloyd	**Total Depth:** 40' bgs
Location: Inside Boiler Room, basement of school		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
22–24	75	0.8	NA		
24–28	95	0.6	NA		(24 - 25' bgs) - Brown, wet, fine to medium SAND, 1/8-inch lense of fine Gravel at 24.25' bgs. (25 - 26' bgs) - Brown, wet, dense, fine SAND. (26 - 28' bgs) - Brown, wet, dense, medium to fine SAND.
28–32	85	0.9	NA		(28 - 31' bgs) - Brown, wet, dense, medium to fine SAND and medium to fine GRAVEL, trace medium Sand (quartz) pieces. (31 - 32' bgs) - SAA with 2-inch thick lens of brown, wet, fine SAND (31.25' bgs).
32–36	75	6.8	NA		(32 - 34' bgs) - Brown, wet, fine SAND, some medium Sand, some medium to fine Gravel, trace quartz pieces. (34 - 35' bgs) - Brown, wet, fine SAND, some medium Sand, trace Silt. (35 - 36' bgs) - SAA with a 1 1/2-inch thick layer of brown, wet dense, fine SAND and SILT.
36–40	50	5.0	NA		(36 - 40' bgs) - Brown, wet, dense, fine to medium SAND.
40–42					Bottom of Borehole

Remarks: Discrete sampler used below water table
1. bgs - below ground surface / floor
2. SAA - Same as Above
3. Groundwater collected from 20-24' bgs
4. Geoprobe well sampled by low flow
5. NA - Not Available
6.
7. Samples w/ <100% recovery referenced to base of sample for consistency - actual depths may be from anywhere w/in the sample interval.
8. Soil gas sample collected from 0-2' bgs

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BOREHOLE LOG

ID: B-107

RETEC

Project Number: CECN3-16922-202	**Drilling Co.:** Aquifer Drilling and Testing	**Surface Elevation:** 199.41 NAVD88
Client: Con Edison	**Driller:** Mark Larable	**Water Level During Drilling:** 23' bgs
Site Location: St. John's School	**Casing ID:** 2-inch	**Stickup:** NA
Start Date: April 15, 2004	**Method:** Direct-Push (GeoProbe on ATV)	**MP Elevation:**
Completion Date: April 16, 2004	**Logged By:** Joshua Millard	**Total Depth:** 48 ' bgs
Location: In Hallway, basement of school		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
0					Basement Floor
0–1					**CONCRETE** Eight inches of concrete over four-inch red tile.
0–5	NA	NA	NA		**FILL** (0 - 5' bgs) - Brown, dry, SAND, loose concrete block at 2.5' bgs.
5–8	60	0.4	NA		**SAND** (5 - 8' bgs) - Interbedded, dry, loose, tan and brown medium to fine SAND.
8–12	100	0.4	NA		(8 - 12' bgs) - Finely interbedded, medium to fine SAND, some tan very fine Sand beds, some grey brown medium beds.
12–16	60	0.4	NA		(12 - 16' bgs) - SAA
16–20	60	1.7	NA		(16 - 20' bgs) - SAA

Remarks: Discrete sampler used below water table

1. bgs - below ground surface / floor
2. SAA - Same as Above
3. ATV - All Terrain Vehicle
4. NA - Not Applicable
5. Samples w/ <100% recovery referenced to
6. depths may be from anywhere w/in the
7. sample interval.
8.

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BOREHOLE LOG

ID: B-107

RETEC

Project Number: CECN3-16922-202	**Drilling Co.:** Aquifer Drilling and Testing	**Surface Elevation:** 199.41 NAVD88
Client: Con Edison	**Driller:** Mark Larable	**Water Level During Drilling:** 23' bgs
Site Location: St. John's School	**Casing ID:** 2-Inch	**Stickup:** NA
Start Date: April 15, 2004	**Method:** Direct-Push (GeoProbe on ATV)	**MP Elevation:**
Completion Date: April 16, 2004	**Logged By:** Joshua Millard	**Total Depth:** 48 ' bgs
Location: In Hallway, basement of school		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
20–24	60	1.8	NA		(20 - 24' bgs) - Grey brown, damp (wet at 23' bgs), medium to fine SAND, some fine Sand, interbedded from 23 to 24' bgs.
24–28	50	0.3	NA		(24 - 28' bgs) - Grey brown, wet, fine SAND, varved.
28–32	40	0.7	NA		(28 - 32' bgs) - Grey brown, wet, very soft, fine SAND, little Silt, mucky.
32–36	40	7.4	NA		(32 - 36' bgs) - Grey brown, wet, soft, fine SAND.
36–40	15	16.7 300	NA		(39.5 - 39.75' bgs) - Layered fine SAND, no odor. (39.75 - 40' bgs) - Fine SAND with 1/4-inch thick bands of residual NAPL, strong MGP-like odor.

Remarks: Discrete sampler used below water table

1. bgs - below ground surface / floor
2. SAA - Same as Above
3. ATV - All Terrain Vehicle
4. NA - Not Applicable
5. Samples w/ <100% recovery referenced to
6. depths may be from anywhere w/in the
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BOREHOLE LOG

ID: B-107

RETEC

Project Number: CECN3-16922-202	**Drilling Co.:** Aquifer Drilling and Testing	**Surface Elevation:** 199.41 NAVD88
Client: Con Edison	**Driller:** Mark Larable	**Water Level During Drilling:** 23' bgs
Site Location: St. John's School	**Casing ID:** 2-inch	**Stickup:** NA
Start Date: April 15, 2004	**Method:** Direct-Push (GeoProbe on ATV)	**MP Elevation:**
Completion Date: April 16, 2004	**Logged By:** Joshua Millard	**Total Depth:** 48 ' bgs
Location: In Hallway, basement of school		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
41		837			(40 - 42' bgs) - Black, wet, medium dense, medium to fine SAND, residual NAPL near saturation, two 1 mm thick unstained veins, strong MGP-like odor. (42 - 42.5' bgs) - Grey brown, wet, medium to fine SAND, scattered veins of residual NAPL decreasing in frequency with depth.
42	40		NA		
43					
44					(44 - 48' bgs) - Grey brown, wet, soft, medium to fine SAND, no staining, very slight MGP-like odor.
45					
46	40	19.28	NA		
47					
48					Bottom of Borehole
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					

Remarks: Discrete sampler used below water table

1. bgs - below ground surface / floor
2. SAA - Same as Above
3. ATV - All Terrain Vehicle
4. NA - Not Applicable
5. Samples w/ <100% recovery referenced to
6. depths may be from anywhere w/in the
7. sample interval.
8.

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BOREHOLE LOG

ID: B-108

RETEC

Project Number: CECN3-16922-202	Drilling Co.: Aquifer Drilling and Testing	Surface Elevation: 199.38 NAVD88
Client: Con Edison	Driller: Mark Larable	Water Level During Drilling: NA
Site Location: St. John's School	Casing ID: 2-Inch	Stickup: NA
Start Date: April 17, 2004	Method: Direct-Push (GeoProbe on ATV)	MP Elevation:
Completion Date: April 17, 2004	Logged By: Joshua Millard	Total Depth: 52' bgs
Location: In Hallway, basement of school		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
0					Basement Floor
					CONCRETE Six inches concrete over four-inch red tile.
1					
2					**FILL** (0 - 5' bgs) - Tan, dry, fine to medium SAND.
3					
4					
5					No Samples Collected 5 - 36' bgs to save time where suficient data had been collected to characterize sone.
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Remarks: Discrete sampler used below water table

1. bgs - below ground surface / floor
2. SAA - Same as Above
3. NA - Not Applicable
4. ATV - All Terrain Vehicle
5. Samples w/ <100% recovery referenced to
6. depths may be from anywhere w/in the
7. sample interval.
8.

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BOREHOLE LOG

ID: B-108

RETEC

Project Number: CECN3-16922-202	Drilling Co.: Aquifer Drilling and Testing	Surface Elevation: 199.38 NAVD88
Client: Con Edison	Driller: Mark Larable	Water Level During Drilling: NA
Site Location: St. John's School	Casing ID: 2-inch	Stickup: NA
Start Date: April 17, 2004	Method: Direct-Push (GeoProbe on ATV)	MP Elevation:
Completion Date: April 17, 2004	Logged By: Joshua Millard	Total Depth: 52' bgs
Location: In Hallway, basement of school		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					SAND
37					(38 - 39.5' bgs) - Grey brown, wet, soft, medium to fine SAND, very slight MGP-like odor. (39.5 - 39.9' bgs) - SAA with thin 1 mm to 1/4-inch veins of medium SAND with residual NAPL.
38	40		NA		
39		493			
40					

Remarks: Discrete sampler used below water table

1. bgs - below ground surface / floor
2. SAA - Same as Above
3. NA - Not Applicable
4. ATV - All Terrain Vehicle
5. Samples w/ <100% recovery referenced to
6. depths may be from anywhere w/in the
7. sampie interval.
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BOREHOLE LOG

ID: B-108

RETEC

Project Number: CECN3-16922-202	Drilling Co.: Aquifer Drilling and Testing	Surface Elevation: 199.38 NAVD88
Client: Con Edison	Driller: Mark Larable	Water Level During Drilling: NA
Site Location: St. John's School	Casing ID: 2-Inch	Stickup: NA
Start Date: April 17, 2004	Method: Direct-Push (GeoProbe on ATV)	MP Elevation:
Completion Date: April 17, 2004	Logged By: Joshua Millard	Total Depth: 52' bgs
Location: In Hallway, basement of school		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description
40–44	80	889	NA		(40 - 43' bgs) - Grey brown, wet, soft, medium to fine SAND, bottom 14" has residual NAPL near saturation, strong MGP-like odor.
44–48	40	54.4	NA		(44 - 48' bgs) - Brown grey, wet, medium to fine SAND, moderate MGP-like odor, no sheens, no staining, no residual NAPL.
48–52	29	14.3	NA		(48 - 52' bgs) - Grey brown, wet, soft, medium to fine SAND, no staining, slight MGP-like odor.
52–60					Bottom of Borehole

Remarks: Discrete sampler used below water table

1. bgs - below ground surface / floor
2. SAA - Same as Above
3. NA - Not Applicable
4. ATV - All Terrain Vehicle
5. Samples w/ <100% recovery referenced to
6. depths may be from anywhere w/in the
7. sample interval.
8.

RETEC
2550 Eisenhower Avenue
Eagleville, Pennsylvania 19403

Boring ID: B-109

Project Name:	Con Edison	**Boring Location:**	Northwest comer of Courtyard
Location:	St. John's School	**State Permit Number:**	NA
Project Number:	CECN3-16922-202	**Ground Elevation (ft/msl):**	205.76 NAVD88
Date Started:	7/12/04	**Total Depth (ft):**	60 ft/bgs
Date Finished:	7/12/04	**Boring Diameter Outer/Inner (in):**	2-inch
Drilling Company:	Zebra	**Water Level During Drilling (ft/bgs):**	NA
Drilling Method:	Direct-Push	**Weather Conditions:**	
Sampling Method:	4-foot macrocore/piston sampler	**Logged By:**	J. Millard

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
0							SM	SILT AND SAND: 0-1' bgs Moderate brown, dry, SILT and SAND, high organic content, topsoil.	
-1								SAND: 1-5' bgs Yellow brown, dry, loose, medium-grained to fine-grained SAND, some fine-grained Gravel.	NA = Not Applicable
-2							SP		
-3									NM = Not Measured
-4			1.8						
-5	NM		1.1					5-36' bgs Geoprobe advanced to 36' bgs.	bgs = below ground surface
-6									
-7									
-8									
-9									SAA = Same As Above
-10									
-11									
-12									
-13									
-14									
-15									
-16									
-17									
-18									
-19									
-20									
-21									
-22									
-23									
-24									
-25									
-26									
-27									
-28									

RETEC

2550 Eisenhower Avenue
Eagleville, Pennsylvania 19403

Boring ID: B-109

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
-36 to -40		31/48	6.5				SP	SAND: 36-40' bgs Gray brown, wet, layered, fine-grained SAND, some medium-grained Sand bands displayed by grain size and mica flakes, no odor.	
-40 to -44		28/48	16.9				SP	SAND: 40-44' bgs Tan brown, wet, dense, coarse-grained to medium-grained SAND.	
-44 to -48		28/48	18.1				SP	SAND: 44-48' Tan, gray, brown, wet, dense, layered, medium-grained to fine-grained SAND, no odor.	
-48 to -49		30/48					SP	SAND: 48-49' bgs SAA	
-49 to -50			19.5				SP	SAND: 49-50' bgs SAA, gray brown, fine-grained, and thinly banded.	
-50 to -51.5			2470				SP	SAND: 50-51.5' bgs SAA, black stained, medium-grained to fine-grained, saturated with NAPL.	
-51.5 to -52							SP	SAND: 51.5-52' bgs SAA, fine-grained, with little Silt.	
-52 to -56		27/48	55.7 52.8				SP	SAND: 52-56' bgs SAA, banded, strong MGP-like odor.	
-56 to -60		27/48	25.8				SP	SAND: 56-60' bgs SAA, moderate MGP-like odors 56-57' bgs, odors barely detectable at 57-58' bgs. Bottom of boring 60' bgs.	

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Boring ID: B-110

Project Name:	Con Edison	**Boring Location:**	South of school building
Location:	St. John's School	**State Permit Number:**	NA
Project Number:	CECN3-16922-202	**Ground Elevation (ft/msl):**	205.45 NAVD88
Date Started:	7/12/04	**Total Depth (ft):**	88 ft/bgs
Date Finished:	7/13/04	**Boring Diameter Outer/Inner (in):**	2-inch
Drilling Company:	Zebra	**Water Level During Drilling (ft/bgs):**	29.0 ft/bgs
Drilling Method:	Direct-Push	**Weather Conditions:**	
Sampling Method:	4-foot macrocore/piston sampler	**Logged By:**	J. Millard

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
0 to -1							SM	SILT AND SAND: 0-1' bgs Brown, dry, SILT and SAND, topsoil.	
-1 to -5		NM	1.0 1.4 1.6 3.1 3.1				SP	SAND: 1-5' bgs Yellow brown, dry, loose, medium-grained to fine-grained SAND, little fine-grained Gravel. At 1' bgs piece of slag, unknown origin	NA = Not Applicable NM = Not Measured
-5 to -8	NM	12/36	6.6				SP	SAND: 5-8' bgs Orange brown, dry, layered fine-grained to medium-grained SAND.	bgs = below ground surface
-8 to -10							SP	SAND: 8-10' bgs SAA	SAA = Same As Above
-10 to -12		18/48	6.6				SP	SAND: 10-12' bgs Tan to light gray, fine-grained to medium-grained SAND grading into medium-grained Sand.	
-12 to -16		20/48	6.3				SP	SAND: 12-16' bgs SAA, interlayered with tan and iron stained, medium-grained and fine-grained Sand.	
-16 to -20		22/48	5.7				SM	SAND AND SILT: 16-20' bgs Gray and tan, fine-grained SAND and SILT layers with finely interbedded Sand.	
-20 to -24		18/48	7.1				SM	SAND AND SILT: 20-24' bgs SAA	
-24 to -28		24/48	7.5				SP	SAND: 24-28' bgs Tan and gray finely layered SAND and fine-grained Sand.	
-28								SAND: 28-32' bgs SAA, wet.	

Boring ID: B-110

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
-29 to -32		30/48	4.9				SP		
-32 to -36		26/48	3.9				SP	SAND: 32-36' bgs SAA	
-36 to -40		28/48	5.3				SP	SAND: 36-40' bgs SAA with iron staining from 37-37.5' bgs.	
-40 to -44		27/48	6.8				SP	SAND: 40-44' bgs SAA, fine Silt layers, gray color towards 44' bgs.	
-44 to -48		26/48	3.2				SP	SAND: 44-48' SAA	
-48 to -50		23/48	1407				SP	SAND: 48-50' bgs SAA	
-50 to -52			336				SP	SAND: 50-52' bgs Gray brown, wet, dense, fine-grained, SAND, at 52' bgs medium-grained Sand with NAPL (1/4" thick).	
-52 to -56		27/48	29.2				SP	SAND: 52-56' bgs Gray brown, wet, soft, fine-grained, layered, SAND, no NAPL, light MGP-like odor.	
-56 to -60		14/48	16				SP	SAND: 56-60' bgs Gray, wet, soft, fine-grained SAND, very slight MGP-like odor.	
-60 to -64		23/48	11.2				SP	SAND: 60-64' bgs SAA, no odor.	

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Boring ID: B-110

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
-64 to -68		16/48	11.1				SP	SAND: 64-68' bgs SAA, very slight MGP-like odor, may be carry down from 50-52' bgs interval.	
-68 to -72		13/48	11.4				SP	SAND: 68-72' bgs SAA	
-72 to -76		24/48	8.8				SP	SAND: 72-76' bgs SAA.	
-76 to -80		19/48	15.7				SP	SAND: 76-80' SAA, very fine-grained.	
-80 to -84		19/48	9.1				GM	SAND AND GRAVEL: 80-84' bgs Gray brown wet, dense, SAND and angular GRAVEL.	
-84 to -86		18/48	17.8				GM	SAND AND GRAVEL: 84-86' bgs SAA	
-86 to -88								SCHIST: 86-88' bgs Weathered, olive green mica SCHIST. Bottom of boring 88' bgs.	

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Boring ID: B-111

Project Name:	Con Edison	**Boring Location:**	South of school building
Location:	St. John's School	**State Permit Number:**	NA
Project Number:	CECN3-16922-202	**Ground Elevation (ft/msl):**	205.54 NAVD88
Date Started:	7/12/04	**Total Depth (ft):**	60 ft/bgs
Date Finished:	7/14/04	**Boring Diameter Outer/Inner (in):**	2-inch
Drilling Company:	Zebra	**Water Level During Drilling (ft/bgs):**	NA
Drilling Method:	Direct-Push	**Weather Conditions:**	
Sampling Method:	4-foot macrocore/piston sampler	**Logged By:**	J. Millard

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
0								0-32' bgs Shallow lithology defined by nearby soil boring locations B-110 and B-112. No sampling from 5-32' bgs.	
-1			2.1						NA = Not Applicable
-2			3.3						
-3			2.6						
-4			3.0						
-5	NM	NM	4.2						bgs = below ground surface
-6									
-7									NM = Not Measured
-8			NM						
-9									SAA = Same As Above
-10									
-11									
-12									
-13									
-14									
-15									
-16									
-17									
-18									
-19									
-20									
-21									
-22									
-23									
-24									
-25									
-26									
-27									
-28									

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Boring ID: B-111

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
-29 to -32									
-32 to -36		29/48	8.9				SP	SAND: 32-36' bgs Tan orange, wet, loose, medium-grained to fine-grained SAND, mica flakes.	
-36 to -38		30/48	17.5				SP	SAND: 36-38' bgs SAA, some iron staining.	
-38 to -40							SP	SAND: 38-40' bgs Gray, wet, very fine-grained SAND, little Silt layers 1/8" thick.	
-40 to -44		30/48	13.5				SP	SAND: 40-44' bgs Gray brown, wet, fine-grained SAND, some very fine-grained Sand and Silt layers, no odor.	
-44 to -48		20/48	15.5				SP	SAND: 44-48' bgs SAA	
-48 to -51		16/48					SP	SAND: 48-51' bgs SAA	
-51 to -52			6.53				SP	SAND: 51-52' bgs SAA, NAPL observed as two 1" layers within sand matrix (saturated).	
-52 to -56		30/48	21.7 11.5				SP	SAND: 52-56' bgs Gray, wet, fine-grained SAND, from 52-52.8' bgs has a very faint MGP-like odor, no odor observed after 52.8' bgs.	
-56 to -60		24/48	7.8				SP	SAND: 56-60' bgs SAA, layered. Bottom of boring 60' bgs.	

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Boring ID: B-112

Project Name:	Con Edison	**Boring Location:**	South of school building
Location:	St. John's School	**State Permit Number:**	NA
Project Number:	CECN3-16922-202	**Ground Elevation (ft/msl):**	205.32 NAVD88
Date Started:	7/12/04	**Total Depth (ft):**	64 ft/bgs
Date Finished:	7/15/04	**Boring Diameter Outer/Inner (in):**	2-inch
Drilling Company:	Zebra	**Water Level During Drilling (ft/bgs):**	NA
Drilling Method:	Direct-Push	**Weather Conditions:**	
Sampling Method:	4-foot macrocore/piston sampler	**Logged By:**	J. Millard

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
0									
-1			2.2				SM	SILT AND SAND: 0-1' bgs Brown, dry, organic, SILT and SAND, topsoil.	NA = Not Applicable
-2			2.7				SP	SAND: 1-4' bgs Light orange brown, loose, fine-grained to medium-grained SAND, trace Gravel.	
-3			3.5						
-4			3.2				SP	SAND: 4-5' bgs SAA, lighter brown.	
-5	NM	NM	3.4						bgs = below ground surface
-6									
-7									NM = Not Measured
-8									
-9									SAA = Same As Above
-10									
-11									
-12									
-13									
-14									
-15									
-16									
-17									
-18									
-19									
-20									
-21									
-22									
-23									
-24									
-25									
-26									
-27									
-28									
-29									

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Boring ID: B-112

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
-36 to -40		29/48	17.6				SP	SAND: 36-40' bgs Gray brown, wet, fine-grained, layered SAND.	
-40 to -44		30/48	9.0				SP	SAND: 40-44' bgs SAA	
-44 to -48		27/48	13.6				SP	SAND: 44-48' bgs SAA	
-48 to -52		30/48	14.0				SP	SAND: 48-52' bgs SAA, no odor.	
-52 to -56		25/48	14.3				SP	SAND: 52-56' bgs SAA	
-56 to -60							SP	SAND: 56-60' bgs SAA	
-60 to -64		30/48	14.3				SP	SAND: 60-64' bgs SAA - no odors Bottom of boring 64' bgs.	

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Boring ID: B-113

Project Name:	Con Edison	**Boring Location:**	
Location:	St. John's School	**State Permit Number:**	NA
Project Number:	CECN3-16922-202	**Ground Elevation (ft/msl):**	~ 205.5 NAVD88
Date Started:	7/16/04	**Total Depth (ft):**	60 ft/bgs
Date Finished:	7/16/04	**Boring Diameter Outer/Inner (in):**	2-inch
Drilling Company:	Zebra	**Water Level During Drilling (ft/bgs):**	NA
Drilling Method:	Direct-Push	**Weather Conditions:**	
Sampling Method:	4-foot macrocore/piston sampler	**Logged By:**	J. Millard

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
0								TOPSOIL: 0-3' bgs TOPSOIL over bricks rocks, Sand, and ash-like material, some rebar at 3' bgs.	
-1			2.4						NA = Not Applicable
-2			2.8						
-3								3-36' bgs Geoprobe advanced to 36' bgs.	
-4									
-5	NM	NM	NM						bgs = below ground surface
-6									
-7									NM = Not Measured
-8									
-9									SAA = Same As Above
-10									
-11									
-12									
-13									
-14									
-15									
-16									
-17									
-18									
-19									
-20									
-21									
-22									
-23									
-24									
-25									
-26									
-27									
-28									
-29									

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Boring ID: B-113

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
-30 to -36									
-36 to -40		28/48	7.4				SP	SAND: 36-40' bgs Gray tan banded, wet, dense, fine-grained, SAND, some iron staining.	
-40 to -44		26/48	5.5				SP	SAND: 40-44' bgs Gray brown, wet, interbedded, fine-grained SAND, little to trace Silt.	
-44 to -48		26/48	9.8				SP	SAND: 44-48' bgs SAA, iron staining from 44-44.3' bgs.	
-48 to -52		23/48	9.0				SP	SAND: 48-52' bgs SAA, no odor.	
-52 to -52.5			25.7				SP	SAND: 52-52.5' bgs SAA	
-52.5 to -53.5			831				SM	SILT AND SAND: 52.5-53.5' bgs Gray brown SILT over fine-grained to medium-grained SAND, 1" band of NAPL saturated Sand at 52.5-52.75' bgs.	
-53.5 to -56		23/48	44.4				SP	SAND: 53.5-56' bgs Gray brown, wet, SAND, trace Silt, no NAPL.	
-56 to -60			17				SP	SAND: 56-60' bgs SAA, slight MGP-like odor. Bottom of boring 60' bgs.	

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Boring ID: B-114

Project Name:	Con Edison	**Boring Location:**	South of school building
Location:	St. John's School	**State Permit Number:**	NA
Project Number:	CECN3-16922-202	**Ground Elevation (ft/msl):**	205.19 NAVD88
Date Started:	7/16/04	**Total Depth (ft):**	60 ft/bgs
Date Finished:	7/17/04	**Boring Diameter Outer/Inner (in):**	2-inch
Drilling Company:	Zebra	**Water Level During Drilling (ft/bgs):**	NA
Drilling Method:	Direct-Push	**Weather Conditions:**	
Sampling Method:	4-foot macrocore/piston sampler	**Logged By:**	J. Millard

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
0 to -5	NM	NM	NM					TOPSOIL: 0-5' bgs TOPSOIL composed of Sand and Gravel, some large Cobbles, trace brick as blocks and fragments.	NA = Not Applicable
-5 to -29								5-36' bgs Geoprobe advanced to 36' bgs.	bgs = below ground surface NM = Not Measured SAA = Same As Above

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Boring ID: B-114

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
-36 to -40		28/48	13.5				SP	SAND: 36-40' bgs Gray brown, wet, fine-grained, interbedded SAND.	
-40 to -41		30/48					SP	SAND: 40-41' bgs Layered, gray brown, wet, very fine-grained SAND, some Silt.	
-41 to -44			14.3				SP	SAND: 41-44' bgs Gray brown, wet, dense, fine-grained SAND, little medium-grained Sand.	
-44 to -48		23/48					SP	SAND: 44-48' bgs SAA, interlayered bands 2-3" thick of Sand and Silt.	
-48 to -52		28/48					SP	SAND: 48-52' bgs Gray, wet, fine-grained, layered SAND, slight MGP-like odor.	
-52 to -52.5		28/48	53.0	SB			SP	SAND: 52-52.5' bgs Fine-grained SAND (saturated) with NAPL, few unsaturated zones.	
-52.5 to -56			56.0				SP	SAND: 52.5-56' bgs Gray brown, wet, fine-grained SAND, moderate to strong MGP-like odor.	
-56 to -60		24/48	58.0				SP	SAND: 56-60' bgs SAA, moderate to slight MGP-like odor. Bottom of boring 60' bgs.	

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Boring ID: B-115

Project Name:	Con Edison	**Boring Location:**	South of school building
Location:	St. John's School	**State Permit Number:**	NA
Project Number:	CECN3-16922-202	**Ground Elevation (ft/msl):**	205.51 NAVD88
Date Started:	7/19/04	**Total Depth (ft):**	64 ft/bgs
Date Finished:	7/19/04	**Boring Diameter Outer/Inner (in):**	2-inch
Drilling Company:	Zebra	**Water Level During Drilling (ft/bgs):**	NA
Drilling Method:	Direct-Push	**Weather Conditions:**	
Sampling Method:	4-foot macrocore/piston sampler	**Logged By:**	J. Millard

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
0								TOPSOIL: 0-5' bgs Brown, dry, TOPSOIL composed of Sand and Gravel, trace brick fragments.	
-1									NA = Not Applicable
-2									
-3									
-4									
-5	NM	NM						5-40' bgs Geoprobe advances to 40' bgs.	bgs = below ground surface
-6									
-7									NM = Not Measured
-8									
-9									SAA = Same As Above
-10									
-11									
-12									
-13									
-14									
-15									
-16									
-17									
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-19									
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-23									
-24									
-25									
-26									
-27									
-28									
-29									

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Boring ID: B-115

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
-30 to -40									
-40 to -44		20/48	2.2				SP	SAND: 40-44' bgs Gray brown and tan, wet, fine-grained SAND, some iron staining.	
-44 to -48		28/48	4.4				SP	SAND: 44-48' bgs SAA	
-48 to -52		22/48	7.1				SP	SAND: 48-52' bgs SAA, gray, wet, some 3" layers of Silt.	
-52 to -54		24/48	5.8				SP	SAND: 52-54' bgs Gray, wet fine-grained SAND.	
-54 to -56			46.7				SP	SAND: 54-56' bgs Tan brown, wet, fine-grained SAND, moderate to strong MGP-like odor, medium-grained to coarse-grained Sand as 1-inch layers.	
-56 to -60		21/48	43.6				SP	SAND: 56-60' bgs Gray, wet, fine-grained SAND, moderate MGP-like odor.	
-60 to -64		16/48	19.2 15.9				SP	SAND: 60-64' bgs SAA, from 60-62' bgs moderate MGP-like odor and from 62-64' bgs slight to no MGP-like odor. Bottom of boring 64' bgs.	

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Boring ID: B-116

Project Name:	Con Edison	**Boring Location:**	South of school building
Location:	St. John's School	**State Permit Number:**	NA
Project Number:	CECN3-16922-202	**Ground Elevation (ft/msl):**	205.37 NAVD88
Date Started:	7/19/04	**Total Depth (ft):**	60 ft/bgs
Date Finished:	7/19/04	**Boring Diameter Outer/Inner (in):**	2-inch
Drilling Company:	Zebra	**Water Level During Drilling (ft/bgs):**	NA
Drilling Method:	Direct-Push	**Weather Conditions:**	
Sampling Method:	4-foot macrocore/piston sampler	**Logged By:**	J. Millard

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
0								TOPSOIL: 0-0.5' bgs TOPSOIL	
-1		NM	NM				SP	SAND: 0.5-5' bgs Some white, very dense, SAND and brick fragments.	NA = Not Applicable
-5	NA							5-40' bgs Geoprobe advanced to 40' bgs.	bgs = below ground surface NM = Not Measured SAA = Same As Above

Depth scale: 0, -1, -2, -3, -4, -5, -6, -7, -8, -9, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29

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Boring ID: B-116

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
-30 to -40									
-40 to -44		29/48					SP	SAND: 40-44' bgs Gray brown, wet, dense, fine-grained SAND, some medium-grained Sand upper 1.5', iron striations at 41-41.5', no odor.	
-44 to -45.5		26/48					SM	SILT AND SAND: 44-45.5' bgs Gray, wet, SILT and SAND, grading to medium-fine sand at 45.5' bgs.	
-45.5 to -48							SP	SAND: 45.5-48' bgs Gray, tan, wet, dense, medium-grained to fine-grained SAND.	
-48 to -57		22/48						SAND: 48-57' bgs Gray black, fine bands of MICA, no odor. No Sample - 52-56' bgs.	
-57 to -58		23/48					SP	SAND: 57-58' bgs Gray, wet, fine-grained to medium-grained SAND, some Silt.	
-58 to -60							SP	SAND: 58-60' bgs Gray, wet, fine-grained, banded SAND, some Silt. Bottom of boring 60' bgs.	

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Boring ID: B-117

Project Name:	Con Edison	**Boring Location:**	South of the school building
Location:	St. John's School	**State Permit Number:**	NA
Project Number:	CECN3-16922-202	**Ground Elevation (ft/msl):**	~ 205.5 NAVD88
Date Started:	7/21/04	**Total Depth (ft):**	64 ft/bgs
Date Finished:	7/21/04	**Boring Diameter Outer/Inner (in):**	2-inch
Drilling Company:	Zebra	**Water Level During Drilling (ft/bgs):**	NA
Drilling Method:	Direct-Push	**Weather Conditions:**	
Sampling Method:	4-foot macrocore/piston sampler	**Logged By:**	J. Millard

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
0								TOPSOIL: 0-0.5' bgs TOPSOIL	
-1		NM	NM						NA = Not Applicable
-5	NM							5-40' bgs Geoprobe advanced to 40' bgs.	bgs = below ground surface
-7									NM = Not Measured
-9									SAA = Same As Above

Depth scale: 0, -1, -2, -3, -4, -5, -6, -7, -8, -9, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29

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Boring ID: B-117

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
-30 to -40									
-40 to -44		37/48	0.7				SP	SAND: 40-44' bgs Tan brown, wet, fine-grained to medium-grained SAND.	
-44 to -48		33/48	0.3				SM	SILT AND SAND: 44-48' bgs Gray brown, wet, layered SILT and fine-grained SAND, towards 48' bgs sand has mica flakes.	
-48 to -48.5							ML	SILT: 48-48.5' bgs Gray, wet, SILT.	
-48.5 to -52			0.3				SP	SAND: 48.5-52' bgs Gray tan, wet, medium-grained to fine-grained SAND, no odor.	
-52 to -56		8/48	78 0.5				SP	SAND: 52-56' bgs SAA, one very thin (approximately 1 mm thick) band of NAPL at 52.5' bgs, very slight odor.	
-56 to -60		26/48	0.8				SP	SAND: 56-60' bgs SAA, no NAPL, no odor.	
-60 to -64		20/48	0.6				SP	SAND: 60-64' bgs SAA Bottom of boring 64' bgs.	

RETEC

2550 Eisenhower Avenue
Eagleville, Pennsylvania 19403

Boring ID: B-118

Project Name:	Con Edison	**Boring Location:**	South of school building
Location:	St. John's School	**State Permit Number:**	NA
Project Number:	CECN3-16922-202	**Ground Elevation (ft/msl):**	~205.5 NAVD88
Date Started:	7/21/04	**Total Depth (ft):**	60 ft/bgs
Date Finished:	7/21/04	**Boring Diameter Outer/Inner (in):**	2-inch
Drilling Company:	Zebra	**Water Level During Drilling (ft/bgs):**	NA
Drilling Method:	Direct-Push	**Weather Conditions:**	
Sampling Method:	4-foot macrocore/piston sampler	**Logged By:**	J. Millard

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
0								0-40' bgs Geoprobe advanced to 40' bgs before sampling.	
-1									NA = Not Applicable
-2									
-3									NM = Not Measured
-4									
-5	NM								bgs = below ground surface
-6									
-7									
-8									
-9									SAA = Same As Above
-10									
-11									
-12									
-13									
-14									
-15									
-16									
-17									
-18									
-19									
-20									
-21									
-22									
-23									
-24									
-25									
-26									
-27									
-28									
-29									

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2550 Eisenhower Avenue
Eagleville, Pennsylvania 19403

Boring ID: B-118

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
-30 to -40									
-40 to -44		33/48	2.6				SM	SAND AND SILT: 40-44' bgs Gray brown, wet, interlayered, fine-grained SAND and SILT, little medium-grained Sand, no odor.	
-44 to -48		20/48	4.4				SM	SILT AND SAND: 44-48' Gray, brown, wet, layered, SILT and medium-grained to fine-grained SAND.	
-48 to -52		25/48	3.0				SM	SILT AND SAND: 48-52' bgs SAA, no odor.	
-52 to -56		33/48	2.3				SM	SILT AND SAND: 52-56' bgs SAA	
-56 to -60		28/48	2.3				SM	SILT AND SAND: 56-60' bgs SAA Bottom of boring 60' bgs.	

RETEC

2550 Eisenhower Avenue
Eagleville, Pennsylvania 19403

Boring ID: B-119

Project Name:	Con Edison	**Boring Location:**	Southwest of school building
Location:	St. John's School	**State Permit Number:**	NA
Project Number:	CECN3-16922-202	**Ground Elevation (ft/msl):**	207.56 NAVD88
Date Started:	7/22/04	**Total Depth (ft):**	64 ft/bgs
Date Finished:	7/22/04	**Boring Diameter Outer/Inner (in):**	2-inch
Drilling Company:	Zebra	**Water Level During Drilling (ft/bgs):**	NA
Drilling Method:	Direct-Push	**Weather Conditions:**	
Sampling Method:	4-foot macrocore/piston sampler	**Logged By:**	J. Millard

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
0 to -2			2.5				GM	SAND, SILT, AND GRAVEL: 0-2' bgs Brown, dry, SAND, SILT, and GRAVEL, some Cobbles, little brick.	NA = Not Applicable
-2 to -3			4.3				GM	SAND, SILT, AND GRAVEL: 2-3' bgs Light brown, dry, SAND, SILT, and GRAVEL, little brick.	NM = Not Measured
-3 to -29	NM							3-40' bgs Geoprobe advances to 40' bgs.	bgs = below ground surface SAA = Same As Above

Depth scale: 0, -1, -2, -3, -4, -5, -6, -7, -8, -9, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29

RETEC

2550 Eisenhower Avenue
Eagleville, Pennsylvania 19403

Boring ID: B-119

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
-40 to -44		29/48	6, 7				SM	SAND AND SILT: 40-44' bgs Gray brown, wet, layered fine-grained SAND and SILT, medium-grained and fine-grained Sand and fine-grained Sand, no odor.	
-44 to -48		28/48	5.3				SM	SAND AND SILT: 44-48' bgs SAA	
-48 to -52		28/48	9.5				SM	SAND AND SILT: 48-52' bgs SAA	
-52 to -56		33/48	4.8				SM	SAND AND SILT: 52-56' bgs SAA, some thin Silt layers, slight MGP-like odor.	
-56 to -60		28/48	65				SP	SAND: 56-60' bgs Gray tan, wet, fine-grained to medium-grained SAND, moderate MGP-like odor.	
-60 to -64		32/48	12				SP	SAND: 60-64' bgs SAA, very slight MGP-like odor. Bottom of boring 64' bgs.	

RETEC
2550 Eisenhower Avenue
Eagleville, Pennsylvania 19403

Boring ID: B-120

Project Name:	Con Edison	**Boring Location:**	Southwest of school building
Location:	St. John's School	**State Permit Number:**	NA
Project Number:	CECN3-16922-202	**Ground Elevation (ft/msl):**	207.82 NAVD88
Date Started:	7/22/04	**Total Depth (ft):**	64 ft/bgs
Date Finished:	7/22/04	**Boring Diameter Outer/Inner (in):**	2-inch
Drilling Company:	Zebra	**Water Level During Drilling (ft/bgs):**	NA
Drilling Method:	Direct-Push	**Weather Conditions:**	
Sampling Method:	4-foot macrocore/piston sampler	**Logged By:**	J. Millard

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
0								0-40' bgs Geoprobe advances to 40' bgs, asphalt is found from 0-0.3' bgs.	
-1			0.1						NA = Not Applicable
-2									
-3									NM = Not Measured
-4									
-5	NM								bgs = below ground surface
-6									
-7									
-8									
-9									SAA = Same As Above
-10									
-11									
-12									
-13									
-14									
-15									
-16									
-17									
-18									
-19									
-20									
-21									
-22									
-23									
-24									
-25									
-26									
-27									
-28									
-29									

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2550 Eisenhower Avenue
Eagleville, Pennsylvania 19403

Boring ID: B-120

Depth (Feet)	Blow Counts	Recovery (Inches)	PID (ppm)	Sample ID	Sample Interval	Lithology	USCS	Geologic Description	Remarks
-30 to -40									
-40 to -42		28/48	3.8				SP	SAND: 40-42' bgs Red brown, wet, medium-grained SAND.	
-42 to -44			0.0				SP	SAND: 42-44' bgs Gray brown, wet, fine-grained SAND.	
-44 to -48		31/48	6.0				SP	SAND: 44-48' bgs Gray, wet, fine-grained SAND.	
-48 to -52		28/48	5.3				SP	SAND: 48-52' bgs SAA	
-52 to -56		26/48	3.5				SM	SILT AND SAND: 52-56' bgs Interlayered SILT and SAND, slight MGP-like odor at 56' bgs.	
-56 to -60		33/48	16.3				SP	SAND: 56-60' bgs Gray, wet, fine-grained SAND, moderate MGP-like odor.	
-60 to -64		26/48	9.0				SP	SAND: 60-64' bgs SAA, very slight MGP-like odor. Bottom of boring 64' bgs.	

The RETEC Group, Inc.
300 Baker Ave., Suite 302
Concord, MA 01742-2851
(978) 371-1422 Phone
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www.retec.com

WELL INSTALLATION

ID: MW-9

RETEC

Project Number: CECN3-16922-206	**Drilling Co.:** Aquifer Drilling and Testing	**Surface Elevation:** 207.69 NAVD88
Client: Con Edison	**Driller:** Shaun	**Water Level During Drilling:** NA
Site Location: St. John's School	**Casing ID:** 4 1/4 - Inch	**Stickup:** NA
Start Date: September 1, 2004	**Method:** Hollow Stem Auger	**MP Elevation:** 207.34 NAVD88
Completion Date: September 2, 2004	**Logged By:** Joshua Millard	**Total Depth:** 64 feet bgs
Location: Parking Lot Adj. to Gym		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description	Well Construction
1					See adjacent soil boring log SB-119 for lithologic descriptions. Well set to evaluate groundwater quality at the downgradient edge of the suspected impact zone.	
2						
3						
4						
5						
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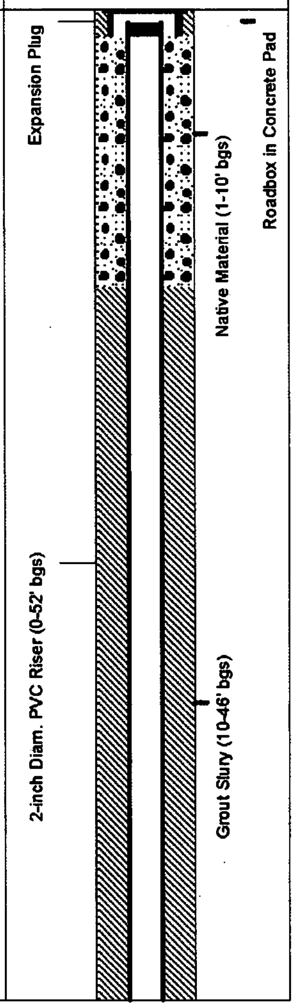
33						
34						
35						



Remarks:
1. Augers advanced w/ wood plug directly to termination depth.
2. Water added to augers to prevent running sands.
3. bgs = below ground surface

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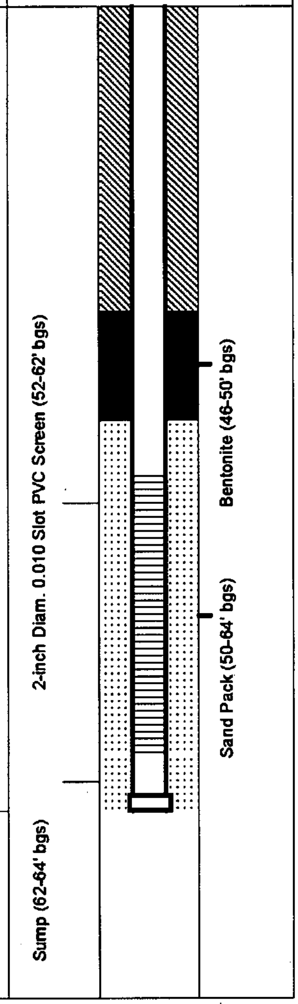
WELL INSTALLATION

ID: MW-9

RETEC

Project Number: CECN3-16922-206	Drilling Co.: Aquifer Drilling and Testing	Surface Elevation: 207.69 NAVD88
Client: Con Edison	Driller: Shaun	Water Level During Drilling: NA
Site Location: St. John's School	Casing ID: 4 1/4 - Inch	Stickup: NA
Start Date: September 1, 2004	Method: Hollow Stem Auger	MP Elevation: 207.34 NAVD88
Completion Date: September 2, 2004	Logged By: Joshua Millard	Total Depth: 64 feet bgs
Location: Parking Lot Adj. to Gym		

Depth (ft)	Recovery (%)	PID Headspace (ppm)	Blow Counts /6"	Lithology	Description	Well Construction
36–64						
64					Bottom of Borehole	
65–70						

Remarks:
1. Augers advanced w/ wood plug directly to termination depth.
2. Water added to augers to prevent running sands.
3. bgs = below ground surface

Appendix C

Photographic Record of Representative Sampling Activities

1. Cafeteria Post Field Work B-103.

2. Hallway Post Work.

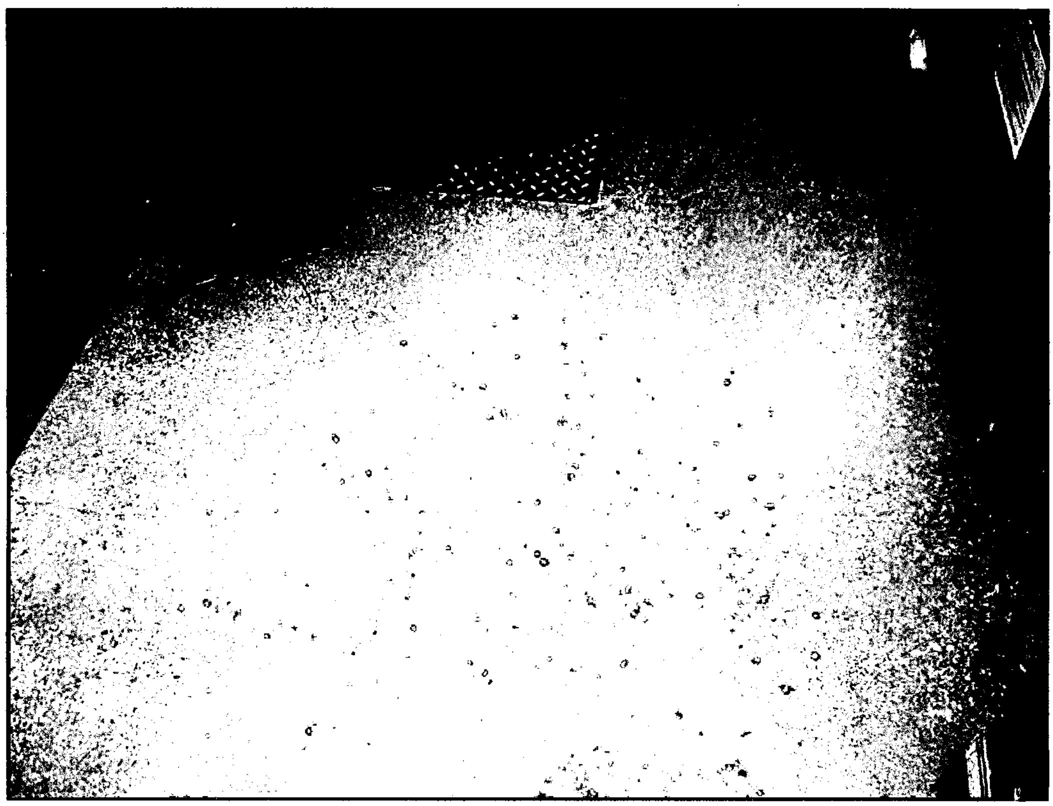
3. Kitchen B-102 Post Work.

4. Rig Ascending Stairs.

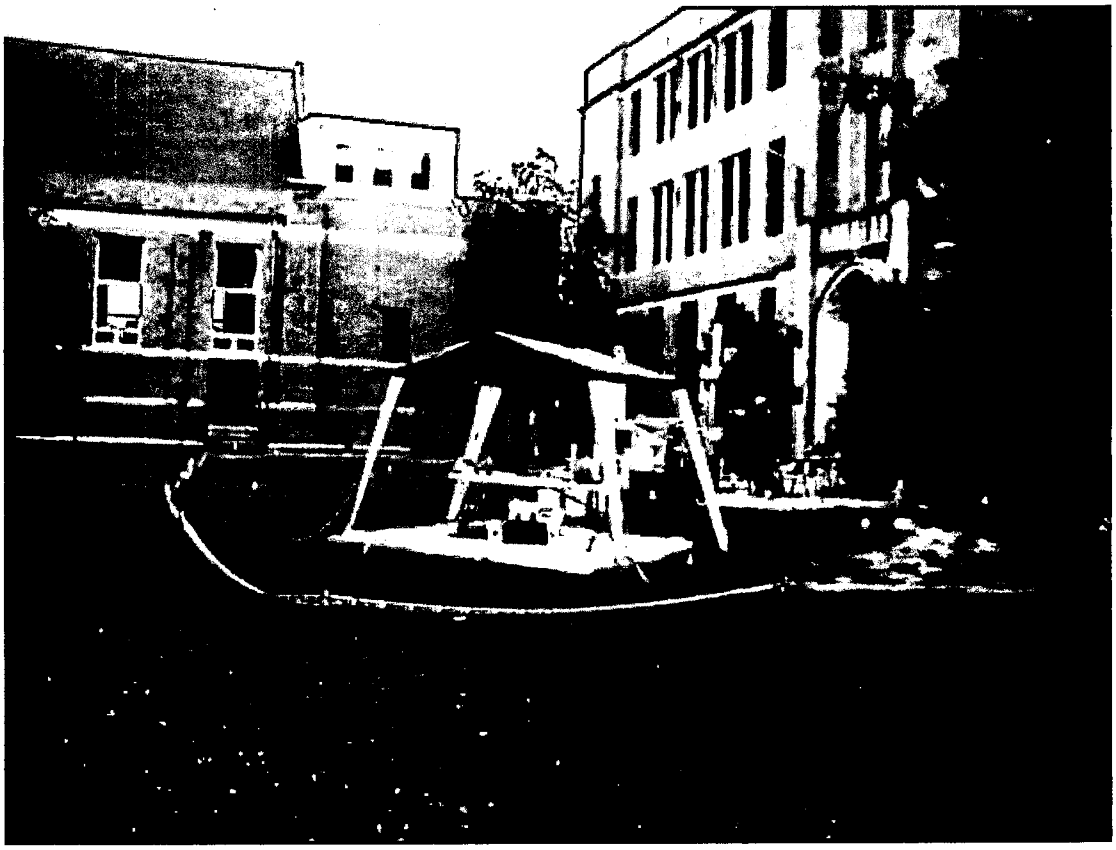
5. Rotary Hammer Installation of B-104.

6. Typical Drill Setup with Exhaust Venting.

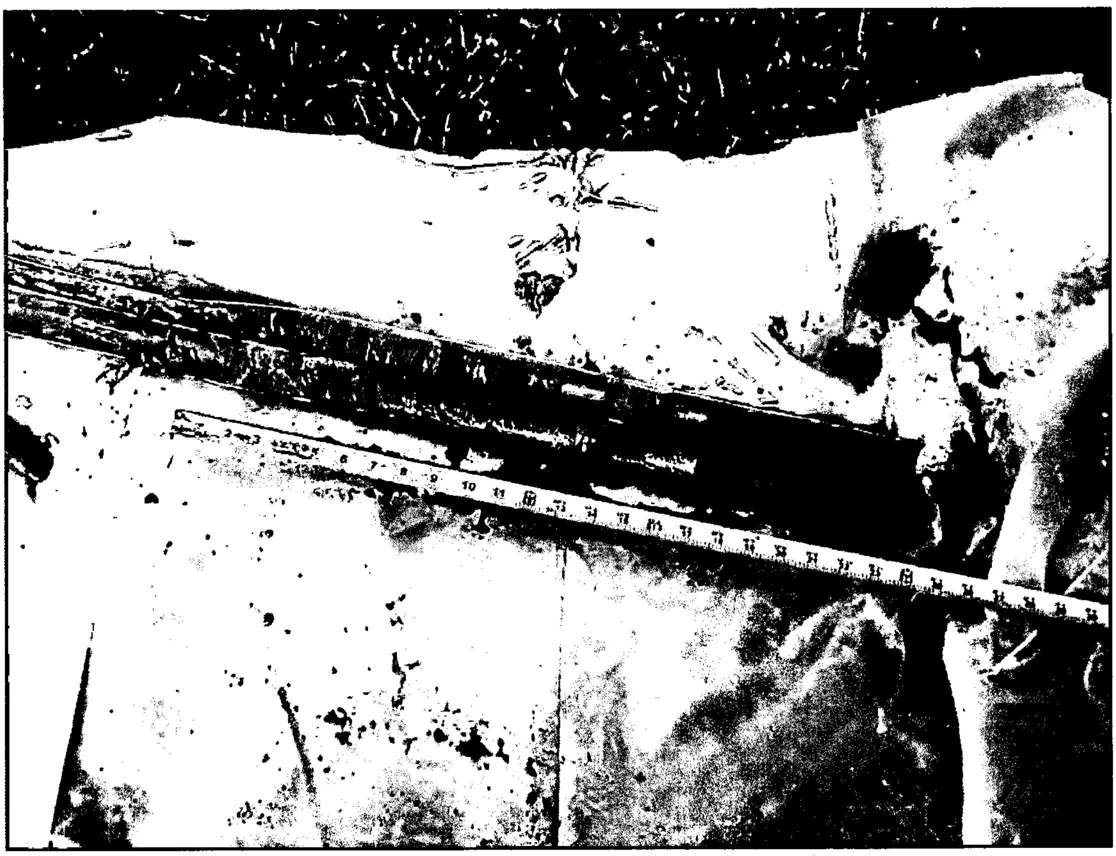
7. Typical Installation of Soil Boring using Limited Access Direct Push Rig.



8. Typical Surface Completion - B-102.



9. July 2004 soil boring area view.



10. Example of distinct nature of subsurface NAPL impacts at depth (B-110).

11. Example of distinct nature of subsurface NAPL impacts at depth (B-111).

Appendix D

Groundwater Sampling Forms

GROUNDWATER SAMPLING FORM

RETEC

300 Baker Ave., Suite 302
Concord, MA 01742

Site (Location): St. John's, White Plains, NY　Well ID: B-101　Page 1 of 1
Date: April 13, 2004　Field Personnel: Josh Millard, Jesse Lloyd　Project No.: CECNJ-16922-200

Measuring Point: NA　Well Diameter: 3/4-inch　Well Screen
Depth to Bottom (ft): NA ~~BGM~~ ~24' bgs　Well Volume (gal): —　Top: NA　Weather: Steady Rain
Depth to Water (ft): NA BGM ~22' bgs　Purge Volume (gal): —　Bottom: NA　Well Condition: NA
Water Column (ft): ~~NA~~ ~2'　Purging Device: Peristaltic Pump　Pump Intake: NA　L/D NAPL Thickness: NA

Time (24 hour)	Depth to Water ft	Pump Dial Setting	Purge Rate (ml/min)	Cumulative Volume Purged Gallons	Temp. °C	Specific Conductance mS/cm ~~uS/cm~~	pH	ORP/ Eh[3] mv	DO mg/L	Turbidity NTU	Comments:
Stabilization Target	(< 0.30 ft)		(200-400)		(3%)	(3%)	(+ - 0.1unit)	(+ - 10 mv)	(10%)	(10%)*	
8:33	—	—	200	0.5	15.72	5.06	7.14	232	5.17	1.25	
8:38	—	—	200	0.75	15.94	5.11	7.15	231	5.19	1.46	
8:41	—	—	200	1.0	16.02	5.12	7.15	230	5.16	1.29	
8:47	—	—	250	1.5	16.20	5.12	7.15	239	5.25	1.06	Stable

Samples Collected at: 9:15　Sample ID: B101-041304　COC #:
Laboratory Receiving Samples: STL-Pittsburgh　Shipped By: FedEx　Decon Method: NA
Analysis(es) to be Performed: VOCs, SVOCs, TAL Metals, Total & Available Cyanide
QA/QC Samples Collected:　*Turbidity must be with in 10% if above 1 NTU

GROUNDWATER SAMPLING FORM

RETEC

300 Baker Ave., Suite 302
Concord, MA 01742

Site (Location): St. John's, White Plains, WY
Date: April 16, 2004

Well ID: B-102
Field Personnel: Josh Millard
Jesse Lloyd

Page 1 of 1
Project No.: CECW3-16932-200

Measuring Point: NA
Depth to Bottom (ft): ~24' bgs
Depth to Water (ft): ~21' bgs
Water Column (ft): ~3'

Well Diameter: 3/4 inch
Well Volume (gal): –
Purge Volume (gal): –
Purging Device: Peristaltic Pump

Well Screen
Top: –
Bottom: –
Pump Intake: –

Weather: Indoors
Well Condition: NA
L/D NAPL Thickness: NA

Time (24 hour)	Depth to Water ft	Pump Dial Setting	Purge Rate (ml/min)	Cumulative Volume Purged Gallons	Temp. °C	Specific Conductance mS/cm ~~uS/cm~~	pH	ORP/ Eh[3] mv	DO mg/L	Turbidity NTU	
Stabilization Target	(< 0.30 ft)		(200-400)		(3%)	(3%)	(+ - 0.1unit)	(+ - 10 mv)	(10%)	(10%)*	Comments:
12:03	–	–	–	–	18.23	4.13	7.11	179	5.35	33.5	
12:08	–	–	–	–	18.17	4.15	7.06	183	5.66	7.18	
12:13	–	–	–	–	18.13	4.16	7.06	191	5.77	4.32	
12:20	–	–	–	–	18.09	4.14	7.06	198	5.85	2.81	
12:24	–	–	–	–	18.03	4.15	7.06	201	5.86	2.75	

Samples Collected at: 1215
Sample ID: B102-041604
COC #:
Laboratory Receiving Samples: STL-Pittsburgh
Shipped By: FedEx
Decon Method:
Analysis(es) to be Performed: VOCs, SVOCs, TAL Metals, Total and Available Cyanide
QA/QC Samples Collected: NA

*Turbidity must be with in 10% if above 1 NTU

GROUNDWATER SAMPLING FORM

RETEC

300 Baker Ave., Suite 302
Concord, MA 01742

Site (Location): St. Johns, White Plains, NY Well ID: B-103 Page 1 of 1
Date: April 14, 2004 Field Personnel: Josh Millard, Jesse Lloyd Project No.: CECN3-16922-200

Measuring Point: NA Well Diameter: 3/4-inch Well Screen
Depth to Bottom (ft): ~24' bgs Well Volume (gal): — Top: — Weather: Indoors
Depth to Water (ft): ~21' bgs Purge Volume (gal): — Bottom: — Well Condition: NA
Water Column (ft): ~3' Purging Device: Peristaltic Pump Pump Intake: — L/D NAPL Thickness: NA

Time (24 hour)	Depth to Water ft	Pump Dial Setting	Purge Rate (ml/min)	Cumulative Volume Purged Gallons	Temp. °C	Specific Conductance ~~uS/cm~~ ms/cm	pH	ORP/ Eh³ mv	DO mg/L	Turbidity NTU	
Stabilization Target	(< 0.30 ft)		(200-400)		(3%)	(3%)	(+ - 0.1unit)	(+ - 10 mv)	(10%)	(10%)*	Comments:
12:28	—	—	300	0.4	17.80	4.38	7.40	179	4.48	11.5	
12:34	—	—	300	0.5	17.57	4.70	7.33	179	4.72	2.85	
12:40	—	—	300	1.0	17.52	4.79	7.32	169	4.71	43.7	
12:46	—	—	200	1.5	19.79	4.50	7.29	163	5.00	7.75	
12:49	—	—	200	2.0	19.48	4.50	7.29	162	5.02	2.14	
12:52	—	—	200	2.4	19.44	4.52	7.30	161	5.06	1.54	stable

Samples Collected at: 1255 Sample ID: B103-041404 COC #:
Laboratory Receiving Samples: STL-Pittsburgh Shipped By: FedEx Decon Method:
Analysis(es) to be Performed: VOCs, SVOCs, TAL metals, total and Amenable Cyanide
QA/QC Samples Collected: Duplicate sample B103D-041404 *Turbidity must be with in 10% if above 1 NTU

GROUNDWATER SAMPLING FORM

RETEC

300 Baker Ave., Suite 302
Concord, MA 01742

Site (Location): ST. Johns, White Plains, NY
Well ID: B-104
Page 1 of 1
Date: April 15, 2004
Field Personnel: Josh Millard, Jesse Lloyd
Project No.: CECW3-16922-200

Measuring Point: NA
Well Diameter: 3/4 inch
Well Screen
Depth to Bottom (ft): ~22.5' bgs
Well Volume (gal): —
Top: —
Weather: Indoors
Depth to Water (ft): ~19' bgs
Purge Volume (gal): —
Bottom: —
Well Condition: NA
Water Column (ft): ~3-5'
Purging Device: Peristaltic Pump
Pump Intake: —
L/D NAPL Thickness: NA

Time (24 hour)	Depth to Water ft	Pump Dial Setting	Purge Rate (ml/min)	Cumulative Volume Purged Gallons	Temp. °C	Specific Conductance ms/cm	pH	ORP/ Eh^3 mv	DO mg/L	Turbidity NTU	Comments:
Stabilization Target	(< 0.30 ft)		(200-400)		(3%)	(3%)	(+ - 0.1unit)	(+ - 10 mv)	(10%)	(10%)*	
10:28	—	—	—	—	17.76	1.53	7.35	440	5.36	202	
10:33	—	—	—	—	17.71	~~1.45~~	7.35	411	6.27	79.7	
10:38	—	—	—	—	17.73	1.67	7.34	387	6.59		
10:43	—	—	—	—	17.70	1.70	7.34	373	6.60	27.6	
10:48	—	—	—	—	17.71	1.66	7.33	366	6.69	20.2	
10:53	—	—	—	—	17.75	1.66	7.32	364	6.42	10.67	

Samples Collected at: 10:40
Sample ID: B104-041504
COC #:
Laboratory Receiving Samples: STL-Pittsburgh
Shipped By: FedEx
Decon Method: NA
Analysis(es) to be Performed: VOCs, SVOCs, TAL Metals, Total and Available Cyanide
QA/QC Samples Collected: MS / MSD
*Turbidity must be with in 10% if above 1 NTU

GROUNDWATER SAMPLING FORM

RETEC

300 Baker Ave., Suite 302
Concord, MA 01742

Site (Location): White Plains
Date: 9-14-07
Well ID: MW-7
Field Personnel: Josh Millard
Page ____ of ____
Project No.: ____

Measuring Point: ____
Depth to Bottom (ft): 15.75
Depth to Water (ft): 7.80
Water Column (ft): ____
Well Diameter: 2-inch
Well Volume (gal): ____
Purge Volume (gal): ____
Purging Device: ____
Well Screen
Top: ____
Bottom: ____
Pump Intake: ____
Weather: ____
Well Condition: ____
L/D NAPL Thickness: ____

Time (24 hour)	Depth to Water ft	Pump Dial Setting	Purge Rate (ml/min)	Cumulative Volume Purged Gallons	Temp. °C	Specific Conductance uS/cm ~~uS/cm~~	pH	ORP/ Eh³ mv	DO mg/L	Turbidity NTU	
Stabilization Target	(< 0.30 ft)		(200-400)		(3%)	(3%)	(+ - 0.1unit)	(+ - 10 mv)	(10%)	(10%)*	Comments:
1255											Start Purging
1300	7.32		200	0.2	17.72	3.36	6.80	3	0.60	48	
1303	7.6		150	0.4	17.45	3.15	6.77	0	0.32	36.1	
1306	7.4		150	0.5	17.56	3.21	6.78	-8	0.27	32.1	
1309	7.55		150	0.6	19.56	3.28	6.79	-11	0.24	28.9	
1312	7.60		150	0.69	19.43	3.32	6.79	-15	0.21	24.2	
1318	7.7		150	0.75	19.18	3.38	6.79	-15	0.16	17.4	
1321	7.75		150	0.8	19.17	3.39	6.80	-15	0.17	16.1	
1324	7.80		150	1.0	19.16	3.43	6.80	-16	0.16	15.8	Sample

Samples Collected at: 13:30
Laboratory Receiving Samples: STL Pitts
Analysis(es) to be Performed: MNA
QA/QC Samples Collected: ____
Sample ID: MW7-091407
Shipped By: FedEx
COC #: ____
Decon Method: ____

*Turbidity must be with in 10% if above 1 NTU

GROUNDWATER SAMPLING FORM

RETEC

300 Baker Ave., Suite 302
Concord, MA 01742

Site (Location): St. Johns White Plains
Well ID: MW-9
Page 1 of
Date: 9-14-09
Field Personnel: J. Milford
Project No.: CECN3-16922-

Measuring Point: Top of PVC
Depth to Bottom (ft): 62.12
Depth to Water (ft): 29.63
Water Column (ft):

Well Diameter: 2 inch
Well Volume (gal):
Purge Volume (gal):
Purging Device: Grundfos Pump

Well Screen
Top: 52
Bottom: 62
Pump Intake: 57'

Weather: Overcast, Mild
Well Condition: Good
L/D NAPL Thickness: NA

Time (24 hour)	Depth to Water ft	Pump Dial Setting	Purge Rate (ml/min)	Cumulative Volume Purged Gallons	Temp. °C	Specific Conductance mS/cm ~~uS/cm~~	pH	ORP/ Eh[3] mv	DO mg/L	Turbidity NTU	
Stabilization Target	(< 0.30 ft)		(200-400)		(3%)	(3%)	(+ - 0.1unit)	(+ - 10 mv)	(10%)	(10%)*	Comments:
9:40											Start Purging
9:48	29.75	125	300	0.4	18.31	4.08	6.64	115	0.46	176	
9:52	29.80	123	300	0.6	20.14	4.10	6.65	102	0.29	114	
9:55	29.75	124	300	1.0	20.82	4.11	6.65	101	0.24	83.3	
10:00	29.75	124	300	1.5	21.02	4.07	6.66	100	0.20	59.1	
10:04	29.75	124	300	2.0	21.23	4.05	6.66	102	0.18	53.3	
10:08	29.75	124	300	2.5	21.34	4.04	6.66	104	0.16	47.9	
10:12	29.75	124	300	3.2	21.40	4.03	6.66	104	0.16	40.3	
10:15	29.75	124	300	3.6	21.60	4.02	6.67	104	0.16	36.2	
10:18	29.75	124	300	4.2	21.67	4.01	6.68	104	0.16	27.4	
10:21	29.75	124	300	4.6	21.74	4.02	6.67	104	0.15	24.1	
10:24	29.75	124	300	4.9	21.72	4.02	6.66	103	0.14	23.6	
10:27	29.75	124	300	5.0	21.90	4.00	6.67	104	0.14	19.1	
10:30	29.75	124	300	5.2	22.02	4.00	6.67	104	0.15	18.1	
10:33	29.75	124	300	5.5	22.37	4.00	6.66	99	0.14	22.3	
10:36	29.75	124	300	6.0	22.24	3.98	6.67	101	0.14	17.1	
10:39	29.75	124	300	6.4	21.98	3.97	6.66	102	0.13	16.7	
10:42	29.75	124	300	6.8	21.93	3.97	6.66	102	0.12	16.6	
10:45	29.75	124	300	7.2	21.89	3.94	6.66	100	0.11	15.3	Stable

Samples Collected at: 10:50
Sample ID: MW9-091404
COC #:
Laboratory Receiving Samples: STL - Pitts
Shipped By: FedEx
Decon Method:
Analysis(es) to be Performed: VOCs, SVOCs, Metals, CN, MNA
QA/QC Samples Collected:
*Turbidity must be with in 10% if above 1 NTU

GROUNDWATER SAMPLING FORM

RETEC

300 Baker Ave., Suite 302
Concord, MA 01742

Site (Location): White Plains

Date: 9-17-07

Well ID: MW-5

Field Personnel: J. Millard

Page ____ of ____

Project No.: CECN3-16922

Measuring Point: Top of PVC

Depth to Bottom (ft): 10.11

Depth to Water (ft): 5.92

Water Column (ft):

Well Diameter: 2-inch

Well Volume (gal):

Purge Volume (gal):

Purging Device: Peristaltic

Well Screen

Top:

Bottom:

Pump Intake: 7' bgs

Weather: Clear, Mild

Well Condition: Good

L/D NAPL Thickness:

Time (24 hour)	Depth to Water ft	Pump Dial Setting	Purge Rate (ml/min)	Cumulative Volume Purged Gallons	Temp. °C	Specific Conductance mS/cm ~~uS/cm~~	pH	ORP/ Eh^3 mv	DO mg/L	Turbidity NTU	Comments:
Stabilization Target	(< 0.30 ft)		(200-400)		(3%)	(3%)	(+ - 0.1unit)	(+ - 10 mv)	(10%)	(10%)*	
1146											Start Purging
1148	6.18										
1149	6.18		120	0.2	2670	0.305	6.80	105	1.75	24.3	
1154	6.44		100	0.3	2627	0.304	6.74	55	1.10	13.6	
1159	6.53		100	0.4	2670	0.304	6.64	44	0.87	8.61	
1203	6.63		100	0.45	26.16	0.306	6.70	47	0.76	7.54	
1205	6.71		100	0.7	26.25	0.307	6.59	49	0.60	6.76	
1208	6.81		100	0.55	26.32	0.309	6.55	58	0.51	5.67	
1211	6.91		100	0.58	26.38	0.312	6.55	64	0.48	5.54	
1214	6.98		100	0.6	26.35	0.312	6.57	68	0.44	5.72	stable

Samples Collected at: 1215

Laboratory Receiving Samples: STL-Pitts

Analysis(es) to be Performed: MNA

QA/QC Samples Collected:

Sample ID: MW5-091404

Shipped By: FedEx

COC #:

Decon Method:

*Turbidity must be with in 10% if above 1 NTU

Appendix E

Monitoring Well Development Record (MW-9)

MONITORING WELL DEVELOPMENT LOG

RETEC

Site: St. John's School, White Plains, NY	Client: Con Edison	
Project No.: CECN3-16922	Sample ID: NA	Well No.: MW-9
Development Start Date/Time: 9/3/04 7:36	Development End Date/Time: 9/3/04 9:30	
Developed By: Josh Millard and Drillers of ADT		

Depth Measurement Ref. Point* Top of PVC

Well Casing ID: 2" (circled) 4" 6" Other ____

Well Headspace/Odor NO

LNAPL Check (Yes/No) No circled; DNAPL Check (Yes/No) No circled

Equipment used to measure thickness and sample free product (Make, Model, etc.) ____

Depth to top and bottom of screened interval 52-62

Depth to LNAPL NA

Original DTW 29.90

Final DTW 34.80

Depth to DNAPL NA

LNAPL/DNAPL Thickness NA

LNAPL/DNAPL Sample and Volume NA

Measured Well TD: 62.32 (-) Original DTW: 29.90 (=) Ht. Wtr Col.: 33.42

DEVELOPMENT METHOD:

- [x] Submersible Pump
- [ ] Dedicated Bladder Pump
- [ ] Bladder Pump
- [ ] SS
- [ ] Centrifugal Pump
- [ ] Peristaltic Pump
- [ ] Hand Pump
- [ ] Bailer
- [ ] Tef
- [ ] Gas Lift/Displacement Pump
- [ ] Inertial Lift Pump
- [ ] Other ____
- [ ] PVC

Development Equip. (Make, Model, etc.) Grundfos Redi-flow, custom Surge Block

Development Water Containerized? (Yes/No) Yes

Development Equip. Decontaminated? [x] Yes [ ] No

Average Development Rate: 9 gpm

Weather Clear, Mild

Actual Time (min.)	Vols. Purged (gals.)	Depth to Pump Intake (ft.)	Depth to Water (ft.)	Temp (°C)	pH	Cond. (mS/cm)	Turbidity (NTA)	D.O. (mg/L)	Salinity (%)	Comments
9:15	3	60	31	17.3	7.08	3.08	NA	NA	NA	Cloudy - Surged
9:20	25	58	32	17.8	7.08	3.28	NA	NA	NA	Slightly Cloudy - Surged
9:30	50	60	33	17.6	7.08	3.63	NA	NA	NA	Slightly Cloudy - Surg
9:35	70	55	34	17.1	7.10	3.70	NA	NA	NA	Cloudy Very Slight
9:40	80	60	35	17.6	7.09	3.72	NA	NA	NA	Clear

* All depths in feet below reference point on wellhead, generally Top of Casing; DTW = Depth to Water; LNAPL/DNAPL = Light/Dense Non-Aqueous Phase Liquid

Appendix F

PID, Cyanide, and Meteorological Observations and Measurements During Indoor Air and Soil Gas Sampling

Table F-1
Summary of Volatile Organic Compounds in Air Measured Using a Photoionization Detector during Collection of Air Samples
April 8, 2004
St. John's School, White Plains, New York

Location	VOC[a] Concentration (ppm)[b]	VOC Concentration (ppb)[c]
St. John's School		
Kitchen	--	33
Cafeteria	--	57-75
Boiler Room & Coal Storage	--	35-60
Play Room	--	55-63
Classroom 1 - First Floor.	--	52
Classroom 2 - First Floor.	--	77
Classroom 3 - First Floor.	--	72
Boy's Bathroom - First Floor.	--	70
Rectory		
Boiler Room	--	45
Basement Hallway	--	50-79
Hallway - First Floor	--	55
Pantry - First Floor	--	120
Kitchen - First Floor	--	250
Gymnasium	--	40

Notes

[a] volatile organic compound

[b] parts of VOCs per million parts of air

[c] parts of VOCs per billion parts of air

Table F-2
Summary of Cyanide Measured in Air using Colorimetric Indicator Tubes
April 8, 2004
St. John's School,
White Plains, New York

Location	HCN Concentration (mg/m^3)+B20
St. John's School	
Kitchen	ND
Cafeteria	ND
Boiler Room & Coal Storage	ND
Play Room	ND
Classroom 1 - First Floor.	ND
Classroom 2 - First Floor.	ND
Classroom 3 - First Floor.	ND
Boy's Bathroom - First Floor.	ND
Rectory	
Boiler Room	ND
Basement Hallway	ND
Hallway - First Floor	ND
Pantry - First Floor	ND
Kitchen - First Floor	ND
Gymnasium	ND

Table F-3
Summary of Meteorological Measurements Made during the Collection of Air Samples
April 12, 2004
St. John's School
White Plains, New York

Time	Temperature (°F)	Humidity (%)	Pressure (in. Hg)	Wind Speed (mph)	Wind Direction (from)
5:56	41.0	60	30.17	5.8	East Northeast
6:56	42.1	55	30.22	6.9	Northeast
7:56	43.0	56	30.23	4.6	East
8:56	45.0	58	30.24	6.9	East
9:56	48.0	58	30.24	6.9	East Southeast
10:56	50.0	59	30.23	8.1	East
11:56	48.9	66	30.22	11.5	South Southeast
12:56	48.9	52	30.19	11.5	East Southeast
13:56	50.0	59	30.21	9.2	Southeast
14:56	48.9	64	30.21	9.2	South Southeast
15:56	46.9	66	30.21	5.8	Southeast
16:56	46.9	71	30.20	6.9	East
17:56	46.0	73	30.20	9.2	East Southeast

Appendix G

Data Usability Reports and Laboratory Analytical Data

NOT INCLUDED IN THIS SUBMITTAL

Table G-1
Summary Table of Ambient, Indoor Air, and Soil Gas Results
St. John's School and Rectory
Resampling Event - April 12, 2004

Compound	CAS number	Sample Number, Location, and Results in ug/m^3															
Type of Sample		Ambient Air	Ambient Air	Ambient Air	Ambient Air	Soil Gas	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Soil Gas
Sample Location		Outdoor Southwest	Outdoor Northeast	Outdoor Southwest	Outdoor Northeast	Gym Floor, at foot of Stairs	Center of Gymnasium	Rectory 1st Floor	Rectory 1st Floor	Rectory Basement	Rectory Basement	1st Floor of School, Men's Restroom	1st Floor of School, Classroom No. 3	1st Floor of School, Classroom No. 2	1st Floor of School, Classroom No. 1	Basement of School, Entry	Grassy Area
Sampling Date		4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004
Sample ID		AMB-101	AMB-102	AMB-103	AMB-104	SG-106	IA-G106	IA-R1-101	IA-R1-102	IA-RB-101	IA-RB-102	IA-S1-101	IA-S1-102	IA-S1-103	IA-S1-104	IA-SB-101	SG-101
Possibly MGP Related or Other Sources [1]																	
1,2,4-Trimethylbenzene	95-63-6	0.76 U	0.79 U	0.88	2.8	16	0.85	0.79 U	0.76 U	3.9 U	0.80 U	0.76 U	0.76 U	0.79 U	1.1 U	1.9	5.0
1,3,5-Trimethylbenzene	108-67-8	0.76 U	0.79 U	0.72 U	0.86	11 U	0.72 U	0.79 U	0.76 U	3.9 U	0.80 U	0.76 U	0.76 U	0.79 U	1.1 U	0.73 U	5.0 U
2,3-Dimethylpentane	565-59-3	3.2 U	3.3 U	3.0 U	3.2 U	46 U	3.0 U	3.3 U	3.2 U	16 U	3.4 U	3.2 U	3.2 U	3.3 U	4.5 U	3.0 U	21 U
2-Hexanone	591-78-6	3.2 U	3.3 U	3.0 U	3.2 U	46 U	3.0 U	3.3 U	3.2 U	16 U	3.4 U	3.2 U	3.2 U	3.3 U	4.5 U	3.0 U	21 U
2-Methylpentane	107-83-5	2.7 U	2.8 U	2.6 U	6.3	39 U	2.6 U	2.8 U	2.7 U	14 U	4.7	2.7 U	2.7 U	2.8 U	3.8 U	2.6 U	18 U
4-Ethyltoluene	622-96-8	3.8 U	3.9 U	3.6 U	3.8 U	55 U	3.6 U	3.9 U	3.8 U	19 U	4.0 U	3.8 U	3.8 U	3.9 U	5.4 U	3.6 U	25 U
4-Methyl-2-pentanone	108-10-1	3.2 U	3.3 U	3.0 U	3.2 U	46 U	3.0 U	3.3 U	3.2 U	16 U	3.4 U	3.2 U	3.2 U	3.3 U	4.5 U	3.0 U	21 U
Benzene	71-43-2	1.5	1.0	2.2	2.6	7.1 U	1.3	1.8	1.6	2.5 U	2.8	1.6	1.3	2.9	1.7	1.5	3.2 U
Carbon Disulfide	75-15-0	2.4 U	2.5 U	2.3 U	2.4 U	35 U	4.3	2.5 U	2.4 U	12 U	2.5 U	2.4 U	2.4 U	2.5 U	3.4 U	2.3 U	16 U
Cyclohexane	110-82-7	2.6 U	2.8 U	2.5 U	2.6 U	38 U	2.5 U	2.8 U	2.6 U	14 U	2.8 U	2.6 U	2.6 U	2.8 U	3.8 U	2.6 U	17 U
Ethylbenzene	100-41-4	0.67 U	0.70 U	0.71	1.7	9.7 U	0.64 U	0.70 U	0.67 U	3.4 U	0.71 U	0.67 U	0.67 U	0.70 U	0.95 U	0.64 U	12
Heptane	142-82-5	3.2 U	3.3 U	3.0 U	3.2 U	46 U	3.0 U	3.3 U	3.2 U	16 U	3.4 U	3.2 U	3.2 U	3.3 U	4.5 U	3.0 U	21 U
Hexane	110-54-3	2.7 U	2.8 U	2.6 U	3.5	39 U	2.6 U	2.8 U	2.7 U	14 U	3.6	2.7 U	2.7 U	2.8 U	3.8 U	2.6 U	18 U
2,2,4-Trimethylpentane	540-84-1	3.6 U	3.8 U	3.4 U	3.6 U	1100	3.4 U	3.8 U	3.6 U	18 U	3.8 U	3.6 U	3.6 U	3.8 U	5.1 U	3.5 U	580
Indan	496-11-7	3.7 U	3.9 U	3.5 U	3.7 U	54 U	3.5 U	3.9 U	3.7 U	19 U	4.0 U	3.7 U	3.7 U	3.9 U	5.3 U	3.6 U	24 U
Indene	95-13-6	3.7 U	3.8 U	3.5 U	3.7 U	53 U	3.5 U	3.8 U	3.7 U	19 U	3.9 U	3.7 U	3.7 U	3.8 U	5.2 U	3.5 U	24 U
Isopentane	78-784	2.3 U	2.4 U	2.6	7.6	33 U	2.2 U	9.9	3.6	12 U	11	3.9	2.3 U	2.4 U	3.2 U	3.5	15 U
Naphthalene	91-20-3	4.0 U	4.2 U	3.8 UJ	4.0 UJ	58 UJ	3.8 UJ	4.2 UJ	4.0 UJ	21 UJ	4.3 UJ	4.0 UJ	4.0 UJ	4.2 U	6.2 J	3.9 UJ	26 UJ
Styrene	100-42-5	0.66 U	0.68 U	0.62 U	0.66 U	9.5 U	0.62 U	0.68 U	0.66 U	3.4 U	0.70 U	0.66 U	0.66 U	0.68 U	0.93 U	0.63 U	4.3 U
Thiophene	110-02-1	2.6 U	2.8 U	2.5 U	2.6 U	38 U	2.5 U	2.8 U	2.6 U	14 U	2.8 U	2.6 U	2.6 U	2.8 U	3.8 U	2.6 U	17 U
Toluene	108-88-3	3.1	3.1	3.9	9.3	59	1.8	3.5	2.5	3.0 U	3.1	2.4	1.6	2.0	1.9	4.6	40
m/p-Xylenes	136777-61-2	1.1	2.6	2.0	6.0	21	1.4	1.1 J	1.1 J	6.8 U	1.2 J	1.2 J	0.90 J	0.70 U	1.0 J	1.9	38
o-Xylene	95-47-6	0.67 U	0.94	0.75	2.3	9.7 U	0.61 J	0.70 U	0.67 U	3.4 U	0.71 U	0.67 U	0.67 U	0.70 U	0.95 U	0.73	10
Not MGP Related [2]																	
1,1,1-Trichloroethane	71-55-6	0.84 U	0.88 U	0.80 U	0.84 U	12 U	0.80 U	0.88 U	0.84 U	4.3 U	0.89 U	0.84 U	0.84 U	0.88 U	1.2 U	17	5.5 U
1,1,2,2-Tetrachloroethane	79-34-5	1.1 U	1.1 U	1.0 U	1.1 U	15 U	1.0 U	1.1 U	1.1 U	5.4 U	1.1 U	1.1 U	1.1 U	1.1 U	1.5 U	1.0 U	6.9 U
1,1,2-Trichloroethane	79-00-5	0.84 U	0.88 U	0.80 U	0.84 U	12 U	0.80 U	0.88 U	0.84 U	4.3 U	0.89 U	0.84 U	0.84 U	0.88 U	1.2 U	0.81 U	5.5 U
1,1-Dichloroethane	75-34-3	0.62 U	0.65 U	0.59 U	0.62 U	9.0 U	0.59 U	0.65 U	0.62 U	3.2 U	0.66 U	0.62 U	0.62 U	0.65 U	0.88 U	0.67	4.1 U
1,1-Dichloroethene	75-35-4	0.61 U	0.64 U	0.58 U	0.61 U	8.8 U	0.58 U	0.64 U	0.61 U	3.1 U	0.65 U	0.61 U	0.61 U	0.64 U	0.87 U	1.1	4.0 U
1,2,4-Trichlorobenzene	120-82-1	5.7 UJ	6.0 UJ	5.4 UJ	5.7 UJ	83 UJ	5.4 UJ	6.0 UJ	5.7 UJ	29 UJ	6.1 UJ	5.7 UJ	5.7 UJ	6.0 UJ	8.1 UJ	5.5 UJ	37 UJ
1,2-Dibromoethane (EDB)	106-93-4	1.2 U	1.2 U	1.1 U	1.2 U	17 U	1.1 U	1.2 U	1.2 U	6.0 U	1.2 U	1.2 U	1.2 U	1.2 U	1.7 U	1.1 U	7.8 U
1,2-Dichlorobenzene	95-50-1	0.93 U	2.0	0.88 U	0.93 U	13 U	0.88 U	0.96 U	0.93 U	4.7 U	0.98 U	0.93 U	0.93 U	0.96 U	1.3 U	0.89 U	6.1 U
1,2-Dichloroethane	107-06-2	0.62 U	0.65 U	0.59 U	0.62 U	9.0 U	0.59 U	0.65 U	0.62 U	3.2 U	0.66 U	0.62 U	0.62 U	0.65 U	0.88 U	7.2	4.1 U
1,2-Dichloropropane	78-87-5	0.71 U	0.74 U	0.68 U	0.71 U	10 U	0.68 U	0.74 U	0.71 U	3.6 U	0.76 U	0.71 U	0.71 U	0.74 U	1.0 U	0.68 U	4.7 U
1,3-Butadiene	106-99-0	1.7 U	1.8 U	1.6 U	1.7 U	25 U	1.6 U	1.8 U	1.7 U	8.7 U	1.8 U	1.7 U	1.7 U	1.8 U	2.4 U	1.6 U	11 U
1,3-Dichlorobenzene	541-73-1	0.93 U	0.96 U	0.88 U	0.93 U	13 U	0.88 U	0.96 U	0.93 U	4.7 U	0.98 U	0.93 U	0.93 U	0.96 U	1.3 U	0.89 U	6.1 U
1,4-Dichlorobenzene	106-46-7	0.93 U	0.96 U	0.88 U	0.93 U	13 U	0.88 U	0.96 U	0.93 U	4.7 U	0.98 U	0.93 U	0.93 U	0.96 U	1.3 U	0.89 U	6.1 U
1,4-Dioxane	123-91-1	2.8 U	2.9 U	2.6 U	2.8 U	40 U	2.6 U	2.9 U	2.8 U	14 U	2.9 U	2.8 U	2.8 U	2.9 U	3.9 U	2.7 U	18 U
2-Butanone (MEK)	78-93-3	2.3 U	2.4 U	2.2	2.3 U	33 U	2.2 U	2.4 U	2.3 U	12 U	2.4 U	2.3 U	2.3 U	2.4 U	3.2 U	2.2 U	21
Acetone	67-64-1	7.3	6.0	15	11	28	6.9	6.7	12	14	6.0	11	6.8	13	17	8.0	84
Benzyl Chloride	100-44-7	0.80 U	0.83 U	0.76 U	0.80 U	12 U	0.76 U	0.83 U	0.80 U	4.1 U	0.85 U	0.80 U	0.80 U	0.83 U	1.1 U	0.77 U	5.2 U
Bromodichloromethane	75-27-4	5.2 U	5.4 U	4.9 U	5.2 U	74 U	4.9 U	5.4 U	5.2 U	26 U	5.5 U	5.2 U	5.2 U	5.4 U	7.3 U	5.0 U	34 U
Bromoform	75-25-2	8.0 U	8.3 U	7.6 U	8.0 U	120 U	7.6 U	8.3 U	8.0 U	41 U	8.4 U	8.0 U	8.0 U	8.3 U	11 U	7.7 U	52 U
Bromomethane	74-83-9	0.60 U	0.62 U	0.57 U	0.60 U	8.6 U	0.57 U	0.62 U	0.60 U	3.0 U	0.64 U	0.60 U	0.59 J	0.62 U	0.85 U	0.58 U	3.9 U
Carbon Tetrachloride	56-23-5	0.97 U	1.0 U	0.92 U	0.97 U	14 U	0.92 U	1.0 U	0.97 U	5.0 U	1.0 U	0.97 U	0.97 U	1.0 U	1.4 U	0.93 U	6.4 U
Chlorobenzene	108-90-7	0.71 U	0.74 U	0.67 U	0.71 U	10 U	0.67 U	0.74 U	0.71 U	3.6 U	0.75 U	0.71 U	0.71 U	0.74 U	1.0 U	0.68 U	4.6 U
Chloroethane	75-00-3	0.41 U	0.42 U	0.39 U	0.41 U	5.9 U	0.39 U	0.42 U	0.41 U	2.1 U	0.43 U	0.41 U	0.41 U	0.42 U	0.58 U	0.39 U	2.7 U
Chloroform	67-66-3	0.75 U	0.78 U	0.71 U	0.75 U	11 U	0.71 U	0.78 U	0.75 U	3.8 U	1.1	0.75	0.75 U	0.78 U	1.1 U	0.72 U	4.9 U
Chloromethane	74-87-3	1.2	1.2	1.0	0.95	4.6 U	0.88	1.1	1.1	1.6 U	0.92	0.88	0.99	1.3	0.94	1.0	2.1 U
cis-1,2-Dichloroethene	156-59-2	0.61 U	0.64 U	0.58 U	0.61 U	8.8 U	0.58 U	0.64 U	0.61 U	3.1 U	0.65 U	0.61 U	0.61 U	0.64 U	0.87 U	0.59 U	4.0 U
cis-1,3-Dichloropropene	10061-01-5	0.70 U	0.73 U	0.66 U	0.70 U	10 U	0.66 U	0.73 U	0.70 U	3.6 U	0.74 U	0.70 U	0.70 U	0.73 U	0.99 U	0.67 U	4.6 U
Dibromochloromethane	124-48-1	6.6 U	6.8 U	6.2 U	6.6 U	95 U	6.2 U	6.8 U	6.6 U	34 U	7.0 U	6.6 U	6.6 U	6.8 U	9.3 U	6.3 U	43 U
Ethanol	64-17-5	14	4.7	7.0	14	26	5.1	81 J	93 J	3800 J	15	12	8.0	16	32	24	73
Trichlorofluoromethane (Freon 11)	75-69-4	2.0	2.0	1.6	1.6	12 U	1.5	2.5	1.8	4.4 U	1.5	1.5	1.6	2.0	1.6	1.5	5.7 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	76-13-1	1.2 U	1.2 U	1.1 U	1.2 U	17 U	1.1 U	1.2 U	1.2 U	6.0 U	1.2 U	1.2 U	1.2 U	1.2 U	1.7 U	1.1 U	7.7 U
1,2-Dichlorotetrafluoroethane	76-14-2	1.1 U	1.1 U	1.0 U	1.1 U	16 U	1.0 U	1.1 U	1.1 U	5.5 U	1.1 U	1.1 U	1.1 U	1.1 U	1.5 U	1.0 U	7.0 U
Dichlorodifluoromethane (Freon 12)	75-71-8	3.6	3.8	2.6	2.6	11 U	2.7	2.8	2.8	3.9 U	2.6	2.4	2.8	3.8	2.8	2.8	5.0 U
Hexachlorobutadiene (C-46)	87-68-3	8.2 UJ	8.6 UJ	7.8 UJ	8.2 UJ	120 UJ	7.8 UJ	8.6 UJ	8.2 UJ	42 UJ	8.7 UJ	8.2 UJ	8.2 UJ	8.6 UJ	12 UJ	7.9 UJ	54 UJ
[illegible]-Butyl Ether	1634-04-4	2.8 U	2.9 U	2.6 U	2.8 U	40 U	[illegible]	2.9 U	2.8 U	14 U	2.9 U	2.8 U	2.8 U	2.9 U	[illegible]	2.7 U	18 U
[illegible] Chloride (Dichloromethane)	75-09-2	0.54 U	0.56 U	0.98	3.3	7.7 U	[illegible]	0.75	1.0	2.7 U	0.64	0.54 U	0.54 U	0.56 U	[illegible]	1.8	5.6
2-[illegible]	67-63-0	1.9 U	2.0 U	1.8 U	1.9 U	27 U	[illegible]	2.8	13	9.7 U	2.0 U	2.2	1.9	2.0 U	[illegible]	4.2	31
Propene	115-07-1	1.3 U	1.4 U	1.2 U	1.3 U	19 U	1.2 U	1.4 U	1.3 U	6.8 U	1.4 U	1.3 U	1.3 U	1.4 U	1.9 U	1.3 U	8.7 U
Tetrachloroethene	127-18-4	1.2	1.1 U	0.99 U	1.0 U	98	9.2	1.1 U	1.0 U	5.3 U	1.1 U	1.0 U	1.0 U	1.1 U	1.5 U	2.5	6.8 U
Tetrahydrofuran	109-99-9	2.3 U	2.4 U	2.2 U	2.3 U	33 U	2.2 U	2.4 U	2.3 U	12 U	2.4 U	2.3 U	2.3 U	2.4 U	3.2 U	2.2 U	15 U

Table G-2
Summary Table of Volatilization Study Headspace Analysis
St. John's School and Rectory
Resampling Event - April 13-17, 2004

Compound	CAS number	Sample Number, Location, and Results in ug/m^3								
Type of Sample		Groundwater	Groundwater	Groundwater	Groundwater	Soil	Soil	Soil	Soil	
Sample Location		Outside, Northeast Corner of School	Basement of School, Kitchen	Basement of School, Cafeteria	Basement of School, Boiler Room	Basement of School, Kitchen	Basement of School, Cafeteria	Basement of School, Kitchen	Basement of School, Cafeteria	
Sampling Depth		20-23	20-23	20-23	20-23	39.5-40	39-40.5	40-42	36-40	
Sampling Date		4/13/2004	4/16/2004	4/14/2004	4/15/2004	4/16/2004	4/14/2004	4/15/2004	4/17/2004	
Sample ID		B-101	B-102	B-103	B-104	B-102 (39.5-40)	B-103 (39-40.5)	B-107 (40-42)	B-108 (36-40) High	B-
Possibly MGP Related or Other Sources [1]										
1,2,4-Trimethylbenzene	95-63-6	0.50 U	0.50 U	0.50 U	0.50 U	260 J[4]	260 J[4]	270 J[4]	310 J[4]	
1,3,5-Trimethylbenzene	108-67-8	0.50 U	0.50 U	0.50 U	0.50 U	220 J[4]	220 J[4]	240 J[4]	260 J[4]	
2,3-Dimethylpentane	565-59-3	2.1 U	2.1 U	2.1 U	2.1 U	300 J[5]	61 J[6]	400 J[5]	140 J[5]	
2-Hexanone	591-78-6	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	
2-Methylpentane	107-83-5	1.8 U	1.8 U	1.8 U	1.8 U	150 J[5]	31 J[6]	170 J[5]	62 J[6]	
4-Ethyltoluene	622-96-8	2.5 U	2.5 U	2.5 U	2.5 U	300 J[4]	310 J[4]	320 J[4]	360 J[4]	
4-Methyl-2-pentanone	108-10-1	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	
Benzene	71-43-2	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	
Carbon Disulfide	75-15-0	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	
Cyclohexane	110-82-7	1.7 U	1.7 U	1.7 U	1.7 U	140 J[5]	25 J[6]	190 J[5]	68 J[6]	
Ethylbenzene	100-41-4	0.44 U	0.44 U	0.44 U	0.44 U	480 J[4]	230 J[5]	450 J[4]	520 J[4]	
Heptane	142-82-5	2.1 U	2.1 U	2.1 U	2.1 U	520 J[4]	280 J[5]	580 J[4]	520 J[5]	
Hexane	110-54-3	1.8 U	1.8 U	1.8 U	1.8 U	390 J[5]	87 J[6]	460 J[5]	180 J[5]	
2,2,4-Trimethylpentane	540-84-1	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	
Indan	496-11-7	2.4 U	2.4 U	2.4 U	2.4 U	230 J[5]	190 J[5]	200 J[5]	270 J[5]	
Indene	95-13-6	2.4 U	2.4 U	2.4 U	2.4 U	600 J[4]	620 J[4]	610 J[4]	720 J[4]	
Isopentane	78-784	1.5 U	1.5 U	1.5 U	1.5 U	1.5 J[6]	1.5 U	2.1 J[6]	1.9 J[6]	
Naphthalene	91-20-3	2.7 UJ	2.7 UJ	2.7 UJ	2.7 UJ	2700 J[4]	2400 J[4]	2700 J[4]	3100 J[4]	
Styrene	100-42-5	0.43 U	0.43 U	0.43 U	0.43 U	350 J[4]	300 J[4]	370 J[4]	450 J[4]	
Thiophene	110-02-1	1.7 UJ	1.7 UJ	1.7 UJ	1.7 UJ	1.7 U	1.7 U	1.7 U	1.7 U	
Toluene	108-88-3	0.38 U	0.38 U	0.38 U	0.38 U	38 J[6]	64 J[6]	280 J[4]	400 J[4]	
m/p-Xylenes	136777-61-2	0.88 U	0.88 U	0.88 U	0.88 U	690 J[4]	540 J[4]	700 J[4]	740 J[4]	
o-Xylene	95-47-6	0.44 U	0.44 U	0.44 U	0.44 U	570 J[4]	480 J[4]	560 J[4]	650 J[4]	
Not MGP Related [2]										
1,1,1-Trichloroethane	71-55-6	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	
1,1,2,2-Tetrachloroethane	79-34-5	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	130 J[6]	
1,1,2-Trichloroethane	79-00-5	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	
1,1-Dichloroethane	75-34-3	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	
1,1-Dichloroethene	75-35-4	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	
1,2,4-Trichlorobenzene	120-82-1	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 U	3.8 U	3.8 U	3.8 U	
1,2-Dibromoethane (EDB)	106-93-4	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	
1,2-Dichlorobenzene	95-50-1	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	
1,2-Dichloroethane	107-06-2	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	
1,2-Dichloropropane	78-87-5	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	
1,3-Butadiene	106-99-0	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	
1.3-Dichlorobenzene	541-73-1	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	
1,4-Dichlorobenzene	106-46-7	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	
1,4-Dioxane	123-91-1	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	
2-Butanone (MEK)	78-93-3	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	
Acetone	67-64-1	1.2 U	1.2 U	1.2 U	1.2 U	2.3 J[6]	2.4 J[6]	3.0 J[6]	2.1 J[6]	
Benzyl Chloride	100-44-7	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	
Bromodichloromethane	75-27-4	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	
Bromoform	75-25-2	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	
Bromomethane	74-83-9	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	
Carbon Tetrachloride	56-23-5	0.64 U	0.64 U	0.64 U	0.64 U	0.64 UJ	0.64 UJ	0.64 UJ	0.64 UJ	
Chlorobenzene	108-90-7	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	
Chloroethane	75-00-3	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	
Chloroform	67-66-3	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	
Chloromethane	74-87-3	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	
cis-1,2-Dichloroethene	156-59-2	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	
cis-1,3-Dichloropropene	10061-01-5	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	
Dibromochloromethane	124-48-1	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	
Ethanol	64-17-5	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	1.4 J[6]	
Trichlorofluoromethane (Freon 11)	75-69-4	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	
1,1,2-Trichlorotrifluoroethane (Freon 113)	76-13-1	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	
1,2-Dichlorotetrafluoroethane	76-14-2	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	
Dichlorodifluoromethane (Freon 12)	75-71-8	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	
Hexachlorobutadiene (C-46)	87-68-3	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	
Methyl tert-Butyl Ether	[illegible]34-04-4	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	[illegible]	1.8 U	
Methylene Chloride (Dichloromethan[illegible]	[illegible]09-2	1.1 U[3]	1.0 U[3]	1.0 U[3]	1.4 U[3]	3.5 U[3]	2.8 U[3]	[illegible]	2.5 U[3]	
2-Propanol	[illegible]7-63-0	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	[illegible]	1.2 U	
Propene	115-07-1	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	
Tetrachloroethene	127-18-4	0.69 U	0.69 U	0.69 U	0.69 U	35 J[6]	24 J[6]	53 J[5]	3.1 J[6]	

Table G-3
Summary Table of Ambient and Indoor Air Results
St. John's School
Post-Investigation Sampling Event - April 24, 2004

Compound	CAS number	Sample Number, Location, and Results in ug/m^3										
Type of Sample		Ambient Air	Ambient Air	Ambient Air	Ambient Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor A
Sample Location		Outdoor Southwest	Outdoor Northeast	Outdoor Southwest	Outdoor Northeast	Center of Gymnasium	1st Floor of School, Men's Restroom	1st Floor of School, Classroom No. 3	1st Floor of School, Classroom No. 2	1st Floor of School, Classroom No. 1	Basement of School, Entry	Basemer of Schoo Kitchen
Sampling Date		4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	4/24/200
Sample ID		STJ2-Amb-101	STJ2-Amb-102	STJ2-Amb-103	STJ2-Amb-104	STJ2-IA-GI-106	STJ2-IA-S1-101	STJ2-IA-SI-102	STJ2-IA-SI-103	STJ2-IA-SI-104	STJ2-IA-SB-101	STJ2-IA-SB-
Possibly MGP Related or Other Sources [1]												
1,2,4-Trimethylbenzene	95-63-6	0.82 U	1.0	0.74 U	0.77 U	0.79	1.5	0.73 U	0.79 U	0.74 U	4.1	0.77 U
1,3,5-Trimethylbenzene	108-67-8	0.82 U	0.87 U	0.74 U	0.77 U	0.72 U	0.73 U	0.73 U	0.79 U	0.74 U	1.1	0.77 U
2,3-Dimethylpentane	565-59-3	3.4 U	3.6 U	3.1 U	3.2 U	3.0 U	3.0 U	3.0 U	3.3 U	3.1 U	2.7 U	3.2 U
2-Hexanone	591-78-6	3.4 U	3.6 U	3.1 U	3.2 U	3.0 U	3.0 U	3.0 U	3.3 U	3.1 U	2.7 U	3.2 U
2-Methylpentane	107-83-5	2.9 U	3.1 U	2.7 U	2.8 U	2.6 U	2.6 U	2.6 U	2.8 U	2.7 U	2.3 U	2.8 U
4-Ethyltoluene	622-96-8	4.1 U	4.4 U	3.7 U	3.9 U	3.6 U	3.6 U	3.6 U	3.9 U	3.7 U	3.2 U	3.9 U
4-Methyl-2-pentanone	108-10-1	3.4 U	3.6 U	3.1 U	3.2 U	3.0 U	3.0 U	3.0 U	3.3 U	3.1 U	2.7 U	3.2 U
Benzene	71-43-2	1.1	0.76	0.83	0.50 U	0.76	0.91	1.0	2.2	0.95	0.78	1.1
Carbon Disulfide	75-15-0	2.6 U	2.8 U	2.4 U	2.4 U	2.3 U	2.3 U	2.3 U	2.5 U	2.4 U	2.0 U	2.4 U
Cyclohexane	110-82-7	2.9 U	3.1 U	2.6 U	2.7 U	2.5 U	2.6 U	2.6 U	2.8 U	2.6 U	3.3	2.7 U
Ethylbenzene	100-41-4	0.72 U	0.77 U	0.66 U	0.68 U	0.64 U	0.64 U	0.64 U	0.70 U	0.66 U	1.1	0.68 U
Heptane	142-82-5	3.4 U	3.6 U	3.1 U	3.2 U	3.0 U	3.0 U	3.0 U	3.3 U	3.1 U	2.7 U	3.2 U
Hexane	110-54-3	2.9 U	3.1 U	2.7 U	2.8 U	2.6 U	2.6 U	2.6 U	2.8 U	2.7 U	2.3 U	2.8 U
2,2,4-Trimethylpentane	540-84-1	3.9 U	4.2 U	3.5 U	3.7 U	3.4 U	3.5 U	3.5 U	3.8 U	3.5 U	3.5	3.7 U
Indan	496-11-7	4.0 U	4.3 U	3.7 U	3.8 U	3.5 U	3.6 U	3.6 U	3.9 U	3.7 U	3.2 U	3.8 U
Indene	95-13-6	4.0 U	4.2 U	3.6 U	3.7 U	3.5 U	3.5 U	3.5 U	3.8 U	3.6 U	3.1 U	3.7 U
Isopentane	78-784	2.4 U	2.6 U	2.2 U	2.3 U	2.2 U	4.2	2.2 U	2.4 U	4.2	44	10
Naphthalene	91-20-3	4.4 UJ	4.7 UJ	4.0 UJ	4.1 UJ	3.8 U	3.9 U	3.9 U	4.2 U	4.0 U	4.6 J	4.1 UJ
Styrene	100-42-5	0.71 U	0.76 U	0.64 U	0.67 U	0.62 U	0.63 U	0.63 U	0.83	0.78	0.99	0.67 U
Thiophene	110-02-1	2.9 U	3.1 U	2.6 U	2.7 U	2.5 U	2.6 U	2.6 U	2.8 U	2.6 U	2.3 U	2.7 U
Toluene	108-88-3	2.6	2.2	1.4	0.64	2.7	3.9	1.8	3.0	2.3	13	2.1
m/p-Xylenes	136777-61-2	1.2	1.7	0.74	0.68 U	1.6	1.8	0.67	0.98	0.98	3.4	1.1
o-Xylene	95-47-6	0.72 U	0.77 U	0.66 U	0.68 U	0.64	0.67	0.64 U	0.70 U	0.66 U	1.4	0.68 U
Not MGP Related [2]												
1,1,1-Trichloroethane	71-55-6	0.91 U	0.97 U	0.83 U	0.86 U	0.80 U	0.81 U	0.81 U	0.88 U	0.83 U	0.72 U	0.86 U
1,1,2,2-Tetrachloroethane	79-34-5	1.1 U	1.2 U	1.0 U	1.1 U	1.0 U	1.0 U	1.0 U	1.1 U	1.0 U	0.91 U	1.1 U
1,1,2-Trichloroethane	79-00-5	0.91 U	0.97 U	0.83 U	0.86 U	0.80 U	0.81 U	0.81 U	0.88 U	0.83 U	0.72 U	0.86 U
1,1-Dichloroethane	75-34-3	0.67 U	0.72 U	0.61 U	0.64 U	0.59 U	0.60 U	0.60 U	0.65 U	0.61 U	0.53 U	0.64 U
1,1-Dichloroethene	75-35-4	0.66 U	0.70 U	0.60 U	0.62 U	0.58 U	0.59 U	0.59 U	0.64 U	0.60 U	0.52 U	0.62 U
1,2,4-Trichlorobenzene	120-82-1	6.2 UJ	6.6 UJ	5.6 UJ	5.8 UJ	5.4 UJ	5.5 UJ	5.5 UJ	6.0 UJ	5.6 UJ	4.9 UJ	5.8 UJ
1,2-Dibromoethane (EDB)	106-93-4	1.3 U	1.4 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.0 U	1.2 U
1,2-Dichlorobenzene	95-50-1	1.0 U	1.1 U	0.91 U	0.95 U	0.88 U	0.89 U	0.89 U	0.96 U	0.91 U	0.79 U	0.95 U
1,2-Dichloroethane	107-06-2	0.67 U	0.72 U	0.61 U	0.64 U	0.59 U	0.60 U	0.60 U	0.65 U	0.61 U	0.53 U	0.64 U
1,2-Dichloropropane	78-87-5	0.77 U	0.82 U	0.70 U	0.73 U	0.68 U	0.68 U	0.68 U	0.74 U	0.70 U	0.61 U	0.73 U
1,3-Butadiene	106-99-0	1.8 U	2.0 U	1.7 U	1.7 U	1.6 U	1.6 U	1.6 U	1.8 U	1.7 U	1.5 U	1.7 U
1,3-Dichlorobenzene	541-73-1	1.0 U	1.1 U	0.91 U	0.95 U	0.88 U	0.89 U	0.89 U	0.96 U	0.91 U	0.79 U	0.95 U
1,4-Dichlorobenzene	106-46-7	1.0 U	1.1 U	0.91 U	0.95 U	0.88 U	0.89 U	0.89 U	0.96 U	0.91 U	0.79 U	0.95 U
1,4-Dioxane	123-91-1	3.0 U	3.2 U	2.7 U	2.8 U	2.6 U	2.7 U	2.7 U	2.9 U	2.7 U	2.4 U	2.8 U
2-Butanone (MEK)	78-93-3	2.4 U	2.6 U	2.2 U	2.3 U	2.2 U	2.2 U	2.2 U	2.4 U	2.2 U	2.1	2.3 U
Acetone	67-64-1	5.4	11	4.3	4.4	6.4	16	8.9	18	12	15	8.4
Benzyl Chloride	100-44-7	0.86 U	0.92 U	0.78 U	0.82 U	0.76 U	0.77 U	0.77 U	0.83 U	0.78 U	0.68 U	0.82 U
Bromodichloromethane	75-27-4	5.6 U	6.0 U	5.1 U	5.3 U	4.9 U	5.0 U	5.0 U	5.4 U	5.1 U	4.4 U	5.3 U
Bromoform	75-25-2	8.6 U	9.2 U	7.8 U	8.1 U	7.6 U	7.7 U	7.7 U	8.3 U	7.8 U	6.8 U	8.1 U
Bromomethane	74-83-9	0.65 U	0.69 U	0.59 U	0.61 U	0.57 U	0.58 U	0.58 U	0.62 U	0.59 U	0.56	0.61 U
Carbon Tetrachloride	56-23-5	1.0 U	1.1 U	0.95 U	0.99 U	0.92 U	0.93 U	0.93 U	1.0 U	0.95 U	0.83 U	0.99 U
Chlorobenzene	108-90-7	0.77 U	0.82 U	0.70 U	0.72 U	0.67 U	0.68 U	0.68 U	0.74 U	0.70 U	0.61 U	0.72 U
Chloroethane	75-00-3	0.44 U	0.47 U	0.40 U	0.42 U	0.39 U	0.39 U	0.39 U	0.42 U	0.40 U	0.35 U	0.42 U
Chloroform	67-66-3	0.81 U	0.87 U	0.74 U	0.77 U	0.71 U	2.2	0.72 U	0.78 U	0.74 U	3.8	0.79
Chloromethane	74-87-3	0.94	0.92	0.91	0.89	0.87	0.94	1.1	1.3	0.91	1.2	0.94
cis-1,2-Dichloroethene	156-59-2	0.66 U	0.70 U	0.60 U	0.62 U	0.58 U	0.59 U	0.59 U	0.64 U	0.60 U	0.52 U	0.62 U
cis-1,3-Dichloropropene	10061-01-5	0.76 U	0.81 U	0.69 U	0.72 U	0.66 U	0.67 U	0.67 U	0.73 U	0.69 U	0.60 U	0.72 U
Dibromochloromethane	124-48-1	7.1 U	7.6 U	6.4 U	6.7 U	6.2 U	6.3 U	6.3 U	6.8 U	6.4 U	5.6 U	6.7 U
Ethanol	64-17-5	3.0	3.3	1.9	1.5 U	4.2	19	10	21	38	27	18
Trichlorofluoromethane (Freon 11)	75-69-4	1.5	1.6	1.6	1.6	1.6	1.6	1.8	1.7	1.7	1.6	1.7
1,1,2-Trichlorotrifluoroethane (Freon 113)	76-13-1	1.3 U	1.4 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.0 U	1.2 U
1,2-Dichlorotetrafluoroethane	76-14-2	1.2 U	1.2 U	1.0 U	1.1 U	1.0 U	1.0 U	1.0 U	1.1 U	1.0 U	0.92 U	1.1 U
Dichlorodifluoromethane (Freon 12)	75-71-8	2.8	3.1	[illegible]	2.7	2.9	3.0	3.3	3.1	2.9	3.0	2.9
Hexachlorobutadiene (C-46)	87-68-3	8.9 U	9.5 U	[illegible]	8.4 U	7.8 UJ	7.9 UJ	7.9 UJ	8.6 UJ	8.1 UJ	7.0 U	8.4 U
Methyl tert-Butyl Ether	1634-04-4	3.0 U	3.2 U	[illegible]	2.8 U	2.6 U	2.7 U	2.7 U	2.9 U	2.7 U	2.4 U	2.8 U
Methylene Chloride (Dichloromethane)	75-09-2	0.58 U	0.62 U	[illegible]	0.55 U	0.51 U	0.54	0.52 U	1.6	0.52	2.2	0.55 U
2-Propanol	67-63-0	2.0 U	2.2 U	1.9 U	1.9 U	1.8 U	3.5	3.3	3.6	2.6	2.1	2.1
Propene	115-07-1	1.4 U	1.5 U	1.3 U	1.4 U	1.2 U	1.3 U	1.3 U	1.4 U	1.3 U	1.1 U	1.4 U

Appendix H

Evaluation of Chromatographic and Mass Spectral Data

Evaluation of GC/MS Chromatographic and Mass Spectral Data, and EPA TO-15 Data from Air, Soil Gas, and Soil Headspace Samples

St. John's School and Rectory

Prepared by: Dr. Steven B. Hawthorne, SOTA Analytical, Inc.
Prepared for: The RETEC Group, Inc.

May 21, 2004

Summary

The evaluation of the raw GC/MS data and the compound identities and concentrations for sub-slab soil gas, ambient air, indoor air, and the headspace from MGP tar contaminated soils (collected approximately 40 feet below grade) support the following observations.

1. No evidence exists that the MGP materials collected below the site contribute to benzene (or other hydrocarbon) levels in the indoor air. This observation is supported by the fact that benzene was not detected in the headspace above the soils contaminated with MGP tar. Duplicate headspace analyses on four contaminated soils from the site were performed at independent laboratories, with the same results.

2. It is unlikely that soil gas has any significant contribution to indoor air benzene concentrations since benzene was not detected in the soil gas samples. In addition, all of the soil gas samples have high (580 to 1700 $\mu g/m^3$) concentrations of 2,2,4-trimethylpentane, which was not detected in any of the indoor air samples. This chemical should be present in the indoor air samples if soil gas contributed significantly to indoor air hydrocarbons.

3. Although both the sub-slab soil gas and the headspace above the MGP-impacted soils contain toluene and other alkyl benzenes, the composition of other chemicals in these samples indicates that MGP materials are not responsible for the soil gas hydrocarbons. This observation is further supported by the fact that the MGP-impacted headspace contained very high concentrations of naphthalene, indene, indane, and styrene as well as C6 to C11 alkanes that were not detected in the sub-slab soil gas samples.

4. Outdoor air is the most likely contributor to indoor air benzene and other hydrocarbons. This is supported by the fact that outdoor and indoor air benzene concentrations are similar. In addition, the distribution of different chemical compound classes (using an approach analogous to the New York State Department of Health's (NYSDOH) proposed method to use GC/MS compound class data for source determinations) are very similar between outdoor and indoor air, while they

are very different from both the sub-slab soil gas and the headspace above the MGP-contaminated soils.

5. Benzene concentrations in outdoor ambient air and indoor air are fairly low at this site, and range from 1.0 to 2.8 µg/m^3. All benzene concentrations in outdoor and indoor air are below the NYSDOH's background indoor air values (5 and 14 µg/m^3 for the 75th and 95th percentile, respectively).

Approach

The data were evaluated in terms of the following questions:

1. Are there any unique indicator compounds (or groups of compounds) that can be used to trace the contribution of MGP materials, ambient air, and soil gas to benzene and other hydrocarbons to indoor air?
2. Do the GC/MS data indicate a contribution of benzene and other hydrocarbons from the MGP contaminated soils to the sub-slab soil gas?
3. Do the GC/MS data indicate any contribution from the MGP contaminated soils to indoor air benzene and other hydrocarbons?
4. Do the GC/MS data indicate any contribution from the soil gas to indoor air benzene and other hydrocarbons?
5. Do the GC/MS data indicate any contribution from outdoor ambient air to indoor air benzene and other hydrocarbons?

The comments in this report are based on concentration data reported by Air Toxics, Ltd. (ATL) and a general review of the raw GC/MS data from the air samples collected on April 12, 2004, and specific ion plots for important characteristic MGP and petroleum-related organics (benzene and alkyl benzenes, alkanes and unsaturated hydrocarbons). Individual mass spectra were also evaluated for compounds not previously identified in the ATL analyses. Initial attempts to apply the NYSDOH selected ion plots to obtain compound class information for source apportionment were made according to the NYSDOH Volatilization Study of MGP Waste and Petroleum Fuels, Public Comment Draft, August 6, 2003.

Finally, four samples of MGP-contaminated soils from approximately 40 feet deep were obtained from the site and the headspace vapor organics analyzed by two independent laboratories, ATL, and by Dr. Hawthorne.

Data Discussion

The quantitative data reported by ATL is given in the Appendix Table 1 for all of the species detected in two or more of the St. John's samples. The various organics were also sorted into different compound classes as discussed later in this report. The discussions below are based on the data presented in Table 1.

Evaluation of MGP-Contaminated Soil Volatile Hydrocarbons in Relation to Indoor Air and Soil Gas Hydrocarbons

Headspace analyses of four soil samples (collected approximately 40 feet below grade) by ATL, and by Dr. Hawthorne independently confirmed the results discussed below. Several important observations came from these analyses. They include:

1. Although several alkyl benzenes were identified, neither lab detected benzene in the headspace of the four MGP-contaminated samples.

2. The headspace samples had high concentrations of several organics that were not detected in either the soil gas or the indoor air samples (Table 1). First, several alkanes (e.g., hexane and heptane in Table 1) were present in the headspace samples that were not detected in the soil gas, indoor air, or ambient air samples. Several additional alkanes (predominantly n-octane to n-undecane) were identified in the headspace samples. Although these compounds were not quantitated, the chromatographic data shows that they are present in concentrations even higher than those shown in Table 1 for n-hexane and n-heptane. These alkanes are not useful as tracers of MGP materials, since they are present in most petroleum products. However, their presence and distribution in the headspace samples is consistent with the fact that petroleum was used as the hydrocarbon source for the MGP plant at this site.

   More importantly, the headspace samples had very high concentrations of indane, indene, and styrene (Table 1) as well as high concentrations of their alkyl derivatives. None of these compounds were detected in any of the soil gas, indoor air, or ambient air samples. Also, indane is common in many petroleum products, while indene is generally present in much lower concentrations. However, the headspace samples from the MGP-contaminated soil were substantially higher in indene than indane. These results indicate that indene (or possibly the indene/indane ratio) could be a useful tracer of MGP contamination at this site.

   In summary, the headspace samples show that the MGP-contaminated soil is highly unlikely to contribute to benzene in the indoor air samples because (1) no benzene was detected in the headspace samples, and (2) because predominant organics (several alkanes, indane, styrene, and indene) were present in the headspace that were not detected in the indoor air samples.

   In addition, the lack of the n-alkanes and the lack of indane, indene, and styrene in the soil gas sample indicates that the MGP-contaminated soil was not the source of hydrocarbons in the shallow soil gas.

Evaluation of Soil Gas Hydrocarbons to Indoor Air Hydrocarbons

Two sets of the results summarized in Table 1, when considered together, indicate that soil gas is not a likely source of benzene in indoor urban air.

1. Even though several alkyl benzenes were detected at fairly high concentrations in the soil gas, benzene was not detected. (Although it should be noted that the detection limit for benzene in the soil gas samples was ca. 7 $\mu g/m^3$, so concentrations similar to the 1.3 to 2.9 $\mu g/m^3$ found in the indoor air are theoretically possible.)

2. All five soil gas samples had very high concentrations of 2,2,4-trimethylpentane. Since this compound is relatively volatile, it would be expected to be found in indoor air if soil gas was a significant source of hydrocarbons to indoor air. Since 2,2,4-trimethylpentane is not found in any of the indoor air samples, it is unlikely that soil gas is the source of benzene or other significant hydrocarbons in the indoor air samples.

Evaluation of Outdoor Ambient Air Hydrocarbons to Indoor Air Hydrocarbons

As shown in Table 1, there is a great degree of similarity in the organic compounds found in outdoor ambient air and in indoor air. These similarities include:

1. The benzene concentrations in outdoor and indoor air are very similar.

2. Other aromatic hydrocarbons (e.g., toluene) have similar concentrations in outdoor and indoor air.

3. Although alkanes were generally not detected, the one alkane that was frequently detected (isopentane) showed similar concentrations in outdoor and indoor air.

4. Several halogenated organics (e.g., chloromethane, Freon 11, and Freon 12) that are not associated with either MGP or petroleum materials are found in similar concentrations in outdoor and indoor air.

These observations, combined with the discussions regarding the lack of relationship between shallow soil gas and indoor air, and between the MGP-contaminated soil headspace and indoor air, demonstrate that outdoor ambient air is the only source likely to be a significant contributor of benzene to indoor air.

Additional data presentation on the use of different compound classes to demonstrate that outdoor air is the source of benzene in indoor air are provided in the Appendix.

Evaluation of the NYSDOH Compound Class Approach to Source Apportionment

Initial evaluation of the NYSDOH's selected ion approach (based on GC/MS data) to relative concentrations of groups of organic compounds was evaluated on the samples from the St. John's site. The NYSDOH suggests mass ions (m/z) that are indicative of six compound classes, i.e., alkanes, alkenes, benzene/alkylbenzenes, indane/tetralins, and naphthalene/alkylnaphthalenes. Their recommendations were based on a survey of volatile organics from common petroleum products and MGP-contaminated soils. The shortcomings of this approach (especially the potential to mis-identify alkenes and cycloalkanes) were the subject of an earlier report to RETEC.

The evaluation of the NYSDOH's approach to the St. John's air samples demonstrate additional shortcomings of the proposed selected ion method when applied to air samples. In summary, these shortcomings are:

1. Many compounds (especially alkanes) are frequently below the detection limit. Thus, a single value that is only slightly above the detection limit will greatly skew the apparent compound class distributions, and could lead to erroneous interpretations of different source contributions.

2. The mass ions used for various compound classes are not specific to those compound classes, especially when the air samples are complicated by non-petroleum and non-MGP sources (which is the case for all indoor and outdoor air samples). For example, the use of the ion m/z 43 for alkanes will mistakenly include acetone. For the St. John's indoor and outdoor air samples, the erroneous contribution of acetone to the alkane fraction is larger than all of the alkanes combined that are reported for those samples. Many other similar cases of "false positives" become apparent when mass spectra of non-target organics commonly found in indoor and outdoor air samples are evaluated in the St. John's samples.

3. Even when the mass ions suggested by the method are reasonably unique to the target compound classes (e.g., the benzene/alkylbenzene group), chromatographic retention time (or indices) must be included in the data evaluation to avoid including non-target organics in the wrong compound classes.

   Therefore, based on the St. John's air samples, the proposed NYSDOH method will not give a reasonable estimate of the concentrations of different compound classes, and it should not be applied in such cases. Some more detailed comments on potential ways to correct its shortcomings are given in the Appendix.

Recommendations for Future Studies

1. The concept of investigating the relative proportions of different compound classes (as suggested by the NYSDOH) should be further developed. However, the present approach in their draft document will lead to substantial errors and should not be used

with outdoor and ambient air samples. Some initial recommendations for altering their approach are included in the Appendix.

2. Several halogenated organics (e.g., chlorinated solvents and Freons) are present in outdoor ambient air that are not present in other sources of benzene, such as petroleum products and MGP materials. These species are excellent candidates to help determine the contribution of outdoor air to indoor air benzene (and other hydrocarbons) and their use should be evaluated along with other compound classes.

3. Future studies on the St. John's samples should be performed to develop and evaluate the selected mass ion approach to eliminate the "false positives" and other errors associated with the present NYSDOH approach when applied to outdoor and indoor air samples. Ions should also be included for major halogenated organics typically found in outdoor air. Initial recommendations for the development of a more accurate approach are given in the Appendix.

Appendix

Initial Evaluation of the Use of TO-15 Data for the Compound Class Approach to Source Apportionment

Although the use of the proposed selected ion method cannot be accurately applied to the St. John's samples, the concept of investigating different compound classes to understand the source of benzene in indoor air is sound. Therefore, the TO-15 data for the detected organics in the indoor air, outdoor air, soil gas, and the MGP contaminated soil headspace were sorted into different compound classes similar to those proposed by the New York as shown in the Appendix Table 1. In addition, a class was added for halogenated organics, and for the common oxygenated organics.

As shown in Table 1, the major compound classes showing multiple detections were alkanes, benzene/alkyl benzenes, indane/indene/styrene, naphthalene, halogenated organics, and the oxygenated organics. The total concentrations and percent contribution of each of these compound classes is shown in Table 2. Note that the percent distribution of each compound class is similar in outdoor and indoor air. The only exception is the very high concentration of ethanol in the Rectory samples, which skews the percentage comparison for those samples. In addition for the indoor and outdoor air samples, alkanes are not particularly useful for source apportionment because the majority of samples had non-detect for nearly all alkanes in the indoor air. Thus any values slightly above the detection limit would greatly (and erroneously) affect the apparent percentage of alkanes in a sample. However, as shown in Table 2, comparing both the compound class concentrations and percentage contributions shows a very clear relationship between outdoor air and indoor air.

Although all of the St. John's samples show a substantial percentage contribution from the alkylbenzene group (Table 2), the other compound classes show very clear distinctions between these samples. The contaminated soil headspace samples have indane/tetralins and naphthalene groups as major contributors, while the same groups have essentially no contribution to the indoor and outdoor air, or to the soil gas. Conversely, the halogenated organics and oxygenated organics are significant in the indoor and outdoor air samples and in the soil gas samples, but make no contribution to the contaminated soil headspace.

The soil gas samples all have a high contribution from alkanes, because of the very high 2,2,4-trimethylpentane found in the soil gas samples (Table 1), but if the alkane group is removed from the data analysis, the distributions of the remaining compound classes are similar between the outdoor air and soil gas, thus indicating that outdoor air is the source of most of the soil gas organics, with the exception of 2,2,4-trimethylpentane (Table B).

Thorough analysis of the use of compound class data for source apportionment is beyond the scope of these comments. However, the results in Table B show the potential for using compound class groups to determine benzene sources. In addition, it is likely that ratios of benzene to those of the compound classes in Table B among the different samples would provide information for source apportionment.

Initial Suggestions for Improving the NYSDOH Selected Ion Approach

The ions suggested to measure different compound classes were developed using fuels and soils contaminated with coal tar. Unfortunately, the potential overlaps (and therefore overestimation) from other common air organics was not adequately addressed. For example, the method suggests using the ions m/z 43, 57, 71, and 85 to determine the relative concentration of alkanes. However, acetone (present in most indoor and outdoor samples) has an intense ion at m/z 43. At the St. John's site the contribution of acetone to the alkanes estimated using m/z 43 is more than the total alkanes present in the sample (based on the ATL data). Similarly, methylene chloride (another common air organic) shows an intense ion at m/z 85, and will often falsely contribute a major fraction of the "alkane" concentrations.

Similar arguments exist for many of the ions suggested by the New York DEP. An initial survey of the GC/MS data from the St. John's site lead to the following suggestions for reducing the errors the New York DEP approach for source apportionment when it is applied to ambient air, indoor air, and soil gas GC/MS data:

1. Integrations must be performed by an analyst that is familiar with the chromatographic patterns of various compound classes. Generally speaking, retention time information for individual and some groups of compounds should be included in the method, and would help eliminate overestimation from false positive identifications. However, some compound classes (especially alkanes and alkenes) can have species throughout the whole retention time range that show the same ions. For these compound classes, the experience of the analyst and confirmation of individual mass spectra are important.

2. For alkanes, the ions at m/z 57 and 71 appear to have less interferences than the other suggested ions at m/z 43 and 85, and should be used for total alkane estimations. However, it will likely be necessary to confirm the identity of the alkanes by looking at individual mass spectra. Retention time information for n-alkanes and major branched alkanes should also be applied.

3. Ions for alkenes are not sufficiently unique to give useful data. Either a few specific alkenes should be specified to represent this group based on a survey of ambient and indoor air data, and volatiles from common sources (fuels, coal tars, etc.), or alkenes should not be included as a compound class.

4. Ions for cyclic alkanes are also not sufficiently unique. However, cyclopentane, methylcyclopentanes, cyclohexane, and methyl cyclohexane are likely to represent the major compounds in this class. These can be estimated by using ions at m/z 84, 98, and 112 along with retention time information for the individual compounds (especially cyclopentane and cyclohexane).

5. Benzenes and alkylbenzenes are very useful, and the ions suggested are appropriate. However, the molecular ions (m/z 78, 92, 106, 120, 134, and 148) and a knowledge of retention time patterns would be simpler and help to avoid including non-target species.

6. Comments on Indane/Tetralins are similar to those for cyclic alkanes (above). Major species include styrene (m/z 104), indene (m/z 116), indane (m/z 118), methyl styrenes (m/z 118) methyl indenes (m/z 130), and methyl indanes (m/z 132). Like alkylbenzenes, the chromatographic patterns of these compounds are quite distinctive, and can be recognized by an experienced analyst. Also note that indene (and to a lesser extent, styrene) is a very important compound since it is present in higher amounts in some coal tars (like the St John's samples) than indane, which is the reverse case from common petroleum products.

These initial suggestions are based on the GC/MS data from the St. John's samples discussed above, and are only meant to provide a basis for additional investigations needed to improve the proposed NYSDOH approach. It should also be noted that much of same information can be obtained from the species reported by ATL for TO-15 analyses, and the addition of a few specific compounds to the compound list could cover the majority of significant species of each compound class. Given the complexity and potential for large errors using the proposed NYSDOH selected ion method, the use of TO-15 data (possibly with an expanded list) may give better quality compound class results with better comparability among labs (and at a lower cost) than the use of the proposed selected ion approach.

Appendix Table 1: Summary Table of Ambient, Indoor Air, and Soil Gas Results Sorted by Compound Class
St. John's School and Rectory
Resampling Event - April 12, 2004

Compound	CAS number	Sample Number, Location, and Results in ug/m^3															
Type of Sample		Ambient Air	Ambient Air	Ambient Air	Ambient Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air
Sample Location		Outdoor Southwest	Outdoor Northeast	Outdoor Southwest	Outdoor Northeast	Center of Gymnasium	Rectory 1st Floor	Rectory 1st Floor	Rectory Basement	Rectory Basement	1st Floor of School, Men's Restroom	1st Floor of School, Classroom No. 3	1st Floor of School, Classroom No. 2	1st Floor of School, Classroom No. 1	Basement of School, Entry	Basement of School, Kitchen	Basement of School, Cafeteria
Sampling Date		4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004
Sample ID		AMB-101	AMB-102	AMB-103	AMB-104	IA-G106	IA-R1-101	IA-R1-102	IA-RB-101	IA-RB-102	IA-S1-101	IA-S1-102	IA-S1-103	IA-S1-104	IA-SB-101	IA-SB-102	IA-SB-103
alkanes																	
Isopentane	78-784			2.6	7.6		9.9	3.6		11	3.9				3.5	3.1	3.5
2-Methylpentane	107-83-5				6.3					4.7							
2,3-Dimethylpentane	565-59-3																
hexane	110-54-3				3.5					3.6							
heptane	142-82-5																
2,2,4-trimethylpentane	540-84-1																
Cyclohexane	110-82-7																
benzene	71-43-2	1.5	1.0	2.2	2.8	1.3	1.8	1.6		2.8	1.6	1.3	2.9	1.7	1.5	1.5	1.6
toluene	108-88-3	3.1	3.1	3.9	9.3	1.8	3.5	2.5		3.1	2.4	1.6	2	1.9	4.6	2.6	6.9
m/p-xylenes	136777-61-2	1.1	2.6	2.0	6	1.4	1.1	1.1		1.2	1.2	0.9		1	1.9	1.2	8.4
ethylbenzene	100-41-4			0.7	1.7												3.4
o-xylene	95-47-6		0.9	0.8	2.3	0.61									0.73		3.1
4-Ethyltoluene	622-96-8																
1,2,4-trimethylbenzene	95-63-6			0.9	2.8	0.85									1.9	0.86	4.3
1,3,5-trimethylbenzene	108-67-8				0.86												1.2
Indan	496-11-7																
Indene	95-13-6																
styrene	100-42-5																
naphthalene	91-20-3													6.2			4.2
chloroform	67-66-3									1.1	0.75						
chloromethane	74-87-3	1.2	1.2	1.0	0.95	0.88	1.1	1.1		0.92	0.88	0.99	1.3	0.94	1	0.88	1.1
trichlorofluoromethane (Freon 11)	75-69-4	2.0	2.0	1.6	1.6	1.5	2.5	1.8		1.5	1.5	1.6	2	1.6	1.5	1.4	1.5
dichlorodifluoromethane (Freon 12)	75-71-8	3.6	3.8	2.6	2.6	2.7	2.8	2.8		2.6	2.4	2.8	3.8	2.8	2.8	2.7	2.5
methylene chloride (dichloromethane)	75-09-2			1.0	3.3		0.75	1		0.64					1.8		
tetrachloroethene	127-18-4	1.2				9.2									2.5		
Ethanol	64-17-5	14.0	4.7	7.0	14	5.1	81E	93E	3800E	15	12	8	16	32	24	15	76E
2-Propanol	67-63-0						2.8	13			2.2	1.9			4.2	1.8	8.8
acetone	67-64-1	7.3	6.0	15.0	11	6.9	6.7	12	14	6	11				8	6.2	14
2-butanone (MEK)	78-93-3			2.2													12

Values with "E" exceed calibration
Values with "S" indicates saturated peaks.

Appendix Table 1 (Cont'd.): Summary Table of Ambient, Indoor Air, and Soil Gas Results Sorted by Compound Class
St. John's School and Rectory
Resampling Event - April 12, 2004

Compound	CAS number	Sample Number, Location, and Results in ug/m^3															
Type of Sample		Ambient Air	Ambient Air	Ambient Air	Ambient Air	Indoor Air	Indoor Air-FD	Indoor Air	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Headspace			
Sample Location		Outdoor Southwest	Outdoor Northeast	Outdoor Southwest	Outdoor Northeast	Basement of School, Boiler Room	Field Duplicate Basement of School, Boiler Room	Basement of School, Play Room	Gym Floor, at foot of Stairs	Grassy Area	Basement of School, Kitchen	Basement of School, Cafeteria	Basement of School, Boiler Room				
Sampling Date		4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	38093	38091	38092	38094
Sample ID		AMB-101	AMB-102	AMB-103	AMB-104	IA-SB-104	IA-SB-104FD	IA-SB-105	SG-106	SG-101	SG-102	SG-103	SG-104	B-102 (39.5-40)	B-103 (39-40.5)	B-107 (40-42)	B-108 (36-40)
alkanes																	
Isopentane	78-784			2.6	7.6	7.9	7.7	11						1.5		2.1	1.9
2-Methylpentane	107-83-5				6.3									150E	31	170E	62
2,3-Dimethylpentane	565-59-3													300E	61	400E	140E
hexane	110-54-3				3.5									390E	87E	460E	180E
heptane	142-82-5													520S	280E	580S	520E
2,2,4-trimethylpentane	540-84-1								1100	580	1700	1700	1200				
Cyclohexane	110-82-7													140E	25	190E	68
benzene	71-43-2	1.5	1.0	2.2	2.8	1.5	1.6	1.5									
toluene	108-88-3	3.1	3.1	3.9	9.3	2.6	2.6	3.7	59	40	79	80	64	38	64	280S	400S
m/p-xylenes	136777-61-2	1.1	2.6	2.0	6	1.4	1.4	1.2	21	38	38	31	28	690S	540S	700S	740S
ethylbenzene	100-41-4			0.7	1.7					12	12	9.6	8.7 J	480S	230E	450S	520S
o-xylene	95-47-6		0.9	0.8	2.3					10	12	8.8		570S	480S	560S	650S
4-Ethyltoluene	622-96-8													300S	310S	320S	360S
1,2,4-trimethylbenzene	95-63-6			0.9	2.8	0.97	0.74	0.77	16	5	15	18	13	260S	260S	270S	310S
1,3,5-trimethylbenzene	108-67-8				0.86									220S	220S	240S	260S
Indan	496-11-7													230E	190E	200E	270E
Indene	95-13-6													600S	620S	610S	720S
styrene	100-42-5													350S	300S	370S	450S
naphthalene	91-20-3													2700	2400	2700	3100
chloroform	67-66-3					0.87	0.76				80						
chloromethane	74-87-3	1.2	1.2	1.0	0.95	0.85	0.92	0.91									
trichlorofluoromethane (Freon 11)	75-69-4	2.0	2.0	1.6	1.6	1.5	1.5	1.4									
dichlorodifluoromethane (Freon 12)	75-71-8	3.6	3.8	2.6	2.6	2.7	2.8	2.6			28	12					
methylene chloride (dichloromethane)	75-09-2			1.0	3.3	0.71	0.73	0.5		5.6				3.5	2.8	0.82	2.5
tetrachloroethene	127-18-4	1.2							98			24	22	35	24	53	3.1
Ethanol	64-17-5	14.0	4.7	7.0	14	3.8	6.9	49E	26	73	26		22				1.4
2-Propanol	67-63-0					32				31							
acetone	67-64-1	7.3	6.0	15.0	11	14	17	7.8	28	84	44	37	49	2.3	2.4	3.0	2.1
2-butanone (MEK)	78-93-3			2.2			3.2			21							

Values with "E" exceed calibration
Values with "S" indicates saturated peaks.

Appendix Table 2: Summary of Compound Class Distributions in St. John's Air Samples
St. John's School and Rectory
Resampling Event - April 12, 2004

Type of Sample	Ambient Air	Ambient Air	Ambient Air	Ambient Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air
Sample Location	Outdoor Southwest	Outdoor Northeast	Outdoor Southwest	Outdoor Northeast	Center of Gymnasium	Rectory 1st Floor	Rectory 1st Floor	Rectory Basement	Rectory Basement	1st Floor of School, Men's Restroom	1st Floor of School, Classroom No. 3	1st Floor of School, Classroom No. 2	1st Floor of School, Classroom No. 1	Basement of School, Entry	Basement of School, Kitchen
Sampling Date	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004
Sample ID	AMB-101	AMB-102	AMB-103	AMB-104	IA-G106	IA-R1-101	IA-R1-102	IA-RB-101	IA-RB-102	IA-S1-101	IA-S1-102	IA-S1-103	IA-S1-104	IA-SB-101	IA-SB-102

Compound Class Concentrations (ug/m^3)

Sum alkanes (6 species)	0.0	0.0	2.6	17.4	0.0	9.9	3.6	0.0	19.3	3.9	0.0	0.0	0.0	3.5	3.1
Sum benzene, alkyl benzenes (8 species)	5.7	7.6	10.4	25.8	6.0	6.4	5.2	0.0	7.1	5.2	3.8	4.9	4.6	10.6	6.2
Indan/Tetralins (indan, indene, styrene)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Naphthalene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0
Sum halogenated organics (6 species)	8.0	7.0	6.2	8.5	14.3	7.2	6.7	0.0	6.8	5.5	5.4	7.1	5.3	9.6	5.0
Sum oxygenated organics (4 species)	21.3	10.7	24.2	25.0	12.0	90.5	118.0	3814.0	21.0	25.2	9.9	16.0	32.0	36.2	23.0

Compound Class Percentage

Sum alkanes (6 species)	0%	0%	6%	23%	0%	9%	3%	0%	36%	10%	0%	0%	0%	6%	8%
Sum benzene, alkyl benzenes (8 species)	16%	30%	24%	34%	18%	6%	4%	0%	13%	13%	20%	18%	10%	18%	17%
Indan/Tetralins (indan, indene, styrene)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Naphthalene	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%
Sum halogenated organics (6 species)	23%	28%	14%	11%	44%	6%	5%	0%	12%	14%	28%	25%	11%	16%	13%
Sum oxygenated organics (4 species)	61%	42%	56%	33%	37%	79%	88%	100%	39%	63%	52%	57%	66%	60%	62%

Compound Class Percentage, No Alkanes

Sum benzene, alkyl benzenes (8 species)	16%	30%	26%	44%	18%	6%	4%	0%	20%	14%	20%	18%	10%	19%	18%
Indan/Tetralins (indan, indene, styrene)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Naphthalene	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%
Sum halogenated organics (6 species)	23%	28%	15%	14%	44%	7%	5%	0%	19%	15%	28%	25%	11%	17%	15%
Sum oxygenated organics (4 species)	61%	42%	59%	42%	37%	87%	91%	100%	60%	70%	52%	57%	66%	64%	67%

Zero values indicate no detected concetrations were reported by AirToxics Ltd. for any members of these compound classes.

Appendix Table 2 (Cont'd.): Summary of Compound Class Distributions in St. John's Air Samples
St. John's School and Rectory
Resampling Event - April 12, 2004

Type of Sample	Ambient Air	Ambient Air	Ambient Air	Ambient Air	Indoor Air	Indoor Air	Indoor Air-FD	Indoor Air	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Headspace			
Sample Location	Outdoor Southwest	Outdoor Northeast	Outdoor Southwest	Outdoor Northeast	Basement of School, Cafeteria	Basement of School, Boiler Room	Field Duplicate Basement of School, Boiler Room	Basement of School, Play Room	Gym Floor, at foot of Stairs	Grassy Area	Basement of School, Kitchen	Basement of School, Cafeteria	Basement of School, Boiler Room				
Sampling Date	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	4/12/2004	38093	38091	38092	38094
Sample ID	AMB-101	AMB-102	AMB-103	AMB-104	IA-SB-103	IA-SB-104	IA-SB-104FD	IA-SB-105	SG-106	SG-101	SG-102	SG-103	SG-104	B-102 (39.5-40)	B-103 (39-40.5)	B-107 (40-42)	B-108 (36-40)

Compound Class Concentrations (ug/m^3)

Sum alkanes (6 species)	7.9	7.7	11.0	1100.0	3.5	7.9	7.7	11.0	1100.0	580.0	1700.0	1700.0	1200.0	1360.0	367.0	1610.0	0.0
Sum benzene, alkyl benzenes (8 species)	6.5	6.3	7.2	96.0	28.9	6.5	6.3	7.2	96.0	105.0	156.0	147.4	105.0	2520.0	2040.0	2820.0	0.0
Indan/Tetralins (indan, indene, styrene)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1180.0	1110.0	1180.0	120.0
Naphthalene	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2700.0	2400.0	2700.0	110.0
Sum halogenated organics (6 species)	6.6	6.7	5.4	98.0	5.1	6.6	6.7	5.4	98.0	5.6	108.0	36.0	22.0	0.0	0.0	0.0	0.0
Sum oxygenated organics (4 species)	49.8	23.9	56.8	54.0	110.8	49.8	23.9	56.8	54.0	209.0	70.0	37.0	71.0	0.0	0.0	0.0	0.0

Compound Class Percentage

Sum alkanes (6 species)	11%	17%	14%	82%	2%	11%	17%	14%	82%	64%	84%	89%	86%	18%	6%	19%	0%
Sum benzene, alkyl benzenes (8 species)	9%	14%	9%	7%	19%	9%	14%	9%	7%	12%	8%	8%	8%	32%	34%	34%	0%
Indan/Tetralins (indan, indene, styrene)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	19%	14%	52%
Naphthalene	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	35%	41%	32%	48%
Sum halogenated organics (6 species)	9%	15%	7%	7%	3%	9%	15%	7%	7%	1%	5%	2%	2%	0%	0%	0%	0%
Sum oxygenated organics (4 species)	70%	54%	71%	4%	73%	70%	54%	71%	4%	23%	3%	2%	5%	0%	0%	0%	0%

Compound Class Percentage, No Alkanes

Sum benzene, alkyl benzenes (8 species)	10%	17%	10%	39%	19%	10%	17%	10%	39%	33%	47%	67%	53%	39%	37%	42%	0%
Indan/Tetralins (indan, indene, styrene)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	20%	18%	52%
Naphthalene	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	42%	43%	40%	48%
Sum halogenated organics (6 species)	11%	18%	8%	40%	3%	11%	18%	8%	40%	2%	32%	16%	11%	0%	0%	0%	0%
Sum oxygenated organics (4 species)	79%	65%	82%	22%	74%	79%	65%	82%	22%	65%	21%	17%	36%	0%	0%	0%	0%

Zero values indicate no detected concetrations were reported by AirToxics Ltd. for any members of these compound classes.

APPENDIX B

SOIL BORING/MONITORING WELL CONSTRUCTION LOGS FOR THE IMPLEMENTATION OF THE REMEDIAL ACTION WORK PLAN

PARSONS

DRILLING RECORD

Contractor:	Advanced Drilling Technology
Driller:	Les Darrow/Brian Lyon
Inspector:	Zohar Lavy
Rig Type:	Truck Mounted Hollow Stem Auger

PROJECT NAME: Consolidated Edison
PROJECT NUMBER: 442189.11000

BORING/ WELL NO. MW-10 Sheet 1 of 2

Location Description: New St., St. John's Church Property

GROUNDWATER OBSERVATIONS

Water Level	DTW	DTW 20.52		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Weather: Rain, 50's, 5-10 mph Wind (SW)

Date/Time Start: 10/28/09 0950

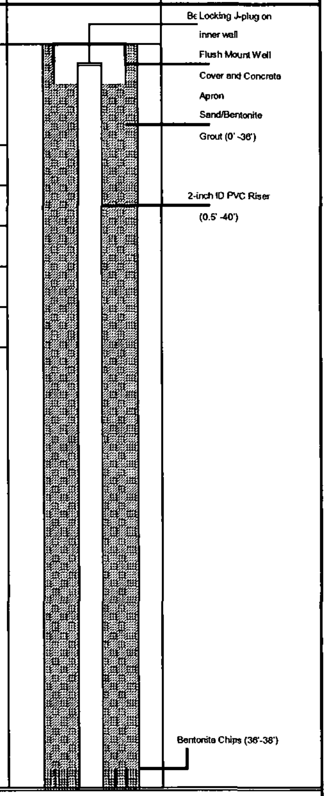
Date/Time Finish: 10/28/09 1400

Location Plan N

See Site Plan

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
0					Please refer to the GW-17 boring log for field identification of 0-5 ft bgs interval
1					
2					
3					
4					
5		1-2-1-2	67	0.1	Light brown/tan fine to medium SAND, trace fine Gravel
6					
7		1-2-2-2	50	0.2	Light brown fine to medium SAND, trace Silt
8					
9		1-2-3-2	58	0.2	0"-11" Light brown fine to medium SAND, trace Silt
10					11"-14" Light brown fine to medium SAND, little Silt
11		2-2-1-2	67	0.3	0"-8" Light brown fine to medium SAND, little Silt
12					8"-16" Light tan/grey fine to medium SAND
13		3-2-4-5	67	0.3	Light tan/grey fine to medium SAND
14					
15					Please refer to the GW-17 boring log for field identification of 15-50 ft bgs interval
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					

SCHEMATIC **COMMENTS**



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

Contractor: Advanced Drilling Technology	**PARSONS** DRILLING RECORD	BORING/ WELL NO. MW-10	Sheet 2 of 2
Driller: Les Darrow/Brian Lyon		Location Description:	
Inspector: Zohar Lavy	PROJECT NAME: Consolidated Edison	New St., St. John's Church Property	
Rig Type: Truck Mounted Hollow Stem Auger	PROJECT NUMBER: 442189.11000		

GROUNDWATER OBSERVATIONS

Water Level	DTW	DTW 20.52		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Weather: Rain, 50's, 5-10 mph Wind (SW)

Date/Time Start: 10/28/09 0950

Date/Time Finish: 10/28/09 1400

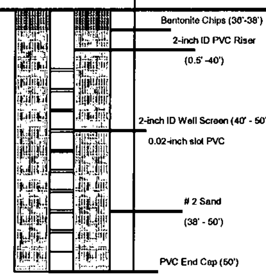
Location Plan

N

See Site Plan

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
37					Please refer to the GW-17 boring log for field identification of 15-50 ft bgs interval
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					End boring at 50 ft bgs

SCHEMATIC / COMMENTS



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

PARSONS

DRILLING RECORD

Contractor:	Advanced Drilling Technology			BORING/ WELL NO. MW-11A
Driller:	Les Darrow/Brian Lyon			Sheet 1 of 1
Inspector:	Zohar Lavy	PROJECT NAME:	Consolidated Edison	Location Description: New St., St. John's Church Property
Rig Type:	Truck Mounted Hollow Stem Auger	PROJECT NUMBER:	442189.11000	

GROUNDWATER OBSERVATIONS

Water Level	DTW	DTW 23.87		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Weather: Rainy, 50's, 0-5 mph Wind (W)

Date/Time Start: 10/27/09 0840

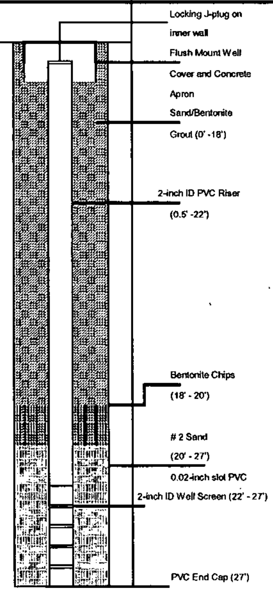
Date/Time Finish: 10/27/09 1100

Location Plan N

See Site Plan

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
0					Please refer to the GW-11 boring log for field identification of the 0-27 ft bgs interval
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					End Boring at 27 ft bgs
28					
29					
30					
31					
32					
33					
34					
35					
36					

SCHEMATIC **COMMENTS**



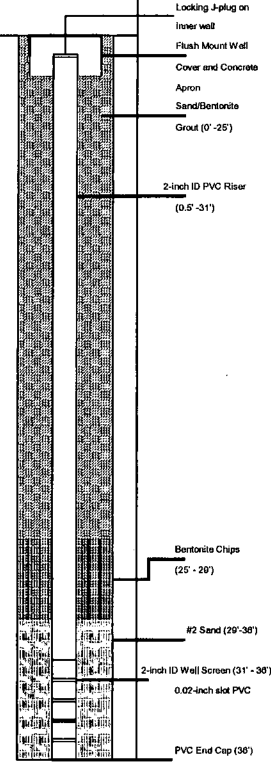
SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

Contractor: Advanced Drilling Technology	**PARSONS** DRILLING RECORD	**BORING/ WELL NO. MW-11B** Sheet 1 of 1
Driller: Les Darrow/Brian Lyon		**Location Description:**
Inspector: Zohar Lavy	**PROJECT NAME:** Consolidated Edison	New St., St. John's Church Property
Rig Type: Truck Mounted Hollow Stem Auger	**PROJECT NUMBER:** 442189.11000	

GROUNDWATER OBSERVATIONS						
Water Level	DTW	DTW 24.11			**Weather:** Clear, 50's, 0-5 mph Wind (E)	**Location Plan** N
Date		11/9/09			**Date/Time Start:** 10/26/09 1030	See Site Plan
Time		1300				
Meas. From		Top of Casing			**Date/Time Finish:** 10/26/09 1400	

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
0					Please refer to the GW-11 boring log for field identification of the 0-36 ft bgs interval
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					End Boring at 36 ft bgs

SCHEMATIC / **COMMENTS**



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

PARSONS

DRILLING RECORD

BORING/ WELL NO. MW-11C Sheet 1 of 2

Contractor:	Advanced Drilling Technology
Driller:	Les Darrow/Brian Lyon
Inspector:	Zohar Lavy
Rig Type:	Truck Mounted Hollow Stem Auger

PROJECT NAME: Consolidated Edison

PROJECT NUMBER: 442189.11000

Location Description: New St., St. John's Church Property

Location Plan See Site Plan N

Weather: Rainy, 50's, 0-5 mph Wind (W)

Date/Time Start: 10/27/09 1120

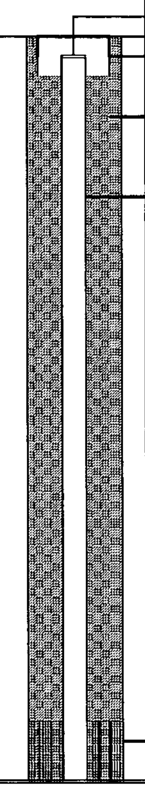
Date/Time Finish: 10/27/09 1700

GROUNDWATER OBSERVATIONS

Water Level	DTW	DTW 23.93		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
0					Please refer to the GW-11 boring log for field identification of 0-9 ft bgs interval
1					
2					
3					
4					
5					
6					
7					
8					
9		1/12"-1-1	50	0.1	0-9" Light brown/tan medium SAND
10				0.1	9-12" Tan/brown coarse SAND
11		2-4-5-5	58	0.1	0-10" Light brown/tan medium SAND, dry
12					10-14" Brown fine to medium SAND, trace Silt, dense, dry
13		1-1-1-2	100	0.2	0-5" Brown fine to medium SAND, trace Silt, dense, dry
14					5-24" Light brown fine to medium SAND, trace Mica
15		1-1-2-2	67	0.2	Brown/light tan fine to medium SAND, trace Mica
16					
17		1-3-3-3	58	0.1	Light brown medium SAND, trace Mica
18					
19		1-3-4-4	50	0.2	Tan/grey fine to medium SAND, trace Mica
20					
21		4-3-3-3	50	0.1	Light brown/tan medium SAND, trace Mica, slightly moist
22					
23		4-2-3-4	50	0.2	Brown/grey fine to medium SAND, trace Mica, saturated
24					
25					Please refer to the GW-11 boring log for field identification of the 25-37 ft bgs interval
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					

SCHEMATIC **COMMENTS**



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

PARSONS

DRILLING RECORD

Contractor:	Advanced Drilling Technology
Driller:	Les Darrow/Brian Lyon
Inspector:	Zohar Lavy
Rig Type:	Truck Mounted Hollow Stem Auger

PROJECT NAME: Consolidated Edison

PROJECT NUMBER: 442189.11000

BORING/ WELL NO. MW-11C Sheet 2 of 2

Location Description: New St., St. John's Church Property

Location Plan N

See Site Plan

Weather: Rainy, 50's, 0-5 mph Wind (W)

Date/Time Start: 10/27/09 1120

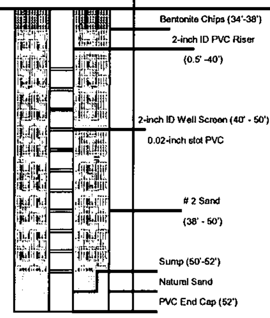
Date/Time Finish: 10/27/09 1700

GROUNDWATER OBSERVATIONS

Water Level	DTW	DTW 23.93		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
37					Please refer to the GW-11 boring log for field identification of the 37-50 ft bgs interval
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					End boring at 50 ft bgs
51					
52					

SCHEMATIC **COMMENTS**



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

PARSONS

DRILLING RECORD

Contractor:	Advanced Drilling Technology	**BORING/ WELL NO.**	MW-12A
Driller:	Les Darrow/Brian Lyon	Sheet	1 of 1
Inspector:	Zohar Lavy	**Location Description:**	Courtyard, St. John's Church Property
Rig Type:	Track Mounted LC 50		

PROJECT NAME: Consolidated Edison

PROJECT NUMBER: 442189.11000

GROUNDWATER OBSERVATIONS

Water Level	DTW	DTW 27.07		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Weather: Overcast/cloudy, 50's, 0-5 mph Wind (S)

Date/Time Start: 11/5/09 0745

Date/Time Finish: 11/5/09 1000

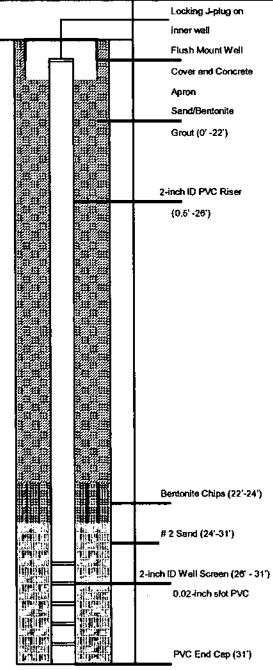
Location Plan

N

See Site Plan

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
0					Please refer to the GW-12 boring log for field identification of the 0-31 ft bgs interval
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					End Boring at 27 ft bgs
32					
33					
34					
35					
36					

SCHEMATIC | **COMMENTS**



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

Contractor: Advanced Drilling Technology	**PARSONS** DRILLING RECORD	**BORING/ WELL NO.** MW-12B	Sheet 1 of 2
Driller: Les Darrow/Brian Lyon		**Location Description:**	
Inspector: Zohar Lavy	**PROJECT NAME:** Consolidated Edison	Courtyard, St. John's Church Property	
Rig Type: Track Mounted LC 50	**PROJECT NUMBER:** 442189.11000		

GROUNDWATER OBSERVATIONS				
Water Level	DTW	DTW 27.13		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Weather: Overcast/cloudy, 50's, 0-5 mph Wind (S)

Date/Time Start: 11/5/09 1030

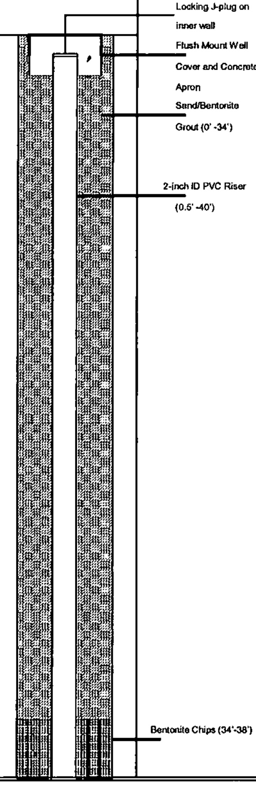
Date/Time Finish: 11/5/09 1700

Location Plan N

See Site Plan

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
0					Please refer to the GW-12 boring log for field identification of 0-37 ft bgs interval
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					

SCHEMATIC | **COMMENTS**



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

PARSONS

DRILLING RECORD

Contractor:	Advanced Drilling Technology
Driller:	Les Darrow/Brian Lyon
Inspector:	Zohar Lavy
Rig Type:	Track Mounted LC 50

PROJECT NAME: Consolidated Edison

PROJECT NUMBER: 442189.11000

BORING/ WELL NO. MW-12B Sheet 2 of 2

Location Description: Courtyard, St. John's Church Property

GROUNDWATER OBSERVATIONS

Water Level	DTW	DTW 27.13		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Weather: Overcast/cloudy, 50's, 0-5 mph Wind (S)

Date/Time Start: 11/5/09 1030

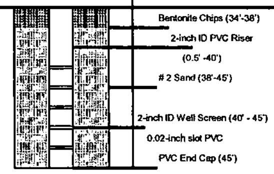
Date/Time Finish: 11/5/09 1700

Location Plan N

See Site Plan

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
37					Please refer to the GW-12 boring log for field identification of the 37-45 ft bgs interval
38					
39					
40					
41					
42					
43					
44					
45					End boring at 45 ft bgs

SCHEMATIC **COMMENTS**



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

PARSONS

DRILLING RECORD

Contractor:	Advanced Drilling Technology
Driller:	Les Darrow/Brian Lyon
Inspector:	Zohar Lavy
Rig Type:	Track Mounted LC 50

PROJECT NAME: Consolidated Edison

PROJECT NUMBER: 442189.11000

BORING/ WELL NO. MW-12C Sheet 1 of 2

Location Description: Courtyard, St. John's Church Property

GROUNDWATER OBSERVATIONS

Water Level	DTW	DTW 27.47		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Weather: Clear, 40's, 5-10 mph Wind (S)

Date/Time Start: 11/6/09 0800

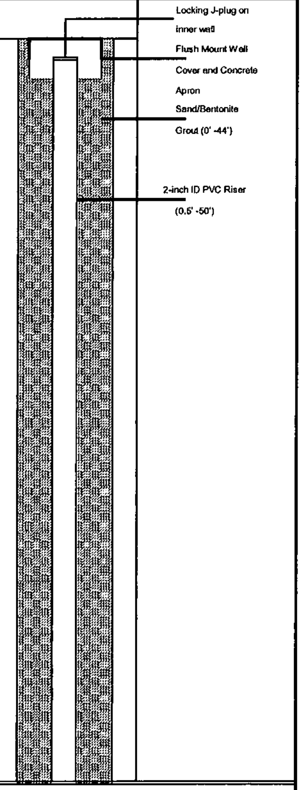
Date/Time Finish: 11/6/09 1430

Location Plan N

See Site Plan

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
0					Please refer to the GW-12 boring log for field identification of 0-8 ft bgs interval
1					
2					
3					
4					
5					
6					
7					
8		4-4-3-3	13	0.0	Backfill SAND, some sub-angular Gravel
9					
10		2-3-2-2	25	0.1	Light brown medium to coarse SAND, trace sub-angular Gravel
11					
12		3-3-3-5	0	-	No Recovery
13					
14		4-5-5-6	33	0.1	Tan medium SAND, trace fine sub-angular Gravel
15					
16		3-4-4-5	50	0.1	Brown fine to medium SAND, some sub-angular Gravel
17					
18		3-4-5-8	42	0.3	Light brown/tan fine to medium SAND, trace sub-angular and sub-round Gravel
19					
20		3-6-7-8	42	0.2	Light brown/grey medium SAND, trace sub-angular and sub-round Gravel
21					
22		8-8-9-10	58	0.1	Light brown/grey medium SAND, trace sub-angular and sub-round Gravel, trace Mica
23					
24		8-7-6-8	42	0.2	Brown fine to medium SAND, trace Mica, moist
25					
26					Please refer to the GW-12 boring log for field identification of 26-37 ft bgs interval
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					

SCHEMATIC / **COMMENTS**



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

PARSONS

DRILLING RECORD

Contractor:	Advanced Drilling Technology
Driller:	Les Darrow/Brian Lyon
Inspector:	Zohar Lavy
Rig Type:	Track Mounted LC 50

PROJECT NAME: Consolidated Edison

PROJECT NUMBER: 442189.11000

BORING/ WELL NO. MW-12C

Sheet 2 of 2

Location Description: Courtyard, St. John's Church Property

GROUNDWATER OBSERVATIONS

Water Level	DTW	DTW 27.47		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Weather: Clear, 40's, 5-10 mph Wind (S)

Date/Time Start: 11/6/09 0800

Date/Time Finish: 11/6/09 1430

Location Plan

N

See Site Plan

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
37					Please refer to the GW-12 boring log for field identification of the 37-60 ft bgs interval
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
60		5-5-6-7	50	0.3	Tan/grey fine SAND, trace Silt and Mica
61					
62					End boring at 62 ft bgs

SCHEMATIC | **COMMENTS**

SAMPLING METHOD

SS = SPLIT SPOON

A = AUGER CUTTINGS

C = CORED

PARSONS

DRILLING RECORD

Contractor:	Advanced Drilling Technology
Driller:	Les Darrow/Brian Lyon
Inspector:	Zohar Lavy
Rig Type:	Track Mounted LC 50

PROJECT NAME: Consolidated Edison
PROJECT NUMBER: 442189.11000

BORING/ WELL NO. MW-13 Sheet 1 of 2

Location Description: Courtyard, St. John's Church Property

Location Plan N
See Site Plan

GROUNDWATER OBSERVATIONS

Water Level	DTW	DTW 27.23		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

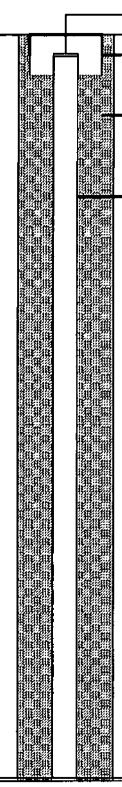
Weather: Clear, 50's, 0-5 mph Wind (SE)

Date/Time Start: 11/2/09 1430

Date/Time Finish: 11/3/09 1300

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
0					Please refer to the GW-15 boring log for field identification of 0-4 ft bgs interval
1					
2					
3					
4		2-3-4-4	25	0.1	Orange/brown medium to coarse SAND, little sub-round and sub-angular Gravel, trace Silt
5					
6		3-3-3-3	33	0.1	Orange/brown medium to coarse SAND, little sub-round and sub-angular Gravel, trace Silt
7					
8		WH/12"-1-2	75	0.1	BENTONITE
9					
10		1-1-2-3	50	0.1	0"-4" BENTONITE
11					4"-12" Brown medium SAND, trace Mica and fine sub-round Gravel
12		3-5-4-4	50	0.1	Brown medium SAND, little Bentonite, trace Mica and fine sub-round Gravel
13					
14		2-2-3-2	50	0.1	Brown medium SAND, little Bentonite, trace fine sub-round Gravel
15					
16		2-1/12"-1	58	0.1	BENTONITE
17					
18		3-3-4-5	42	0.0	Tan coarse SAND, little fine sub-angular and sub-round Gravel, trace angular Gravel
19					
20					Please refer to the GW-15 boring log for field identification of 20-65 ft bgs interval
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					

SCHEMATIC / **COMMENTS**



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

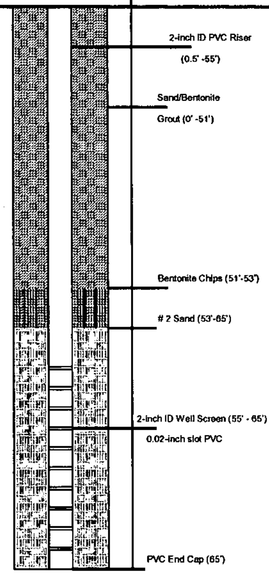
P:\ConEdison\White Plains, NY\OU1 - St Johns\SMP\Appendices\Appendix B - Well Construction and Boring Logs.xlsx

PARSONS

DRILLING RECORD

Contractor:	Advanced Drilling Technology		**BORING/ WELL NO.** MW-13	Sheet 2 of 2
Driller:	Les Darrow/Brian Lyon		**Location Description:**	
Inspector:	Zohar Lavy	**PROJECT NAME:** Consolidated Edison	Courtyard, St. John's Church Property	
Rig Type:	Track Mounted LC 50	**PROJECT NUMBER:** 442189.11000		

GROUNDWATER OBSERVATIONS						
Water Level	DTW	DTW 27.23			**Weather:** Clear, 50's, 0-5 mph Wind (SE)	**Location Plan**
Date		11/9/09			**Date/Time Start:** 11/2/09 1430	See Site Plan
Time		1300				
Meas. From		Top of Casing			**Date/Time Finish:** 11/3/09 1300	

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL	SCHEMATIC	COMMENTS
37					Please refer to the GW-15 boring log for field identification of 20-65 ft bgs interval		
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							
61							
62							
63							
64							
65					End boring at 65 ft bgs		

SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

PARSONS

DRILLING RECORD

BORING/ WELL NO. MW-14 — Sheet 1 of 2

Contractor: Advanced Drilling Technology
Driller: Les Darrow/Brian Lyon
Inspector: Zohar Lavy
Rig Type: Track Mounted LC 50

PROJECT NAME: Consolidated Edison
PROJECT NUMBER: 442189.11000

Location Description: Courtyard, St. John's Church Property

Location Plan: See Site Plan — N

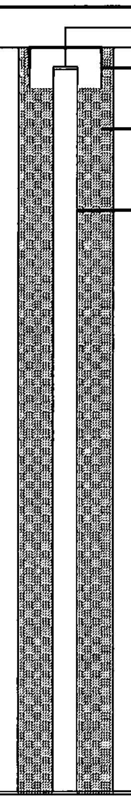
Weather: Clear, 50's, 0-5 mph Wind (S)
Date/Time Start: 11/4/09 0750
Date/Time Finish: 11/4/09 1500

GROUNDWATER OBSERVATIONS

Water Level	DTW	DTW 27.6		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
0					Please refer to the GW-13 boring log for field identification of 0-7 ft bgs interval
1					
2					
3					
4					
5					
6		WH-WH-1-3	25	0.0	Brown medium to coarse SAND and sub-angular Gravel, little Bentonite
7					
8		1-1-1-1	33	0.0	BENTONITE
9					
10		2-3-3-4	50	0.1	Brown medium to coarse SAND, little Bentonite, trace sub-round and sub-angular Gravel
11					
12		4-3-3-3	67	0.0	0-10" Orange/brown medium to coarse SAND, little fine sub-angular Gravel, trace Bentonite
13					10-16" Tan medium SAND, little fine sub-angular Gravel
14		2-2-3-3	33	0.0	Brown medium to coarse SAND, trace Brick and Cobble and sub-round Gravel
15					
16		2-3-3-3	67	0.0	Brown medium to coarse SAND, trace Brick and fine sub-angular Gravel
17					
18		2-4-4-4	42	0.1	Dark brown medium coarse SAND, trace fine sub-angular Gravel
19					
20					Please refer to the GW-13 boring log for field identification of 20-34 ft bgs interval
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34		1-2-4-3	50	0.2	Brown medium to coarse SAND, trace fine sub-round Gravel
35					
36		2-4-3-4	67	0.2	Brown/grey fine to medium SAND, trace fine sub-round Gravel

SCHEMATIC / COMMENTS



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

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PARSONS

DRILLING RECORD

Contractor:	Advanced Drilling Technology
Driller:	Les Darrow/Brian Lyon
Inspector:	Zohar Lavy
Rig Type:	Track Mounted LC 50

PROJECT NAME: Consolidated Edison

PROJECT NUMBER: 442189.11000

BORING/ WELL NO. MW-14 Sheet 2 of 2

Location Description: Courtyard, St. John's Church Property

GROUNDWATER OBSERVATIONS

Water Level	DTW	DTW 27.6		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Weather: Clear, 50's, 0-5 mph Wind (S)

Date/Time Start: 11/4/09 0750

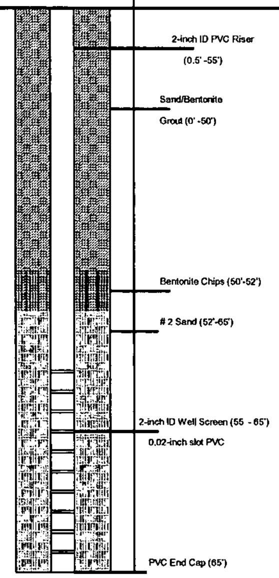
Date/Time Finish: 11/4/09 1500

Location Plan N

See Site Plan

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
37					
38		4-4-5-8	75	0.1	Brown/grey fine to medium SAND, trace Silt and Mica
39					
40					Please refer to the GW-13 boring log for field identification of 40-65 ft bgs interval
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					
61					
62					
63					
64					
65					End boring at 65 ft bgs

SCHEMATIC **COMMENTS**



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

Contractor: Advanced Drilling Technology	**PARSONS**	**BORING/**	Sheet 1 of 2
Driller: Les Darrow/Brian Lyon	**DRILLING RECORD**	**WELL NO. MW-15**	
Inspector: Zohar Lavy	**PROJECT NAME:** Consolidated Edison	**Location Description:**	
Rig Type: Truck Mounted Hollow Stem Auger	**PROJECT NUMBER:** 442189.11000	Parking Lot, St. John's Church Property	

GROUNDWATER OBSERVATIONS				
Water Level	DTW	DTW 30.37		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Weather: Cloudy, 50's, 0-5 mph Wind (S)

Date/Time Start: 10/29/09 0850

Date/Time Finish: 10/29/09 1600

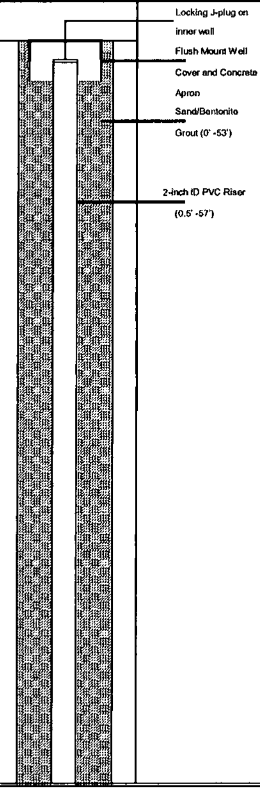
Location Plan

N

See Site Plan

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
0					Please refer to the GW-14 boring log for field identification of 0-29 ft bgs interval
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29		2-2-2-3	75	0.1	Dark tan/brown medium to coarse SAND, trace fine sub-round and sub-angular Gravel,
30					saturated
31		3-4-5-6	63	0.2	Brown medium to coarse SAND, trace fine sub-round and sub-angular Gravel, saturated
32					
33		4-5-7-9	42	0.5	Brown coarse SAND, trace fine Gravel, saturated
34					
35					Please refer to the GW-14 boring log for field identification of 35-54 ft bgs interval
36					

SCHEMATIC **COMMENTS**



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

PARSONS

DRILLING RECORD

BORING/ WELL NO. MW-15 | Sheet 2 of 2

Contractor:	Advanced Drilling Technology
Driller:	Les Darrow/Brian Lyon
Inspector:	Zohar Lavy
Rig Type:	Truck Mounted Hollow Stem Auger

PROJECT NAME: Consolidated Edison

PROJECT NUMBER: 442189.11000

Location Description: Parking Lot, St. John's Church Property

GROUNDWATER OBSERVATIONS

Water Level	DTW	DTW 30.37		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Weather: Cloudy, 50's, 0-5 mph Wind (S)

Date/Time Start: 10/29/09 0850

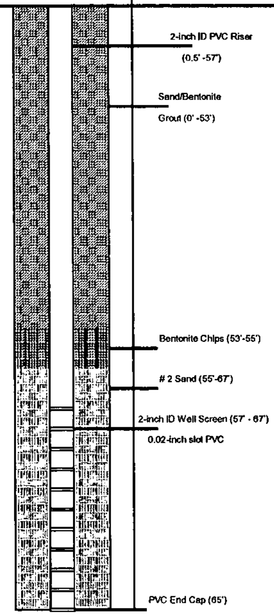
Date/Time Finish: 10/29/09 1600

Location Plan N

See Site Plan

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
37					Please refer to the GW-14 boring log for field identification of 35-54 ft bgs interval
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
52					
53					
54		4-7-8-9	50	0.0	Grey/light brown fine SAND, trace Silt, saturated
55					
56		7-8-8-12	67	0.7	0"-5" Grey/light brown fine SAND, trace Silt, saturated
57				2.9	5"-16" Grey/light brown fine SAND, trace Silt and Mica, saturated
58		4-5-8-12	50	0.9	Grey/light brown medium SAND, trace Silt and Mica, saturated
59					
60		6-9-10-14	42	1.8	0"-4" Grey/light brown medium SAND, trace Silt and Mica, saturated
61				14.1	4"-10" Grey/light brown medium SAND, trace Silt and Mica, saturated, slight hydrocarbon odor
62		7-11-11-12	50	4.5	Grey/light brown fine to medium SAND, trace Silt and Mica, saturated, very slight hydrocarbon
63					odor
64		9-10-11-11	25	0.8	Grey fine to medium SAND, trace Silt, saturated
65					
66		10-11-11-12	42	0.1	Grey fine SAND, trace Silt, saturated
67					
68					End boring at 68 ft bgs

SCHEMATIC | **COMMENTS**



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

PARSONS
DRILLING RECORD

BORING/ WELL NO. MW-16 — Sheet 1 of 2

Contractor: Advanced Drilling Technology
Driller: Les Darrow/Brian Lyon
Inspector: Zohar Lavy
Rig Type: Truck Mounted Hollow Stem Auger

PROJECT NAME: Consolidated Edison
PROJECT NUMBER: 442189.11000

Location Description: Parking Lot, St. John's Church Property

Location Plan: See Site Plan (N)

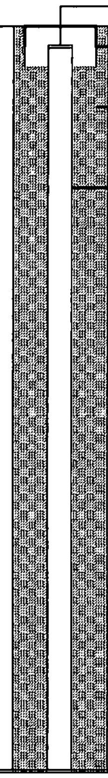
Weather: Overcast, 50's, 0-5 mph Wind (NW)
Date/Time Start: 10/30/09 0845
Date/Time Finish: 10/30/09 1430

GROUNDWATER OBSERVATIONS

Water Level	DTW	DTW 28.48		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
0					Please refer to the GW-19 boring log for field identification of 0-5 ft bgs interval
1					
2					
3					
4					
5		1-1-2-3	58	0.1	Dark brown medium to coarse SAND, trace fine subround Gravel
6					
7		2-2-3-3	58	0.1	Dark brown medium to coarse SAND, trace fine subround Gravel
8					
9		1-2-3-4	33		Brown medium to coarse SAND, little subround Gravel
10					
11					Please refer to the GW-19 boring log for field identification of 11-15 ft bgs interval
12					
13					
14					
15		2-3-3-3	25	0.2	Tan/brown medium to coarse SAND, little sub-round and sub-angular fine Gravel
16					
17		3-3-3-4	67	0.1	Tan/brown medium to coarse SAND, some sub-round fine Gravel
18					
19		5-5-6-7	33	0.1	Tan/brown medium to coarse SAND, little sub-round fine Gravel
20					
21					Please refer to the GW-19 boring log for field identification of 21-55 ft bgs interval
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					

SCHEMATIC



COMMENTS

SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

PARSONS
DRILLING RECORD

BORING/ WELL NO. MW-16 — Sheet 2 of 2

Contractor: Advanced Drilling Technology
Driller: Les Darrow/Brian Lyon
Inspector: Zohar Lavy
Rig Type: Truck Mounted Hollow Stem Auger

PROJECT NAME: Consolidated Edison
PROJECT NUMBER: 442189.11000

Location Description: Parking Lot, St. John's Church Property

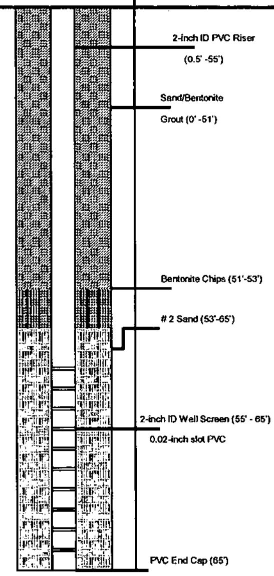
Location Plan — N — See Site Plan

Weather: Overcast, 50's, 0-5 mph Wind (NW)
Date/Time Start: 10/30/09 0845
Date/Time Finish: 10/30/09 1430

GROUNDWATER OBSERVATIONS				
Water Level	DTW	DTW 28.48		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
37					Please refer to the GW-19 boring log for field identification of 21-55 ft bgs interval
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
52					
53					
54					
55		3-8-8-10	50	10.1	0"-6" Light brown/tan fine to medium SAND, saturated, slight hydrocarbon odor
56				48.6	6"-12" Light brown/tan fine SAND, trace Mica, saturated, hydrocarbon odor
57		5-8-11-20	75	35.7	Light brown/grey fine to medium SAND, trace Mica, hydrocarbon odor
58				51.3	
59		9-10-11-15	0	NA	No Recovery
60					
61		7-12-13-15	58	21.6	0"-6" Light brown/grey fine to medium SAND, trace Mica, hydrocarbon odor
62				18.1	6"-14" Light brown/grey fine to medium SAND, trace Mica, slight hydrocarbon odor
63		5-5-8-6	25	0.4	Light brown/grey fine to medium SAND, trace Mica
64					
65					End boring at 65 ft bgs

SCHEMATIC / **COMMENTS**



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

Contractor:	Advanced Drilling Technology	**PARSONS** DRILLING RECORD	BORING/ WELL NO. MW-17 — Sheet 1 of 2
Driller:	Les Darrow/Brian Lyon		Location Description:
Inspector:	Zohar Lavy	PROJECT NAME: Consolidated Edison	Parking Lot, St. John's Church Property
Rig Type:	Truck Mounted Hollow Stem Auger	PROJECT NUMBER: 442189.11000	

GROUNDWATER OBSERVATIONS

Water Level	DTW	DTW 27.44		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Weather: Overcast, 50's, 5-10 mph Wind (S)

Date/Time Start: 10/23/09 0925

Date/Time Finish: 10/23/09 1300

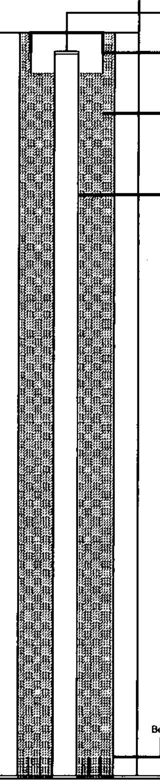
Location Plan

N

See Site Plan

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
0					Please refer to the GW-16 boring log for field identification of 0-50 ft bgs interval
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					

SCHEMATIC | **COMMENTS**



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

Contractor: Advanced Drilling Technology	**PARSONS** DRILLING RECORD	BORING/ WELL NO. MW-17	Sheet 2 of 2
Driller: Les Darrow/Brian Lyon		Location Description:	
Inspector: Zohar Lavy	PROJECT NAME: Consolidated Edison	Parking Lot, St. John's Church Property	
Rig Type: Truck Mounted Hollow Stem Auger	PROJECT NUMBER: 442189.11000		

GROUNDWATER OBSERVATIONS

Water Level	DTW	DTW 27.44		
Date		11/9/09		
Time		1300		
Meas. From		Top of Casing		

Weather: Overcast, 50's, 5-10 mph Wind (S)

Date/Time Start: 10/23/09 0925

Date/Time Finish: 10/23/09 1300

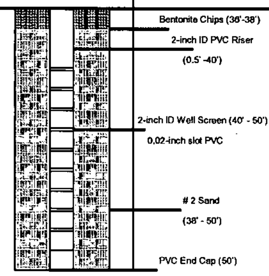
Location Plan

N

See Site Plan

Sample Depth	Location/ Sample I.D.	SPT	% Rec.	PID* (ppm)	FIELD IDENTIFICATION OF MATERIAL
37					Please refer to the GW-16 boring log for field identification of 0-50 ft bgs interval
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					End boring at 50 ft bgs

SCHEMATIC | COMMENTS



SAMPLING METHOD
SS = SPLIT SPOON
A = AUGER CUTTINGS
C = CORED

PARSONS
DRILLING RECORD

BORING/ WELL NO. PB-121 — Sheet 1 of 2

Contractor: ADT
Driller: Les Darrow/Brian Lyon
Inspector: Zohar Lavy
Rig Type: Truck Mounted Hollow Stem Auger

PROJECT NAME: Con Edison / White Plains OU-1
PROJECT NUMBER: 442189-11000

Location Description: St. John's Church Property - Parking Lot

Location Plan: See Site Plan

Weather: Cloudy, 60's, 0-5 mph S winds
Date/Time Start: 10/12/09 1145
Date/Time Finish: 10/22/09 1415

GROUNDWATER OBSERVATIONS				
Water Level	~29'			
Date	10/21/09			
Time	1100			
Meas. From	Split-Spoon samplers			

Sample Depth	Sample I.D.	SPT	% Rec.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	SCHEMATIC (drawing not to scale)	COMMENTS
+3							
+2							
+1							
0							
1		Vactron		NA	0"-10" ASPHALT		
2		Vactron		0.0	10"-4' Dark brown medium SAND, some sub-angular and sub-round GRAVEL, little		
3		Vactron			Cobble, trace Silt		
4		Vactron		0.0	4'-9' Brown medium SAND, little Gravel, trace Silt		
5		Vactron					
6		Vactron					
7		Vactron					
8		1-1-2-2	33	0.2	Brown medium to coarse SAND, some fine rounded Gravel, trace sub-angular Gravel		
9							
10		1-2-2-2	50	0.1	Brown/red medium to coarse SAND, trace fine rounded Gravel		
11							
12		3-4-3-2	13	0.1	Brown/red medium to coarse SAND, trace fine rounded Gravel and sub-angular		
13					Gravel		
14		3-3-3-3	50	0.0	0"-4" Brown/red medium to coarse SAND, trace fine rounded Gravel and sub-angular		
15					Gravel; 4"-12" Light brown/tan medium SAND, trace fine Gravel		
16		3-3-3-3	58	0.1	Light brown/tan medium SAND, trace fine Gravel		
17							
18		2-2-3-3	58	0.0	Tan medium to coarse SAND		
19							
20		2-2-2-3	58	0.0	Light brown/tan medium to coarse SAND		
21							
22		3-3-3-3	67	0.0	0"-3" Light brown/tan medium to coarse SAND, trace Mica		
23					3"-16" Brown fine to medium SAND, trace Mica, slightly moist		
24		1-2-2-3	75	0.1	0"-10" Brown fine to medium SAND, trace Mica, slightly moist		
25					10"-18" Light brown/tan fine to medium SAND, trace Mica		
26		3-2-2-2	67	0.1	0"-8" Light brown/tan fine to medium SAND, trace Mica; 8"-12" Light brown/tan fine to		
27					medium SAND, trace Mica and Silt; 12"-16" Light brown/tan fine to medium SAND, trace Mica		
28		1-1-1-2	67	0.0	0"-5" Light brown/tan fine to medium SAND, trace Mica, slightly moist		
29					5"-16" Brown fine SAND, trace Mica and Silt, saturated		
30		1/18"-1	75	0.0	0"-14" Brown fine SAND, trace Mica and Silt, saturated; 14"-16" Brown fine SAND,		
31					little Silt, trace Mica, saturated; 16"-18" Dark brown medium to coarse SAND, trace fine Gravel		
32		1-1-1-1	100	0.0	0"-18" Brown medium to coarse SAND, trace Silt and Mica, saturated; 18"-24" Brown/		
33					grey fine to medium SAND, trace Mica, saturated		
34		1-2-3-4	75	0.4	0"-16" Brown medium SAND, saturated; 16"-18" Grey fine SAND and SILT, trace Clay		
35							
36		1-1-4-4	33	0.1	0"-2" Brown medium SAND, saturated; 16"-18" Grey fine SAND and SILT, trace Clay		
37					2"-8" Brown fine SAND, little Mic:		

SAMPLING METHOD and Notes
WH - Weight of Hammer
HC = HAND CLEARED
VC = VACUUM CLEARED
DW = Drive and Wash

COMMENTS:
Boring was hand cleared to 9' bgs; Hollow Stem Auger and Split Spoon 8' to 72' bgs.
HCN not detected in any interval.
Auger to 40 ft bgs; Drive and Wash methods used from 40-72 ft bgs

Contractor: ADT	**PARSONS DRILLING RECORD**	**BORING/ WELL NO.** PB-121	Sheet 2 of 2
Driller: Les Darrow/Brian Lyon		**Location Description:**	
Inspector: Zohar Lavy	**PROJECT NAME:** Con Edison / White Plains OU-1	St. John's Church Parking Lot	
Rig Type: Truck Mounted Hollow Stem Auger	**PROJECT NUMBER:** 442189-11000		

GROUNDWATER OBSERVATIONS						
Water Level	~29'				**Weather:** Cloudy, 60's, 0-5 mph S winds	**Location Plan**
Date	10/21/09				**Date/Time Start:** 10/12/09 1145	See Site Plan
Time	1100					
Meas. From	Split-Spoon samplers				**Date/Time Finish:** 10/22/09 1415	

Sample Depth	Sample I.D.	SPT	% Rec.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	SCHEMATIC (drawing not to scale)	COMMENTS
38		WH-1-2-3	25	0	Brown fine SAND, little Mica		
39							
40		1-1-2-4	50	0.1	Brown/grey medium SAND, trace Mica, saturated		
41							
42		4-6-8-8	67	0.2	0"-13" Brown/grey medium SAND, trace Mica, saturated		
43					13"-16" Brown/grey fine SAND, little Mica, saturated		
44		4-4-6-8	67	0.1	0"-12" Brown/grey fine SAND, trace Silt and Mica, saturated		
45					12"-16" Light brown/grey fine SAND, little Silt, saturated		
46		6-10-12-16	75	0.2	0"-4" Light brown/grey fine SAND, little Silt, saturated; 4"-16" Grey/light brown fine		
47					SAND, saturated; 16"-18" Brown/grey medium SAND, saturated		
48		4-6-8-8	25	0.0	Grey fine to medium SAND, saturated		
49							
50		4-6-8-9	0	NA	No Recovery		
51							
52		8-11-14-14	50	0.4	0"-8" Grey fine to medium SAND, saturated		
				12.3	8"-10" Grey fine to medium SAND, little sub-round and rounded Gravel saturated		
53				51.2	10"-12" Grey fine SAND, trace Silt, saturated, slight hydrocarbon odor		
54		5-5-4-6	25	25.7	Grey fine SAND, trace Silt, saturated, slight hydrocarbon odor		
55							
56		5-7-7-9	58	4.6	0"-7" Grey fine SAND, trace Silt, saturated		
57				1.2	7"-14" Grey fine SAND, saturated		
58		3-3-6-6	42	0.3	Grey fine SAND, trace Silt, saturated		
59							
60		2-3-4-6	58	0.0	Grey fine SAND, trace Silt, saturated		
61							
62		3-4-9-9	83	0.0	Grey fine SAND, little Silt, saturated		
63							
64		6-9-6-8	50	0.0	Dark grey fine SAND, some fine sub-angular and sub-round Gravel, trace Silt,		
65					saturated		
66		22-25-52-26	75	0.0	Dark grey fine SAND, some fine sub-angular and sub-round Gravel, trace Silt, trace		
67					weathered Gneisic Schist, saturated		
68		12-12-22-21	25	0.3	Grey fine SAND and wearthered Gneisic Schist, trace Silt		
69							
70		10-10-6-8	0	NA	No Recovery		
71							
72					**End of Boring at 72 ft bgs**		
73							
74							
75							
76							
77							
78							
79							
80							
81							

SAMPLING METHOD and Notes	COMMENTS:
WH - Weight of Hammer	Boring was hand cleared to 9' bgs; Hollow Stem Auger and Split Spoon 8' to 72' bgs.
HC = HAND CLEARED	HCN not detected in any interval.
VC = VACUUM CLEARED	Auger to 40 ft bgs; Drive and Wash methods used from 40-72 ft bgs
DW = Drive and Wash	

APPENDIX C

HEALTH AND SAFETY PLAN AND COMMUNITY AIR MONITORING PLAN

APPENDIX C

TEMPLATE HEALTH AND SAFETY PLAN FOR THE ST. JOHN'S CHURCH PROPERTY WHITE PLAINS FORMER MGP SITE (Site #V00438-3) White Plains, New York

Prepared For:

TBD
(Insert Office Name)
(Insert Street Address)
(Insert City, State and Zip Code)

Prepared By:

(Insert Subcontractor Name)
(Insert Street Address)
(Insert City, State, and Zip Code)
Author: (Insert Name and Title)

REVIEWED AND APPROVED BY:

Project Manager: ______________________________ ___________

Date

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LIST OF EXHIBITS

LIST OF TABLES

LIST OF FIGURES

LIST OF ATTACHMENTS

LIST OF ACRONYMS

AED	Automated External Defibrillator
AHA	Activity Hazard Analysis
CFR	Code of Federal Regulations
CPR	Cardiopulmonary Resuscitation
EMS	Emergency Medical Services
HAZWOPER	Hazardous Waste Operations and Emergency Response
IDLH	Immediately Dangerous to Life and Health
NAPL	Non-Aqueous Phase Liquid
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PID	Photo Ionization Detector
PPE	Personal Protective Equipment
PSM	Project Safety Manager
HASP	Health and Safety Plan
SSO	Site Safety Officer
TBD	To Be Determined
UV	Ultraviolet Radiation
VOC	Volatile Organic Compounds
WP	Work Plan

1.0 INTRODUCTION

This Health and Safety Plan (**HASP**) has been prepared for any post-remediation work at the Saint John the Evangelist Church section of Operable Unit 1 (**"OU-1"**) of theWhite Plains Former Manufacturd Gas Plant Site (hereinafter the Saint John the Evangelist Church property is referred to as the "**Site**"). It provides guidance for office and field activities required to complete the scope of work. This plan is a template to be used to prepare a Site-specific HASP by any future party performing work at the Site. This template provides guidance for potential hazards that may he encountered during field activities that may be required to complete any post-remedial activities. The primary post-remedial field activities may include, but are not limited to, the following:

- Future intrusive construction work; and
- Monitoring, inspection and maintenance of the groundwater monitoring wells installed at the Site.

During intrusive work and other field activities, field staff may be exposed to hazards associated with chemicals of concern on and off the Site. As a result, field personnel may be required to have specialized training (i.e. as per 29 CFR 1910.120) or wear personal protective equipment (**PPE**) suitable for the level of contaminates present. Air monitoring may be required to evaluate contamination levels, ambient air conditions, and to determine if additional PPE is necessary.

Field staff may also be exposed to other hazards that are encountered during field activities including slips, trips, falls, automobiles, traffic, heavy equipment, drill rigs, and winches. Depending upon the time of season, field staff may be exposed to biological hazards, for example insect bites, stings, ticks, and snakes. Meteorological hazards such as lightning, wind, rain, and ultraviolet radiation may also be present.

This HASP template outlines safety and health requirements and guidelines for project work. When implemented, these requirements will help protect Site personnel, visitors, the public and environment from exposure to potential safety and health hazards.

This HASP must be updated as conditions change or situations change, usually by addenda to the plan. All field personnel must understand and implement the HASP and any addenda. Review of the HASP should be documented by having field personnel sign an acknowledgement form stating that they understand the plan and its requirements.

2.0 STATEMENT OF HEALTH & SAFETY POLICY

This Section will be updated with a statement of safety and health policy by the party performing the work prior to commencement of any intrusive field activities at the Site.

3.0 SCOPE OF WORK EVALUATION

This HASP Template accompanies the Site Management Plan (**SMP**) for the Site which has been remediated according to the Remedial Action Work Plan (**RAWP**). All aspects of future Site redevelopment will be managed by the SMP. This template should be updated by the party completing the work to cover all tasks and activities completed under the SMP. This potential scope of work described in the SMP includes but is not limited to intrusive activities that may result in encountering residual contaminated soils as part of future redevelopment and general Site inspections.

4.0 SITE BACKGROUND

The Site is located in the County of Westchester, New York and is identified as Block 6 and Lot 2 on the Tax Map of the City of White Plains. The site is an approximately 1.75-acre area bounded by New Street to the north, Hamilton Avenue, open space and commercial buildings to the south, office buildings and an above-ground parking lot to the east, and North Lexington Avenue, open space, an above-ground parking lot and a commuter transportation center to the west.

5.0 SITE HISTORY

The Site is comprised of a rectangular parcel which includes the Parish of St. John the Evangelist which consists of four buildings, a parking lot, and grassy areas. The four buildings include a church, the rectory, a school, and a gymnasium.

The historical information provided below has been summarized from the Site Investigation Report prepared for the former MGP site located in close proximity to the Site (Parsons, 2004).

Beginning in the mid-1800s, a manufactured gas plant (**MGP**) was operated in the area between Lexington Avenue on the west, Spring Street on the east, New Street on the south and Gas Street on the north. The MGP property is labeled as "Gasworks" on the 1861 map from the Historical Atlases of Westchester County. The MGP contained two buildings and a small gasometer (gasholder). The 1889 Sanborn map indicates the MGP was operated by the White Plains Gas Light Company. The structures depicted as being present indicate that gas was produced from coal and naphtha. The MGP contained a retort house, a coal house, a meter room, four purifiers, a 24,000 cubic foot (**cf**) gasholder, a tar well, and a iron naphtha tank. The western and southern portions of the MGP property contained residential dwellings. A small stream flows to the north along the east side of Spring Street. At the northeast corner of the MGP property, the stream bends to the west and flows westward along the northern side of Gas Street.

The same structures appear to be present on an 1893 map from the Historical Atlases of Westchester County. Structures on the 1894 Sanborn map is similar to the 1889 map. The White

Plains Lighting Company is now shown as owner of the MGP. Changes on the map include the addition of a White Plains Steam Laundry building in the northern portion of the property and the re-naming of Gas Street to Water Street.

The 1900 Sanborn map indicates expansion and a process change at the plant from coal gas to a carbureted water gas. The retort house has been converted to a boiler house and generator house. A new 50,000 cf one-lift gasholder is present north of the existing gasholder in the vicinity of the former White Plains Steam Laundry. A new purifying house is also present in the northeast corner of the MGP property. Residential dwellings are still present in the southern and western portions of the property. The 1901 Historical Atlas map is similar to the 1900 Sanborn map.

The 1905 Sanborn map indicates further expansion and change of the MGP property. A third 150,000 cf two-lift gasholder is present west of the second gasholder. The smaller southern 24,000 cf gasholder has been converted to a 10,000 gallon oil tank. An electric substation is also located adjacent to the boiler house building.

The 1911 Sanborn map and the June 1, 1911 property plan indicates that ownership of the MGP had changed to the Westchester Lighting Company. The MGP contains various structures including two relief holders, a storage holder, a generator house, a purifying house, various storage sheds, a stable, a substation, several oil and tar tanks, a tar separator, and a tar well. Several buildings have also been added to the western portion of the property.

Operations at the MGP reportedly ceased in May 1930. The gasholders and oil tanks are no longer present on the 1930 Sanborn map. The purifier house, boiler house and generator house are shown as vacant or used for storage. A two-story building (the current substation building) and transformers are present in the southern portion of the MGP property where dwellings were previously located. The substation building was reportedly constructed in 1925 adjacent to the substation on the MGP property. A large building (the current 12 Water Street building) is also present in the northwest portion of the MGP property. The stream located east and north of the MGP property is also filled in, its former location shown in dashed lines.

All of the former MGP buildings with the exception of a storage building (the former purifying house) located in the northeast corner of the property are no longer shown on the 1950 Sanborn map. A parking lot is also present adjacent to the large building in the northwest portion of the MGP property. The remainder of the MGP property is similar to the 1930 Sanborn map.

In February 1951, Westchester Lighting Company merged with Con Edison. The 1954 and later aerial photographs and Sanborn Maps indicate that the MGP property consisted of a Con Edison substation.

6.0 RESPONSIBILITY/IDENTIFICATION OF KEY LINE PERSONNEL

This section will be updated by the party performing the work prior to the commencement of such work.

Contractor:		
Address:		
Telephone:		Email:

Company Executive responsible for project: TBD	Contact No. TBD
Manager/Superintendent: TBD	Contact No. TBD
Safety Representative/Manager: TBD	Contact No. TBD
Key Foreperson or forepersons: TBD	Contact No. TBD
Client Project Management POC: Mr. Rich Rienzo	Contact No. TBD

These personnel have the authority and responsibility for implementing the provisions of this program for:

Project Site Location	On-Site Contact No. TBD

All managers and supervisors are responsible for implementing and maintaining the Site-specific HASP in their work areas and for answering worker questions about the HASP. A copy of this HASP must be available for review.

7.0 IDENTIFICATION OF COMPETENT/QUALIFIED PERSONS

The party performing the work and/or their subcontractors must identify OSHA-regulated and certified competent persons for work or tasks requiring that level of supervision. The field personnel listed below will be assigned to the project and have the designated certifications.

This section will be updated by the party performing the work prior to the commencement of work at the Site.

Name	Job Title	40-hr HAZWOPER	8-hr HAZWOPER Supervisor	8-hr HAZWOPER Refresher Expires	Other training (i.e. excavation, confined space)

Prior to the commencement of any field activities, a competent person will be identified as the Field Supervisor and the person's certifications will be added to the HASP. The supervisor of the competent person must certify in writing the specific competencies of the named competent person.

8.0 HAZARD/RISK/EXPOSURE ASSESSMENT

A Site -specific risk analysis must be conducted before commencing any investigation and remediation efforts at the Site. An example of a Site-specific risk review checklist is included as Exhibit 8.1, which must be modified by the Project Manager of the party performing work at the Site. This checklist documents existing exposures that may impact the work, surrounding facilities, equipment, workers, or the public at large. The analysis includes locating, documenting, and/or photographing items such as:

- Overhead and underground power lines;
- Sewer and water utilities;
- Underground fuel oil pipelines;
- Existing building interferences;
- Traffic;
- Security;
- Fences;
- Water hazards;
- Existing geographical and environmental conditions; and
- Investigation Derived Waste (**IDW**) Disposal.

Upon completion of the Site-specific risk analysis, personnel must identify and control all work-related hazards and propose controls and mitigation strategies for high-risk activities.

Pre-field work safety activities include a detailed analysis of the scope of work and safety specifications. An example of elements that could be included in a pre-field work safety meeting is presented in Exhibit 8.2.

Exhibit 8.1 Site-Specific Risk Review Checklist

Date: Project or Location:

Risk/Hazard	Detail	Present?
Employee Exposure	Hazardous Chemicals	
	Lead	
	Asbestos	
	UXO	
	PCB	
	Airborne contaminants (dust, mists, fumes)	
	Other (specify):	
Hazardous Waste	Handling, removal or storage of hazardous is required	
Crane Work	Mobile cranes	
	Tandem lifts	
	Bridge cranes	
	Derricks	
Powered Industrial Trucks	Forklift training is required	
Aerial Lifts	Hydraulic booms	
	Scissor lifts	
	Mobile scaffolding	
Drilling/Sediment Sampling	Vibracore	
	Grab Sampling	
Electrical	Staging area	
Marine/Over Water Work	Work on or over water is required	
	Underwater (diving) work is required	
Personal Protective Equipment	Work activities or work site requires hearing protection	
	Work activities or location requires using respirators	
	Work activities or location requires special protective clothing	
Public Exposure	Work activities or location requires special precautions to protect the public	
Permits	Required	
	Hot permit	
Other Exposures	Other exposure or high-risk activities (list):	

Exhibit 8.2 Pre-Field Work Safety Meeting

Notes: ____

____

Reviewed by:____________________ Title: __________________ Date:__________

Date:	Project/Location:
Subcontractor Representative:	Project Manager (Party performing Work):
Phone:	Phone:
Subcontractor Safety Representative:	Safety Manager (Party performing Work):
Phone:	Phone:

The following items were identified and reviewed:

Health & Safety	
Site-Specific Safety Plans/Model Program	
Competent/Qualified Person Documentation	
Safety Audits/Inspections	
Subcontractor Responsibilities	
Site Orientation Requirements	
Pre-mobilization Safety Meeting/Date	
Crane Inspection Certification	
Personal Protective Equipment (PPE)	
Environmental Hazards	
Other:	
Medical	
Substance Abuse Screening	
Emergency Procedures	
Site Security	
Smoking Policy	
Medical Services Requirements	
Treatment Locations/Addresses/Phone	
Other	

Additional Notes/Comments:

____

____

____

9.0 CONTROL MEASURES/ACTIVITY HAZARD ANALYSIS

9.1 CONTROL MEASURES

Site hazards and hazards resulting from investigation and remediation activities are controlled using one or more of the control measures listed below. The order of precedence is as follows:

9.1.1 Engineer/Design to Eliminate or Minimize Hazards

A major component of the design or planning phase is to select appropriate safety features to eliminate a hazard and render it fail-safe or provide redundancy using backup components.

Exclusion Zone

The exclusion zone will be established at the Site for each intrusive activity. The zone will be defined by the excavation boundaries. In the field, the zone will be defined by temporary posts/stanchions and caution tape, extending from 10 feet up to the swing radius of the operating equipment in each direction around the intrusive activity. Unprotected onlookers should be located 50 feet upwind of drilling or environmental sampling activities. In the event that action levels are exceeded in the breathing zone, then all personnel in the exclusion zone must stop work, evacuate, evaluate the situation. If the actions levels continue to exceed recommended limits then upgrade the level of personal protective equipment on properly trained and certified crew members to continue work.

Decontamination Zone

A decontamination zone will be established between the exclusion zone and the support zone. This zone will also be delineated utilizing stanchions and caution tape, and will be up to 10 feet wide. Personnel decontamination must take place prior to leaving the decontamination area and prior to entering any personnel hygiene facilities, or before eating, drinking, or smoking. Any decontamination water will be contained for appropriate disposal. Soiled PPE will be removed and placed in drums.

Support Zone

A support zone will be established where break areas, operational direction and support facilities (to include supplies, equipment storage and maintenance areas) will be located. No equipment or personnel will be permitted to enter the support zone from the exclusion zone without passing through the personnel or equipment decontamination zone.

9.1.2 Guard the Hazard

Hazards that cannot be eliminated by design must be reduced to an acceptable risk level by safety guards or isolation devices that render them inactive.

9.1.3 Provide Warnings

Hazards that cannot be totally eliminated by design or guarding are controlled through using a warning or alarm device.

Exposure/Air Monitoring Program

An environmental and personal monitoring program will be developed based on Site - specific information for any future intrusive activity. This plan discusses general information on wind direction monitoring, volatile organic compound (**VOC**) monitoring, and dust monitoring.

Wind Direction Monitoring

A wind direction indicator (such as survey flagging tied to a stake) will be erected at every active work site. This will enable the Site Safety Officer (**SSO**) and on- Site personnel to determine upwind locations necessary for proper health and safety procedure implementation, (work areas relative to the excavation) and, if necessary, evacuation procedures.

Volatile Organics Monitoring

Field work at sites with VOC contamination shall use photoionization detector (**PID**) (OVM-580B/580S or equivalent) equipped with a 10.6e V lamp or other monitoring instrument deemed appropriate by the Project Safety Manager (**PSM**) to monitor VOC concentrations in the working area. Readings detected by the PID or other instrument will be used to determine the appropriate levels of protection. Action levels for some VOCs and particulates that have been previously encountered at the Site are presented in Table 9.1.

Dust Monitoring

If Site activities generate sustained (15 minutes), visible dust due to wind erosion of soils, a personal DataRAM meter will be obtained to monitor worker breathing zones for total dust levels. Readings will consider upwind background dust levels, as well as diesel particulate emissions from heavy equipment before upgrades to higher levels of PPE are initiated as shown in Table 9.2.

Community Air Monitoring Plan

Community air monitoring will be conducted in compliance with the NYSDOH's Generic Community Air Monitoring Plan (**CAMP**) which is included as Attachment C. Real-time air monitoring for volatile compounds and particulates at the perimeter of the hot zone will be performed as described below.

VOC Monitoring

Periodic monitoring for VOCs will be conducted during non-intrusive activities such as the collection of soil samples. Periodic monitoring may include obtaining measurements upon arrival at a location, when overturning soil, and upon leaving the location. In some instances, depending on the proximity of exposed individuals, continuous monitoring may be conducted during these activities.

Continuous monitoring for VOCs will be conducted during all ground intrusive activities (i.e., hand clearing, soil boring and monitoring well installation). Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background concentrations. VOCs will be monitored continuously at the downwind perimeter of the hot zone. Monitoring will be conducted in accordance with Table 9.1.

All 15-minute readings will be recorded and available for NYSDEC and NYSDOH personnel to review. Instantaneous readings, if any, will also be recorded.

Particulate Monitoring

Particulate concentrations will be monitored continuously at the downwind perimeter of the hot zone with a portable real-time particulate monitor capable of measuring particulate matter less than 10 micrometers in size and capable of integrating over a period of 15 minutes (or less). The equipment will include an audible alarm to indicate exceedence of the action level.

Upwind concentrations will be measured at the start of each workday and periodically thereafter in accordance with Table 9.1. All readings will be recorded and be available for NYSDEC and NYSDOH personnel to review.

Calibrations

Field instruments will be calibrated immediately prior to each day's use. The calibration procedures will conform to manufacturer's standard instructions. This calibration will ensure that the equipment is functioning within the allowable tolerances established by the manufacturer. Records of all instrument calibration and instrument manuals will be maintained on- Site. Calibrations protocol for a PID is described in more detail below.

PID

The PID will be an OVM-580B/580S (or equivalent), equipped with a 10.6 eV lamp. The MiniRae is capable of ionizing and detecting compounds with an ionization potential of less than 10.6 eV. This accounts for up to 73% of the volatile organic compounds on the Target Compound List.

Calibration must be performed at the beginning of each day of use with a standard calibration gas having an approximate concentration of 100 parts per million **(ppm)** of isobutylene. If the unit experiences abnormal perturbation or erratic readings, additional calibration will be required. All calibration data must be recorded in the field log book.

A battery check must be completed at the beginning and end of each working day.

9.1.4 Provide Special Procedures or Training

When design, guarding, or warnings cannot eliminate hazards, the party performing the work and their subcontractors must develop procedures, training, and audits to ensure safe completion of work. Training cannot be a substitute for hazard elimination when life threatening hazards are present.

Decontamination Procedure

Level D or Modified Level D protection will be worn for initial entry on- Site and initially for all activities. If air concentrations exceed action levels, workers will employ engineering controls first before upgrading the level of protection. Personal decontamination may be necessary for activities involving the use of Modified Level D, Level C, or Level B PPE. Table 9.2 includes the proper decontamination procedures that must be implemented if chemical contamination present and PPE protection greater than level D is used. The Project Safety Manager will determine the proper procedures for decontamination based on the work activities and amount of contamination.

Temporary wash facilities will be provided in the decontamination zone for personnel hand/face washing. This may be substituted with disposable wet towels based on the weather conditions. Waste water will be transferred to 55-gallon drums and will be labeled as IDW. Solid waste generated from the decontamination activities will also be placed in 55-gallon drums and labeled as IDW.

Soil / Water / Waste Management

Procedures will be implemented regarding the management of soil, water, and waste to minimize the likelihood of unacceptable release of hazardous constituents. These procedures include:

- Roll-off container(s) for soil will be located within a staging area located on the west side of the property; the staging area will be fenced w/ temporary 6-ft fence.
- All investigation derived waste (PPE, decontamination waste, excess drill cuttings) will be placed in 55-gallon drums. The drums will be labeled as IDW from the corresponding activity or source area. The drums will be placed on wooden pallets in a plastic-lined containment area pending characterization and proper disposal either at a municipal solid waste landfill or hazardous waste disposal facility (if materials meet disposal facility and regulatory requirements).
- Under no circumstances is waste to leave the Site prior to characterization and subsequent disposal of waste coordinated by the party performing the work or their subcontractor.

Provide Personal Protective Equipment

To protect workers from injury, the last method in the order of precedence is the use of personal protective equipment, such as hard hats, gloves, eye protection, and other protective equipment with the understanding that bulky, cumbersome, and heavy personal protective equipment is often discarded or not used, rendering this method ineffective without proper controls. If emergency eyewash stations are required, then they must be kept accessible at all times and be maintained to prevent from freezing. In the event that personal protective equipment is ripped or torn, work shall stop immediately and PPE shall be removed and replaced as soon as possible.

PPE Selection

The selection and use of PPE at individual sites will be initially Level D unless specified by the Project Safety Manager. The unknown nature of hazardous waste site work and the possibility of changing conditions during the work may require changes in the personal protective equipment. When changes in personal protective equipment become necessary, these changes shall be made in accordance with the action levels and criteria set forth in this plan. As a rule, levels of PPE will need to be reassessed if any of the following occur:

- Appearance of previously unidentified or anticipated chemical conditions or task hazards (this may require a HASP Addendum for the responsible party's review and acceptance prior to proceeding).
- Ambient weather conditions change which impact the use of assigned PPE.
- A new task is introduced or a previously assigned and evaluated task is expanded in scope.

If work tasks are added to the Scope of Work (**SOW**) after approval of this HASP, the Project Safety Manager shall identify and assess the task hazards, complete and sign an AHA form and designate the level and type of PPE to be used during conduct of the task. The new AHA, along with any other additions, changes or modifications to the approved HASP shall be approved by the PSM and/or the Project Manager. Subsequently, these modifications, resulting in a HASP Addendum, shall be reviewed and accepted by the responsible party's representative prior to proceeding.

Initially at portions of the Site, where NAPL may be encountered based on Site Investigation data, work will start in Modified Level D. In the remaining areas of the Site, PPE level will be upgraded to Modified Level D, if NAPL is encountered. This includes tyvek coveralls, in addition to safety glasses with permanent side shields, steel toe boots, hearing protection (e.g. when working within 15 feet of vacuum excavation equipment, excavator, drill rig, sawing, or jack hammering), metatarsal foot protectors (when sawing, jack hammering, or pressure washing), long pants or jeans, traffic safety vests (when working on streets, sidewalks, parking lots, or driveways), disposable boot covers (when in contact with disturbed soil), short or long sleeve shirts, nitrile outer and PVC inner gloves (required during all sampling activities), and hard hat (cannot be blue or white). Required equipment for Levels B, C, and D are detailed in Table 9.2, Description of Personal Protective

Equipment and Levels of Protection

The organic vapor monitor and multi-gas meter will be the primary instruments for determining contaminant concentrations that may trigger a change in respiratory protection during intrusive and sampling activities. Other instruments such as Draeger tubes, miniRAMs and/or other particulate air monitors may also trigger changes in PPE. Action levels for changes in personal protection equipment are shown in Table 9.1.

OSHA Requirements for Personal Protective Equipment

All personal protective equipment must meet the following OSHA standards:

Type of Protection	Regulation	Source*
Eye and Face	29 CFR 1910.133 29 CFR 1926.102	ANSI Z87.1-1968
Respiratory	29 CFR 1910.134 29 CFR 1926.103	ANSI Z88.1-1980
Head	29 CFR 1910.135 29 CFR 1926.100	ANSI Z89.1-1969
Foot	29 CFR 1910.136 29 CFR 1926.96	ANSI Z41.1-1967

*ANSI = American National Standards Institute

Both the respirator and cartridges specified for use in Level C protection must be fit-tested prior to use in accordance with OSHA regulations (29 CFR 1910.1025; 29 CFR 1910.134). In addition, if Level C protection is required, a cartridge change-out schedule must be developed. HEPA filters will be the only cartridges used. Medical qualification, training and fit-testing must be received on an annual basis. If a respirator is worn more than 30 days per year, participation in a Medical Surveillance Program is required.

9.2 ACTIVITY HAZARD ANALYSIS

The party performing the work and their subcontractors are required to conduct an activity hazards analysis (**AHA**) for all aspects of the work. The activity hazards analyses consist of the following three steps:

- Identify the task and break it down into steps.
- Identify the hazards associated with each step.
- Identify the specific hazard control measure used for each step in accordance with the order-of-precedence method of control.

The U.S. Army Corp of Engineers wesite (www.swl.usace.mil/safety/asaindex.html) contains a library of sample AHAs that may be useful. The Project Managers may use the following list as a guide in determining the investigation and remediation activity hazards analyses for various high-hazard operations and critical tasks.

- **Pre-mobilization Inspection.** Conduct an initial Site inspection for pre-job planning. The inspection should cover potential exposures such as the location of electrical lines, underground utilities (See Attachment A for Con Edison's requirements, when applicable), nearby structures, traffic conditions, Site security needs, public exposures general liability, and other potential exposures.

- **Traffic Controls.** Control measures include warning signs, flagmen, traffic stoppage and control, and unloading procedures. Internal traffic control plans should include ways to restrict the number of vehicles on Site, the flow of vehicles accessing the Site and driving through the Site, haul roads, speed controls, subcontractor employee parking areas, merging of Site traffic with local vehicle traffic, pedestrian controls in traffic zones, access by emergency and rescue vehicles and operator controls.

- **Vehicle Operation.** Although driving a vehicle may be second nature to many individuals, there are many hazards and controls that need to be identified. Fatigue and distractions are two hazards that many individuals do not think about on a regular basis. Operating off-road vehicles such as an All-Terrain Vehicle (**ATV**) also require training.

- **Field Activities.** Many different types of activities occur in the field from excavations, soil sampling, liner installation and monitoring. A variety of hazards could be incurred with each activity such as biological, slip/trips/falls and lacerations. An activity hazard analysis is required for each different field activity to identify the hazards and controls.

- **Field Visit.** When a field visit occurs, it may be before any field activities are taking place. However, there may still be hazards present such as walking or driving in fields with uneven terrain, poisonous vegetation, etc. Although personal protective equipment such as a hard hat and safety glasses may not be needed, sturdy work boots, long pants, long sleeve shirts and sunscreen may be necessary.

- **Mobilization/Demobilization.** Conduct an initial Site inspection for pre-job planning. The inspection should cover potential exposures such as the location of electrical lines, underground utilities, nearby structures, traffic conditions, Site security needs, public exposures general liability, and other potential exposures.

- **Heavy equipment controls.** Evaluate the use of heavy equipment in operations such as Site clearing, grading, drilling and excavation or lifting. Controls should include equipment alarms, use of qualified operators, pre-use inspections, and any specific OSHA regulatory requirements.

- **Personal protective equipment (PPE).** Consider operations where PPE is required and the type of PPE required (e.g., eye, head, foot, respiratory, hearing and hand protection, and types of special protective clothing – Tyvek and Nomex coveralls).

- **Portable hand and power tools.** Evaluate the tools to be used and the ways thatworkers are protected from the hazards associated with the use of tools. Consider tool maintenance requirements; electrical requirements; the use of ground fault circuit interrupters, grounding, extension cords, and tool inspection procedures; and employee training and PPE requirements.

- **On-Site traffic**. Internal traffic control plans should include ways to restrict the number of vehicles on Site, the flow of vehicles through the Site, haul roads, speed controls, subcontractor employee parking areas, merging of Site traffic with local vehicle traffic, pedestrian controls in traffic zones, access by emergency and rescue vehicles and operator controls.

- **Employee training.** Always review the safety training needs of employees. Training should include initial Site safety orientations. Some operations (e.g.,HAZWOPER activities, excavation, blasting, scaffold erection, tunneling,confined space, and operating heavy equipment and working in highly hazardous plant process operations) may require special training that must be checked and evaluated.

Exhibit 9.1 is a sample activity hazards analysis form. Exhibit 9.2 shows a training record to be completed and kept on file for each activity hazards analysis. Example AHAs can be found in Attachment A. The intent of an AHA is to identify the steps, hazards, and control measures involved with performing a specific task. The attached AHAs are not inclusive of all activities that may be performed at the Site, and may not include all of the steps, hazards or control measures required to safely complete a task. Any individual given a work assignment shall review the corresponding AHA prior to commencing work activities to determine whether the AHA needs to be modified for Site specific conditions, or if an additional AHA should be developed.

Table 9.1 Regulatory Levels for Common Air Contaminants

Contaminant	OSHA PEL*	Monitoring Instrument	Action Level	Action Taken *(Refer to MSDSs for required actions and develop SOPs for required actions)*
Carbon Monoxide	50 ppm	4-gas meter, CO meter	>50 ppm	Refer to MSDS for required actions and develop SOPs for required actions.
Combustible Gas	10%	4-gas meter, LEL meter	>10%	Refer to MSDS for required actions and develop SOPs for required actions.
Dust#	5mg/m^3	DataRAM	<1 mg/m^3	None
			1-5 mg/m^3	Implement engineering controls to suppress or control dust.
			>5 mg/m^3	Continue dust suppression and stop work activities.
Oxygen	20.9%	4-gas meter, O2 meter	<19.5%	Refer to MSDS for required actions and develop SOPs for required actions
			19.5-23.5%	Normal.
			>23.5%	Refer to MSDS for required actions and develop SOPs for required actions
VOCs#	n/a	Photoionization Detector	< 1 ppm	None.
			1 - 5 ppm	Implement engineering controls to suppress vapor levels. Monitor for specific contaminants.
			6 - 10 ppm	Take 3 consecutive readings. If confirmed,wear half or full face piece respirator. Implement engineering controls to suppress vapor levels.
			11 - 50 ppm	Take 3 consecutive readings. If confirmed,wear full face piece respirator. Continue engineering controls to suppress mercury levels.
			> 50 ppm	Stop work activities. Take 3 consecutive readings to confirm. If trained and fit tested, don supplied air respirator.

Note: All readings that will be used to determine the appropriateness of an upgrade in PPE shall be taken in theworker's breathing zone. PID readings shall be sustained readings of 15 minutes or more. Multi-gas meter readings shall be 30 second sampling periods with the meter held in the worker's breathing zone. Readings will be taken at the beginning of the day, changes in work activities and during all sampling activities.

* The OSHA PEL levels are current as of December 2008. OSHA constantly reviews and updates these levels. The party performing the work shall review 29 CFR 1910.1000 Table Z-1 and update the levels, as necessary, prior to performing work.

The action levels and the actions taken for VOCs and for dust provided in this table are based on NYSDOH Generic Community Air Monitoring Plan (CAMP) (December 2002). The party performing the work shall review NYSDEC DER-10 to verify whether updates have been made to the Generic CAMP. For employee safety, OSHA regulation 1910 should be consulted.

Table 9.2 Description of Personal Protective Equipment and Levels of Protection

Level	Description	PPE
Level D	Level D protection will be worn for initial entry on- Site and for all activities unless otherwise noted by the PSM.	– Standard work clothes; – Steel-toe safety boots; – Safety glasses (goggles must be worn when splash hazard is present); – Hearing protection (when working within 25 feet of vacuum excavation; – equipment, excavators, drill rigs, sawing, or jack hammering); – Metatarsal foot protectors (when sawing, jack hammering, or pressure washing); – Traffic safety vests (when working on streets, sidewalks, parking lots, and driveways) – Nitrile outer gloves and latex or nitrile inner gloves (sampling operations); – Hard hat (must be worn during all Site activities and cannot be blue or white); and – Disposable boot covers will be worn when in contact with disturbed soils.
Modified Level D	Modified Level D protection, unless otherwise specified by the PSM, will consist ofLevel D equipment and the following additional equipment:	– Nitrile outer gloves and latex or nitrile inner; – Tyvek coveralls if particulate hazards only are present; and poly-coated Tyvek overalls if liquid hazards are present.
Level C	Requirements for Level C protection is described in OSHA regulation 29 CFR 1910.134. Generally, Level C protection, unless otherwise specified by the SSO, will consist of Level D equipment and the following additional equipment:	– Full-face air-purifying respirator; – Combination HEPA filter (P100)/organic vapor cartridges; – Tyvek coveralls if particulate hazards only are present, poly-coated Tyvek coveralls if liquid hazards are present; and – PVC or nitrile inner and nitrile outer gloves.
Level B	Requirements for Level B protection is described in OSHA regulation 29 CFR 1910.134. If the concentration of volatile organics or cyanide equals or exceeds the specified action levels, all field personnel associated with the project will immediately retreat to a location up-wind of the source of contamination. At this point the SSO must consult with the responsible party to discuss appropriate actions.	

Exhibit 9.1 Activity Hazards Analysis Form

Page____ of _____

Project Name & Number:	AHA No.	Date	New:
Location:	Contractor:		Revised:
Required Personal Protective Equipment		Analysis by:	Date:
Superintendent/Competent Person		Reviewed by:	Date:
Work Operation:		Approved by:	Date:
Work Activity	**Potential Hazards**	**Preventive or Corrective Measures**	**Inspection Requirements**

Training Requirements: All assigned employees are required to familiarize themselves with the contents of this AHA before starting a work activity and review it with their Supervisor during their Daily Safety Huddle.

Exhibit 9.2 Activity Hazards Analysis Training Record

JOB NUMBER ______________________
AHA NUMBER ______________________
JOB LOCATION ______________________
DATE: ______________
NAME OF TRAINER: ______________________
SUBJECTS COVERED: ______________________________________

TRAINING AIDS USED: ______________________________________

ATTENDEES (PLEASE SIGN NAME LEGIBLY):

(Use additional sheets if necessary)

10.0 PERIODIC SAFETY INSPECTIONS/AUDITS

The PSM will implement an audit and inspection program. The Project Manager, PSM, or their designee, will conduct monthly safety inspections. The Site inspection is a protocol designed to identify and correct unsafe acts and conditions, as well as recognize safe work practices and accomplishments in the party performing the work or their subcontractors' scope of work. The Project Manager or PSM should develop standard safety checklists appropriate to the work being performed. Exhibit 10.1 is an example of a simple checklist to evaluate a project's status, and should be modified to address potential unsafe acts and conditions specific to work activities occurring at the Site.

Inspections involve a daily or weekly Site walk of a project site that focuses on safety. The Project Manager or Field Team Leader (**FTL**) responsible for the work conducts inspections, accompanied by the PSM as necessary. Daily Site walks do not have to be documented, but once a week the Project Manager, or designee, prepares an inspection report using Exhibit 10.1 and forwards it to the PSM for maintaining in the project file. Items found to be out of compliance must be assigned to the responsible party for corrective action and the corrective action tracked to completion.

Exhibit 10.1 Site Safety and Health Inspection Checklist

Project: ______________________________ Date: ____________

Name: ______________________________ Time: ____________

Any items that have been found deficient must be corrected before work or use.

This checklist includes, but is not limited to, the following:

Safe Access and Workspace		**Yes**	**No**
Are safe access and adequate space for movement available for:			
Emergencies			
Work area			
Walkways and passageways			
Are ladders, stairways, and elevators properly located and functioning?			
Is protection provided for floor and roof openings?			
Is overhead protection provided for all areas of exposure?			
Is lighting adequate?			
Planning Work for Safety			
Are employees provided with all required protective equipment?			
Have other contractors and trades been coordinated with to prevent congestion and avoid hazards?			
Is all temporary flooring, safety nets, and scaffolding provided where required?			
Utilities and Services Identification			
High voltage lines			
Have all been identified by signs?			
Have high voltage lines been moved or de-energized, or barriers erected to prevent employee contact?			
Sanitary Facilities			
Drinking water			
Are toilet facilities adequate?			
Work Procedures – Materials Handling			
Is material handling space adequate?			
Is material handling equipment adequate and proper?			
Is material handling equipment in good condition?			
Marine Safety			
Slip, trip, fall hazards	Muscle strain from improper lifting		
Heat or cold stress	Pinch points		
Insect bites	Inhaling, touching, ingesting contaminants		
Waves, surges, currents			
Noise exposure	Drowning		
Other (e.g., tunnels, excavations, shafts			

Comments: ______________________________

11.0 COMPLIANCE REQUIREMENTS POLICY

The party performing the work and their subcontractors must enforce all applicable requirements of OSHA 1910 and 1926, where applicable. The party performing the work at the Site in the future and their subcontractors are individually responsible for training their respective employees and for complying with all project requirements. In the absence of an infirmary, clinic, hospital, or physician, that is reasonably accessible in terms of time and distance to the worksite (i.e. 4 minutes for activities that can be expected to result in an accident involving suffocation, severe bleeding, or other life threatening or permanently disabling injury or illness and 15 minutes for other types of injuries), which is available for the treatment of injured employees, a person who has a valid certificate in first-aid training from the U.S. Bureau of Mines, the American Red Cross, or equivalent training that can be verified by documentary evidence, shall be available at the worksite to render first aid. First-aid supplies must be accessible for immediate use and be of sufficient size and number to handle common first aid incidents.

The response time and distance to the nearest clinic, hospital or physician identified in Section 20 has been determined to be 3 minutes; however this may vary depending traffic. Since the response time for Emergency Medical Services (**EMS**) may be greater than four minutes if traffic conditions are not favorable, any future project at the Site that has the potential for an accident involving suffocation, severe bleeding, or other medical emergencies or permanently disabling injury or illness will require at least one individual at the work location have a valid certificate in CPR and first aid. Exhibit 11.1 represents OSHA and owners' corporate regulations and requirements applicable to the project.

Exhibit 11.1 Competent Person and Activity Hazards Analysis Requirements

Safety and Health Requirement	OSHA Regulation	Competent Qualified Person-Supv	Training Required	Written Plan and AHA Required
General Safety & Health	1926.20	Yes	Yes	Yes
Safety Training	1926.21	Yes	Yes	Yes
First Aid and Medical	1926.23, 50	Yes	Yes	Yes
Emergency Employee Action Plans	1926.35	Recommended	Yes	Yes
Hazard Communication	1926.59	Yes	Yes	Yes
Hazardous Waste Operations and Emergency Response	1910.120; 1926.65	Yes Supv – 8 hr	Yes	Yes
Waste Disposal	1926.252	Yes	Yes	Yes
Excavations	1926.650-652	Yes	Yes	Yes

12.0 WRITTEN PROGRESSIVE DISCIPLINARY PROGRAM

Items found to be out of compliance must be assigned to the responsible party for corrective action and the corrective action tracked to completion. The project has a formal notice of subcontractor violation of safety and health regulations program to ensure that violations are issued in an immediately dangerous to life and health **(IDLH)** situation or when the subcontractor repeatedly fails to comply with safety and health requirements. Any noncompliance items must be advised to the responsible party using a Notice of Violation, included as Exhibit 12.1. The notice (Exhibit 12.1) documents poor performance and requires a response from subcontractor senior management. The notice contains five distinct levels of discipline, from submission of a recovery plan to contract termination.

Exhibit 12.1 Notice of Violation of Safety and Health Regulations

Date ______________________

Contractor Name ______________________

Address ______________________
____
____

Attention ______________________

This letter officially notifies you that you have been found to be in violation(s) of the following Safety Regulations:

____

on (date): ______________ by, ______________

Confined Space Entry ____ Lockout/Tagout ____ Hot Work ______ Personal Protective Equipment ____

Knowledge of the Environment ____ Awareness of Wanring Alarms ____ Evaculation Routes ______ Back-up Alarms ____

Assembly Locations ____ Fall Protection ____ Scaffolding ______ Environmental/Hazardous Material Storage ____

SafeWrok Practices ____ Security Practices ____

Other: ____

____

This/These violation(s) occurred at the following location(s): ______________

____

at the following time(s): __________ and date(s): ______________
The name(s) of the employee(s) was/were: ______________
under the supervision of: ______________

13.0 HAZARD CORRECTION POLICY

Potential hazards that may be encountered during intrusive activities at the Site are listed below, but the list is not all-inclusive. Examples of generic AHAs for various work activities that need to be modified for Site-specific work activities are found in Attachment B.

13.1 CHEMICAL HAZARDS

Health hazards and the exposure limits associated with potential chemicals of concern are presented in Table 13.1. These hazards can be encountered during subsurface and intrusive investigation in and around the Site. Both real time breathing zone air-monitoring and CAMP monitoring, using a photoionization detector, a multi-gas meter, and a dust monitor should be performed by the responsible field investigator. The real time data will be recorded in the field book by the field investigator/SSO, following each observation, during intrusive activities and sampling activities. CAMP monitoring data will be downloaded daily and kept as an electronic file.

13.2 PHYSICAL HAZARDS

Physical hazards that may be encountered include but are not limited to heat stress, coldrelated illness, ultra-violet radiation, working on or adjacent to a waterway, and noise hazards.

13.2.1 Heat Stress:

Heat stress is one of the most common (and potentially serious) illnesses that affect field personnel. When Site personnel are engaged in operations involving hot environments, a number of physiological responses can occur which may seriously affect the health and safety of the workers. Heat stress can result in health effects ranging from transient heat fatigue to serious illness or death. Heat stress can be eliminated or controlled through the use of a omprehensive heat stress prevention and monitoring program.

Training shall be provided to all employees to recognize heat illness hazards before starting to work outdoors. Any employee experiencing or witnessing signs and/or symptoms of a heat related illness shall report the findings to their supervisor immediately. Supervisors shall understand the procedures to follow when an employee exhibits symptoms consistent with heat illness, including emergency response.

13.2.2 Definitions

Acclimatization - a temporary adaption of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within 4-14 days of regular work for at least 2 hours per day in the heat.

Environmental Risk Factors - working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.

Heat Illness - a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope and heat stroke.

Heat Wave - a sudden and temporary rise of temperature above the seasonal average for a particular region, which lasts for a prolonged period of time. A heat wave can greatly increase the risk of heat related illnesses.

Personal Risk Factors - an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body's water retention or other physiological responses to heat.

Preventive Recovery Period - a period of time to recover from the heat in order to prevent heat illness.

Shade - blockage of direct sunlight. Canopies, umbrellas and other temporary structures or devices may be used to provide shade. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning.

13.2.3 Signs and Symptoms of Heat Illnesses

Heat Rash – or prickly heat, occurs in hot and humid environments where sweat is notremoved from the skin. Usually disappears when worker returns to cool environment.

Heat Cramps – muscle contractions from the loss of fluids /electrolytes due to sweating. Occurs when workers perform hard physical labor in a hot environment. Most common in the arms and legs. Cramping can occur after work has stopped.

Heat Exhaustion – inadequate blood circulation from stress due to constant heat. The whole body, especially the circulatory system, is extremely stressed. Possible symptoms include: pale, flushed face and neck; clammy skin; heavy sweating; fatigue; shortness of breath; headache; dizziness or fainting; nausea and vomiting; and rapid heartbeat and breathing.

Heat Stroke – body's failure to regulate its' temperature. The most serious stage of heat illness. Symptoms include: dizziness and confusion, red, hot, dry skin; nausea and vomiting; very little sweating; rapid pulse; high body temperature, 105° F or higher; convulsions, and fainting.

13.2.4 Heat Illness Prevention

Prevention of heat related illness in extreme temperature project personnel shall consider implement a Physiological monitoring program, include monitoring with a WBGT and implementing work rest regiments. The field team shall be encouraged to drink plenty of liquids to replenish electrolytes. The field team shall also, construct a shaded rest area for workers to take breaks.

Prevention of heat related illness may call for establishing work teams to rotate to minimize heat related illnesses.

13.2.5 Heat Illness Treatment

Heat Cramps - take water every 15 to 20 minutes. Drinking an electrolyte replacement (like Gatorade) may help.

Heat exhaustion - Get medical help. Don't leave the person alone. While waiting, remove worker to cool place to rest; remove as much clothing as possible; give water and electrolytes; and don't allow person to get chilled.

Heat Stroke - Call 911 immediately. While awaiting medical help, get victim into cool area, fan vigorously, apply cool water to clothing or skin, and apply ice packs under arms and to the groin area.

13.2.6 Heat Waves

Heat illness prevention during heat waves means taking extra measures. More vigilance - supervisors/employees watch others very closely and provide more frequent feedback during work activities. Site workers shall avoid working alone and utilize the "Buddy System", watch each other and closely monitor/report an employees' condition. Personnel shall be accounted for their whereabouts throughout the work shift and at the end of the day.

More water - employees should drink small quantities of water more frequently before, during and after work. There should be extra supplies of water for replenishment, encourage employees to consult with their doctor on salt/mineral replacement.

More cooling - use other cooling measures in addition to shade, spraying body with water/wiping with wet towels and taking additional/longer breaks in the shade.

Change schedule - work activities may be started earlier on later in the evening, split-up work shifts and avoid working during the hotter parts of the day. Work shifts can be cut short or stop work.

Change meals - encourage employees to eat smaller/or more frequent meals (less body heat during digestion than with big meals), choose foods with higher water content (for example, fruits, vegetables and salads).

Acclimatization warning - personnel should allow the body time to adjust to sudden, abnormally high temperatures or other extreme conditions. Even employees previously fully acclimatized are at risk for heat illness.

13.2.7 Environmental and Physiological Factors

- Average ambient air temperature 96°F (75-116°F)
- Average humidity 29% (12% - 55%)
- Average wind speed 7 mph
- Average core body temperature 104°F (98 -108°F)

13.2.8 Provision of Water

Sufficient amounts of cool water shall be available and replenished at all times w/at least one quart per employee per hour for the entire shift. Easy access to clean and cool water shall be available to encourage frequent drinking.

13.2.9 Access to Shade

A Preventative Recovery Period (**PRP**) is necessary if an employee is suffering from heatillness or believes that a rest break is needed to recover from the heat. Access to shade shall be permitted at all times. Employees shall have access to an area with shade that is either open to the air or provided with ventilation or cooling for a period of no less than 5 minutes.

13.2.10 Measurement

Portable heat stress meters or monitors are used to measure heat conditions. These instruments can calculate both the indoor and outdoor WBGT Index according to established ACGIH Threshold Limit Value equations. With this information and information on the type of work being performed, heat stress meters can determine how long a person can safely work or remain in a particular hot environment.

13.2.11 Cold-Related Illness

Cold weather conditions can be hazardous to the safety and health of employees, endanger the stability of the body system, and cause conditions such as hypothermia and frostbite. It is vitally important that adequate precautions be taken to alleviate the effect of cold environments and to ensure that personnel can work safely and efficiently.

Prevent the deep body temperature from dropping below 36^0 C (96.8^0 F) and the core temperature from dropping below 35^0C (95^0F).

The following factors may contribute to a cold injury:

- Age
- Contact with wetness or metal
- Exposure to high winds
- Exposure to humidity
- General health
- Inadequate clothing

The following physical conditions worsen the effects of cold exposure:

- Allergies
- Excessive drinking
- Excessive smoking
- Specific drugs and medicines
- Vascular disease (e.g., Raynaud's phenomenon, acrocyanosis)

To monitor cold stress:

- At air temperatures below 20F (-10C) measure and record the wind chill index at least every 4 hours. The equivalent wind chill temperature and frostbite precautions will be determined using the Wind Chill Index (Table 13.1).

Table 13.1 Wind Chill Index

Estimated Wind Speed (mph)	Actuai Temperature Reading (°F)											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
	Equivaient Chill Temperature (°F)											
caim	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-24	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-32	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-121
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-51	-67	-82	-98	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-148
Wind Speeds greater than 40 mph have little additional effect	LITTLE DANGER in < 1 hr with dry skin. Maximium danger of faise sense of security.				INCREASING DANGER danger of freezing exposed flesh within 1 minute.			GREAT DANGER flesh may freeze within 30 seconds.				

- In indoor workplaces, measure and record the wind speed at least every 4 hours when the rate of air movement exceeds 5 mph (2.2 meters per second); in indoor work situations, measure and record the wind speed with the air temperature.

- The wind chill index takes into account the wind velocity. If no anemometer is available, use the following to estimate wind speed:
  - 5 mph: light flag moves
  - 10 mph: light flag fully extended
  - 15 mph: raises newspaper sheet
  - 20 mph: causes blowing and drifting snow

To prevent cold stress:

- Use general or spot heating to increase temperature at the Site.
- If work is being performed with bare hands for 10 or more minutes, to keep the worker's hands warm supply warm air jets, radiant heaters, or contact warm heaters.
- If the air velocity at the Site is increased by the wind, draft, or ventilation equipment, shield the work area.
- At temperatures below 40^{0}F, cover metal handles of tools and control bars with thermal insulation.

- When necessary, substitute, isolate, relocate, or redesign equipment and processes to reduce cold stress.
- Use power tools, hoists, cranes, and lifting aids to reduce the metabolic work load.
- If work is performed continuously in an equivalent chill temperature of 30^{0}F or below, supply heated warming shelters such as tents, cabins, automobiles, or trucks and encourage workers to use them.

13.2.12 Electrocution

All drilling and excavation equipment will be kept a safe distance from live sources of electricity. Drill rods and other metal objects will not be raised above the height of the rig. The length of drill rods will be less than the distance to the nearest live electrical source so ifthe drill string is dropped it cannot fall across electrified equipment. All subsurface and overhead electrical sources and lines will be identified before digging, drilling, or sampling activities commence. Where possible and/or practical, electric lines and sources will be deactivated or insulated before digging, drilling, or sampling activities are commenced.

13.2.13 Ultraviolet Radiation

The sun emits ultraviolet radiation (**UV**) as heat and light. The skin's natural defense mechanisms attempt to reject the UV by distributing melanin pigmentation where needed. However, overexposure to direct sunlight can cause inflammation or blistering of the skin (**sunburn**). The use of sunscreen, long sleeve shirts, and wide brim hats can help prevent sunburn. Chronic exposure to UV radiation is known to cause skin cancer. In case of sunburn, do not apply burn ointment, cold cream, or butter to relieve pain. Use a dry dressing and get medical attention for severe, extensive sunburns.

13.2.14 Noise

Operating heavy equipment can be a potential noise source. Hearing protection will be worn by personnel operating heavy equipment, or other personnel in close proximity (e.g. 25 feet) to the equipment. If the noise level exceeds 85 decibels over an 8-hour time weighted average, then exposed personnel must be enrolled in a Hearing Conservation Program..

13.3 BIOLOGICAL HAZARDS

Biological hazards can result from encounters with mammals, insects, snakes, spiders, ticks, plants, parasites, and pathogens. Mammals can bite or scratch when cornered or surprised. The bite or scratch can result in local infection or infection with systemic pathogens or parasites. Insect and spider bites can result in severe allergic reactions in sensitive individuals. Exposure to poison ivy, poison oak or poison sumac results in skin rash. Ticks carry a number of serious diseases. Dead animals, organic wastes, and contaminated soil and water can harbor parasites and pathogens. Most of the field activities will occur in a densely populated area; however, the possibility of encountering biological hazards still exists.

13.3.1 Poison Ivy

Some of the most common and severe allergic reactions are a result from contact with poison ivy, poison oak, and poison sumac. Contact with the poisonous sap of these plants produces a severe rash characterized by redness, blisters, swelling, and intense burning and itching. The victim also may develop a high fever and may be very ill. Ordinarily, the rash begins within a few hours after exposure, but it may be delayed for 24 to 48 hours.

13.3.2 Ticks

Ticks may be common during the spring and summer. Two types of ticks may be encountered: the dog tick and the deer tick. The dog tick is the larger, more common tick. After biting, the dog tick will remain attached to the victim until engorged with blood. Dog ticks may transmit rocky mountain spotted fever and other diseases. The deer tick is much smaller, ranging from poppy seed to grape seed size, and does not remain attached to the skin for very long after biting. Deer ticks can transmit Lyme disease, which can have serious, long-term health effects if left untreated. Lyme disease is characterized by a bulls-eye type rash; light in the center with an outer red area. Flu-like symptoms may also occur. These signs may occur at different times and the rash may not appear. If you discover any bites on the skin, wash the affected area and seek medical attention if a rash or flu-like symptoms appear.

13.3.3 Bees, Wasps, Hornets, and Other Insects

Symptoms of an insect bite are normally a sharp, immediate pain in the body part bitten. Poisonous insects and insect-like creatures that may be encountered at the Site include the following:

- Bees (honeybees, bumble bees, wasps, and hornets);
- Caterpillars; and
- Beetles/Bugs

13.3.4 Spiders:

The two poisonous spiders that may be encountered at the Site are the Brown Recluse and the Black Widow. The Brown Recluse is up to one inch long with a violin or "fiddle" shaped mark on the top of the head. The Black Widow is a smaller, bulbous black spider with a red hourglass-shaped mark on the underside.

Reactions to a Brown Recluse spider bite include mild to severe pain within two to eight hours and a star shaped area around the bite within three to four days. Significant tissue death and loss accompanies a Brown Recluse spider bite. Reactions to a Black Widow spider include intense pain at the site of the bite after approximately 15 to 60 minutes, followed by profuse sweating, rigid abdominal muscles, muscle spasms, breathing difficulty, slurred speech, poor coordination, dilated pupils, and generalized swelling of face and extremities.

Persons that have been bitten by a Brown Recluse or Black Widow spider should be immediately transported to a hospital. The spider should be collected (if possible) for confirmation of the species.

13.3.5 Bloodborne Pathogens

Bloodborne pathogens include human immunodeficiency virus (**HIV**), hepatitis B virus (**HBV**), hepatitis C virus (**HCV**), and others. All occupational exposure to blood or other potentially infectious materials (**OPIM**) place workers at risk for infection with bloodborne pathogens. OSHA defines blood to mean human blood, human blood components, and products made from human blood. Other potentially infectious materials means: (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; (2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and (3) HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals.infected with HIV or HBV.

Understanding simple precautions can greatly minimize your chances of contracting a bloodborne disease. Practicing universal (standard) precautions refers to assuming that any and all blood or body fluids are contaminated and taking all safety measures to avoid transmission of a disease. Properly cover open cuts and skin abrasions. Never eat, drink, store food, smoke, handle contact lenses or apply cosmetics or lip balm in potential exposure areas. Wash hands and exposed skin immediately after an exposure incident, and after removing gloves. Utilize engineering controls to reduce exposure to bloodborne pathogens by removing, eliminating or isolating the hazard. Wear gloves, eye/face protection and mask when working with blood or a splash potential. Check gloves for tears, holes or punctures, and remove immediately when penetrated. Clean up spills and body fluids by carefully covering with a paper towel, gently pouring a 10% bleach solution over towels, and leaving it in place for 10 minutes. Use mechanical means, not your hands to pick up broken glass that is tainted with blood. Dispose of blood products, medical waste, gloves and equipment in properly labeled and approved biohazard containers. Clean wounds with soap and water. Flush eyes and mucous membranes with water or normal saline solution. Notify the Site safety representative or your supervisor immediately and complete an incident report.

13.4 ENVIRONMENTAL HAZARDS

13.4.1 Slip, Trip, and Fall Hazards

Site workers may encounter slip, trip, and fall hazards due to uneven surfaces at sidewalk/pavement interfaces and obstructions protruding from the ground, such as:

- Holes, pits, tree roots, or ditches.
- Slippery surfaces.
- Steep grades.
- Uneven grades.
- Sharp objects, such as nails, metal shards, and broken glass.

13.4.2 Severe Weather Hazards

During the course of field operations, severe weather may be encountered, including thunderstorms, lightning, rainstorms, and other unsafe weather conditions (i.e., high winds and tornadoes). Criteria indicating that severe weather conditions may exist include:

- High winds (greater than 40 miles per hour – depending on the tree cover and other Site specific conditions);
- Tornado watch or warning in place for the area including the Site;
- Visible lightning;
- Extreme temperatures (e.g., greater than 100 degrees F); or
- Heavy rainfall that makes footing treacherous and visibility difficult.

If severe weather is approaching, the SSO and FTL will determine if weather conditions justify a stoppage of work activities. The SSO and FTL will also determine if weather conditions allow for restart of work activities following the severe weather. In general, work will not commence for 20 minutes after any lightning event. Monitor weather radio and if possible monitor weather radar via internet.

13.4.3 Fire Hazards

Although fires and explosions may arise spontaneously, they are more commonly the result of carelessness during the conduct of Site activities, such as moving drums, mixing/bulking of Site chemicals and during refueling of heavy or hand held equipment. Some potential causes of explosions and fires include:

- Mixing of incompatible chemicals, which cause reactions that spontaneously ignite due to the production of both flammable vapors and heat;
- Ignition of explosive or flammable chemical gases or vapors by external ignition sources;
- Ignition of materials due to oxygen enrichment;
- Agitation of shock or friction-sensitive compounds;
- Sudden release of materials under pressure.

13.5 SITE CHARACTERIZATION ACTIVITY HAZARD ANALYSIS

(To be updated as new task/activities are required.)

The party performing the work and their subcontractors are required to conduct an AHA for all aspects of the work. These AHAs will be reviewed daily. The activity hazards analyses consist of the following three steps:

- Identify the task and break it down into steps.
- Identify the hazards associated with each step.

- Identify the specific hazard control measure used for each step in accordance with the order-of-precedence method of control.

The Project Managers may use the following list as a guide in determining the investigation and remediation activity hazards analyses for various high-hazard operations and critical tasks.

- General Oversight

- Activities – Field. Many different types of activities occur in the field fromexcavations, groundwater sampling, soil sampling, liner installation, well installation and monitoring, and pump tests. A variety of hazards could be incurred with each activity such as biological, slip/trips/falls and lacerations. An activity hazard analysis is required for each different field activity to identify the hazards and controls.

- Site Visit or Site Walk. When a field visit occurs, it may be before any field activities are taking place. However, there may still be hazards present such as walking or driving in fields with uneven terrain, poisonous vegetation, etc. Although personal protective equipment such as a hard hat and safety glasses may not be needed, sturdy work boots, long pants, long sleeve shirts and sunscreen may be necessary.

- Operation- Motor Vehicle. Although driving a vehicle may be second nature to many individuals, there are many hazards and controls that need to be identified. Fatigue and distractions are two hazards that many individuals do not think about on a regular basis. Operating off-road vehicles such as an ATV also require training.

- Operation- Heavy Equipment or Machinery and Drill rigs. Evaluate the use of heavy equipment in operations such as Site clearing, grading, drilling and excavation or lifting. Controls should include equipment alarms, use of qualified operators, pre-use inspections, and any specific OSHA regulatory requirements.

- Fueling- Motor Vehicle

- Fueling- Heavy Equipment and Machinery

- Sampling- Soil

- Decontamination- Area Set-up

- Decontamination- Large Equipment

- Decontamination- Personnel. Following sample processing activities, personnel will decontaminate in the designated Site decontamination area.

- Decontamination- Portable Tools. Equipment used to collect samples and to monitor personnel exposures shall be cleaned to remove any signs of the investigated material.

- Sample collection equipment may be sprayed with water to remove such material. Air monitoring or other sensitive equipment may be wiped with a damp disposable wipe.

Table 13.2 Relevant Properties of Known or Suspected Volatiles and Semivolatiles

Compound (synonym)	OSHA PEL(1) (ppm)	IDLH (ppm)	LEL (%)	Odor Threshold(2) (ppm)	Odor Character	Vapor Pressue (mm Hg)	Pysical State	Detectible w/ 10.6 eV lamp PID (I.P. eV)
Benzene	1 5 [STEL]	500 [Ca]	1.2	119	Aromatic, sweet	75	Flammable Liquid	Yes (9.24)
o-,m-, p- Xylenes	100 150 [STEL]	900	0.9	20	Aromatic	7,9,9	Flammable Liquid Vapor	Yes (8.4-8.6)
Toluene	200 300 [CEIL]	500	1.1	37	Sweet, pungent Benzene-like	20	Flammable Liquid Vapor	Yes (8.82)
Ethyl Benzene	100 125 [TLV-STEL]	800	0.8	0.8	Oily Solvent	10	Flammable Liquid	Yes (8.76)
Hydrogen Sulfide	10	100	4	0.8	Rotten Egg	17.6	Flammable Liquid	No(3)
Naphthalene	15 [TLV-STEL]	250	0.9	0.64	Mothballs/ Tar/Creosote	0.08	Combustible Solid	Yes (8.2)
Polunuclear Aromatic	0.2 mg/m^3	80 mg/m^3	Varies	Varies	Varies	Very low	Combustible Solid	No
Hydrocarbons (PAH's)	[CA]							
Cyanide	5.0 mg/m^3	50	5.5	5	Bitter almond	630	Flammable Liquid	No Draeger Tube (13.6)

(1) 29 CFR 1910, June 30, 1993 (8-hour Time weighted average unless otherwise specified.). These values may be modified by OSHA. The
values should be checked and updated, as necessary, prior to commencing work activities.
(2) ACGIH 1989 Highest reported value of acceptable odor threshold range. These values may be modified by ACGIH. The values should be
checked and updated, as necessary, prior to commencing work activities.
(3) For hydrogen sulfide detection, a gas meter with hydrogen sulfide detection capability could be used.
[IDLH] Immediately dangerous to life or health.
[CA] Suspected carcinogen - Minimize all possible exposures.
[STEL] 15 minute Short Term Exposure Limit
[SKIN] Designates that skin is an important possible route of exposure.
[CEIL] Ceiling Limit - not to de exceeded at any time during a work day.
[TLV] Threshold Limit Value.

14.0 TRAINING AND INSTRUCTION POLICY

All workers, including managers and supervisors, shall have training and instruction on general and job-specific safety and health practices. Training and instruction shall be provided as follows:

- When this HASP is updated for a specific activity;
- To all new workers;
- To all workers given new job assignments for which training has not previously provided;
- Whenever new substances, processes, procedures or equipment are introduced the workplace and represent a new hazard;
- Whenever the employer is made aware of a new or previously unrecognized hazard;
- To supervisors to familiarize them with the safety and health hazards to which workers under their immediate direction and control may be exposed; and,
- To all workers with respect to hazards specific to each employee's job assignment.

Workplace safety and health practices for all locations include, but are not limited to, the following:

- Explanation of this Site-specific HASP, emergency action plan and fire prevention plan, and measures for reporting any unsafe conditions, work practices, injuries and when additional instruction is needed.
- Use of appropriate clothing, including gloves, footwear, and personal protective equipment.
- Information about chemical hazards to which employees could be exposed and other hazard communication program information.
- Availability of toilet, hand-washing, and drinking water facilities.
- Provisions for medical services and first aid including emergency procedures.

In addition, specific instructions to all workers will be provided regarding hazards unique to their job assignment, to the extent that such information was not already covered in other training.

15.0 PROJECT SITE EMPLOYEES ORIENTATION PROGRAM SUBJECTS

The PSM helps to develop the orientation and meets with new workers to review Site procedures and requirements. Topics covered in the HASP overview include:

- Names of personnel responsible for Site safety and health
- Reporting emergencies, incidents and unsafe conditions
- Emergency/evacuation plans
- Safety, health and other hazards at the Site
- Review of relevant activities on Site and related Activity Hazard Analyses
- Proper use of personal protective equipment
- Work practices by which a worker can minimize risk from hazards
- Safe use of engineering controls and equipment on Site
- Acute effects of compounds at the Site
- Decontamination procedures

16.0 EMPLOYEE COMMUNICATION SYSTEM AND POLICY

An open, two-way communication between management and staff on health and safety issues is essential to an injury-free, productive workplace. The following system of communication is designed to facilitate a continuous flow of safety and health information between management and staff in a form that is readily understandable and consists of one or more of the following checked items:

- New worker orientation including a discussion of safety and health policies and procedures.
- Review of Site-specific HASP prepared by future party performing work at the Site.
- Workplace safety and health training programs.
- Regular weekly and daily safety meetings.
- Effective communication of safety and health concerns between workers and supervisors, including translation where appropriate.

- Posted or distributed safety information.
- A system for workers to anonymously inform management about workplace hazards.
- A labor/management safety and health committee that meets regularly, prepares written records of the safety and health committees meetings, reviews results of the periodic scheduled inspections, reviews investigations of accidents and exposures and makes suggestions to management for the prevention of future incidents, reviews investigationsof alleged hazardous conditions, and submits recommendations to assist in the evaluation of employee safety suggestion.

17.0 RECORDKEEPING POLICY

Following steps must be taken to document implementation of the Site-specific HASP:

- Records of hazard assessment inspections, including the persons conducting the inspection, the unsafe conditions and work practices that have been identified and the action taken to correct the identified unsafe conditions and work practices, are recorded on a hazard assessment and correction form.
- Documentation of safety and health training for each worker, including the worker's name or other identifier, training dates, types of training, and training providers are recorded on a worker training and instruction form.
- Other records are retained as required by contract specifications or by local, state or federal (OSHA regulations). Where regulations do not specify the length of records retention, a period of three years after project completion will be used.

18.0 INCIDENT/NEAR-MISS INCIDENT INVESTIGATIONS POLICY

All incidents and significant near-miss incidents are investigated by an individual or team with training in accident investigation and root cause analysis. The party performing the work and their subcontractors must investigate incidents involving their employees or activities and maintain an investigation report.

Procedures for investigating workplace incidents and near-miss incidents include:

- Responding to the incident scene as soon as possible;
- Reporting incidents and near-miss incidents immediately to the appropriate point-ofcontact
- Interviewing injured workers and witnesses;

- Examining the workplace for factors associated with the incident/near-miss incident;
- Determining the cause of the incident/near-miss incident;
- Taking corrective action to prevent the incident/near-miss incident from reoccurring;
- Recording the findings and corrective actions taken; and
- Post-accident substance abuse testing.

19.0 EMERGENCY ACTION PLAN

The purpose of the Emergency Action Plan is to ensure that immediate mitigative and corrective emergency response actions are in place to minimize the consequences of an emergency, protect worker and public health and safety, provide security, and ensure the continuance of such actions until the emergency is terminated. Development and implementation of an Emergency Action Plan is required for prompt, efficient, and effective response to emergencies in accordance with applicable local, staff, and federal regulations.

The Project Manager will ensure that a comprehensive Emergency Action Plan has been established prior to any work involving any radiological or chemical hazard. The Emergency Action Plan is needed to train personnel on the required actions during an emergency situation to preserve the health and safety of the public and workers.

An Emergency Action Plan shall be developed and implemented in accordance with the applicable standards or requirements and specific Site conditions. The basic elements of the Plan are as follows:

- Identification of hazards and threats, hazard mitigation, development and preparation of emergency plans and procedures, and identification of personnel and resources needed for effective response.
- Acquisition and maintenance of resources, training, drills, and exercises.
- Application of resources to mitigate consequences to workers, the public, the environment, and national security, as well as the initiation of recovery from an emergency.
- Actions taken following termination of the emergency to return to normal operations.
- Assessments and documentation to ensure that stated emergency capabilities are sufficient to implement emergency plans.

20.0 SITE SPECIFIC MEDICAL EMERGENCY PLAN

Following medical requirements have been established and implemented for the project:

20.1 NON-EMERGENCY MEDICAL SERVICES

The following medical facilities are suggested based on their proximity to the Site to treat work-related injuries and illnesses that are NOT life threatening. It is recommended to contact the clinics to ensure that the hours of operations meet the potential needs of Site workers. If work hours are outside the hours of operation of these clinics, then additional clinics that have better hours must be identified.

Non-Emergency Medical Services

New York Westchester Square 2475 Saint Raymond Ave, Bronx, NY 10461, Phone (718) 430-7300; or

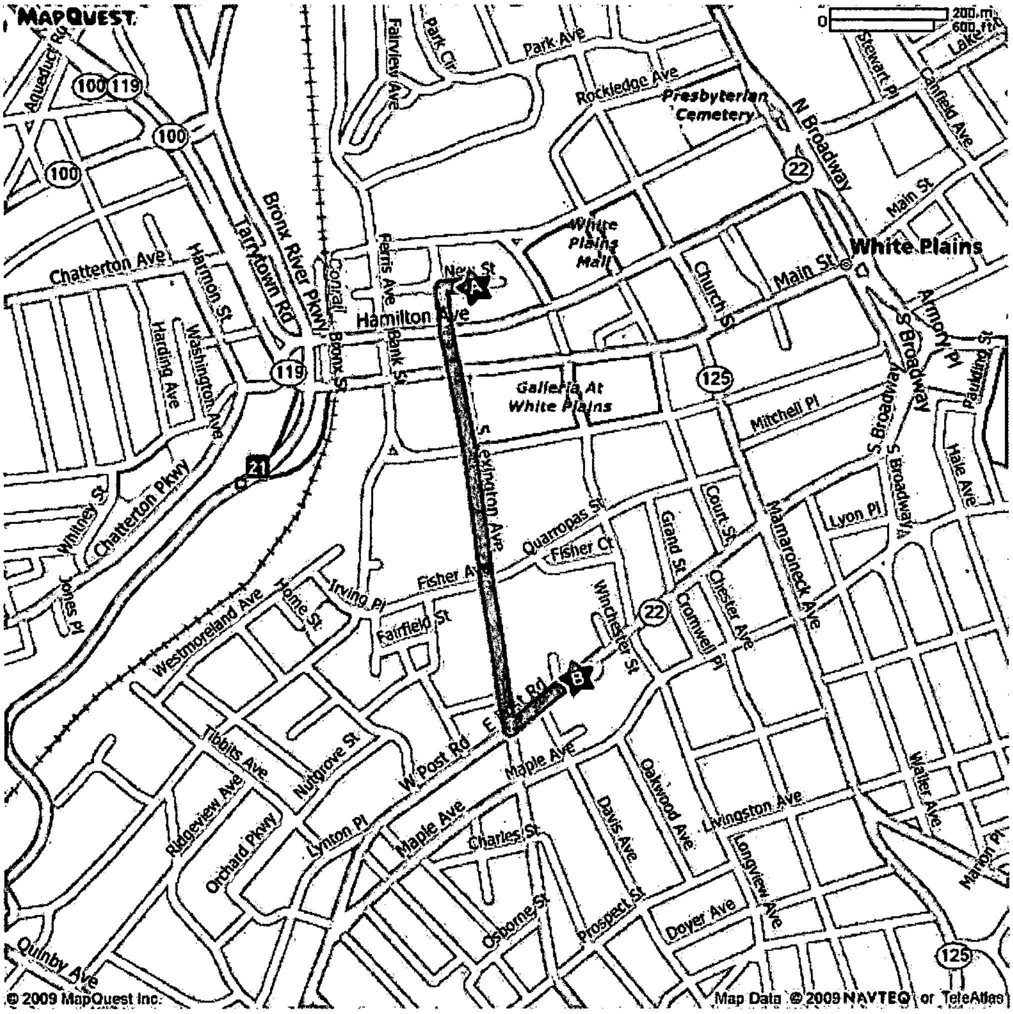
Englewood Hospital & Medical Center, 350 Engle Street, Englewood, NJ 07631, Phone (201) 894-3000.

Emergency Medical Services

White Plains Hospital Center, 41 East Post Road, White Plains, NY 10601, Phone (914) 681-0600 (Figure 4.1).

Note: Transportation to a medical facility for non-emergencies must be done by at least two (2) individuals (i.e. driver and observer).

Figure 20.1 White Plains Hospital Center
41 East Post Road
White Plains, NY 10601
(914)- 681- 0600



Directions:

1. **Start out going WEST on NEW ST toward NORTH LEXINGTON AVE**
2. **Turn LEFT on NORTH LEXINTON AVE**
3. **Turn LEFT onto EAST POST RD/NY-22/EAST NEW YORK POST ROAD**
4. **End at 41 EAST POST ROAD, White Plains, NY 10601**

Total Est. Time: 2 minutes **Total Est. Distance: 0.71 miles**

20.2 EMERGENCY MEDICAL RESPONSE

The project shall display posters/signs with emergency telephone numbers and locations of facilities in visible locations and at selected phone locations throughout the project area (including subcontractor facilities).

Emergency Contacts	Phone Number
Ambulance	**911**
Fire Department	**911**
State Police (NYS)	**911**
Pollution Toxic Chemical Oil Spills	(800) 424-8802
New York Flushing Hospital (Emergency)	(718) 670-0500
Poison Control Center	(800) 222-1222

21.0 HAZARD COMMUNICATION PROGRAM

The purpose of a Hazard Communication Program is to ensure that the hazards of all chemicals produced or imported are evaluated, and that information concerning their hazards is transmitted to employers and employees. This transmittal of information is to be accomplished by means of comprehensive hazard communication programs, which are to include container labeling and other forms of warning, material safety data sheets and employee training. This section will provide the Program outline, a list of the hazardous chemicals to be used and a description of where Material Safety Data Sheets (**MSDSs**) will be located. The written Program in compliance with 29 CFR 1910.1200, as well as the MSDSs, are found in Attachment B.

ATTACHMENT A

ACTIVITY HAZARD ANALYSIS

ATTACHMENT B

MATERIAL SAFETY DATA SHEET

ATTACHMENT C

GENERIC COMMUNITY AIR MONITORING PLAN

APPENDIX 1A

New York State Department of Health
Generic Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

APPENDIX D
SITE WIDE INSPECTION FORM

APPENDIX D

SITE WIDE INSPECTION FORM

WHITE PLAINS FORMER MGP SITE OPERABLE UNIT 1 (OU-1)

Inspector: ______________________________________ Date: ________________

Event Type (circle one): Scheduled / Non-Routine

Asphalt Inspection

Please note any observations of breaches in the any asphalt, which may include but are not limited to cracks, holes, indentations, vegetation growing through asphalt, etc.

Concrete Slab/Sidewalks Inspection

Please note any observations of breaches in any concrete/sidewalks, which may include but are not limited to cracks, holes, indentations, vegetation growing through concrete etc.

Soil Inspection

Please note any observations of breaches in the soil cover, which may include but are not limited to holes and soil washout.

APPENDIX E

GROUNDWATER MONITORING WELL SAMPLING LOG FORM

PARSONS

GROUNDWATER SAMPLING RECORD

SITE NAME: ______________________

PROJECT NUMBER: ______________________

Purge Date: ______________________

Sampling Date: ______________________

Samplers: __________ of __________

SAMPLE ID: ______________________

Sampling Method: ______________________

WELL PURGING

Static Water Level (TOC): __________

Depth to Well Bottom (TOC): __________

CALCULATIONS: Ft. of Water in Well __________ X (GAL / FT) = __________ Gallons

2-inch Casing: Ft. of Water in Well __________ x 0.16 = __________ Gallons

3-inch Casing: Ft. of Water in Well __________ x 0.32 = __________ Gallons

4-inch Casing: Ft. of Water in Well __________ x 0.64 = __________ Gallons

Method: Low Flow Pump

SAMPLE DESCRIPTION

Odor : ______________________

Other : ______________________

FIELD TESTS

	PURGE	PURGE	PURGE	PURGE	PURGE	PURGE	PURGE	SAMPLE
Time								
Depth To Water (TOC) (ft)								
Depth To Pump (TOC) (ft)								
Flow Rate (ml/min)								
Volume of Water Purged								
pH (s.u.)								
Conductivity (mS/cm)								
Turbidity (NTUs)								
Dissolved Oxygen (mg/L)								
Temperature (Degrees C)								
ORP (mV)								
Salinity (%)								
TDS (g/L)								

SAMPLE ANALYSIS / LABORATORY

Analyze For: TCL VOC's / SVOC's

Shipped Via: Chemtech

Laboratory

Other Notes: ______________________

APPENDIX F

REMEDIAL ACTION WORK PLAN

OPERABLE UNIT 1 (OU-1)

WHITE PLAINS FORMER MGP SITE,

OCTOBER 2007

REMEDIAL ACTION WORK PLAN
OPERABLE UNIT 1 (OU-1)
WHITE PLAINS FORMER MGP SITE (Site # V00438-3)
White Plains, New York

Prepared For:

Consolidated Edison Company of New York, Inc.

31-01 20th Avenue
Long Island City, NY 11105

Prepared By:

PARSONS

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Liverpool, New York 13088
Phone: (315) 451-9560
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OCTOBER 2007

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SECTION 1

INTRODUCTION

1.1 PROJECT BACKGROUND

This Remedial Action Work Plan (RAWP) has been prepared on behalf of Consolidated Edison Company of New York, Inc. (Con Edison) pursuant to Voluntary Cleanup Agreement Index No. D3-0002-00-10 (the VCA) between Con Edison and the New York State Department of Environmental Conservation (NYSDEC) to provide a scope of work for implementing the preferred remedial action for Operable Unit 1 (OU-1) of the White Plains Former Manufactured Gas Plant (MGP) Site in White Plains, New York (Figure 1). The OU-1 RAWP addresses the MGP-related impacts that have been detected beneath portions of the Saint John the Evangelist R.C. Church and Elementary School (St. John's) at 146-148 Hamilton Avenue, which is located on the north side of New Street directly across from the White Plains Former MGP Site (Figure 1). The source of the MGP impacts on the St. John's Property is considered to be the carbureted water gas relief holder of that Con Edison's corporate predecessors operated on the White Plains Former MGP Site until the mid-1920's. The White Plains Former MGP Site is currently occupied by an electric distribution substation owned and operated by Con Edison (White Plains Substation), and a four-story office building and parking lot located at 12 Water Street (Figure 2).

The NYSDEC has divided the White Plains Former MGP Site into two operable units as illustrated on Figure 2. Operable Unit 1 (OU-1) is comprised of the southern substation area and the St. John's Property. Operable Unit 2 (OU-2) includes the northern portion of the Con Edison substation and the 12 Water Street office building and parking lot. To date, several phases of investigation have been completed at both OU-1 and OU-2. An interim remedial measure (IRM) was implemented at OU-1 to address MGP-related impacts present on the substation portion of OU-1.

In December 2005, Con Edison submitted a Remedial Alternatives Report (RAR) [Parsons and RETEC, 2005] to the NYSDEC, which summarized the findings of the investigation and outlined several possible solutions to remediate the remaining portion of OU-1, the St. John's Property. On April 25, 2007, the NYSDEC indicated that Alternative 1 from the RAR, Monitoring and Institutional Controls, appeared to be an acceptable and appropriate remedy for the St. John's Property [NYSDEC, 2007].

Accordingly, this RAWP describes in detail the Monitoring and Institutional Controls remedy for the St. John's Property, which includes long-term groundwater monitoring to demonstrate the presence of a continuous clean groundwater layer beneath that property. Additionally, contingency measures for monitoring and assuring that vapor intrusion in the existing buildings on the property is not a threat, are discussed. The purpose of this RAWP is to provide a scope of work for implementing that remedial action including the field work, health and safety, and quality assurance/quality control (QA/QC).

1.2 SITE DESCRIPTION

The properties which comprised the Former White Plains MGP Site include two improved parcels encompassing approximately two acres of commercially-zoned land located in the downtown core area of the City of White Plains, Westchester County, New York. The Site is bounded by Water Street on the north, New Street on the south, and North Lexington Avenue on the west. It is bounded on the east by a parking lot located over the former roadbed of a de-mapped public thoroughfare that was known as Spring Street. Presently, the closest public street located east of the Site is Dr. Martin Luther King, Jr. Boulevard.

The northwestern portion of the Site, known as 12 Water Street, consists of a four-story commercial office building and a paved off-street parking area. The remaining portion of the Site, known as 9 New Street, is occupied by an electric distribution substation owned and operated by Con Edison to provide electric service to approximately 23,000 commercial and residential consumers within the White Plains area. A chain link fence secures the perimeter of the Site. The substation encompasses approximately 1.2 acres of land and includes a two-story brick switchgear/control room building, and a substantial amount of aboveground outdoor electric equipment (e.g., transformers, circuit breakers, switching gear, buss work, etc.), and extensive underground electric cables and feeders related to Con Edison's power distribution system. Surface materials consist of soil, pavement, bluestone, and concrete.

The northern portion of the substation property which is part of OU-2 is currently being decommissioned and all above-grade equipment and structures will be removed from this area by August 2007. Following the remedial action to address MGP-related impacts in this area, Con Edison has agreed to give this property to the owner of 12 Water Street for use as additional parking for the tenants of the 12 Water Street office building.

The St. John's property is located at 146-148 Hamilton Avenue in White Plains, New York, directly south of the former MGP Site. It is comprised of a rectangular parcel of improved land encompassing a total area of approximately 1.75 acres. Site features include a paved parking lot, an open court yard and grassy areas, and four buildings consisting of St. John's Church, a rectory house, a three-story building housing St. John's school, and the school's gymnasium building. The property is bounded by Hamilton Avenue, open space, and commercial buildings to the south, North Lexington Avenue, open space and an above-ground parking garage and commuter transportation center to the west, and office buildings and above-ground parking garage to the east. The St John's property is bounded on the north by New Street and Con Edison's White Plains substation. A site layout map depicting the current structures at both the former MGP and the St. John's properties along with the locations of the primary former MGP structures is presented on Figure 2.

With the exception of the St. John's property, the area is predominately commercial, consisting of a car dealership, office buildings, and a bus depot.

1.3 SITE TOPOGRAPHY AND DRAINAGE

The U.S. Geologic Survey (USGS) topographic map for the White Plains, New York Quadrangle was reviewed to provide information about the topography of the Site. The map shows that relief at the Site is generally flat at a typical elevation of approximately 205 feet and with a gradual slope to the west towards the Bronx River, and to the north and east towards New Street and Dr. Martin Luther King Jr. Boulevard (formerly Grove Street).

Given the urban nature of the area in which the Site is located, precipitation runoff from the Site is captured by local storm drains. Several storm drain catch basins were noted within and adjacent to the Site area.

The nearest surface water body is the Bronx River, which is located approximately 900 feet west of the Site. The Bronx River in Westchester County is designated as "Class C" surface water. Class C surface water is defined in NYSDEC regulations as follows: "Class C, fresh surface waters, best usage is fishing. Waters shall be suitable for fish propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes."

1.4 SITE GEOLOGY AND HYDROGEOLOGY

Site geology is consistent with regional geology reported in the area and consists of two distinct unconsolidated lithologic units overlying bedrock. Based on observations made during the Remedial Investigation (RI) of the St. John's Property, a fill unit ranging in thickness from 5 to 8 feet is present across the property. This unit is composed primarily of reworked brown, dry, fine sand from the unit below. Beneath the fill is a thick sequence of fine interbedded sands up to 81 feet thick. The unit was observed to extend from the base of the fill to the bedrock surface encountered at approximately 64 and 86 feet below ground surface (bgs), respectively. This lower sand unit is comprised of brown and gray, fine sand with trace layers of silt and gravel. The bedding is marked by slight changes in color and composition. The limited samples of weathered bedrock in the tip of the macro-cores were observed to be consistent with a mica-schist. The bedrock depth (described above) and its composition are consistent with Manhattan Schist. The bedrock slopes to the southwest and south in the Site area.

Groundwater in the vicinity of the Site is classified in NYSDEC regulations as GA: fresh groundwaters with best usage as a source of potable water supply. However, the Site is not located within a primary water supply aquifer (i.e., significant unconsolidated aquifer) or a principal aquifer.

The following information regarding Site hydrogeology is based on a groundwater monitoring well network comprised of eight wells in the MGP areas of the White Plains Substation and 12 Water Street properties (MW-1 through MW-8), a downgradient well at the St. John's Property (MW-9), and observations of groundwater elevations in the soil borings installed beneath the St John's School building during the RI in April 2004. Groundwater was encountered under unconfined conditions within the unconsolidated sand deposits at depths ranging from approximately 5 to 29 feet bgs at the White Plains Substation and 12 Water Street properties. Groundwater was consistently observed in the soil borings at depths ranging from 20 to 23 feet bgs beneath the St John's School building and approximately 29 to 30 feet at borings outside the school building on the St. John's Property. The range in groundwater depths is due to varying surface elevations of the Site area. Groundwater flow between the central portion of the former MGP areas and across the St. John's Property is from the northeast to the southwest, which is consistent with the presumed regional groundwater flow direction based on local topography and with earlier groundwater maps generated for the MGP areas [Parsons, 2004].

1.5 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIATION AT OU-1

1.5.1 OU-1 Interim Remedial Measures

In accordance with the VCA, a NYSDEC-approved IRM was conducted in conjunction with Phase II of the White Plains Substation modernization and improvement project between July 2004 and January 2005. The removal of electrical equipment associated with improvement/modernization construction activities allowed temporary access to the former southern relief gasholder area and associated MGP-impacted materials beneath this section of the substation. The IRM addressed, to the extent technically feasible, the impacted materials associated with the former MGP's southernmost relief gasholder. Thus, IRM activities included removal of the remnant former southern relief gasholder and associated impacted soils, installation of a non-aqueous phase liquid (NAPL) cut-off wall, and the installation of seven recovery wells and four piezometers. Activities conducted at the site during the IRM are documented in the IRM Report for Phase II Construction Activities [Parsons, 2005].

1.5.2 Remedial Investigation at St. John's Property

Previous investigative work at the St. John's property includes the advancement of two soil borings south and west of the St. John's School building in 2001. Results of the data collected from these borings are provided in the MGP Site Investigation Report [Parsons, 2004]. In addition, RETEC performed an evaluation of the potential for sub-surface vapor intrusion at the St. John's property in February 2003. This work included the collection of several ambient and indoor air samples and soil gas samples collected from beneath or adjacent to the rectory, school, and gymnasium buildings. Results of this work are presented in the Report on Evaluation of Subsurface Vapor Intrusion [RETEC, 2003]. As a follow-up to the 2001 investigation work and the February 2003 sub-surface vapor intrusion evaluation, RETEC performed a Remedial Investigation (RI) on behalf of Con Edison at the St. John's property to thoroughly evaluate the potential for sub-surface vapor intrusion into buildings and to understand the nature and extent of possible sub-surface soil impacts and groundwater impacts at the Site. The RI was comprised of two major phases. The first phase was performed in April 2004 to augment the initial evaluation of potential sub-surface vapor intrusion performed by RETEC in February 2003. This work was centered within the footprints of the school building and the gymnasium building. A post investigation air sampling program was also performed following this phase of work to evaluate whether the intrusive sampling activities themselves had the potential to impact indoor air.

A second remedial investigation phase was performed in July 2004, south and west of the school and gymnasium buildings to delineate the extent of deep soil impacts noted during the April 2004 work. A deep groundwater monitoring well (MW-9) was installed and sampled in September 2004. The overall goals of the RI were to: (1) determine whether the air quality within the school, rectory, and gymnasium buildings was being adversely affected by the MGP sub-surface impacts located at depth beneath the St. John's Property; and (2) to delineate the horizontal and vertical extent of the MGP impacts beneath the St. John's Property. The results of the RI are presented in the RI Report [RETEC, 2005]. Figures 3 through 5_summarize the extent of visible NAPL, soil and groundwater impacts identified beneath the St. John's Property during the RI.

In summary, the data collected from the RI at the St. John's Property indicate that:

- MGP-related NAPL is limited laterally and vertically to a discrete zone, ranging in thickness from a few feet at the northern end of the property to typically only a few inches thick along the eastern edge of the gymnasium building;
- The MGP NAPL is located beneath the water table ranging from approximately 39 to 53 feet below the ground surface of the property;
- MGP Impacts beneath the St. John's Property do not represent a source to groundwater impacts at the water table;
- The deep MGP-related soil impacts are not adversely affecting soil gas or indoor air within the school or gymnasium buildings located above the deep soil impact zone; and
- Geochemical data indicate that biodegradation of dissolved MGP constituents of concern is occurring to some degree.

Based on the above findings, a Remedial Alternative Report [Parsons and RETEC, 2005] for the St. John's Property was submitted to the NYSDEC and NYSDOH, which summarized the investigative findings and outlined several possible solutions to remediate the St. John's Property. The NYSDEC replied on April 25, 2007 that Alternative 1 from the RAR, Monitoring and Institutional Controls, is the most appropriate remedy for the St. John's Property [NYSDEC, 2007].

1.6 CONTEMPLATED USE AND EXPOSURE

The St. John's School has been closed, but the school building is still used for a variety of activities and functions involving the presence of children and adults within the school building. St. John the Evangelist remains an active parish. St. John's Church is used for the celebration of mass and other religious services, such as baptisms, funerals, and weddings. St. John's Rectory contains offices and serves as the residence of the clergy for St. John Parish. During the typical day-to-day operations carried out on the property, there is no pathway for human exposure to subsurface MGP-related impacts in the subsurface. Under these circumstances, there is little to no risk of exposure to the public during future remedial activities specified in this Remedial Action Work Plan.

1.7 REMEDIAL OBJECTIVES

The remedial action objectives for the St. John's Property, which were developed as part of the RAR, include:

- Prevent the ingestion/direct contact with impacted soil and groundwater;
- To the extent feasible and consistent with safety and other concerns identified above, undertake the treatment and/or removal of MGP source materials; and
- Prevent the inhalation of volatiles from impacted soil or groundwater.

1.8 SUMMARY OF REMEDY

Based on the comparative analysis of remedial alternatives presented in the RAR (Parsons, 2005), Monitoring and Institutional Controls is the proposed remedy for addressing the potential influence of the subsurface MGP source materials present on the St. John's Property. The major components of this alternative include:

- Long-term groundwater monitoring; and
- Institutional controls.

As documented in the RAR, groundwater monitoring and institutional controls will provide the best overall long-term protection to human health and the environment, while posing only moderate short-term impacts which can be easily addressed during implementation.

1.9 RAWP ORGANIZATION

The purpose of this RAWP is to provide a scope of work for implementing the Monitoring and Institutional Controls alternative for the St. John's Property, including the remedial design, field work, health and safety, and quality assurance/quality control (QA/QC). To achieve this goal, this RAWP has been organized as follows:

- Section 1 – Introduction
- Section 2 – Remedy Implementation
- Section 3 – Institutional Controls
- Section 4 – Health and Safety
- Section 5 – QA/QC
- Section 6 – Reporting
- Section 7 – Schedule
- Section 8 – Project Management and Organization
- Section 9 - References

SECTION 2

REMEDY IMPLEMENTATION

2.1 INTRODUCTION

The remedial action for the St. John's Property includes the following major components:

Long-term groundwater monitoring; and

- Institutional controls.

Details regarding the groundwater monitoring program, including the proposed monitoring well network, groundwater sampling survey, monitoring well installation, and sampling are presented in the following subsections.

2.2 PROPOSED MONITORING WELL NETWORK

The purpose of the groundwater monitoring program is to demonstrate that the layer of clean groundwater beneath the St. John's Property continues to be present. To achieve this goal, the monitoring well network will include:

- An upgradient well;
- Source area well(s);
- An in-plume (dissolved-phase) well; and
- A sentinel well (or wells) located beyond the downgradient extent of the dissolved-phase plume.

Additionally, as requested by the NYSDEC in its April 25, 2007 letter, groundwater will be monitored in the contaminated zone, above the contaminated zone, and at the top of the water table.

Based on the consistent southwestern groundwater flow direction and the extent of soil and groundwater impacts identified beneath the St. John's Property, 10 monitoring wells (one existing well and nine new wells) have been selected for inclusion in the groundwater monitoring program. The proposed locations for these wells are shown on Figure 6. The rationale for the selection of each monitoring well and their proposed screen depths is summarized on Table 1. The proposed number of monitoring wells and their locations may be modified based on the results of the groundwater sampling survey described below.

2.3 GROUNDWATER SAMPLING SURVEY

Prior to the installation of the new monitoring wells proposed in Section 2.2, a groundwater sampling survey will be conducted to ensure that the proposed wells are adequately positioned and screened to achieve the goals of the groundwater monitoring program. The sample designation, sample rationale, sample depth, and laboratory analyses proposed for each groundwater sample is summarized in Table 2. The groundwater sampling survey will be conducted in accordance with the HASP (Appendix A), FSP (Appendix B), and QAPP (Appendix C).

Groundwater samples will be collected using direct push drilling techniques at the proposed locations shown on Figure 7. Once the direct push borehole reaches the desired depth, groundwater samples will be collected by inserting a stainless steel temporary screen point inside the borehole. The screen-point will be exposed to allow groundwater to enter the tooling and new polyethylene tubing connected to a peristaltic pump will be inserted into the screen point. Once in place, the temporary screen points will be purged until relatively free of sediment. Water quality parameters including dissolved oxygen, oxidation-reduction potential, temperature, pH, conductivity, and turbidity will be recorded and when stable, the well points will be sampled. Upon completion, the screen points will be removed and the soil borehole will be filled with bentonite to the surface.

In addition to confirming groundwater conditions at each of the proposed groundwater sampling survey locations shown on Figure 7, existing monitoring well MW-9 will be sampled to determine whether groundwater conditions have changed at this location since it was last sampled during the RI in 2004. Groundwater sampling at MW-9 will be conducted as described in Section 2.6.

During the groundwater sampling survey, a comprehensive round of groundwater levels will also be obtained from all accessible monitoring wells at both OU-1 and OU-2.

Following receipt of the analytical results, a Groundwater Sampling Survey Report will be prepared as described in Section 6.

2.4 MONITORING WELL INSTALLATION

2.4.1 Utility Clearance

Prior to sampling point or well installation, the New York State One-Call Center will be contacted for a Code 753 utility mark-out. No drilling will be conducted until the following minimum requirements have been met:

- The Project Manager and/or field team leader have thoroughly inspected the drilling location and surrounding area for the Code 753 mark-out and the location is clear of marked utilities;
- All drilling locations have been M-scoped by Con Edison, or a private utility locating contractor has performed a below-ground (e.g., ground penetrating radar) survey for utility location;
- All drilling locations have been cleared with a metal detector;
- Utility (gas and electric) plates for the site and surrounding area have been provided to Parsons by Con Edison's Construction Management staff and reviewed;
- Parsons has met with and reviewed all of the drilling locations with a facility representative, a Con Edison Construction Management representative, and/or Con

Edison's Project Manager, and verified that all drilling locations have been marked; and

- Each drilling location has either been hand-augered to a minimum depth of 5 feet, or a 4-foot by 4-foot test pit has been hand-dug to a minimum depth of 5 feet, as determined by Con Edison during the site inspection.

Additional utility clearance measures may be required based on the site inspection and/or Con Edison requirements.

2.4.2 Air Monitoring

The proposed well installation activities may generate fugitive dust or organic vapors. Worker breathing zone air monitoring and a community air monitoring program will be implemented as described below.

2.4.2.1 Worker Air Monitoring

Air monitoring of the worker breathing zone will be conducted continuously during all drilling and sampling activities to assure proper health and safety protection for the team and any occupants of the facilities. Initially, air monitoring will be conducted at the site of the investigation (potential source area). If air monitoring identifies the presence of volatile organic compounds in the worker breathing zone, guidelines in the HASP (Appendix A) will be followed regarding action levels, permissible exposure limits, engineering controls, and personal protective equipment. The following equipment will be used to conduct air monitoring:

- A PID (RaeSystems MiniRae 2000 or equivalent) will be used to monitor for organic vapors and benzene;
- A MiniRAM Portable Aerosol Monitor will be used to monitor particulate dust and aerosolized vapors; and
- Cyanide color detector tubes will be used to monitor for hydrogen cyanide.

Air monitoring results will be recorded in the field book during investigation activities and made available for NYSDEC and New York State Department of Health (NYSDOH) review.

2.4.2.2 Community Air Monitoring

Community air monitoring will be conducted in compliance with the NYSDOH's Generic Community Air Monitoring Plan (NYSDOH, 2000). Real-time air monitoring for volatile compounds and particulates at the perimeter of the hot zone will be performed as described below.

<u>Organic Vapor Monitoring</u>

Periodic monitoring for VOCs will be conducted during the collection of groundwater samples. Periodic monitoring will include obtaining measurements upon arrival at a location, while opening a monitoring well cap, when bailing and purging a well, and upon leaving the location. In some instances, depending on the proximity of exposed individuals, continuous monitoring may be conducted during these activities.

Continuous monitoring for VOCs will be conducted during all ground intrusive activities (i.e., soil boring installation and monitoring well installation). Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background concentrations. VOCs will be monitored continuously at the downwind perimeter of the hot zone. Monitoring will be conducted with a PID equipped with a 10.6 eV lamp capable of calculating 15-minute running average concentrations. The following actions will be taken based on organic vapor levels measured:

- If total organic vapor levels exceed 5 ppm above background levels or concentrations during the 15-minute average at the perimeter, work activities will be temporarily halted and monitoring continued. If levels readily decrease (per instantaneous readings) below 5 ppm above background, work activities will resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the hot zone persist at levels in excess of 5 ppm above background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will resume provided that the total organic vapor level 200 feet downwind of the hot zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less – but in no case less than 20 feet, is below 5 ppm above background for the 15-minute average.
- If the total organic vapor level is above 25 ppm at the perimeter of the hot zone, activities will be shutdown.

All 15-minute readings will be recorded and available for NYSDEC and NYSDOH personnel to review. Instantaneous readings, if any, will also be recorded.

Particulate Monitoring

During ground intrusive activities, particulate concentrations will be monitored continuously at the downwind perimeter of the hot zone with a portable real-time particulate monitor capable of measuring particulate matter less than 10 micrometers in size and capable of integrating over a period of 15 minutes (or less). The equipment will include an audible alarm to indicate exceedence of the action level. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background concentrations. The following actions will be taken based on particulate concentrations measured:

- If the measured downwind particulate level is 100 micrograms per cubic meter ($\mu g/m^3$) or more above background for the 15-minute period or if dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression provided that the downwind particulate level does not exceed 150 $\mu g/m^3$ above background and no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, the downwind particulate level is greater than 150 $\mu g/m^3$ above background, work will be stopped and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind particulate level to within 150 $\mu g/m^3$ of the background (upwind) level and in preventing visible dust migration.

All readings will be recorded and be available for NYSDEC and NYSDOH personnel to review.

2.4.3 Well Installation/Construction

Nine new monitoring wells will be installed at the proposed locations shown on Figure **6**. All drilling locations are subject to change based on accessibility, utility clearance, and site conditions encountered. Additionally, the proposed new well locations may be modified based on the results of the groundwater sampling survey described in Section 2.3.

Monitoring well borings will be advanced to total depth with 4.25-inch inner diameter (ID) hollow stem augers. The monitoring wells will be constructed with two-inch ID, threaded, flush-joint, PVC casing and 0.01-inch slot screens. Monitoring wells screens will be installed at the depths specified in Table 1, which are subject to modification based on the results of the groundwater sampling survey and subsurface conditions encountered. The wells will be contained in flush-mounted vaults to maintain accessibility to the area after completion.

After a minimum of 24 hours, the monitoring wells will be developed until the well is reasonably free of sediment (50 NTU if possible) or until the pH, temperature and conductivity stabilize. Monitoring well installation, construction, development, decontamination, and investigation-derived waste handling procedures are specified in the FSP (Appendix B).

2.5 SITE SURVEY

The locations and elevations of the new monitoring wells will be surveyed following installation. A map will be prepared showing the locations for each monitoring well and soil boring location. Vertical control of elevations for soil borings and monitoring wells will be established to the nearest 0.01-foot and will be based on a USGS datum and benchmarks established onsite. Horizontal control will be based on a site-specific coordinate system with established and referenced control points.

2.6 MONITORING WELL SAMPLING AND ANALYSIS

Groundwater samples will be collected from each new monitoring well and existing monitoring well MW-9 on a semi-annual basis (i.e., approximately every six months). Following four sampling rounds (a period of two years), the data will be evaluated and a recommendation will be made for future monitoring activities. If appropriate based on the data obtained, site conditions, and site use, Con Edison may request from the NYSDEC and NYSDOH that the monitoring frequency be modified.

Prior to sampling, the headspace within each well will be measured with a PID. An oil/water level interface probe and/or a water level indicator will be used to measure the depths to the water table and thickness of any free product in the wells. The monitoring wells will be purged by removing a minimum of three times the volume of standing water in the well to allow for collection of a representative sample. Groundwater samples will then be collected.

Prior to filling the sample bottles, the turbidity, pH, temperature, and conductivity of the sample will be measured and recorded. The groundwater samples will be analyzed for TCL

VOCs and SVOCs. Sampling procedures are described in detail in the FSP (Appendix B). QA/QC procedures are described in the QAPP (Appendix C).

During each groundwater monitoring event, a comprehensive round of groundwater levels will also be obtained from all accessible monitoring wells at both OU-1 and OU-2

2.7 WASTE MANAGEMENT

All investigation-derived wastes (IDW) generated during the remedial action will be containerized. Soils will be segregated by boring or location and placed in 55-gallon NYSDOT approved drums which are labeled appropriately. Plastic sheeting and personal protective equipment will be consolidated in NYSDOT-approved drum(s). Fluids will be placed in NYSDOT-approved fluid drums with closed tops. The drums will be staged in a secure area on site as determined by Con Edison and St. John's representatives prior to proper characterization and disposal.

2.8 EQUIPMENT DECONTAMINATION PROCEDURES

Heavy equipment used for intrusive activities (e.g., drilling) will be decontaminated prior to leaving the Site. Primary decontamination methods will include pressure washing/steam cleaning of vehicle tires, augers, and bits. Personnel decontamination procedures are outlined in the HASP (Appendix A).

2.9 LABORATORY ANALYSIS AND DATA VALIDATION

Laboratory analyses of groundwater samples will be conducted by a New York State Department of Health Environmental Laboratory Analysis Program (ELAP) approved laboratory certified for analyses using the most recent Analytical Services Protocol (ASP). Laboratory analyses will be conducted in accordance with USEPA SW-846 methods and standard deliverable format.

Table 3 summarizes the anticipated analytical methods and quality control samples that will be required during each sampling event. QA/QC procedures required by the SW-846 methods will be followed, including initial and continuing instrument calibrations, standard compound spikes, surrogate compound spikes, and analysis of other samples (blanks, laboratory control samples, matrix spikes/matrix spike duplicates, etc.). The laboratory will provide sample bottles, which have been pre-cleaned and preserved in accordance with the SW-846 methods. NYSDEC ASP holding times will be adhered to. Where there are differences in the SW-846 and NYSDEC ASP requirements, the NYSDEC ASP shall take precedence.

Data validation will be performed in accordance with USEPA validation guidelines for organic and inorganic data review. Validation will include the following:

- Verification of 100% of all QC sample results (both qualitative and quantitative);
- Verification of the identification of 100% of all sample results (both positive hits and non-detects);
- Recalculation of 10% of all investigative sample results; and

- Preparation of a Data Usability Summary Report (DUSR).

Data reduction, validation, and reporting procedures are provided in the QAPP (Appendix C).

SECTION 3

INSTITUTIONAL CONTROLS

3.1 SITE MANAGEMENT PLAN

A Site Management Plan (SMP) will be required by the NYSDEC. The SMP will include provisions to control any future development, remediation, or maintenance activities requiring subsurface excavation at depths greater than 20 feet bgs or the extraction of groundwater. For new redevelopment of the property, the property owner at the time that any such proposed plans are developed will notify the NYSDEC and obtain the NYSDEC's consent prior to proceeding with its proposed redevelopment plans. Residual contaminated soils could potentially be excavated from the St. John's Property during future redevelopment activities that involve excavation at depths greater than 20 feet bgs. The SMP will specify that soil excavated on the property at depths greater than 20 feet bgs will be characterized for contamination, segregated, and either reused on-site or disposed off-site depending on the presence of NAPL. The SMP will also address the appropriate procedures for performing intrusive work at depths greater than 20 feet bgs, including health and safety guidelines requiring that construction workers involved in this work have appropriate Occupational Safety and Health Administration (OSHA) training and medical monitoring as required in 29 CFR 1910.120 (Hazardous Waste Operation and Emergency Response). These guidelines will also specify appropriate worker and community air monitoring required. The SMP will require evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified.

3.2 MONITORING, MAINTENANCE, AND ANNUAL INSPECTION

The monitoring wells, protective casings and covers, and surrounding surface areas will be inspected on an annual basis to determine if maintenance activities are required to maintain the integrity of the groundwater monitoring well system. The inspections will be performed to confirm that the system is present, functioning properly, and has not been damaged so as to compromise its effectiveness. Maintenance activities will be performed, as appropriate, based on the findings of the inspections. The frequency of the monitoring and inspection may be adjusted in the future, based on monitoring results, site conditions, and current use of the property.

3.3 ANNUAL CERTIFICATION

Once the groundwater monitoring well system is installed and is functioning, Con Edison will begin filing annual certifications with the NYSDEC and NYSDOH. In the annual certifications, the following information will be provided concerning the engineering and institutional controls for the St. John's Property:

- Documentation that the inspection and maintenance activities described in Section 3.2 have been completed; and

- Notification of any excavation/disturbance activities at depths greater than 20 feet bgs within the restricted area and certification that any such excavations/disturbances do not or did not present an unacceptable risk to the health and safety of site workers or the surrounding community.

The annual certification will be prepared and signed by a New York State-licensed professional engineer and will indicate whether the institutional controls employed at the St. Johns property are unchanged from the previous certification or that any changes made to the controls were approved by the NYSDEC, and that nothing has occurred that would impair the ability of such controls to protect the public health and the environment.

SECTION 4

HEALTH AND SAFETY

A Health and Safety Plan (HASP) has been prepared to provide guidance for field activities required to complete the remedial action. The HASP is included in Appendix A.

The HASP assigns responsibilities; establish standard operating procedures, personnel protection standards and mandatory safety practices; and provide for contingencies that may arise during the remedial action.

The primary field activities to be performed during the remedial action include, but are not limited to: well installation, well development, and groundwater sampling.

Field staff may also be exposed to other hazards that are encountered during field activities including slips, trips, falls, automobiles, traffic, heavy equipment, drill rigs, winches, and marine hazards. Depending upon the time of season, field staff may be exposed to biological hazards such as insect bites, stings, and ticks. Meteorological hazards such as lightning, wind, rain, extreme hot or cold temperatures, and ultraviolet radiation may also be present. These issues are each addressed in the HASP.

Field staff may be exposed to hazards associated with NAPL, with BTEX and PAHs being the primary chemicals of concern. Field staff will be required to use personal protective equipment (PPE) suitable for the level of contaminants present. Monitoring (e.g., VOC and dust monitoring) will be conducted to verify contamination levels and ensure proper PPE upgrade is implemented if necessary. The HASP also includes a site-specific community air monitoring plan (CAMP) in compliance with the NYSDOH Generic Community Air Monitoring Plan.

SECTION 5

QUALITY ASSURANCE/QUALITY CONTROL

A QAPP has been prepared to use as a guide for all field and laboratory sampling, analysis and measurement conducted as part of the remedial action. The QAPP is included in Appendix C. The QAPP specifies analytical methods to be used to ensure that data generated during the remedial action are precise, accurate, representative, comparable, and complete.

SECTION 6

REPORTING AND CONTINGENCY MEASURES

This section describes the project deliverables associated with documenting the remedial action and groundwater monitoring results. Contingency measures that may be implemented by Con Edison in consultation with the NYSDEC based on the results of the groundwater monitoring activities are also discussed below.

6.1 MONTHLY REPORTS

Monthly Progress Reports will continue to be prepared in accordance with the VCA. The Monthly Progress Reports will include the following information:

- Remedial Action tasks completed in the past month;
- Testing and sampling results;
- Anticipated Remedial Action tasks for next month;
- Remedial Action task schedule issues and delays, if any;
- Modifications to the RAWP and/or plans as approved by Con Edison and the NYSDEC; and
- Citizen Participation Plan-related activities.

6.2 GROUNDWATER SAMPLING SURVEY REPORT

Following receipt of the analytical results generated during the Groundwater Sampling Survey (Section 2.3), a Groundwater Sampling Survey (GSS) Report will be prepared. The GSS Report will document the groundwater sampling activities performed, present and summarize the field observations, water level data, and groundwater analytical results in tabular form and on site figures. Based on the results of the GSS, the monitoring well network proposed in Section 2.2 of this RAWP will be evaluated and any modifications will be proposed in the GSS Report, if necessary, to best achieve the goals of the long-term groundwater monitoring program. Modifications may include the relocation of monitoring wells currently proposed, and/or proposing the installation of additional monitoring wells, if appropriate, based on the results of the evaluation.

6.3 GROUNDWATER MONITORING REPORTS

Following receipt of analytical data from each round of groundwater monitoring, a Groundwater Monitoring Report (GMR) will be prepared. The GMR will document the sampling activities and present and summarize the analytical data in tabular form and on site figures. Each GMR will also include a groundwater contour map, a DUSR, and groundwater sampling records. The first GMR will also document the new monitoring well installation activities and will include monitoring well construction logs for the new wells.

6.4 CONTINGENCY MEASURES

As discussed in Section 1.5.2, the results of the RI indicate that the deep soil MGP impacts present beneath the St. John's Property are not adversely affecting soil gas or indoor air within the St. John's school or gymnasium buildings. For this reason, and with the NYSDEC's and NYSDOH's concurrence [NYSDEC, 2007], the selected remedial action does not include installation of a sub-slab depressurization system or further monitoring of soil gas or indoor air. However, should results obtained during the groundwater monitoring program indicate that groundwater conditions beneath the buildings have deteriorated (e.g., MGP impacted groundwater is encountered in samples collected from the shallow source area wells), Con Edison will evaluate and, if necessary, recommend additional measures. Such measures would likely first involve the collection and analysis of soil gas and/or indoor air samples. Based on the sample results, additional investigation and remediation measures may be warranted

Given the completed IRM at the White Plains Substation and the planned remedial action for OU-2 of the Former White Plains MGP Site, it is unlikely that subsurface conditions at the St. John's Property will change in a negative manner. However, the proposed groundwater monitoring program for the St. John's Property will effectively monitor subsurface conditions to demonstrate that a layer of clean groundwater continues to be present beneath the buildings on that property, to identify changes in the extent of groundwater impacts, and to evaluate whether further measures are necessary to demonstrate and ensure the continued protection of human health.

SECTION 7

PROJECT SCHEDULE

The anticipated dates for key project milestones for the OU-1 remedial action are outlined on Figure 8.

SECTION 8

PROJECT MANAGEMENT AND ORGANIZATION

8.1 PROJECT TEAM

Several organizations will be directly involved in the performance and review of this project. These organizations have specific project functions and relate to each other in various ways according to their project responsibilities.

The key project team members are described below and presented on the organizational chart (Figure 9). A project contact list is provided at the end of this section.

8.1.1 New York State Department of Environmental Conservation

Con Edison has entered into a VCA with the NYSDEC to investigate and remediate the Former White Plains MGP Site. The NYSDEC is the lead agency and will review and approve plans, drawings, reports, and schedules submitted for the remedial design and remedial action as specified in the VCA. The NYSDEC has designated Mr. William Ottoway as its key contact. The NYSDOH will also review and provide input to the NYSDEC on the foregoing submittals. The NYSDOH has designated Mr. Joe Crua as its key contact.

8.1.2 Con Edison

Con Edison is ultimately responsible for the design and implementation of the selected remedy specified for the OU-2 area. Con Edison has designated Ms. Yelena Skorobogatov as its Project Manager and primary contact for this project. Mr. Eddy Louie will serve as the Remediation Programs Manager for Con Edison.

8.1.3 Parsons

Parsons was retained by Con Edison to provide remedial services for the St. John's property. Parsons has designated Ms. Megan Miller as the Project Manager and primary contact for this project. Ms. Miller is responsible for preparation of the design documents, the RA bid package, the Construction Certification Report, and monthly progress reports. Ms. Miller is also responsible for arranging project meetings, ensuring proper staffing and resources for completing the RD/RA activities in accordance with this approved RAWP, and serving as Con Edison's designated technical point of contact with the NYSDEC, other agencies, contractors, and subcontractors.

Mr. Steve Rossello will serve as the Technical Director for this project. As Technical Director, Mr. Rossello's responsibilities are to (1) provide innovative and sophisticated input to various technical questions as they arise; (2) ensure compliance with regulatory guidelines; (3) ensure overall quality assurance of the work; and (4) provide senior review of the work at key points.

Mr. Shane Blauvelt will be the Project Engineer for this project. Mr. Blauvelt will provide support to the Project Manager in the preparation of the reports.

Mr. Gregory Beck will serve as the Health and Safety Officer for this project. Mr. Beck will ensure that the HASP is properly prepared and implemented and that all Parsons and subcontractor site personnel are trained in the site-specific project health and safety requirements. Mr. Beck will have authority to stop work if unsafe conditions are observed during RD/RA activities.

Project Contact List

NYSDEC/NYSDOH	
NYSDEC William Ottoway, Project Manager Remedial Bureau C, 11th Floor 625 Broadway Albany, NY 12233-7017 (P) 518-402-9686 (F) 518-402-9679 (E) wsottawa@gw.dec.state.ny.us	NYSDOH Bureau of Env. Exposure Investigation Joe Crua Flanigan Square 547 River Street Troy, NY 12180-2216 (E) jpc04@health.state.ny.us
Con Edison	
Con Edison Yelena Skorobogatov, Project Manager 31-01 20th Avenue, Bldg. 136 Long Island City, NY 11105 (P) 718-204-4205 (F) 718-932-2687 (E) skorobogatovy@coned.com	Con Edison Eddy Louie MGP Program Manager 31-01 20th Avenue, Bldg. 136 Astoria, NY 11105 (P) 718-204-4262 (F) 718-932-2687 (E) louiee@coned.com
Parsons	
Parsons Megan Miller, P.E., Project Manager 290 Elwood Davis Road, Suite 312 Liverpool, NY 13088 (P) 315-451-9560 (F) 315-451-9570 (E) megan.miller@parsons.com	Parsons Gregory Beck, Health and Safety Officer 200 Cottontail Lane Somerset, NJ 08873 (P) 732-537-3502 (F) 732-537-0353 (E) gregory.beck@parsons.com
Parsons Steve Rossello, Technical Director Senior Hydrogeologist Rochester, MN (P) 507-285-1163 (E) steve.rossello@parsons.com	Parsons Shane Blauvelt, Project Engineer 290 Elwood Davis Road, Suite 312 Liverpool, NY 13088 (P) 315-451-9560 (F) 315-451-9570 (E) shane.blauvelt@parsons.com

SECTION 9

REFERENCES

NYSDEC. 2007. Letter to Con Edison dated April 25, 2007.

Parsons. 2004. *Site Investigation Report, White Plains Former MGP Site.* Prepared by Parsons for Consolidated Edison Company of New York. February 2004.

Parsons. 2005. *Interim Remedial Measures Report for Phase II Construction Activities, White Plains Former MGP Site.* Prepared by Parsons for Consolidated Edison Company of New York. August 2005.

Parsons and the RETEC Group, Inc. 2005. *Remedial Alternatives Report Saint John the Evangelist R.C. Church and Elementary School.* Prepared by Parsons and The RETEC Group, Inc. for Consolidated Edison Company of New York. December 2005.

The RETEC Group, Inc. 2003. *Report on Evaluation of Sub-Surface Vapor Intrusion, St. John's School and rectory, 148 Hamilton Avenue, White Plains, New York.* Prepared by RETEC for Consolidated Edison Company of New York. August 5, 2003.

The RETEC Group, Inc. 2005. *Remedial Investigation Report, St. John the Evangelist R.C. Church and Elementary School.* Prepared by The RETEC Group, Inc. for Consolidated Edison Company of New York. November 2005.

USEPA. 2002. *OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils.* November 29, 2002.

Table 1

White Plains Former MGP Site Operable Unit 1
Remedial Action
Proposed Monitoring Wells and Rationale

Well ID	Location	Screen Depth(1)	Pnrpose	Rationale
MW-10	Southeast corner of Substation Property	35 - 45'	Upgradient monitoring	Upgradient location near previous monitoring well MW-4 that had no visible NAPL in soil and non-detect BTEX and PAH concentration in groundwater. Screened across approximate elevation of deep impacts based on NAPL observed at MW-8 (35-39'), SB-24 (36-38') and B-102 (39-40').
MW-11A	North of school building at location of SB-24	20 - 25'	Source Area Monitoring (Top of Water Table)	Located within NAPL plume area. Screened to straddle top of water table (observed at 22.5' bgs during SB-24 installation).
MW-11B	North of school building at location of SB-24	28 - 33'	Source Area Monitoring (Above Impacted Zone)	Located within NAPL plume area. Screened above NAPL impacted zone (observed at 36-38' bgs during SB-24 installation).
MW-11C	North of school building at location of SB-24	36 - 41'	Source Area Monitoring (Within Impacted Zone)	Located within NAPL plume area. Screened within NAPL impacted zone (observed at 36-38' bgs during SB-24 installation).
MW-12A	South of school building at location of B-109	28 - 33'	Source Area Monitoring (Top of Water Table)	Located within NAPL plume area. Screened to straddle top of water table (approximated at 30' bgs).
MW-12B	South of school building at location of B-109	40 – 45'	Source Area Monitoring (Above Impacted Zone)	Located within NAPL plume area. Screened above NAPL impacted zone (observed at 50-51.5' during B-109 installation).
MW-12C	South of school building at location of B-109	48 – 53'	Source Area Monitoring (Within Impacted Zone)	Located within NAPL plume area. Screened within NAPL impacted zone (observed at 50-51.5' during B-109 installation).

Table 1

White Plains Former MGP Site Operable Unit 1
Remedial Action
Proposed Monitoring Wells and Rationale

Well ID	Location	Screen Depth	Purpose	Rationale
MW-9	Existing Well	52 – 62'	In-Plume (dissolved-phase) monitoring	Downgradient of NAPL plume. Previously sampled during RI. Dissolved phase VOCs and SVOCs present. No visible NAPL observed during installation.
MW-13	At location of B-115	50 – 60'	In-Plume (dissolved-phase) monitoring	Downgradient of NAPL plume. No visible NAPL observed during installation. Screened across NAPL impacted zone observed at upgradient locations B-109 (50-51.5'), B-113 (52.5-53.5'), and B-114 (52-53').
MW-14	Southwest of St. John's School Gymnasium	57 – 67'	Downgradient Sentinel Well	Farthest location downgradient of NAPL plume, centered across projected depth of plume

(1) Screen depth intervals may be modified in the field based on subsurface conditions observed during well installation.

Table 2

White Plains Former MGP Site Operable Unit 1
Remedial Action
Proposed Sampling Points and Rationale

Sample Location ID	Location	Sample Depth[1]	Purpose	Sample Analyses
GW-10	Proposed MW-10 location	40'	Confirm upgradient well location.	VOCs and SVOCs
GW-11	Proposed MW-11A, MW-11B, and MW-11C location	22.5'	Confirm clean top of water table in source area	VOCs and SVOCs
		29.5'	Confirm clean zone above impacts in source area	VOCs and SVOCs
		38'	Confirm impacted zone in source area	VOCs and SVOCs
GW-12	Proposed MW-12A, MW-12B, and MW-12C location	32'	Confirm clean top of water table in source area	VOCs and SVOCs
		42'	Confirm clean zone above impacts in source area	VOCs and SVOCs
		52'	Confirm impacted zone in source area	VOCs and SVOCs
MW-9	Existing MW-9	57'	Confirm in-plume (dissolved-phase) well location	VOCs and SVOCs
GW-13	Proposed MW-13 location	55'	Confirm in-plume (dissolved-phase) well location	VOCs and SVOCs
GW-14	Proposed MW-14 location	62'	Confirm downgradient sentinel well location	VOCs and SVOCs
GW-15	Grassy Lawn Area	55'	Provide additional information regarding groundwater conditions and identify appropriate monitoring locations in grassy lawn area	VOCs and SVOCs
GW-20	Grassy Lawn Area	53'	Provide additional information regarding groundwater conditions and identify appropriate monitoring locations in grassy lawn area	VOCs and SVOCs
GW-16 and GW-17	New Street Sidewalk	36'	Provide additional groundwater data in the areas east and west of the proposed MW-11 wells.	VOCs and SVOCs

Table 2

White Plains Former MGP Site Operable Unit 1
Remedial Action
Proposed Sampling Points and Rationale

Sample Location ID	Location	Sample Depth[1]	Purpose	Sample Analyses
GW-18	North Lexington Ave Sidewalk	60'	Provide additional groundwater data in the area west of existing well MW-9.	VOCs and SVOCs
GW-19	Previous SB-29 location	45'	Provide additional groundwater data in the area north of existing well MW-9.	VOCs and SVOCs

(1) Sample depth intervals may be modified in the field based on subsurface conditions observed during direct push sampling.

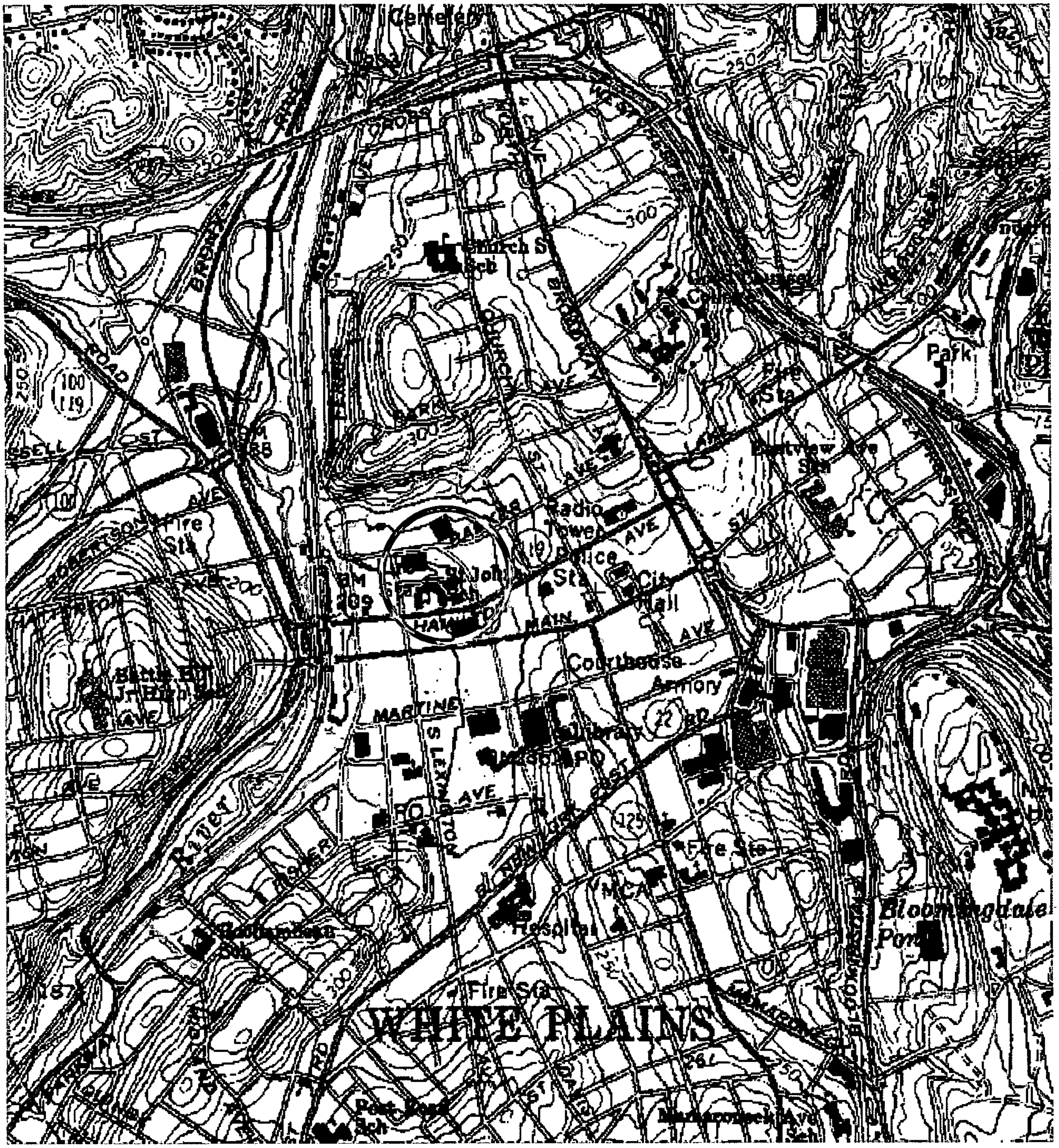
Table 3

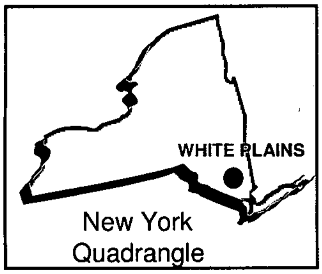
White Plains Former MGP Site Operable Unit 1
Remedial Action
Summary of Samples and Analyses

			Field Samples				**QC Blanks**		
Matrix	**Parameter**	**Analytical Method**	**Field Samples**	**Field Duplicate**	**MS/MSD[(a)] (Total)**	**Sub-Total**	**Trip Blank**	**Rinse Blank[(b)]**	**Total**
Groundwater Sampling Survey - Groundwater Samples	TCL VOCs TCL SVOCs	EPA SW 8260 EPA SW 8270	12 12	1 1	1/1 1/1	15 15	1 -	0 0	16 15
Groundwater Monitoring Event - Groundwater Samples	TCL VOCs TCL SVOCs	EPA SW 8260 EPA SW 8270	10 10	1 1	1/1 1/1	13 13	1 -	0 0	14 13

(a) Matrix spike / matrix spike duplicate for organic analyses.

(b) Rinse blanks will be collected for each day non-disposable sampling equipment is used.





LATITUDE: N42° 02' 00"
LONGITUDE: W73° 46' 16"

N

Not to Scale

SOURC: DeLORME 3-D
TOPOQUAD PROGRAM

FIGURE 1

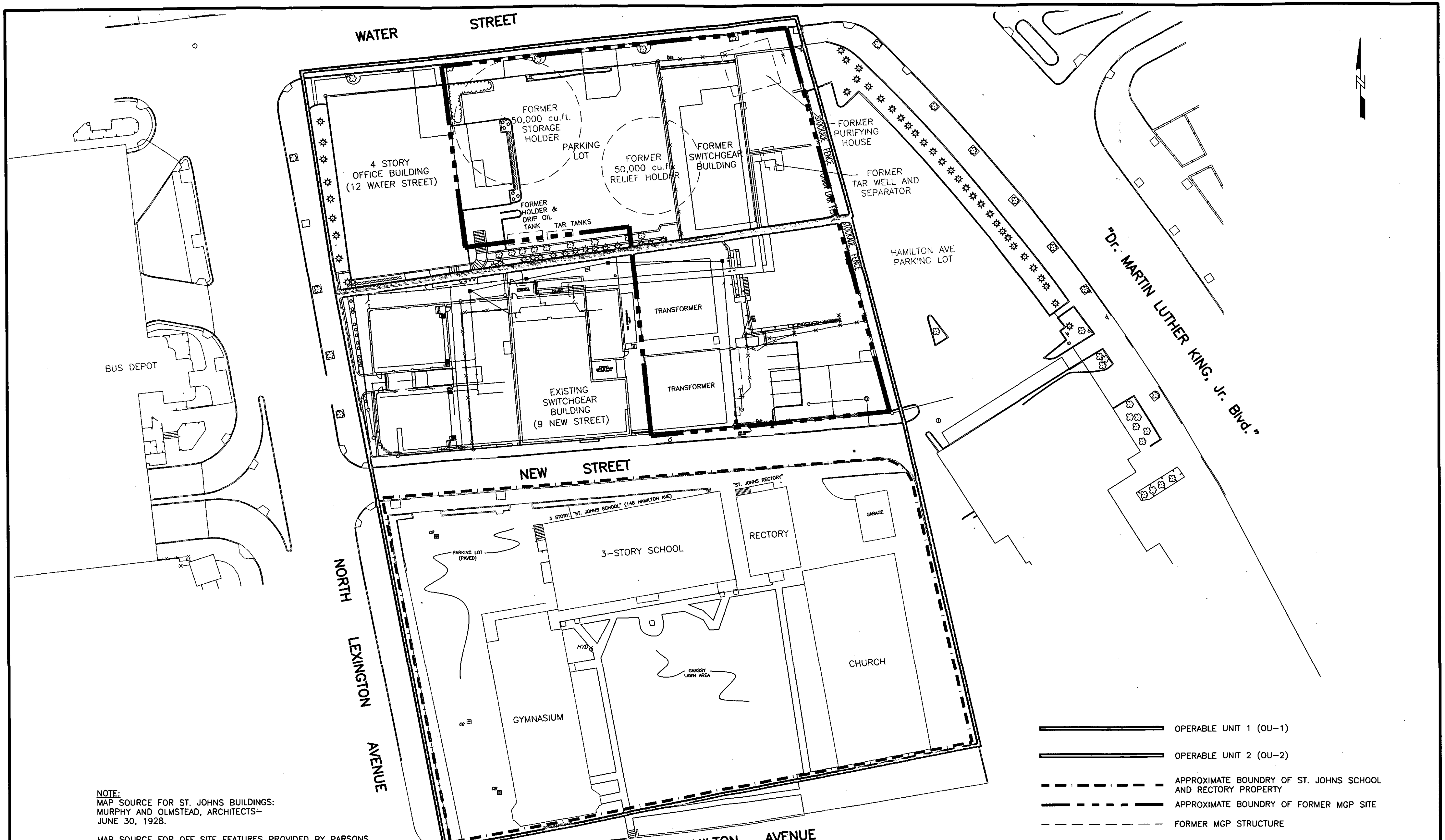
White Plains Former MGP Site
White Plains, New York

SITE LOCATION MAP

PARSONS

290 ELWOOD DAVIS ROAD, SUITE 312, LIVERPOOL, NY 13088 PHONE: (315) 451-9560

P:\CON ED\441240\GRAPHICS\SITEMAP.PPT



NOTE:
MAP SOURCE FOR ST. JOHNS BUILDINGS:
MURPHY AND OLMSTEAD, ARCHITECTS–
JUNE 30, 1928.

MAP SOURCE FOR OFF SITE FEATURES PROVIDED BY PARSONS ENGINEERING (5/2004) & REFERENCED MAP INFORMATION DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY.

30' 0 60'
GRAPHIC SCALE 1"=60'

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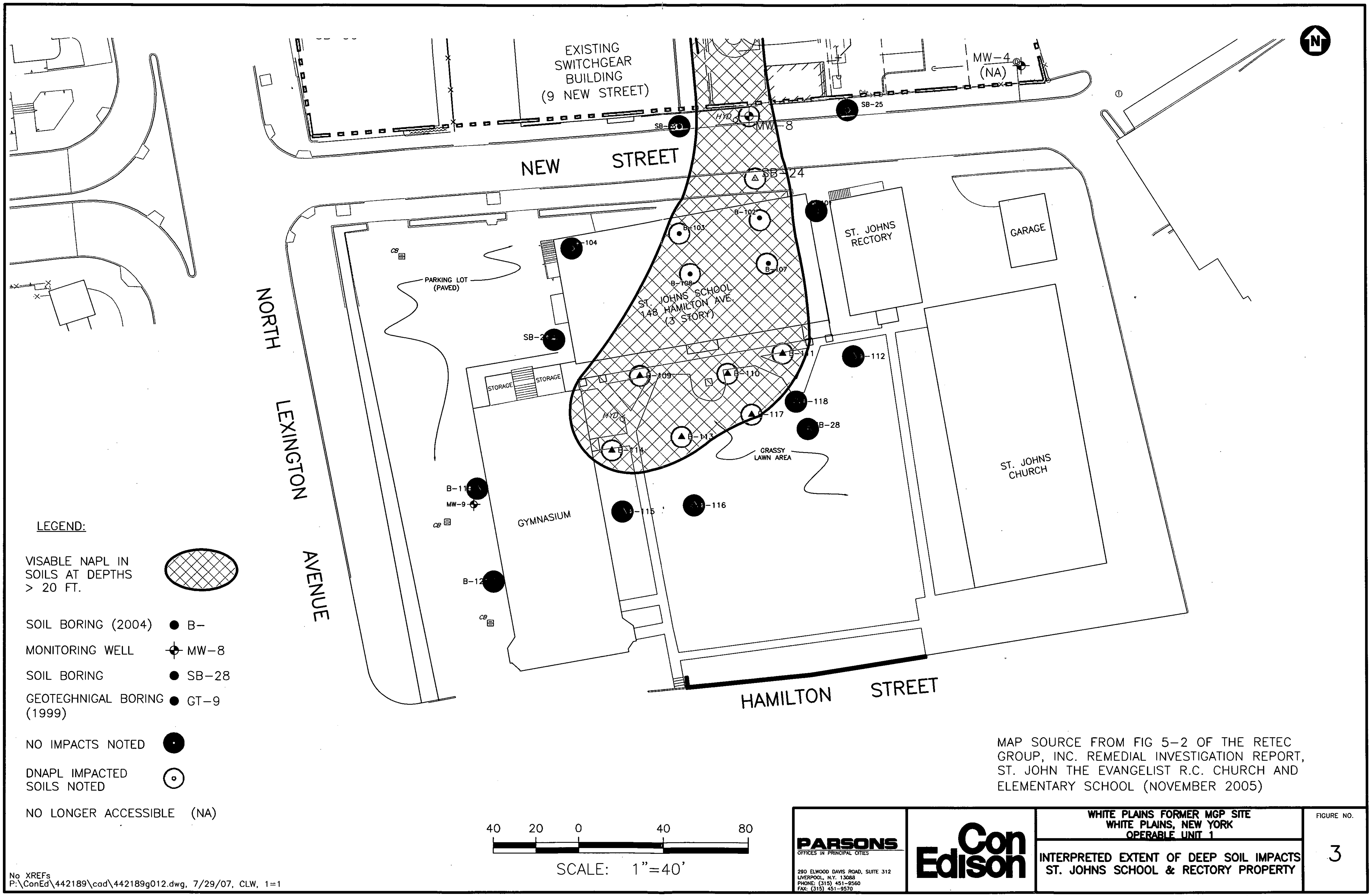
PARSONS
290 ELWOOD DAVIS ROAD
SUITE 312
LIVERPOOL, N.Y. 13088
PHONE: (315) 451-9560
FAX: (315) 451-9570

Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

SITE LAYOUT

FIGURE NO. 2


EXISTING SWITCHGEAR BUILDING (9 NEW STREET)
MW-4 (NA)
SB-25
SB-30
MW-8
NEW STREET
SB-24
B-102
B-103
B-104
B-107
B-108
ST. JOHNS RECTORY
GARAGE
ST. JOHNS SCHOOL 148 HAMILTON AVE. (3 STORY)
PARKING LOT (PAVED)
CB
NORTH LEXINGTON AVENUE
SB-2
B-111
B-112
B-109
B-110
STORAGE
STORAGE
B-118
SB-28
B-117
HYD
B-113
B-114
GRASSY LAWN AREA
ST. JOHNS CHURCH
B-11
MW-9
GYMNASIUM
B-115
B-116
B-12
HAMILTON STREET
LEGEND:
VISABLE NAPL IN SOILS AT DEPTHS > 20 FT.
SOIL BORING (2004) B-
MONITORING WELL MW-8
SOIL BORING SB-28
GEOTEGHNICAL BORING (1999) GT-9
NO IMPACTS NOTED
DNAPL IMPACTED SOILS NOTED
NO LONGER ACCESSIBLE (NA)
40 20 0 40 80
SCALE: 1"=40'
MAP SOURCE FROM FIG 5-2 OF THE RETEC GROUP, INC. REMEDIAL INVESTIGATION REPORT, ST. JOHN THE EVANGELIST R.C. CHURCH AND ELEMENTARY SCHOOL (NOVEMBER 2005)
No XREFs
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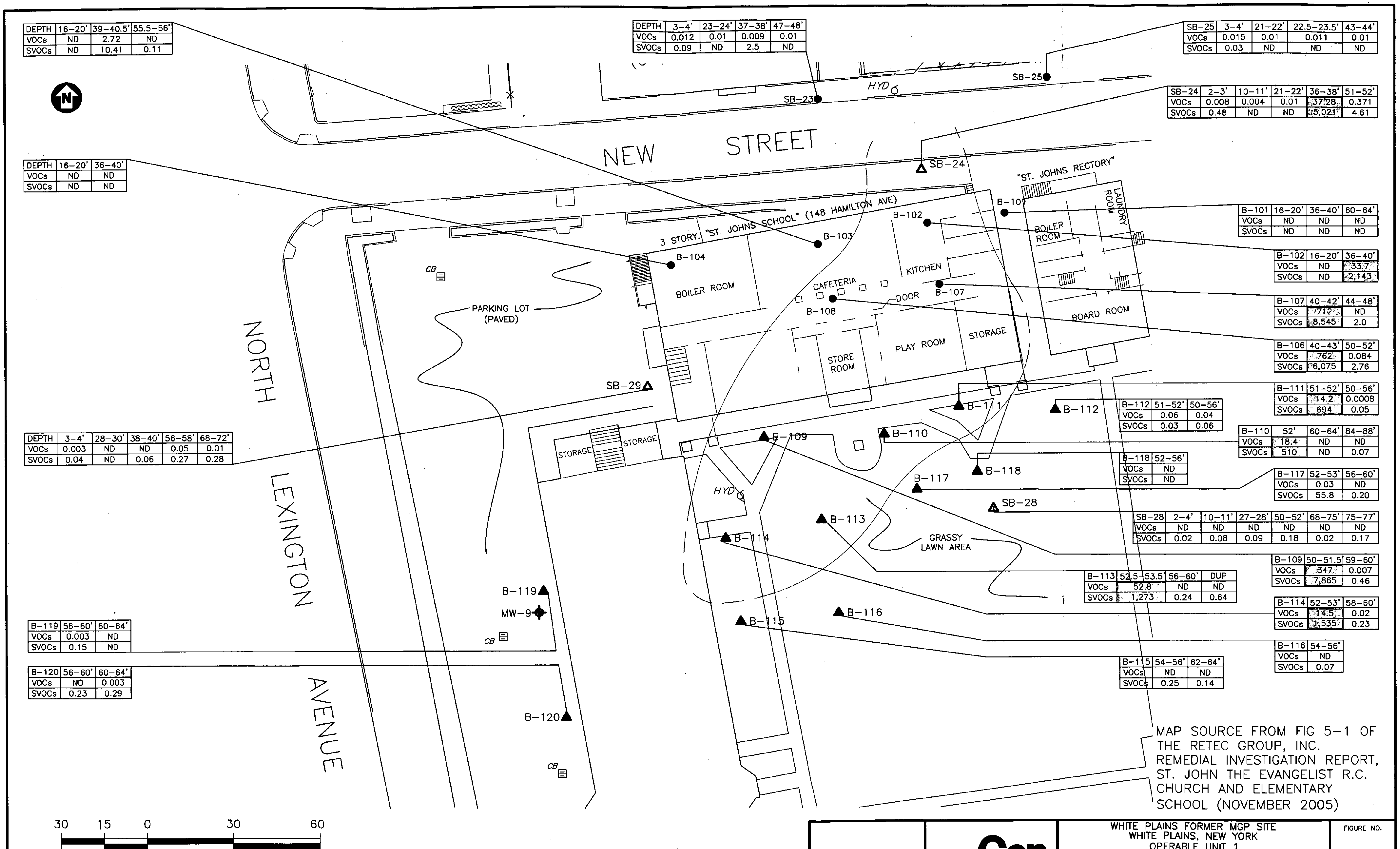
PARSONS
OFFICES IN PRINCIPAL CITIES
290 ELWOOD DAVIS ROAD, SUITE 312
LIVERPOOL, N.Y. 13088
PHONE: (315) 451-9560
FAX: (315) 451-9570
Con Edison
WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK
OPERABLE UNIT 1
INTERPRETED EXTENT OF DEEP SOIL IMPACTS
ST. JOHNS SCHOOL & RECTORY PROPERTY
FIGURE NO.
3



DEPTH	16–20'	39–40.5'	55.5–56'
VOCs	ND	2.72	ND
SVOCs	ND	10.41	0.11

DEPTH	3–4'	23–24'	37–38'	47–48'
VOCs	0.012	0.01	0.009	0.01
SVOCs	0.09	ND	2.5	ND

SB-25	3–4'	21–22'	22.5–23.5'	43–44'
VOCs	0.015	0.01	0.011	0.01
SVOCs	0.03	ND	ND	ND

SB-24	2–3'	10–11'	21–22'	36–38'	51–52'
VOCs	0.008	0.004	0.01	37.28	0.371
SVOCs	0.48	ND	ND	5,021	4.61

DEPTH	16–20'	36–40'
VOCs	ND	ND
SVOCs	ND	ND

B-101	16–20'	36–40'	60–64'
VOCs	ND	ND	ND
SVOCs	ND	ND	ND

B-102	16–20'	36–40'
VOCs	ND	33.7
SVOCs	ND	2,143

B-107	40–42'	44–48'
VOCs	712	ND
SVOCs	8,545	2.0

B-106	40–43'	50–52'
VOCs	762	0.084
SVOCs	6,075	2.76

B-111	51–52'	50–56'
VOCs	14.2	0.0008
SVOCs	694	0.05

B-112	51–52'	50–56'
VOCs	0.06	0.04
SVOCs	0.03	0.06

DEPTH	3–4'	28–30'	38–40'	56–58'	68–72'
VOCs	0.003	ND	ND	0.05	0.01
SVOCs	0.04	ND	0.06	0.27	0.28

B-110	52'	60–64'	84–88'
VOCs	18.4	ND	ND
SVOCs	510	ND	0.07

B-118	52–56'
VOCs	ND
SVOCs	ND

B-117	52–53'	56–60'
VOCs	0.03	ND
SVOCs	55.8	0.20

SB-28	2–4'	10–11'	27–28'	50–52'	68–75'	75–77'
VOCs	ND	ND	ND	ND	ND	ND
SVOCs	0.02	0.08	0.09	0.18	0.02	0.17

B-109	50–51.5	59–60'
VOCs	347	0.007
SVOCs	7,865	0.46

B-113	52.5–53.5'	56–60'	DUP
VOCs	52.8	ND	ND
SVOCs	1,273	0.24	0.64

B-114	52–53'	58–60'
VOCs	14.5	0.02
SVOCs	1,535	0.23

B-119	56–60'	60–64'
VOCs	0.003	ND
SVOCs	0.15	ND

B-116	54–56'
VOCs	ND
SVOCs	0.07

B-115	54–56'	62–64'
VOCs	ND	ND
SVOCs	0.25	0.14

B-120	56–60'	60–64'
VOCs	ND	0.003
SVOCs	0.23	0.29

MAP SOURCE FROM FIG 5-1 OF THE RETEC GROUP, INC. REMEDIAL INVESTIGATION REPORT, ST. JOHN THE EVANGELIST R.C. CHURCH AND ELEMENTARY SCHOOL (NOVEMBER 2005)

AREA OF SOILS CONTAINING RSCO EXCEEDENCES AT DEPTH (>35' BGS) DASHED WHERE INFERRED.

SOIL BORING (2004) ● B-
MONITORING WELL ✦ MW-8
SOIL BORING (2001) △ SB-ID

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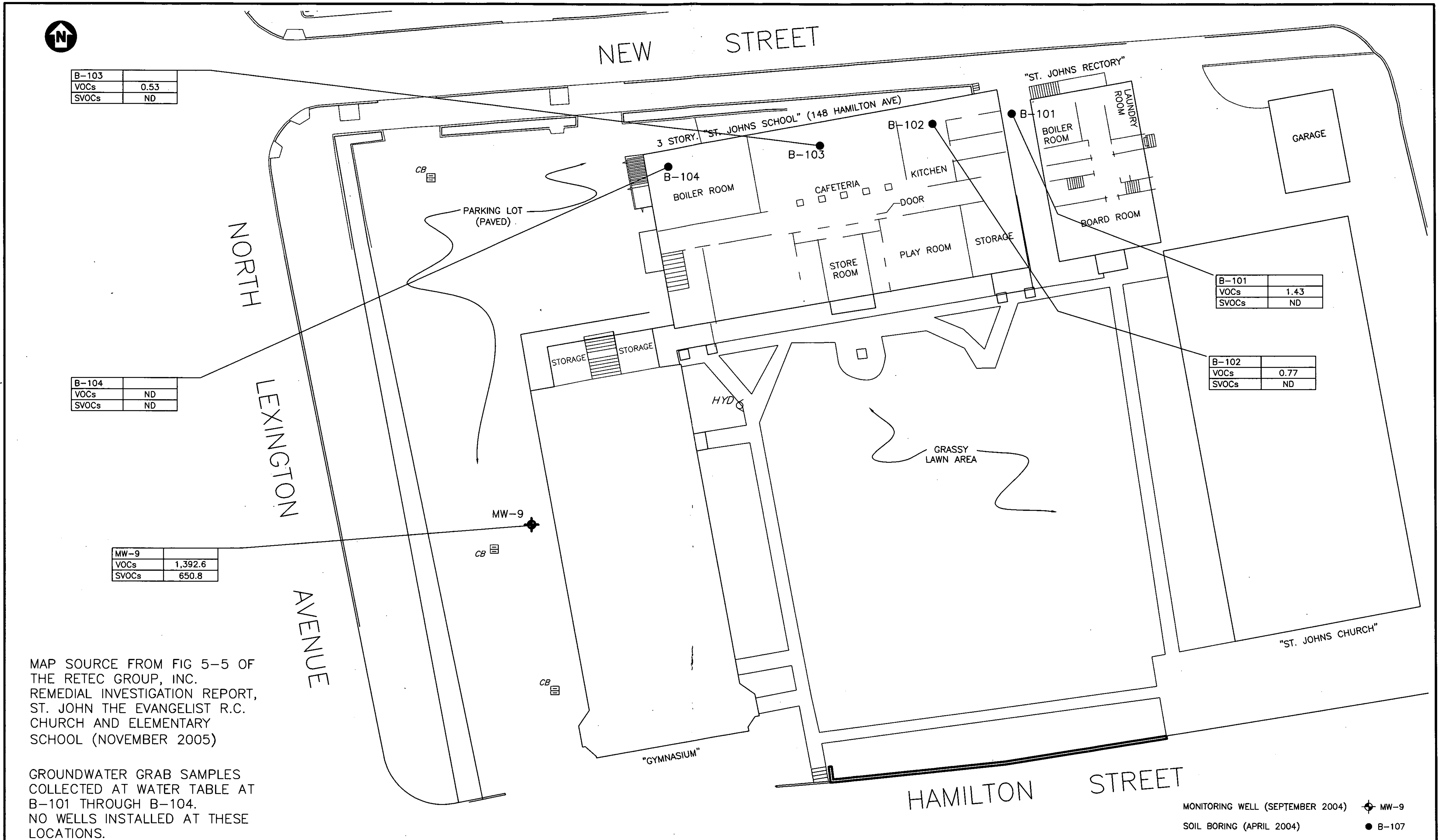
PARSONS
OFFICES IN PRINCIPAL CITIES
290 ELWOOD DAVIS ROAD, SUITE 312
LIVERPOOL, N.Y. 13088
PHONE: (315) 451-9560
FAX: (315) 451-9570

Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK
OPERABLE UNIT 1

DISTRIBUTION OF TOTAL VOCs AND SVOCs IN SUBSURFACE SOILS (mg/Kg)
ST. JOHNS SCHOOL & RECTORY PROPERTY

FIGURE NO. 4



MAP SOURCE FROM FIG 5-5 OF THE RETEC GROUP, INC. REMEDIAL INVESTIGATION REPORT, ST. JOHN THE EVANGELIST R.C. CHURCH AND ELEMENTARY SCHOOL (NOVEMBER 2005)

GROUNDWATER GRAB SAMPLES COLLECTED AT WATER TABLE AT B-101 THROUGH B-104. NO WELLS INSTALLED AT THESE LOCATIONS.

ND INDICATES NONE DETECTED

30 15 0 30 60

SCALE: 1"=30'

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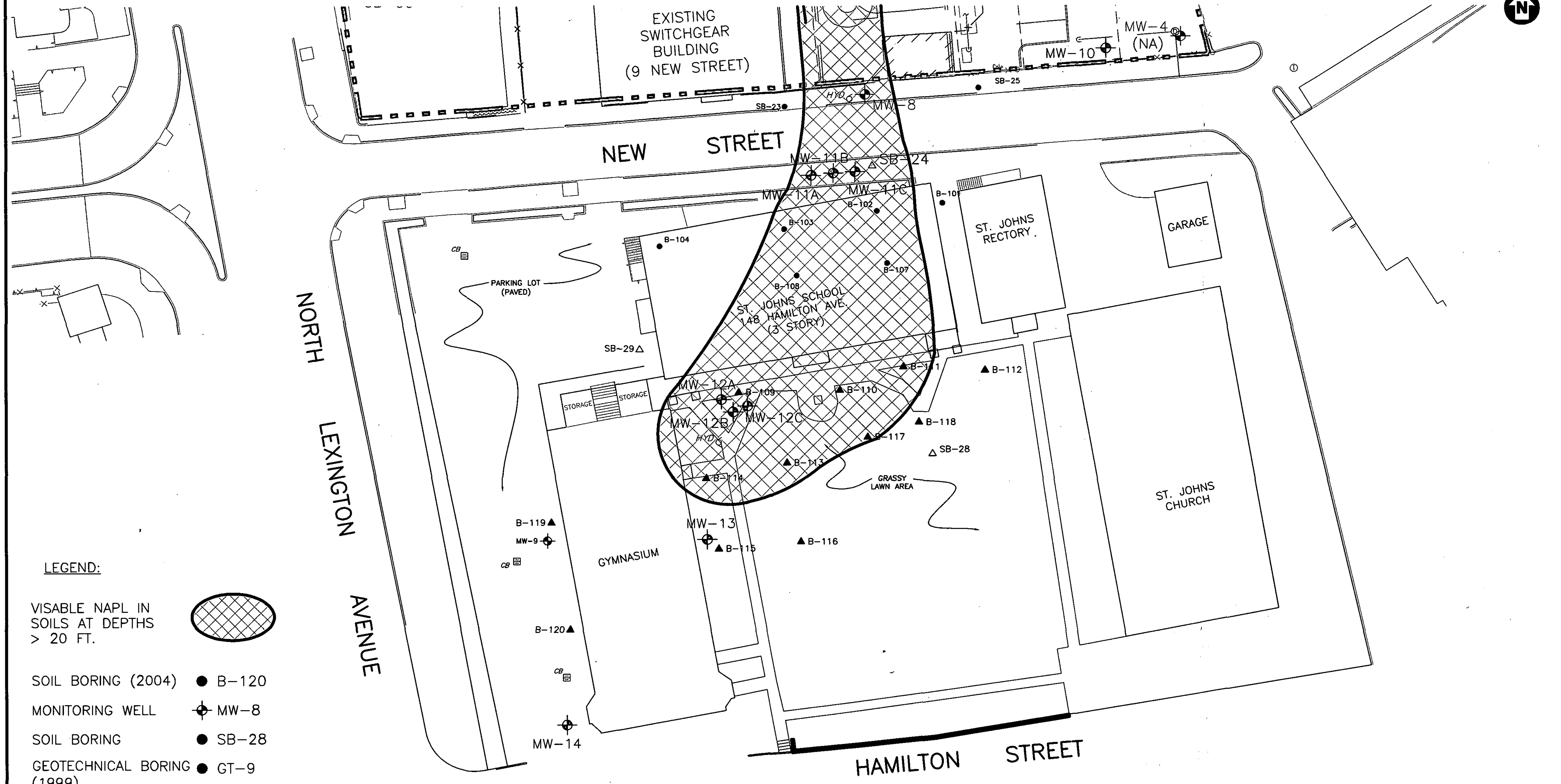
PARSONS
OFFICES IN PRINCIPAL CITIES
290 ELWOOD DAVIS ROAD, SUITE 312
LIVERPOOL, N.Y. 13088
PHONE: (315) 451-9560
FAX: (315) 451-9570

Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK
OPERABLE UNIT 1

DISTRIBUTION OF VOCs AND SVOCs IN GROUNDWATER (ug/L)
ST. JOHNS SCHOOL & RECTORY PROPERTY

FIGURE NO. 5



LEGEND:

VISABLE NAPL IN SOILS AT DEPTHS > 20 FT.	
SOIL BORING (2004)	● B-120
MONITORING WELL	MW-8
SOIL BORING	● SB-28
GEOTECHNICAL BORING (1999)	● GT-9
PROPOSED NEW MONITORING WELL	MW-14
NO LONGER ACCESSIBLE	(NA)

MAP SOURCE FROM FIG 5-2 OF THE RETEC GROUP, INC. REMEDIAL INVESTIGATION REPORT, ST. JOHN THE EVANGELIST R.C. CHURCH AND ELEMENTARY SCHOOL (NOVEMBER 2005)

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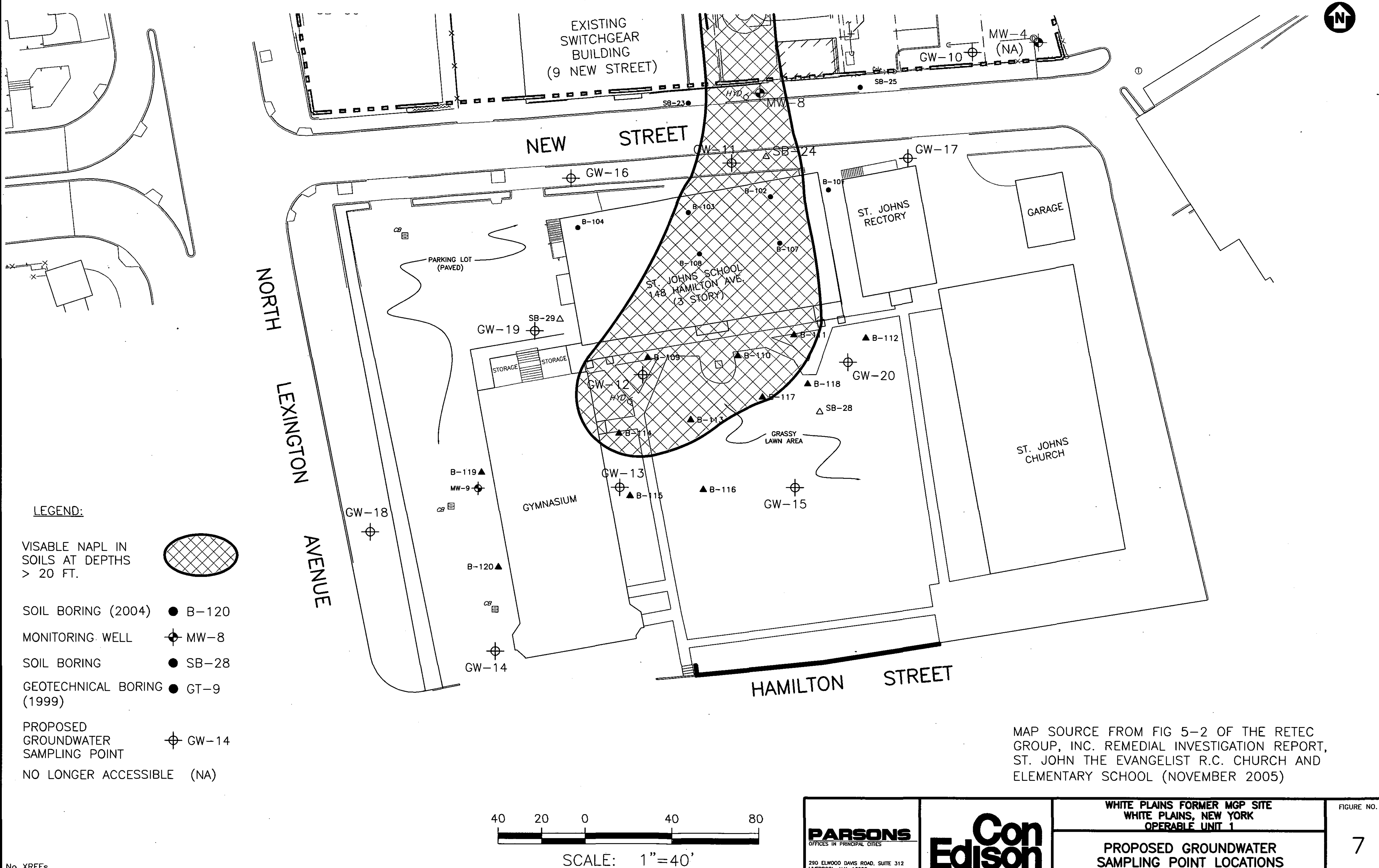
PARSONS
OFFICES IN PRINCIPAL CITIES
290 ELWOOD DAVIS ROAD, SUITE 312
LIVERPOOL, N.Y. 13088
PHONE: (315) 451-9560
FAX: (315) 451-9570

Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK
OPERABLE UNIT 1

PROPOSED MONITORING WELL LOCATIONS

FIGURE NO. 6



MAP SOURCE FROM FIG 5-2 OF THE RETEC GROUP, INC. REMEDIAL INVESTIGATION REPORT, ST. JOHN THE EVANGELIST R.C. CHURCH AND ELEMENTARY SCHOOL (NOVEMBER 2005)

PARSONS
OFFICES IN PRINCIPAL CITIES
290 ELWOOD DAVIS ROAD, SUITE 312
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PHONE: (315) 451-9560
FAX: (315) 451-9570

Con Edison

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK
OPERABLE UNIT 1

PROPOSED GROUNDWATER SAMPLING POINT LOCATIONS

FIGURE NO. 7

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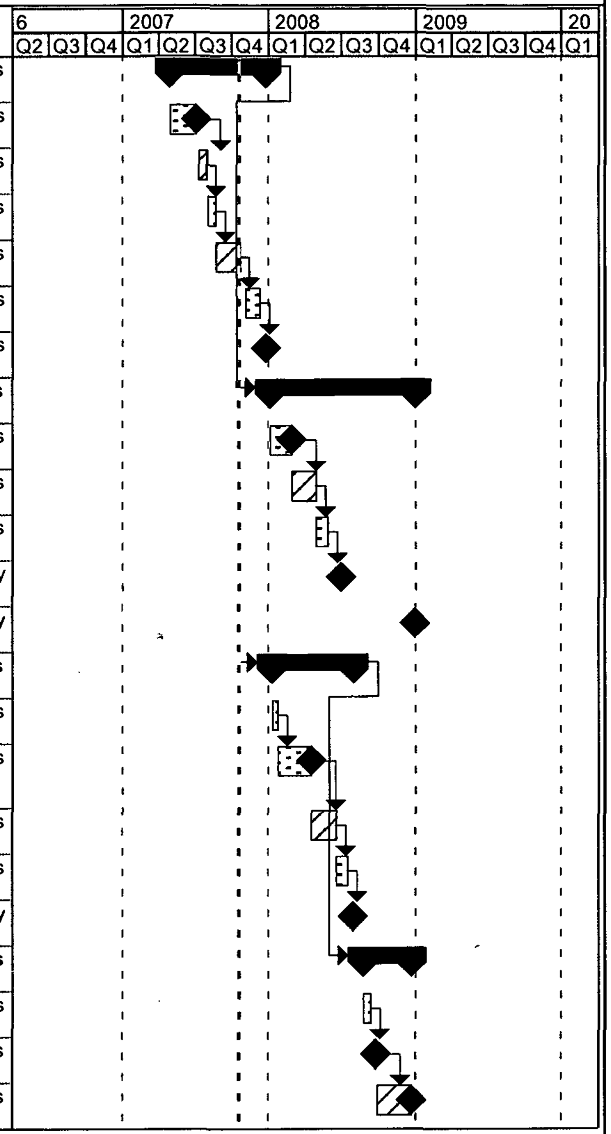
FIGURE 8
White Plains Former MGP Site OU-1
Remedial Action (RA) Schedule

ID	Task Name	Start	Finish	Duration
1	**Remedial Action Work Plan (RAWP)**	**Mon 4/30/07**	**Wed 12/26/07**	**167 days**
2	Con Edison preparation and submittal of draft RAWP to DEC	Mon 4/30/07	Thu 7/5/07	48 days
3	DEC review/comment on draft RAWP	Wed 7/11/07	Tue 7/31/07	15 days
4	Con Edison response to DEC comments on RAWP	Fri 8/3/07	Thu 8/23/07	15 days
5	DEC review/preliminary approval of RAWP	Fri 8/24/07	Mon 10/22/07	41 days
6	Public notice of draft RAWP and 30-day public comment period	Tue 11/6/07	Mon 12/10/07	23 days
7	DEC approval of RAWP	Wed 12/26/07	Wed 12/26/07	0 days
8	**Institutional Controls**	**Mon 1/7/08**	**Fri 1/2/09**	**253 days**
9	Con Edison preparation and submittal of draft SMP to DEC	Mon 1/7/08	Thu 2/28/08	39 days
10	DEC review/comment on draft SMP	Fri 2/29/08	Mon 4/28/08	42 days
11	Con Edison response to DEC comments on draft SMP	Tue 4/29/08	Wed 5/28/08	21 days
12	DEC approval of SMP	Tue 7/1/08	Tue 7/1/08	1 day
13	First Annual Site Inspection/Certification	Fri 1/2/09	Fri 1/2/09	1 day
14	**Groundwater Sampling Survey**	**Fri 1/11/08**	**Fri 8/1/08**	**144 days**
15	Field Program	Fri 1/11/08	Thu 1/24/08	10 days
16	Con Edison preparation and submittal of draft Groundwater Sampling Survey (GSS) Report to DEC	Fri 1/25/08	Thu 4/17/08	60 days
17	DEC review/comment on draft GSS Report	Fri 4/18/08	Wed 6/18/08	43 days
18	Con Edison response to DEC comments on GSS Report	Thu 6/19/08	Thu 7/17/08	20 days
19	DEC approval of GSS Report	Fri 8/1/08	Fri 8/1/08	1 day
20	**Groundwater Monitoring**	**Mon 8/25/08**	Tue **12/23/08**	**84 days**
21	Monitoring Well Installation	Mon 8/25/08	Fri 9/12/08	14 days
22	Initial Round of Groundwater Monitoring	Mon 9/22/08	Fri 9/26/08	5 days
23	Con Edison Preparation and Submittal of Groundwater Monitoring Report	Mon 9/29/08	Tue 12/23/08	60 days



Project: White Plains Former MGP Site RA
Date: Wed 10/17/07

Non-RA Task | Con Edison Task | DEC Task | Progress | Milestone | Summary

\\syrfs01\projects\ConEd\442189 - White Plains\Tech\Schedules\White Plains OU-1 RA Schedule 10-19-07.mpp

APPENDIX H

APPENDIX H

DECLARATION OF COVENANTS AND RESTRICTIONS

9 NEW STREET

WHITE PLAINS, NY

DECLARATION OF COVENANTS AND RESTRICTIONS

DECLARATION OF COVENANTS AND RESTRICTIONS made this _____ day of ___________, 2011, by Consolidated Edison Company of New York, Inc. ("**Con Edison**"), a corporation organized and existing under the laws of the State of New York and having an office for the transaction of business at 4 Irving Place, New York, New York 10003.

WHEREAS, Con Edison is the fee owner of a parcel of real property that is participating in the New York State Department of Environmental Conservation's (the "**Department's**") Voluntary Cleanup Program as part of the White Plains Former Manufactured Gas Plant Site (Site No. V00438-3), namely that parcel of real property located at 9 New Street in the City of White Plains, County of Westchester, State of New York, which parcel is part of the lands: (a) conveyed by Eugene T. Preudhomme to the White Plains Gas Light Company, Con Edison's predecessor company, by deed dated January 2, 1872, and recorded in the Westchester County Clerk's Office on January 3, 1872, in Liber 795, Page 24; (b) conveyed by Richard C. Lockwood to the Westchester Lighting Company, Con Edison's predecessor company, by deed dated April 1, 1921, and recorded in the Westchester County Clerk's Office on April 23, 1921, in Liber 2303, Page 481; (c) conveyed by Jeremiah T. Lockwood and Louise C. Lockwood to the Westchester Lighting Company, by deed dated April 1, 1921, and recorded in the Westchester County Clerk's Office on April 23, 1921, in Liber 2303, Page 483; (d) conveyed by John T. Rehill to the Westchester Lighting Company deed by dated July 12, 1923, and recorded in the Westchester County Clerk's Office on July 14, 1923, in Liber 2441, Page 414; (e) conveyed by Corporate Investing Company to the Westchester Lighting Company by deed dated August 5, 1925, and recorded in the Westchester County Clerk's Office on August 5, 1925, in Liber 2585, Page 414; and (f) acquired by Con Edison by eminent domain by acquisition map dated July 21, 2000, and filed with the Westchester County Clerk's Office on August 10, 2001, as Acquisition Map 26844, and which parcel is more particularly described in Appendix "A," attached to this Declaration of Convents and Restrictions and made a part hereof, and hereinafter referred to as "**the Property**"; and

WHEREAS, the Property is the subject of Voluntary Cleanup Agreement Index No. D3-0002-00-10, dated September 23, 2002 and modified August 23, 2005 (the "**VCA**") entered into by Con Edison and the Department; and

WHEREAS, the Department approved a remedy (the "**Remedy**") to eliminate or mitigate all significant threats to the environment posed by the contamination disposed of at the Property and such Remedy requires that the Property be subject to restrictive covenants.

NOW, THEREFORE, Con Edison, for itself and its successors and/or assigns, covenants that:

FIRST, the Property subject to this Declaration of Covenants and Restrictions is as shown on the map annexed to this Declaration of Covenants and Restrictions as Appendix "B" and made a part hereof

SECOND, unless prior written approval by the Department or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State of New York and the health of the State's citizens, hereinafter referred to as the "**Relevant Agency**," is first obtained, where contamination remains at the Property subject to the provisions of the Department-approved Site Management Plan, dated __________ (the "**SMP**"), and such modifications thereto as may be approved by the Department or the Relevant Agency, there shall be no construction, use, or occupancy of the Property that results in the disturbance or excavation of the Property which threatens the integrity of the engineering controls required for the Property as part of the Remedy or which results in unacceptable human exposure to any contaminated soils on the Property.

THIRD, the owner of the Property shall not disturb, remove, or otherwise interfere with the installation, use, operation, and/or maintenance of the engineering controls that are required for the Property as part of the Remedy and that are described in the SMP, which SMP is incorporated into this Declaration of Covenants and Restrictions and made enforceable hereunder subject to such modifications to the SMP as may be approved by the Department or Relevant Agency, unless in each case the owner of the Property first obtains a written waiver of such prohibition from the Department or Relevant Agency.

FOURTH, the owner of the Property shall prohibit the Property from ever being used for purposes other than for commercial or industrial use without the express written waiver of such prohibition by the Department or Relevant Agency.

FIFTH, the owner of the Property shall prohibit the use of the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless the user of the groundwater first obtains permission to do so from the Department or Relevant Agency.

SIXTH, the owner of the Property shall provide the Department or Relevant Agency a periodic certification, prepared by a professional engineer or environmental professional acceptable to the Department or Relevant Agency, which will certify that the institutional and engineering controls put in place for the Property as part of the Remedy are unchanged from the previous certification, comply with the SMP, and have not been impaired.

SEVENTH, the owner of the Property shall continue in full force and effect all institutional and engineering controls required for the Property as part of the Remedy and maintain such controls in compliance with the approved SMP and all modifications thereto approved by the Department or Relevant Agency, unless the owner of the Property first obtains permission to discontinue such institutional and engineering controls from the Department or Relevant Agency.

EIGHTH, this Declaration of Covenants and Restriction is and shall be deemed a covenant that shall run with the land and shall be binding upon Con Edison and its heirs, successors and assigns and to all future owners of the Property and their heirs, successors and assigns and shall provide that the owner of the Property, and its heirs, successors and assigns, consent to the enforcement by the Department or Relevant Agency of the prohibitions and restrictions that Paragraph X of the VCA requires to be recorded, and hereby covenant not to contest the authority of the Department or Relevant Agency to seek enforcement of such prohibitions and restrictions or this Declaration of Covenants and Restrictions.

NINTH, any deed of conveyance of the Property, or any portion thereof, shall recite, unless the Department or Relevant Agency has consented to the termination of this Declaration of Covenants and Restrictions, that said conveyance is subject to this Declaration of Covenants.

TENTH, the owner of the Property shall provide all persons and/or entities to whom or which such owner conveys any real property interest in the Property or to whom or which such owner grants any right to use the Property a true and complete copy of the SMP and all modifications thereto subsequently approved by the Department or Relevant Agency.

ELEVENTH, this Declaration of Covenants and Restrictions may be extinguished, revoked or modified only with the express written approval of the Department or Relevant Agency. No subsequent instrument purporting to extinguish, revoke or modify this Declaration of Covenants and Restrictions shall be of any legal effect unless the owner of the Property has first obtained the express written approval of the Department or Relevant Agency and such written approval is annexed to such instrument.

IN WITNESS WHEREOF, the undersigned has executed this instrument on the day written below.

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

By: ______________________________

Title: ______________________________

<u>**Acknowledgement**</u>

STATE OF NEW YORK)
) ss.:
COUNTY OF NEW YORK)

On the ___ day of _______ in the year 201_ before me, the undersigned, personally appeared,___________, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their indicated capacity (ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

____
Notary Public

APPENDIX "A"

METES AND BOUNDS DESCRIPTION OF THE PROPERTY

December 29, 2009

LANDS OF CONSOLIDATED EDISON COMPANY OF NEW YORK
- TAX PARCEL SECT. 125.66, BLOCK 4 – LOT 2.1

METES & BOUNDS DESCRIPTION
ALL THAT PIECE OR PARCEL OF PROPERTY SITUATE IN THE CITY OFWHITE PLAINS, COUNTY OF WESTCHESTER, STATE OF NEW YORK, AND DESCRIBED AS FOLLOWS:

BEGINNING at a point, said point being at the beginning of a twenty foot radius tangent curve to the left on the current easterly right-of-way line of Lexington Avenue as described by Westchester County Clerk Filed Map No. 18231,

THENCE in a southeasterly direction along said easterly right-of-way line of Lexington Avenue along said tangent curve to the left as shown on said Filed Map No. 18231, the curve to the left having a radius of 15.00 feet, a length of arc of 22.17 feet and a chord bearing & distance of South 52 degrees 09' 27" East, 20.20 feet to the current northerly right-of-way line of New Street;

THENCE easterly along said current northerly right-of-way line of New Street,
North 85 degrees 30' 30" East, 329.57 feet to a point at the terminus of the right-of-way of New Street;

THENCE along lands now or formerly CONSOLIDATED EDISON on the west and land now or formerly of GHP HAMILTON, LLC on the east, North 14 degrees 34' 05" West, 254.53 feet to the southerly right-of-way line of Water Street;

THENCE westerly along said southerly right-of-way line of Water Street, South 84 degrees 29' 20" West, 90.00 feet to a point, said point being at the division line of land now or formerly of GHP WATER STREET, LLC on the west and lands now or formerly CONSOLIDATED EDISON on the east, said point also being North 84 degrees 29' 20" East, 298.06 feet from point being identified as North 377,228.141 and East 654,481.126 in the New York State Plane Coordinate System (NAD 27), East Zone as shown on said Westchester County Clerk Filed Map No. 18231;

THENCE southerly and westerly from said point along lands now or formerly of GHP WATER STREET, LLC on the west and north, the following 4 (four) courses and distances:

1. South 7 degrees 6' 30" East, 122.72 feet to a point;
2. South 82 degrees 45' 20" West, 120.31 feet to a point;
3. South 4 degrees 28' 30" East, 3.84 feet to a point;
4. South 82 degrees 47' 34" West, 101.09 feet to the aforementioned easterly right-of-way line of Lexington Avenue;

THENCE southerly along the aforementioned easterly right-of-way line of Lexington Avenue the following 2 (two) courses and distances:

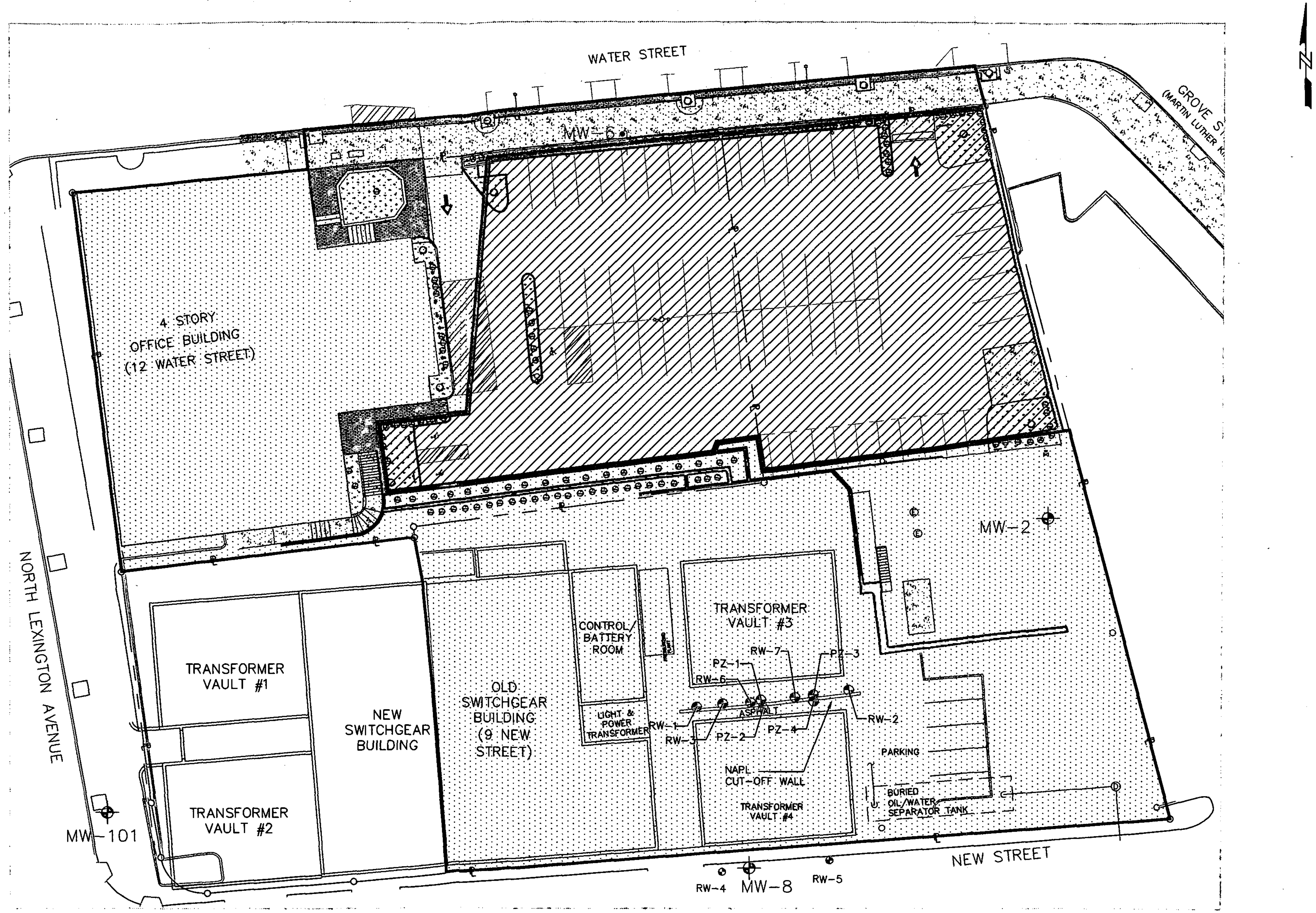
1. South 7 degrees 12' 55" East, 79.43 feet to a point,
2. South 9 degrees 49' 13" East, 19.14 feet to the POINT OF BEGINNING, containing 1.2176 Acres, more or less, and being designated on Tax Rolls of the City of White Plains as Section 125.66, Block 4, Lot 2.1.

William J. Welsh   Dec. 29, 2009

WILLIAM J. WELSH, L.S.,   DATE:
N.Y. STATE LICENSE NO. 49626

APPENDIX "B"

MAP OF PROPERTY



LEGEND:

- RECOVERY WELL
- PIEZOMETERS
- MONITORING WELL
- MONITORING WELL CLUSTER
- PARKING METER
- LIGHT POLE
- STREET LAMP
- IN-GROUND LIGHT
- BOLLARD LIGHT POLE
- RETAINING WALL
- PROPERTY LINE
- CONCRETE
- BRICK
- PLANTER AREAS
- CHAIN LINK FENCE
- METAL HANDRAIL
- SMP NOTIFICATION AT 3.5 FEET BELOW GRADE
- SMP NOTIFICATION AT 5 FEET BELOW GRADE

NOTE:

REFERENCED MAP INFORMATION FOR SUBSTATION PROPERTY DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY (MARCH 14, 2000); AND FOR 12 WATER STREET PARKING AREA FROM TERRY BERGENDORFF COLLINS, BREWESTER, NY (SEPTEMBER 30, 2010).

40 20 0 40 80

SCALE: 1"=40'

PARSONS
301 PLAINFIELD ROAD
SUITE 350
SYRACUSE, N.Y. 13212
PHONE: (315) 451-9560
FAX: (315) 451-9570

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

SMP NOTIFICATION AREAS

FIGURE NO. 2B

FILE NAME: P:\CONED\446107 - WHITE PLAINS\CAD\2010 RECORD DWGS\FIGURES\FIGURE 2-B.DWG
PLOT DATE: 1/7/2011 10:46 AM PLOTTED BY: RUSSO, JILL

12 WATER STREET

WHITE PLAINS, NY

DECLARATION OF COVENANTS AND RESTRICTIONS

DECLARATION OF COVENANTS AND RESTRICTIONS made this _____ day of ___________, 201__, by **GHP WATER STREET, LLC**, a limited liability company organized and existing under the laws of the State of New York and having an office for the transaction of business c/o GHP Office Realty, LLC, One Red Oak Lane, White Plains, New York 10604.

WHEREAS, GHP Water Street, LLC is the fee owner of a parcel of real property that is participating in the New York State Department of Environmental Conservation's (the "**Department's**") Voluntary Cleanup Program as part of the White Plains Former Manufactured Gas Plant Site (Site No. V00438-3), namely that parcel of real property located at 12 Water Street in the City of White Plains, County of Westchester, State of New York, which parcel is part of the lands conveyed by Principal Mutual Life Insurance Company to GHP Water Street, LLC by deed dated January 14, 2002 and recorded in the Westchester County Clerk's Office on March 18, 2002 as Document No. 420650607, and more particularly described in Appendix "A," attached to this Declaration of Convents and Restrictions and made a part hereof, and hereinafter referred to as "**the Property**"; and

WHEREAS, the Property, together with other adjoining lands (collectively the "**Site**"), is the subject of Voluntary Cleanup Agreement Index No. D3-0002-00-10, dated September 23, 2002 and modified August 23, 2005 (the "VCA") entered into by Consolidated Edison Company of New York, Inc. ("**Con Edison**" or "**Remedial Party**") and the Department; and

WHEREAS, the Department approved a remedy (the "**Remedy**") to eliminate or mitigate all significant threats to the environment posed by the contamination disposed of at the Site and such Remedy requires that the Property be subject to restrictive covenants.

NOW, THEREFORE, GHP Water Street, LLC, for itself and its successors and/or assigns, covenants that:

FIRST, the Property subject to this Declaration of Covenants and Restrictions is as shown on the map annexed to this Declaration of Covenants and Restrictions as Appendix "B" and made a part hereof.

SECOND, unless prior written approval by the Department or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State of New York and the health of the State's citizens, hereinafter referred to as the "**Relevant Agency,**" is first obtained, where contamination remains at the Property subject to the provisions of the Department-approved Site Management Plan, dated __________ (the "**SMP**"), and such modifications thereto as may be approved by the Department or the Relevant Agency, any disturbance of the composite soil cover cap installed on the Property as part of the Remedy or excavation beneath such composite soil cover shall be conducted as specified in the SMP and such modifications thereto as may be approved by the Department or the Relevant Agency.

THIRD, the owner of the Property shall not interfere with the maintenance of the composite soil cover, which is required for the Property as part of the Remedy and that is shown in the map annexed hereto as Appendix "B" and described in the SMP, which SMP is incorporated into this Declaration of Covenants and Restrictions and made enforceable hereunder subject to such modifications to the SMP as may be approved by the Department or Relevant Agency, unless in each case the owner of the Property or Con Edison, as the Remedial Party under the VCA, first obtains a written waiver of such prohibition from the Department or Relevant Agency.

FOURTH, the use of the Property shall be limited to commercial or industrial use, without the express written waiver of such use restriction by the Department or Relevant Agency.

FIFTH, the use of the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial purposes, as appropriate, shall be prohibited unless the user of the groundwater first obtains permission to do so from the Department or Relevant Agency.

SIXTH, Con Edison, as the Remedial Party under the VCA, shall provide the Department or Relevant Agency a periodic certification, prepared by a professional engineer or environmental professional acceptable to the Department or Relevant Agency, which will certify that the institutional and engineering controls put in place for the Property as part of the Remedy are unchanged from the previous certification, comply with the SMP, and have not been impaired.

SEVENTH, the owner of the Property shall permit Con Edison, as the Remedial Party under the VCA, to continue in full force and effect all engineering controls required for the Property as part of the Remedy and to maintain such engineering controls as specified in the SMP and all modifications thereto approved by the Department or Relevant Agency, unless the owner of the Property or Con Edison, as the Remedial Party under the VCA, first obtains permission to discontinue such institutional and engineering controls from the Department or Relevant Agency.

EIGHTH, this Declaration of Covenants and Restriction is and shall be deemed a covenant that shall run with the land and shall be binding upon GHP Water Street, LLC and its heirs, successors and assigns and to all future owners of the Property and their heirs, successors and assigns and shall provide that the owner of the Property, and its heirs, successors and assigns, consent to the enforcement by the Department or Relevant Agency of the prohibitions and restrictions that Paragraph **X** of the VCA requires to be recorded, and hereby covenant not to contest the authority of the Department or Relevant Agency to seek enforcement of such prohibitions and restrictions or this Declaration of Covenants and Restrictions.

NINTH, any deed of conveyance of the Property, or any portion thereof, shall recite, unless the Department or Relevant Agency has consented to the termination of this Declaration of Covenants and Restrictions, that said conveyance is subject to this Declaration of Covenants.

TENTH, the owner of the Property shall provide all persons and/or entities to whom or which such owner conveys any real property interest in the Property or to whom or which such owner grants any right to use the Property a true and complete copy of the SMP and all modifications thereto subsequently approved by the Department or Relevant Agency.

ELEVENTH, this Declaration of Covenants and Restrictions may be extinguished, revoked or modified only with the express written approval of the Department or Relevant Agency. No subsequent instrument purporting to extinguish, revoke or modify this Declaration of Covenants and Restrictions shall be of any legal effect unless the owner of the Property has first obtained the express written approval of the Department or Relevant Agency and such written approval is annexed to such instrument.

IN WITNESS WHEREOF, the undersigned has executed this instrument on the day written below.

GHP WATER STREET, LLC

By: ______________________________

Title: ______________________________

Acknowledgement

STATE OF NEW YORK)
) ss.:
COUNTY OF NEW YORK)

On the _____ day of _____________in the year 201_ before me, the undersigned, personally appeared,________________________, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their indicated capacity (ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

____
Notary Public

APPENDIX "A"

METES AND BOUNDS DESCRIPTION OF THE PROPERTY

December 29, 2009

LANDS OF GHP WATER STREET, LLC -TAX PARCEL SECT. 125.66, BLOCK 4 – LOT 1.1

METES & BOUNDS DESCRIPTION

ALL THAT PIECE OR PARCEL OF PROPERTY SITUATE IN THE CITY OFWHITE PLAINS, COUNTY OF WESTCHESTER, STATE OF NEW YORK, AND DESCRIBED AS FOLLOWS:

BEGINNING at a point, said point being at the intersection of the current southerly right-of-way line of Water Street and the current easterly right-of-way line of Lexington Avenue as described by Westchester County Clerk Filed Map No. 18231, said point being North84 degrees 29' 20" East, 76.15 feet from point being identified as North 377,228.141 and East 654,481.126 in the New York State Plane Coordinate System (NAD 27), East Zone as shown on said Westchester County Clerk Filed Map No. 18231, being land now or formerly of GHP WATER STREET, LLC;

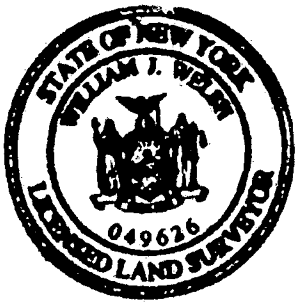
THENCE easterly from said POINT OF BEGINNING North 84 degrees 29' 20" East, 221.91 feet along said southerly right-of-way line of Water Street to a point, said point being at the division line of land now or formerly of GHP WATER STREET, LLC on the west and lands now or formerly Consolidated Edison on the east;

THENCE southerly and westerly along lands now or formerly Consolidated Edison on the east and south, the following 4 (four) courses and distances:

1. South 7 degrees 6' 30" East, 122.72 feet to a point;
2. South 82 degrees 45' 20" West, 120.31 feet to a point;
3. South 4 degrees 28' 30" East, 3.84 feet to a point;
4. South 82 degrees 47' 34" West, 101.09 feet to the aforementioned easterly right-of-way line of Lexington Avenue;

THENCE northerly along the aforementioned easterly right-of-way line of Lexington Avenue, North 7 degrees 12' 55" West, 133.20 feet to the POINT OF BEGINNING, containing 0.6505 Acres, more or less, and being designated on Tax Rolls of the City of White Plains as Section 125.66, Block 4, Lot 1.1.

William J. Welsh Dec. 29, 2009

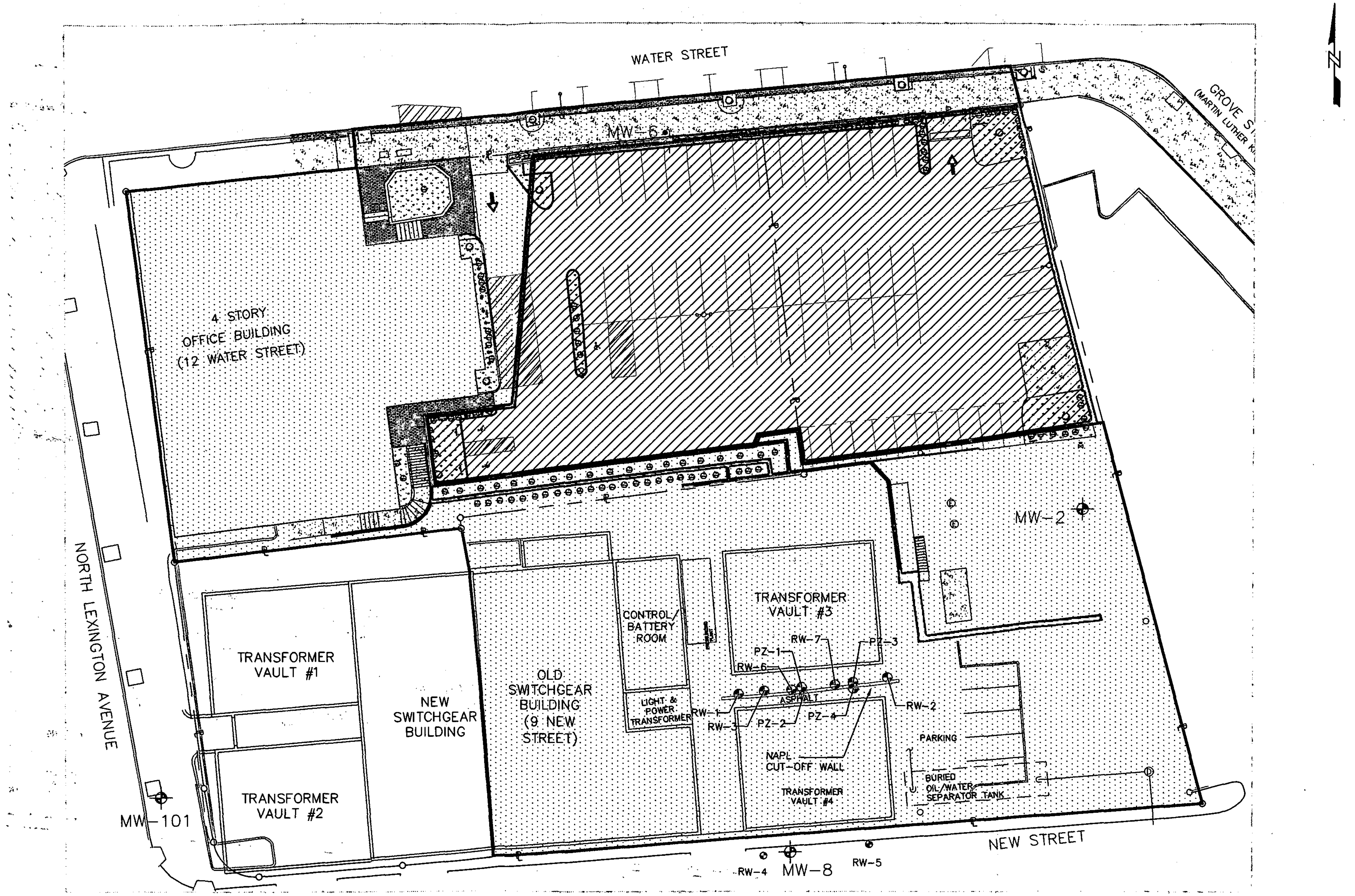


WILLIAM J. WELSH, L.S.,
N.Y. STATE LICENSE NO. 49626

DATE:

APPENDIX "B"

MAP OF PROPERTY



LEGEND:

- RECOVERY WELL
- PIEZOMETERS
- MONITORING WELL
- MONITORING WELL CLUSTER
- PARKING METER
- LIGHT POLE
- STREET LAMP
- IN-GROUND LIGHT
- BOLLARD LIGHT POLE
- RETAINING WALL
- PROPERTY LINE
- CONCRETE
- BRICK
- PLANTER AREAS
- CHAIN LINK FENCE
- METAL HANDRAIL
- SMP NOTIFICATION AT 3.5 FEET BELOW GRADE
- SMP NOTIFICATION AT 5 FEET BELOW GRADE

40 20 0 40 80

SCALE: 1"=40'

NOTE:

REFERENCED MAP INFORMATION FOR SUBSTATION PROPERTY DERIVED FROM STRATUS SERVICES GROUP, ENGINEERING DIVISION, INC., CRANBURY, NEW JERSEY (MARCH 14, 2000); AND FOR 12 WATER STREET PARKING AREA FROM TERRY BERGENDORFF COLLINS, BREWESTER, NY (SEPTEMBER 30, 2010).

PARSONS

301 PLAINFIELD ROAD
SUITE 350
SYRACUSE, N.Y. 13212
PHONE: (315) 451-9560
FAX: (315) 451-9570

WHITE PLAINS FORMER MGP SITE
WHITE PLAINS, NEW YORK

SMP NOTIFICATION AREAS

FIGURE NO. 2B

FILE NAME: P:\CONED\446107 - WHITE PLAINS\CAD\2010 RECORD DWGS\FIGURES\FIGURE 2-B.DWG
PLOT DATE: 1/7/2011 10:46 AM PLOTTED BY: RUSSO, JILL