Site Characterization Work Plan

Bay Ridge Former Holder Stations A and B Site
Brooklyn, New York
NYSDEC Site No.: 224058
Order on Consent Index #: A2-0552-0606

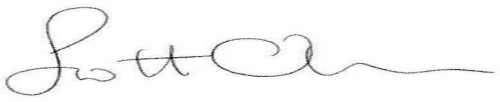
Prepared for:
National Grid, USA
287 Maspeth Avenue, Brooklyn, NY 11211

Prepared by:
AECOM
One World Financial Center
200 Liberty Street, 25th floor
New York, NY 10281
Project No. 60137360-100

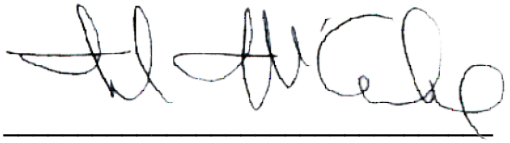
January 2010

Site Characterization Work Plan

Bay Ridge Former Holder Stations A and B Site
Brooklyn, New York
NYSDEC Site No.: 224058
Order on Consent Index #: A2-0552-0606



Prepared By: Scott G. Olson, PG, Geologist



Reviewed By: Mark McCabe, Principal-In Charge

Revised By: Nelson J. Abrams, PG, Senior Project Manager

Project No. 60137360-100

January 2010

Contents

List of Appendices

List of Tables

List of Figures

List of Acronyms

AOC	areas of concern
ASP	Analytical Services Protocol
bgs	below ground surface
CAMP	Community Air Monitoring Program
DNAPL	dense nonaqueous phase liquid
DUSR	Data Usability Summary Report
EDR	Environmental Data Resources
FDA	Food and Drug Administration
GEI	GEI Consultants
HASP	Health and Safety Plan
IDW	Investigation Derived Waste
LNAPL	light nonaqueous phase liquid
MCF	million cubic foot
MGP	manufactured gas plant
NAPL	nonaqueous phase liquid
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCBs	polychlorinated biphenyl
PIDs	photoionization detectors
PPE	personal protection equipment
QAPP	Quality Assurance Project Plan
QA/QC	quality assurance/quality control
RCRA	Resource Conservation and Recovery Act
SC	Site Characterization

Site	Bay Ridge Former Holder Stations A and B
SOP	Standard Operating Procedures
SVOCs	semivolatile organic compounds
TAL	target analyte list
TCL	target compound list
USEPA	United States Environmental Protection Agency
USDOT	United States Department of Transportation
VOCs	volatile organic compounds

Executive Summary

This Site Characterization Work Plan (SCWP) has been prepared for National Grid USA (National Grid) by AECOM Environment (AECOM) for a site located in Bay Ridge, Brooklyn, New York (Site). This site, known as the Bay Ridge Former Holder Stations A and B Site, is comprised of two parcels both located between 8th and 9th Avenues, with Holder Station A between 63rd and 64th Streets, and Holder Station B between 65th and 66th Streets. The site was operated by Kings County Gas and Illuminating Company, a predecessor company to National Grid, from prior to 1905 to sometime between 1950 and 1970. Holder Station A is currently used as a parking lot for a new car dealer. Holder Station B is currently used as a National Grid gate station (eastern portion) and as baseball fields. The Holder Station A property is owned by a third party, while the Holder Station B property is owned by National Grid.

Results from a records search and prior investigation at the site provide the following information:

- To date, site characterization work has not been performed on the Holder Station A parcel.
- Previous site characterization work has been performed for surface and subsurface soils, and soil gas, at the former Holder Station B parcel. Fill materials were noted in surface and shallow subsurface soils.
- Low levels of PAHs and pesticides have been detected in surface soils, and low levels of VOCs, PAHs, pesticides, metals, and total cyanide were detected in shallow subsurface soil samples.
- VOCs and SVOCs were not detected in soil gas samples.
- Soil removal was performed at two discrete locations on the large ball field to remove trace concentrations of total cyanide fixed in shallow subsurface soils. The total cyanide concentrations did not pose a threat to human health and/or the environment; however, KeySpan performed this removal operation to mitigate perceived threat associated with the presence of total cyanide in soils at the baseball fields.

The objectives of the site characterization work presented in this SCWP are to:

- Complete a detailed records review and summarize available documents and reports pertaining to the site.
- Verify, to the extent possible, and investigate the locations of the former holders and related structures.
- Collect soil and groundwater data to characterize the surface and subsurface characteristics of the site.
- Determine the presence or absence of residual holder wastes in the surface soil, subsurface soil, and groundwater.

These work plan objectives will be achieved by completing a records review as well as a field investigation that will include advancing soil borings, installing monitoring wells, and collecting and analyzing soil and groundwater samples. It is anticipated that this program will provide for the collection and analysis of approximately 76 soil samples (10 surface soil and 66 subsurface soil) and approximately 10 groundwater samples.

The results from the program will be compiled into a comprehensive report to provide a characterization of potential soil and groundwater impacts so that a determination of no further action or recommendations for additional investigation can be made.

1.0 Introduction

This Site Characterization Work Plan (SCWP) has been prepared for National Grid USA (National Grid) by AECOM Environment (AECOM) for a site located in Bay Ridge, Brooklyn, New York (Site). This site, known as the Bay Ridge Former Holder Stations A and B Site, is comprised of two parcels both located between 8th and 9th Avenues, with Holder Station A between 63rd and 64th Streets, and Holder Station B between 65th and 66th Streets. The site was operated by Kings County Gas and Illuminating Company, a predecessor company to National Grid, from prior to 1905 to sometime between 1950 and 1970. Holder Station A is currently used as a parking lot for a new car dealer. Holder Station B is currently used as a National Grid gate station (eastern portion) and as baseball fields. The Holder Station A property is owned by a third party, while the Holder Station B property is owned by National Grid.

This investigation is being conducted by National Grid pursuant to a Multi-site Order on Consent and administrative settlement with the New York State Department of Environmental Conservation (NYSDEC), Index # A2-0552-0606, and in accordance with applicable guidelines of the NYSDEC, the New York State Department of Health (NYSDOH), the United States Environmental Protection Agency (USEPA).

This Site Characterization Work Plan presents the project objectives, provides background information regarding historical site use and current conditions, summarizes the results of previous investigations, and outlines the strategies and methodologies that will be implemented during the investigation. As a basis for development of this SC Work Plan, a records review was performed by AECOM including review of historical documentation, review of readily obtainable local agency documentation, and acquisition of an environmental database report to determine the presence or likely presence of areas of concern (AOC) on site as well as potentially responsible parties from off-site sources of concern. The following four appendices have been developed which detail the procedures and protocols outlined in this Work Plan:

- The Field Sampling and Analytical Plan (FSAP) provides information regarding field sampling methods and procedures that will be used during the investigation.
- The Quality Assurance Project Plan (QAPP) specifies the quality assurance/quality control procedures that will be implemented during the fieldwork and in the laboratory which performs the chemical analyses of the samples collected during the RI.
- A Community Air Monitoring Program (CAMP) provides information regarding the procedures to be used to monitor and control, if necessary, the potential release of airborne constituents at the downwind perimeters of the investigation work areas. Included in the CAMP are procedures regarding the control of odors that may be present as a result of the intrusive site investigation activities.
- A Site-Specific Health and Safety Plan (HASP) has been prepared to outline procedures that will be undertaken to protect site workers and visitors from potential hazards that may exist as a result of the fieldwork performed at the site.

1.1 Project objectives

In summary, the objectives of the RI include the following:

- Complete a detailed records review and summarize available documents and reports pertaining to the site.
- Verify, to the extent possible, and investigate the locations of the former holders and related structures.
- Collect soil and groundwater data to characterize the surface and subsurface characteristics of the site.
- Determine the presence or absence of residual holder wastes in the surface soil, subsurface soil, and groundwater.

1.2 Work plan organization

Details of the proposed site characterization activities are provided in the following sections:

- Section 2 – provides a description of the site, summary information regarding site ownership and operational history, and the results of the previous investigation work performed at the site.
- Section 3 – presents the objectives for the investigation followed by a description of the specific tasks that will be undertaken to gather sufficient information to meet the project objectives.
- Section 4 – describes the companion documents that are provided as appendices to this Work Plan (see list below).
- Section 5 – presents the approximate project schedule, with key milestones.
- Section 6 – provides a list of the references cited in the Work Plan.

Appendices to the Work Plan include the following:

- Environmental Data Resources Report (EDR, September 2009) and Historic Sanborn Fire Insurance Maps are included in Appendix A.
- Soil boring logs from previous investigation are included in Appendix B.
- The FSAP is included as Appendix C.
- The QAPP is included as Appendix D.
- The CAMP is included as Appendix E.
- The HASP is included as Appendix F.
- The previous investigation reports are included as Appendix G (CD-ROM).

2.0 Site description and history

This section presents a description of the site, summary information regarding site ownership and operational history, and summarizes the results of the previous investigation work.

2.1 Site description

The Bay Ridge Former Holder Stations A and B Site is located in Brooklyn, Kings County, New York. The site is comprised of two parcels both located between 8th and 9th Avenues, with Holder Station A between 63rd and 64th Streets, and Holder Station B between 65th and 66th Streets.

The site was formerly operated by Kings County Gas and Illuminating Company, a predecessor company to National Grid, from prior to 1905 to sometime between 1950 and 1970.

Holder Station A is currently used as a parking lot for a new car dealer. This parcel is entirely paved and fenced with two locked gates, one on 64th Street on one on 65th Street. It is unknown if the holder foundation is still present on this parcel.

Holder Station B is currently used as a National Grid gate station (eastern portion) and as little league baseball fields (western portion). This parcel is fenced with gates on 65th Street and 9th Avenue. There are two ball fields with bleachers, dugouts, a concession building and a storage shed. The gate station has a building on 65th Street, an asphalt parking area on 9th Avenue and a grassed area on 66th Street.

The current property owners are listed below. Holder Station A is owned by a third party. Figure 2-1 shows a parcel map of the site.

Parcel	Owner	Parcel Address	Land Use
Block 5735 Lot 17 (Holder Station A)	Carmello Giuffre	837 64th Street, Brooklyn, NY 11220	Parking facilities
Block 5749 Lot 15 (Holder Station B)	National Grid	195 65th Street, Brooklyn, NY 11220	Transportation and utility

*Information according to GEI, 2007.

2.2 Site history

A review of the site history of the former Bay Ridge Holder Stations A and B Site has been developed based on a review of the historic Sanborn Fire Insurance maps, aerial photographs for the site as well as historic investigation reports. A copy of the Sanborn maps is included in Appendix A. Figure 2-2 shows the locations of former holder structures and other historical site features.

2.2.1 Bay Ridge Holder Station A

Sanborn maps were available for Holder Station A from 1942, 1951 and 1970. The 1942 map does not show a holder present on this parcel; however, the 1951 map shows one holder and associated building. The holder was operated by Kings County Lighting according to the 1951 Sanborn map. The holder is

no longer present on the 1970 Sanborn map. The southeastern portion of the Holder Station A site has been vacant and used for new automobile storage since 1970.

2.2.2 Bay Ridge Holder Station B

Sanborn maps were available for Holder Station B from 1905, 1926, 1950, 1977, 1981, 1992, 1993, 1994, and 1995. Aerial photos were available for 1966, 1975 and 1984 and reviewed in the *Environmental Site Assessment Report* (Vanasse Hangen Brustlin, Inc. [VHB], May 2000). A summary is provided below.

1905 Sanborn	Two gas holders (80- and 90-foot diameters) and two other structures including a storage shed owned by Kings County Gas and Illuminating Company were present in the area of the current National Grid gate station. Residential property lots existed across 65th Street and a proposed highway is noted across 66th Street from the site.
1926 Sanborn	The structures from the 1905 map are gone, and three gas holders (100-, 140-, and 180-foot diameters), oil tanks, and several other structures owned by Kings County Lighting Company existed at the site. The largest diameter gas holder is labeled 235 feet (tall). Across 65th Street at the corner of 9th Avenue are the shop and stables of the Kings County Lighting Co. A portion of the former residential lots across 65th Street from the site house Sheffield Farms Company wagon house and milk depot. The property across 66th Street is identified as "Leiv Eiriksson Square."
1950 Sanborn	Ownership and site layout are essentially the same as in 1926 with the addition of one small structure (shed). However, a gasoline filling station was present at the corner of 65th Street and 8th Avenue. In addition, the property across 65th Street formerly owned by Sheffield Farms is identified as T. Cohn, Inc. (toy manufacturing).
1966 aerial photo	One large gas holder and several smaller structures existed. The two other gas holders are not present, and were therefore removed some time between 1950 and 1966.
1975 aerial photo	The remaining gas holder had been removed, the site re-graded, and only one structure (gate station) existed on the parcel.
1977 Sanborn	The gate station is the only identifiable structure on the parcel. A small unidentifiable building that was not present in 1975 is present to the west of the gate station. New unspecified development is present at the eastern corner of 8th Avenue and 66th Street.
1984 aerial photo	The baseball diamond on the large playing field was in place.
1988, 1992-1995 Sanborns	Each of these maps is similar. All gas holders and other related structures have been removed from the site. The Brooklyn Union Gas Company gate station building is present in its current location on all maps and additional commercial development is present along 8th Avenue and across 65th Street including a second filling station, auto repair shop, a glass manufacturer, and freight company.

2.3 Records Review

A Records Search Report was generated for the Bay Ridge Former Holder Stations A and B Site (both parcels) (GEI, April 2007) that included the review of the following:

- NYSDEC's online Spills Incidents Database Search and the Environmental Database Search http://www.dec.ny.gov.chemical.

- Environmental Data Resources (EDR) report (date not provided), including Sanborn Fire Insurance Map

In addition, for Holder Station B, an Environmental Site Assessment Report (VHB, May 2000), included the review of the following:

- NYSDEC's online Spills Incidents Database Search and the Environmental Database Search http://www.dec.ny.gov.chemical.
- Environmental Data Resources (EDR) report dated February 11, 2000, including Sanborn Fire Insurance Maps from 1905 to 1995.
- Historical aerial photos.

An updated EDR report (EDR, September 23, 2009) has been obtained for the site and is included as Appendix A. In addition, Appendix G contains copies of the Records Search Report (GEI, April 2007) and the ESA report (VHB, May 2000).

Information obtained from the NYSDEC spill incidents and environmental site remediation databases is included the 2009 EDR report in Appendix A. Both the Holder Station A and Holder Station B target properties were listed in the database of Manufactured Gas Plant sites. Otherwise, the site was not listed in any of the other databases searched as part of the EDR report. A number of adjacent and nearby properties with current and/or historic activities of potential environmental concern were identified in the 2009 EDR report, including leaking tank incidents and spills. Refer to the EDR Executive Summary in Appendix A for details.

2.4 Previous investigation work

Historic environmental sampling on the Holder Station A parcel was not indicated in the available documents and records that were reviewed. Some historic environmental sampling has been conducted on the Holder Station B parcel.

According to VHB (2000) and GEI (2007), in March 1985, Roux Associates, Inc. conducted a subsurface investigation on the Holder Station B parcel, including soil sample collection. Thirty subsurface soil samples were collected from 14 borings drilled at the site. A report of the investigation indicated that soil samples were retained for laboratory analysis; however, the report did not include the results of the analyses. A copy of the Roux report was not available during preparation of this Work Plan.

In addition, VHB conducted an Environmental Site Assessment (ESA) in 2000 in the ball field portion of the Holder Station B parcel (VHB, 2000). The ESA sampling activities included surface soil, subsurface soil, and soil vapor sampling. Figure 2-3 shows the ESA sampling locations. As a result of the ESA, KeySpan (now National Grid) removed 15 cubic yards of soil containing trace concentrations of total cyanide at two discrete locations in the ball fields of the Holder Station B parcel.

Copies of available soil boring logs from the VHB site characterization work are provided in Appendix B, with a copy of the VHB report provided in Appendix G.

2.4.1 Site physical characteristics

Information obtained during the previous site investigations regarding the site topography, geology, and hydrogeology is summarized in the following sections.

2.4.1.1 Site topography and drainage

According to the ESA (VHB, May 2000), the Holder Station B parcel is nearly level with a gentle downward slope trending northwest to southeast. The general topographic relief in the area is greater than that of the site and slopes down from 8th Avenue to 9th Avenue. Therefore, retaining walls are present along both the northwest and southeast sides of the site. To the northwest, the grade elevation surrounding the commercial buildings is approximately 3 feet higher than the site. To the southeast, the grade elevation of the site is approximately 3 feet higher that of the current natural gas distribution gate station. The general topography of the area is shown on Figure 1-1.

Based on a review of Google Maps imagery and the topography shown in Figure 1-1, the Holder Station A parcel appears to be highest in the eastern corner where cars are parked at or above adjacent street level. The parking lot appears to slope to the west northwest toward the western corner, which is roughly 3 to 5 feet lower than the eastern corner.

2.4.1.2 Site geology and hydrology

As reported in the ESA (VHB, May 2000), Roux Associates (1985) described five basic lithologies of native sediments as glacial ice-contact and outwash deposits. The dominant unit consisted of dense, red brown, silty fine sand of low permeability (till). Overlying the native soil was fill of various type and thickness. The fill was reportedly thickest along 9th Avenue and generally thinned toward 8th Avenue and consisted primarily of sand with cobbles, coal, slag, and cinder. Concrete was also encountered at two locations on the large playing field. Above the concrete, the soil was dark gray and perched water was present.

The ESA sampling activities in the ball fields of the Holder Station B parcel extended to maximum depth of 20 feet bgs and identified the following lithologies:

- Sand and sandy loam to depths up to 1.5 feet bgs.
- Fill material (sand, silt, gravel, concrete, brick, cinder, and debris) to depths ranging up to 9 feet bgs, except at the SB-3 and SB-4 locations along the northwest boundary of the parcel where apparent native sands and silts were encountered with little to no fill material.
- Native sands and silts with gravels (till in some borings) below the fill.

During the ESA sampling activities in the ball fields of the Holder Station B parcel, buried concrete was encountered at varying depths between 4 and 8.5 feet bgs in SB-1, SB-5, SB-6, and SB-7. In addition, split-spoon refusal was encountered at 13-14 feet bgs in SB-2 and SB-9, apparently on concrete. It was unclear whether the concrete was demolition debris or part of the former gas holder pads.

Perched groundwater was observed in several locations. No monitoring wells were installed as part of the ESA. According to the VHB report (2000), the depth to groundwater is allegedly 65 feet bgs with regional groundwater flow to the west toward Upper New York Bay (Roux Associates 1985). No regional depth to groundwater information has been obtained for this area based on surrounding well information contained in the EDR or from USGS or public water supply information available on the web. Based on regional topography and the proximity to New York Bay, it is assumed that groundwater flow is to the west-southwest.

No State-listed wells were identified in the EDR within a one mile radius of the site. However, the EDR identified 10 USGS wells located within 0.25 - 1 mile of the site and one public water supply well that appears to be located approximately 0.75 mile to the east between 55th and 56th Streets at 13th Ave.

Additional web search has not confirmed the presence of these wells nor provided additional details regarding regional groundwater depth or flow direction.

2.4.2 Site Impacts

Figure 2-1 shows the previous investigation locations, as well as the locations of former gas holder and associated structures, as currently understood by National Grid. Summary tables of soil analytical results are included in the ESA report in Appendix G.

During the ESA, 23 surface soil (0-2 inches) samples were collected and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals, total cyanide, and PCBs and pesticides (for select samples). Ten soil borings were completed and 14 subsurface soil samples were collected and analyzed for the same constituents as the surface soil samples. The analytical results from these surface and subsurface soil samples are presented in Tables 2-1 and 2-2. Finally, 12 soil gas samples were collected from the ball fields and analyzed for VOCs and SVOCs.

The ESA indicated that:

- Polycyclic aromatic hydrocarbons (PAHs) and low concentrations of pesticides were detected in surface soil samples;
- VOCs, PAHs, pesticides, metals, and total cyanide were detected in subsurface soil samples.
- VOCs and SVOCs were not detected in soil gas samples.
- Two minor photoionization detector (PID) hits were recorded in shallow fill; 90 ppm from 3-5 feet at SB-6, and 59 ppm from 1-2 feet at SB-9; no odor or visible impact noted at either location.
- A naphtha or fuel-like odor was noted from 11-14 feet in gray-brown silty sand at SB-2.

Using the ESA data, VHB conducted a threat analysis to determine if there is a potential for human health risks. They concluded that there are no chronic health threats due to any detected chemicals in surface soil at these baseball fields. The majority of the chemicals detected in the surface soils at the ball fields were detected at concentrations below background and/or the extremely health-protective levels for residential exposure to soil. For the few chemicals that did exceed these levels, a site-specific safe soil concentration was derived. Results of the comparison between the maximum detected concentrations and the safe soil concentrations indicated that none of these chemicals are present at the fields at concentrations that would pose any health threat to ballplayers or any other person that may recreate at the Bay Ridge ball fields.

Based on the findings of the ESA, KeySpan (now National Grid) decided to perform soil removal activities at two discrete locations on the large ball field. The purpose was the removal of trace concentrations of total cyanide fixed in subsurface soils. The total cyanide concentrations in subsurface soils at the site did not pose a threat to human health and/or the environment; however, the removal operation was performed to mitigate any perceived threat associated with the presence of total cyanide in soils at the baseball fields. Refer to the ESA report in Appendix G for details on the soil removal activities.

2.5 Adjacent properties

A complete list and maps showing abutting sites is included in Sanborn Maps and EDR report in Appendix A.

Notably, adjacent to the west of Former Holder Station A is a car dealer / maintenance facility (since the late 1980s). Adjacent to the northwest of Former Holder Station B are two gasoline filling stations (since the 1930s) and an automobile repair shop (since 1987).

A detailed summary of off-site releases presented in the 2009 EDR report and an analysis of the potential impacts to the Bay Ridge site will be included in the final Site Characterization report.

3.0 Site Characterization objectives and field activities

The overall objective for the site characterization is to sufficiently investigate the locations of the former holders and related structures to determine the presence or absence of residual holder wastes in the surface soil, subsurface soil, and groundwater. The principal activities will include the collection and analysis of representative samples of soil and groundwater. The proposed sampling locations for Holder Station A and Holder Station B are shown on Figures 3-1 and 3-2, respectively. Summary information regarding the sampling locations, including their designation, sampling rationale, anticipated completion depth, and the laboratory analyses to be performed is provided in Table 3-1. The discussion of investigation activities has been grouped by environmental media of concern or field task in the following sections, with specific information related to laboratory analyses provided in Section 3.8. Additional information regarding the sampling methods and laboratory analyses is presented in the FSAP (Appendix C) and QAPP (Appendix D).

3.1 Underground utility clearance

Prior to the start of any intrusive fieldwork, clearance of underground utilities will be performed. The drilling subcontractor will contact Dig Safely New York to arrange for the location and marking of all underground utilities in the vicinity of the proposed soil boring and monitoring well locations. Copies of available city sewer and water maps from the site vicinity will also be obtained and reviewed during underground utility clearance procedures. Following review of the utilities in the site area, AECOM will contract a private company to locate all underground electric and gas utilities in the vicinity of each proposed subsurface sampling location using geophysical methods. Outlying areas where information is required to confirm the location of suspected utilities that may act as preferential migration pathways may also be surveyed using geophysical methods. Lastly, all boring/well locations will be hand or vacuum excavated to a depth of five feet to check for potential utilities not located by Dig Safely or geophysical methods.

3.2 Surface soil sampling

The ground surface on the Holder Station A property is entirely concrete or paved asphalt. Therefore, collection of surface soil samples is not proposed.

The ground surface on the eastern half of the Holder Station B property is a mix of concrete, asphalt and dirt parking with occasional grassed areas. The western half of this property is comprised of two baseball fields. For site characterization purposes, collection of 10 surface soil samples is proposed in the area of the ball fields as shown Figure 3-2. The proposed surface soil samples will be collected from the 0 to 2-inch bgs interval with vegetation removed. The samples will be collected from proposed boring locations using a stainless steel or disposable polyethylene trowel. All surface soil samples will be collected during utility clearance activities performed prior to borehole advancement.

As shown in Table 3-1, surface soil samples will be analyzed for full Target Compound List (TCL) VOCs (USEPA Method 8260B), SVOCs (USEPA Method 8270C), pesticides (USEPA Method 8081A), herbicides (USEPA Method 8151A), PCBs as Aroclors (USEPA Method 8082), Target Analyte List (TAL) metals, and free cyanide (extraction by EPA method 9014A and analysis by Microdiffusion, ASTM International method D4282-02). Additional information regarding the soil sampling methods and laboratory analyses is presented in the FSAP (Appendix C) and QAPP (Appendix D).

3.3 Subsurface soil sampling and monitoring well installation

Subsurface soil borings will be advanced in order to:

- obtain information regarding the thickness and composition of fill materials and native soils beneath the site;
- observe and screen subsurface soil to identify conditions that may be indicative of residual holder impacts;
- obtain analytical results to document subsurface soil conditions; and
- better understand depth to water table and establish groundwater flow direction.

The locations of the proposed soil borings are shown on Figures 3-1 and 3-2. Table 3-1 provides summary information regarding the borings and wells, including the boring and well designations, sampling rationale, anticipated completion depth, tentative well screen intervals, and the laboratory analyses to be performed. A total of 22 soil borings are proposed with 10 locations proposed for completion as monitoring wells.

It is anticipated that the overburden soil borings not planned for completion as monitoring wells will be advanced to a maximum depth of 50 feet bgs or to the top of groundwater, whichever is encountered first. Groundwater is estimated at a depth of 65 feet bgs. However, as stated in the footnotes of Table 3-1, completion depths may be adjusted shallower in instances where 10 feet of clean soils are encountered below apparently contaminated soils. Soil borings will be advanced a minimum of 40 feet bgs. In the event that impacts are observed above an apparent confining layer, borings will be terminated at the top of the confining layer.

Borings will initially be advanced using a direct-push (Geoprobe™) drilling rig equipped with Macro-Core™ samplers. However, if difficulties are encountered in advancing the Macro-Core™ samples, the subsurface borings will be advanced by either hollow-stem augers (HSAs) equipped with 2-inch or 3-inch diameter split-spoon samplers or rotosonic drilling methods equipped with 4-inch diameter sampling cores. . Each of the methods will allow for continuous soil samples to be taken from the ground surface to the bottom of the borehole for both field characterization (photoionization detector screening and observations) and for the collection of samples for chemical analyses.

Soil samples will be logged by a geologist who will record such data as the presence of fill material or subsurface structures, the nature of each geologic unit encountered, observations regarding moisture content, the results of PID soil headspace readings, and visual and olfactory observations regarding the presence of hydrocarbon-like or other residuals. The soils will be logged in accordance with the National Grid protocols (KeySpan, 2005) detailed in the FSAP (Appendix C).

Three subsurface soil samples are proposed for laboratory analysis from each soil boring (surface soil samples excluded). The first sample will be collected at the depth of greatest apparent contamination from the 0 to 5 feet bgs interval. It is anticipated that two subsurface soil samples will be collected from depths greater than 5 feet bgs in each soil boring. Samples will be collected from the most apparently impacted intervals based on PID screening and field observations. If impacts are not encountered, a sample will be collected from the 1-foot interval immediately above the water table. The final sample will be collected at the first clean interval (if impacts are encountered) or at the bottom of the boring to confirm “non-impacted” conditions.

As outlined on Table 3-1, all of the subsurface soil samples will be analyzed for full Target Compound List (TCL) VOCs (USEPA Method 8260B), SVOCs (USEPA Method 8270C), pesticides (USEPA Method 8081A), herbicides (USEPA Method 8151A), PCBs as Aroclors (USEPA Method 8082), Target Analyte List (TAL) metals, and free cyanide (extraction by EPA method 9014A and analysis by Microdiffusion, ASTM International method.

Samples of grossly impacted soil containing visible tar-like or oil-like NAPL will generally not be sampled for laboratory analyses. These "MGP or other source" materials will be assumed to be impacted to the extent that management will be required by the NYSDEC. Samples of NAPL material may be collected for forensic analysis to identify and/or better evaluate the potential source of the impacts. If forensic analysis of NAPL is performed, the samples will be analyzed for hydrocarbon fingerprint by GC/FID (EPA Method 8100, ASTM D 3328-90). The GC conditions will be modified so that the laboratory can detect both volatile and semivolatile organic compounds from hexane (C6) to tetracontane (C40) in one run, effectively combining two analyses. This range includes gasoline to heavy oil, as well as the GC-analyzable fraction of coal tar. This analysis provides information used to assess whether the sample contained petrogenic, pyrogenic, or mixtures of hydrocarbons; the nature of those hydrocarbons; the general degree of environmental degradation; and whether the sample contains unanticipated, unique, or potential marker compounds. If necessary, the samples will also be analyzed for Extended PAH Profiles (EPPs) by GC/MS/SIM (EPA Method 8270 modified, ASTM D 5739-95). This is the standard approach for identifying the source(s) of oil spills used by the U.S. Coast Guard and has been used effectively on samples from other MGP sites for similar purposes. It provides the concentrations of certain diagnostic PAH groups not determined by GC/FID or standard EPA Method 8270. These data are used for calculating PAH ratios and other metrics, and comparing potential source samples to other site samples and background.

Installation of 10 monitoring wells is proposed during the site characterization. The monitoring well locations have been selected to provide spatial coverage to evaluate groundwater quality within the property boundaries and to establish a general groundwater flow direction beneath each former Holder Station. The monitoring wells will be installed as water table wells. Depth to the water table beneath the site is allegedly around 65 feet bgs. The borings for the monitoring wells will be advanced using 4-1/4 inch HSAs with the wells installed 7 feet into groundwater. Thus the anticipated completion depths for each of the wells will be 72 feet bgs. Actual well depths and design will depend on site conditions encountered, such as: thickness of the saturated zone; observed stratigraphy; and the presence, location, and thickness of NAPL, if any. Significant changes to the design presented in this Work Plan, if any, will be discussed with NYSDEC prior to implementation.

All wells will be constructed using a 2-inch diameter Schedule 40 PVC well riser with a 0.01-inch slotted screen (0.02-inch, if NAPL present) and a 2-foot long sump for monitoring the presence of any DNAPL. Grout will be tremied into the borehole annulus above the sand pack and the bentonite seal to complete the well to grade. Additional details for monitoring well installation are provided in the FSAP (Appendix C).

The proposed locations of four monitoring wells, MW-101, MW-102, MW-105, and MW-106, are located within the ball fields. In order to mitigate their impact to the use of the space, these wells will either be completed with sub grade well boxes covered with grass/sod, or the locations will be adjusted further toward the perimeter of the fields to avoid potential recreational hazards but also retain the technical intent of installing the wells at these locations.

3.4 Well development

Each of the new monitoring wells will be developed not sooner than 24 hours after their installation to evacuate fine-grained sediments that may have accumulated within the well during installation. Well development methods are presented in the FSAP.

3.5 Groundwater sampling

Following completion of the well development, the wells will be allowed to stabilize for at least two weeks, and then sampled. All new and selected existing wells will be checked for the presence of light non-aqueous phase liquids (LNAPL) or dense non-aqueous phase liquid (DNAPL). Water levels will be measured in all the wells, and a groundwater flow direction map will be prepared and included in the Site Characterization report.

Groundwater samples will be collected from all wells by low-flow purge and sample methods (USEPA, 1996) using either a peristaltic pump or submersible pump (bladder, Redi-flo^{TM}, or equivalent) with the down-well tubing or the pump placed at the approximate midpoint of the screened interval. At the ground surface, the water will pass through a sealed chamber containing probes which will measure the water temperature, pH, specific conductivity, oxidation-reduction potential, and dissolved oxygen. Samples of water discharging from the chamber will be collected at regular intervals and analyzed for turbidity using a hand-held field meter. After passing through this chamber, the water will be discharged to a calibrated five-gallon bucket where the pumping rate will be calculated. When this bucket is full, the water will be transferred into 55-gallon drums and temporarily stored awaiting offsite disposal. Purging rates will be set below the maximum sustainable flow rate in order to minimize drawdown within the well. Groundwater analytical samples will be collected when water quality parameters have stabilized as detailed in the FSAP (Appendix C).

As outlined on Table 3-1, the groundwater samples will be analyzed for full Target Compound List (TCL) VOCs (USEPA Method 8260B), SVOCs (USEPA Method 8270C), pesticides (USEPA Method 8081A), herbicides (USEPA Method 8151A), PCBs as Aroclors (USEPA Method 8082), Target Analyte List (TAL) metals, and total cyanide by USEPA Method 9014.

3.6 Site survey

A survey of the field sampling points and important site features (structures, streets, fence lines, etc.) will be conducted at the end of the fieldwork by a licensed NY-State surveyor. All horizontal locations will be reported in the New York State Plane Coordinate System, Long Island Zone (NAD83) in feet. All vertical measurements will be reported in NAVD88 in feet, to the nearest 0.1 ft. and 0.01 ft. for soil borings and monitoring wells, respectively.

3.7 Investigation-derived waste management

All investigation waste generated during the site characterization will be collected in properly labeled USDOT approved storage containers (55-gallon drums) or a small bulk roll-off container and grouped by environmental matrix (soil, water, PPE/plastic, construction debris). If drums are used, as they are filled they will be tracked and given unique identification codes based on the following:

- A prefix indicating the site where the drum was generated and the drum's contents: i.e., BR – Bay Ridge plus S – Soil, W – Water, P – PPE/Plastic, or C&D – Construction Debris.

- Following the prefix and a hyphen will be the drum's chronological number of generation. For example, drum BRS-1 is the first drum of the project generated and is filled with soil. Drum BRW-8 is the eighth drum generated and contains water.
- As drums are generated, their identification code, date of generation, contents, source (i.e., drill cuttings from location x, purge water from well y), and date sampled will be entered on a tracking table.

The drums (or roll-off container) will be stored in a secure onsite location to be decided during the kickoff meeting. Subsequently, the waste soils will be characterized with laboratory analyses as required by the selected disposal facility. Waste transportation and disposal of all contaminated wastes will be managed by National Grid.

3.8 Analytical program summary

The laboratory samples for each media and the chemical analyses to be performed are included in Table 3-1. Requisite quality assurance/quality control (QA/QC) samples are presented in the QAPP (Appendix D).

3.8.1 Surface and subsurface soil analyses

Surface and subsurface soil samples will be analyzed for the following parameters:

- TCL VOCs (USEPA Method 8260B);
- TCL SVOCs (USEPA Method 8270C);
- TCL Pesticides (USEPA Method 8081A);
- TCL Herbicides (USEPA Method 8151A);
- PCBs as Aroclors (USEPA Method 8082);
- Target Analyte List (TAL) metals; and
- Free cyanide (extraction by EPA method 9014A and analysis by Microdiffusion, ASTM International method D4282-02).

Based on the results of the proposed sampling scope, analysis for PCBs, pesticides, herbicides, and the full TAL metals list may be removed for any future sampling.

3.8.2 Groundwater analyses

Similar to soils, groundwater samples will be analyzed for the following parameters:

- TCL VOCs by USEPA Method 8260B;
- TCL SVOCs by USEPA Method 8270C;
- TAL Metals by USEPA Method 6000-7000 Series;
- TCL Pesticides by USEPA Method 8081A;
- TCL Herbicides by USEPA Method 8151A;
- PCBs (as Aroclors) by USEPA Method 8082; and
- Total Cyanide by USEPA Method 9014.

Based on the results of the proposed sampling scope, analysis for PCBs, pesticides, herbicides, and the full TAL metals list may be removed for any future sampling.

3.8.3 Waste characterization/profiling

Sufficient samples (a minimum of two) will be collected during the investigation and analyzed for RCRA Hazardous Characteristics testing to determine if materials exhibiting hazardous characteristics may be present at the site and to support waste disposal profiling purposes. The analyses to be performed may include, but not be limited to, the following, depending on the medium and the selected disposal facility:

- Total Metals by USEPA Method 6010B (Mercury 7470A);
- Total Petroleum Hydrocarbons (DRO and GRO) by USEPA Method 8015 modified;
- PCBs by USEPA 8020;
- TCLP ZHE Extraction – U.S. EPA Method 1311;
- TCLP VOC – USEPA Method 8260B;
- TCLP SVOC – USEPA Method 8270C;
- TCLP RCRA Metals – USEPA Method 6010B (Mercury 7470A);
- Corrosivity – USEPA Method 9045C;
- Ignitability/Flashpoint – USEPA SW-846 Method 1010A
- Reactive Cyanide and Reactive Sulfide by USEPA SW-846 Chapter 7, Sections 7.3.3.2/7.3.4.2; and
- Total Organic Halogens – USEPA SW-846 Method 9020B

3.8.4 Quality assurance/quality control sampling

Field and laboratory quality control samples for the investigation will be collected and analyzed to document the accuracy and precision of the samples. The QA/QC samples, summarized in the QAPP (Appendix D), include trip blanks, field equipment blanks, field duplicates and matrix spikes, and matrix spike duplicates. The data quality level for the investigation will be consistent with procedures outlined in the NYSDEC Analytical Services Protocol (ASP) July 2005 methodologies. A full ASP Category B data package will be prepared by the laboratory for all samples. The data will be reviewed, and a Data Usability Summary Report (DUSR) will be prepared by a qualified chemist. Additional QA/QC information is provided in the QAPP.

4.0 Additional work plan documents

Four companion documents have been prepared to detail the methods and procedures to be used during the Site Characterization. Each of the documents is included as an Appendix to this Work Plan.

4.1 Field sampling and analytical plan

All sampling and analyses will be conducted in accordance with the methods described in the site-specific FSAP. The FSAP provides a description of the objectives and methods for each of the investigation field activities, and details concerning the project organization. The FSAP is provided in Appendix C.

4.2 Quality assurance project plan

In addition to the FSAP, a full QAPP has been developed for use on this project. The QAPP identifies the quality assurance objectives for the measurement data, the QA/QC procedures to be used in the field, the sample chain-of-custody methods to be used, and the analytical procedures to be followed. The QAPP will also include a description of the manner in which each type of data is to be used. The QAPP is provided in Appendix D.

4.3 Community air monitoring plan

A CAMP has been developed for this project that will be followed during all invasive fieldwork (soil borings, borings for well installations, and test pitting). It will provide information regarding the procedures to be used to monitor and control, if necessary, the potential release of airborne constituents and odors at the downwind perimeters of the investigation work areas. The CAMP is provided in Appendix E.

4.4 Site-specific health and safety plan

A site specific HASP has been prepared to outline health and safety risks and procedures for all site workers and visitors. Included in the HASP is information regarding physical and chemical hazards at the site, emergency procedures and contact information, incident reporting procedures, and the route to the hospital. The HASP is provided in Appendix F.

5.0 Project schedule and deliverables

5.1 Schedule

The Site Characterization field work will be initiated following approval of the scope of work presented in this Work Plan by NYSDEC. A general timeline for the project includes the following milestones:

- Field Mobilization – within 45 business days of the approval of the work plan.
- Duration of Currently Proposed Field Activities – approximately 25 business days.
- Draft Report to National Grid – within 60 business days of the completion of field activities.
- Final Report to NYSDEC – within 90 business days of the completion of field activities.

The milestones presented above are subject to change based on delays caused by access limitations and/or weather and unforeseen circumstances. However, it is intended to maintain a schedule to complete the project as expeditiously as possible. A more specific schedule will be submitted upon approval of the Work Plan and resolution of an access agreement with the owner of the property on which Holder Station A was located.

5.2 Deliverables

5.2.1 Site Characterization Report

Upon completion of the field activities, a Site Characterization Report will be prepared to document the findings of the records review and of the investigations performed at the site. The report will be consistent with the specifications presented in the Draft DER-10 (NYSDEC, 2002) document and will include:

- An executive summary.
- A site description and history.
- Summary information regarding previous investigations and site characterization work performed at the site.
- Records review summary.
- Descriptions of all field activities performed. A summary of all field observations, field measurements, and laboratory analytical data summarized in tabular format. Data will be managed in a database. Soil and groundwater analytical results will be compared to appropriate NYSDEC guidance and standards.
- Plan view and cross-section figures presenting laboratory analytical data and field observations of surface and subsurface soil and groundwater impacts. A minimum of two profiles will be developed, one perpendicular to and one parallel with groundwater flow direction at the site.
- An integration of field observations and measurements with laboratory analytical data to evaluate the nature and extent of impacts and to develop a site conceptual model of potential contaminant migration, if any.
- A set of conclusions for the site characterization.
- Recommendations.

Appendices to the report will include all pertinent data used to support the SC effort, including validated laboratory analytical results (Form 1s), data usability reports, stratigraphic boring and monitoring well construction logs, and all field sampling sheets (monitoring well development forms, groundwater sampling sheets, etc.). The SC Report will be reviewed and approved by a qualified senior geologist. If appropriate, recommendations for additional site activities will be provided.

6.0 References

Environmental Data Resources, Inc. (EDR), 2009. The EDR Radius Map™ Report. Bay Ridge Former Gas Holder Site, 65th Street/9th Avenue, Brooklyn, NY 11220. Inquiry Number: 2596957.1s. September 23, 2009.

GEI letter to Tracey Bell of KeySpan Corporation regarding Bay Ridge Former Holder Stations A and B Site, Site Number 224058, Records Search. April 6, 2007.

KeySpan, 2005. Field Descriptions of Samples from Former MGP Sites, November, 2005.

National Grid, 2007. Draft Standard Operating Procedure for Soil Vapor Intrusion Evaluations at National Grid MGP Sites in New York State, updated September 2007.

NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Division of Water Technical and Operational Guidance Series (1.1.1), June 1998.

NYSDEC, 2002. Draft DER-10 Technical Guidance for Site Investigation and Remediation, December 2002.

Order on Consent and Administrative Settlement, Index # A2-0552-0606, March 2007.

Roux Associates, Inc., 1985, Subsurface Investigation, 63rd and 65th Street Sites, prepared for Brooklyn Union Gas Company, Bay Ridge, Brooklyn.

Sanborn Maps for 1905, 1926, 1942, 1950, 1951, 1970, 1977, 1981, 1992, 1993, 1994, and 1995.

United States Environmental Protection Agency (USEPA), 1996. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures, EPA/540/S-95/504, April 1996.

Vanasse Hangen Brustlin, Inc. (VHB), 2000. Environmental Site Assessment Report, Bay Ridge Little League Baseball Fields, Bay Ridge, NY, May 2000.

Tables

Table 2-1
Summary of Prior Investigation Results
Surface Soil Samples
Bay Ridge Former Holder Stations A and B Site

Client Sample ID:	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-6 DUP	SS-7	SS-8
Date Sampled:	3/13/2000	3/13/2000	3/13/2000	3/13/2000	3/13/2000	3/13/2000	3/13/2000	3/13/2000	3/13/2000
Method 8270 - TCL Semivolatile Organic Compounds (µg/kg)									
Anthracene	92 J	33 J	50 J	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	530	270 J	550	290 J	ND	ND	ND	ND	ND
Benzo(a)pyrene	540	280 J	680	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	660	370 J	1,000	ND	ND	ND	ND	ND	ND
Benzo(ghi)perylene	310 J	190 J	360 J	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	360 J	200 J	410 J	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	540	3,300	550	270 J	160 J	740	190 J	320 J	ND
Butyl benzyl phthalate	ND	ND	140 J	ND	ND	ND	ND	ND	ND
Chrysene	560	280 J	660	310 J	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND	53 J	ND	ND	ND
Fluoranthene	1,100	520	930	580	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	290 J	170 J	370 J	ND	ND	ND	ND	ND	ND
Phenanthrene	690	250 J	280 J	310 J	ND	ND	ND	ND	ND
Pyrene	960	430	760	510	ND	ND	ND	ND	ND
Total PAHs	6,092	2,993	6,050	2,000	0	0	0	0	0
Method 8260 - TCL Volatile Organic Compounds (µg/kg)									
Methylene chloride	ND	ND	ND	ND	ND	1 J	1 J	2 BJ	ND
Method 8081 - TCL Pesticides and PCBs (µg/kg)									
4,4'-DDD	--	--	--	--	--	2 J	2 J	--	2 J
4,4'-DDE	--	--	--	--	--	ND	ND	--	ND
4,4'-DDT	--	--	--	--	--	2 J	2 J	--	2 J
delta-BHC	--	--	--	--	--	ND	ND	--	2 J
Metals (mg/kg)									
Aluminum - Total	--	--	--	--	--	2,850	2,870	--	2,470
Antimony - Total	--	--	--	--	--	ND	ND	--	ND
Arsenic - Total	5.4	5.3	9	6.7	2.7	2.6	2.3	1.9	3.3
Barium - Total	55.6 J	51.7 J	61.6 J	55.2 J	11.9 J	13 J	12.5 J	11.6 J	11.8 J
Beryllium - Total	--	--	--	--	--	0.3 B	0.32 J	--	0.28 J
Cadmium - Total	ND	0.12J	ND	ND	ND	ND	ND	ND	ND
Calcium - Total	--	--	--	--	--	2,240	886	--	400 J
Chromium - Total	18.9 J	17.3 J	20.8 J	18.8 J	6.7 J	6.1 J	6.0 J	5.1 J	6.9 J
Cobalt - Total	--	--	--	--	--	2.6 J	3.2 J	--	2.7 J
Copper - Total	--	--	--	--	--	5.4	5.7	--	5.4
Iron - Total	--	--	--	--	--	6,700	6,650	--	8,180
Lead - Total	145 J	123 J	110 J	122 J	7.2 J	5.4 J	4.3 J	6.6 J	5.2 J
Magnesium - Total	--	--	--	--	--	855	583	--	383 J
Manganese - Total	--	--	--	--	--	87.9	94.7	--	85.5
Mercury - Total	0.1	0.13	0.14	0.13	ND	ND	ND	ND	ND
Nickel - Total	--	--	--	--	--	3.0 J	3.0 J	--	3.6 J
Potassium - Total	--	--	--	--	--	421 J	420 J	--	377 J
Selenium - Total	1.2	1.5	ND	1.3	ND	ND	ND	ND	ND
Silver - Total	ND	ND	0.21 J	0.26 J	ND	ND	ND	ND	0.18 J
Sodium - Total	--	--	--	--	--	463 J	450 J	--	505 J
Thallium - Total	--	--	--	--	--	0.77 J	ND	--	ND
Vanadium - Total	--	--	--	--	--	11.1	11.4	--	13.6
Zinc - Total	--	--	--	--	--	52.1	33.6	--	24.9
Wet Chemistry (mg/kg)									
Cyanide - Total	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	34,600	33,300	23,300	28,400	2,150	3,440	2,790	5,520	2,510

KEY:
A = Field duplicate sample
B = Analyte detected both in sample and associated laboratory blank
BGS = Below ground surface
J = Estimated value
ND = Not detected
µg/kg =micrograms per kilogram (parts per billion)
mg/kg =milligrams per kilogram (parts per million)
-- = Not analyzed
Data from Vanasse Hangen Brustlin, Inc., 2000. *Draft Environmental Site Assessment Report, Bay Ridge Little League Baseball Fields, Brooklyn, New York*, May 2000

Table 2-1
Summary of Prior Investiga
Surface Soil Samples
Bay Ridge Former Holder S

Client Sample ID:	SS-9	SS-10	SS-11	SS-11 DUP	SS-12	SS-13	SS-14	SS-15
Date Sampled:	3/13/2000	3/13/2000	3/13/2000	3/13/2000	3/13/2000	3/13/2000	3/13/2000	3/13/2000
Method 8270 - TCL Semivolatile								
Anthracene	ND	ND	ND	210 J	ND	ND	88 J	ND
Benzo(a)anthracene	ND	ND	ND	640 J	ND	ND	ND	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	22 J	ND	430 J	830 J	310 J	250 J	530 J	ND
Benzo(ghi)perylene	ND	ND	ND	300 J	ND	ND	190 J	ND
Benzo(k)fluoranthene	ND	ND	ND	360 J	ND	ND	260 J	ND
Bis(2-ethylhexyl) phthalate	260 J	140 J	600 J	530 J	320 J	200 J	250 BJ	ND
Butyl benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	ND	17 J	ND	640 J	ND	ND	ND	ND
Di-n-butyl phthalate	ND	38	JND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	34 J	380 J	1,300	ND	ND	1,000	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	280 J	ND	ND	180 J	ND
Phenanthrene	ND	ND	ND	1,100	ND	ND	820 J	ND
Pyrene	ND	ND	ND	1,100	ND	ND	830	ND
Total PAHs	22	51	810	6,760	310	250	3,898	0
Method 8260 - TCL Volatile Organic Compounds (µg/kg)								
Methylene chloride	3 BJ	ND	ND	ND	ND	ND	ND	ND
Method 8081 - TCL Pesticides and PCBs (µg/kg)								
4,4'-DDD	2	J-	--	--	--	--	--	--
4,4'-DDE	ND	--	--	--	--	--	--	--
4,4'-DDT	2	J-	--	--	--	--	--	--
delta-BHC	2	J-	--	--	--	--	--	--
Metals (mg/kg)								
Aluminum - Total	2,490	--	--	--	--	--	--	--
Antimony - Total	0.68 J	--	--	--	--	--	--	--
Arsenic - Total	3.6	5	4.4	4.2	4.1	7.9	4.8	3.2
Barium - Total	11.5 J	12.3 J	57.3 J	55.4 J	40.9 J	69.5 J	59.6 J	11.5 J
Beryllium - Total	0.27 J	--	--	--	--	--	--	--
Cadmium - Total	ND	ND	ND	ND	ND	ND	ND	ND
Calcium - Total	561	--	--	--	--	--	--	--
Chromium - Total	8.7 J	12.9 J	17.9 J	17.3 J	14 J	20 J	16.9 J	6.9 J
Cobalt - Total	2.6 J	--	--	--	--	--	--	--
Copper - Total	5.3	--	--	--	--	--	--	--
Iron - Total	8,750	--	--	--	--	--	--	--
Lead - Total	4.8 J	6.0 J	134 J	126 J	70.2 J	97.1 J	123 J	5.2 J
Magnesium - Total	429 J	--	--	--	--	--	--	--
Manganese - Total	82.6	--	--	--	--	--	--	--
Mercury - Total	ND	ND	0.25	0.26	0.12	0.13	0.12	ND
Nickel - Total	2.9 J	--	--	--	--	--	--	--
Potassium - Total	343 J	--	--	--	--	--	--	--
Selenium - Total	0.77	0.71	1.6	0.87	ND	ND	ND	ND
Silver - Total	ND	ND	ND	ND	ND	ND	ND	ND
Sodium - Total	510 J	--	--	--	--	--	--	--
Thallium - Total	ND	--	--	--	--	--	--	--
Vanadium - Total	14.7	--	--	--	--	--	--	--
Zinc - Total	86.4	--	--	--	--	--	--	--
Wet Chemistry (mg/kg)								
Cyanide - Total	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	2,680	1,580	41,200	30,700	45,200	27,900	28,500	3,050

KEY:
A = Field duplicate sample
B = Analyte detected both in sample and associated laboratory blank
BGS = Below ground surface
J = Estimated value
ND = Not detected
µg/kg =micrograms per kilogram (parts per billion)
mg/kg =milligrams per kilogram (parts per million)
-- = Not analyzed
Data from Vanasse Hangen Brustlin, Inc., 2000. *Draft Environmental Site Assessment Report, Bay Ridge Little League Baseball Fields, Brooklyn, New York*, May 2000

Table 2-1
Summary of Prior Investiga
Surface Soil Samples
Bay Ridge Former Holder S

Client Sample ID:	SS-16	SS-17	SS-18	SS-19	SS-19 DUP	SS-20	SS-21	SS-22	SS-23
Date Sampled:	3/14/2000	3/13/2000	3/14/2000	3/14/2000	3/14/2000	3/14/2000	3/14/2000	3/14/2000	3/14/2000
Method 8270 - TCL Semivolatile									
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	ND	ND	ND	ND	ND	ND	ND	330	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND	ND	ND	230 J	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND	450	360
Benzo(ghi)perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	180 BJ	ND	200 BJ	360 B	390 B	ND	180 BJ	520 B	460 B
Butyl benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND	ND	ND	310 J	200 J
Di-n-butyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	700	400
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	380	ND
Pyrene	ND	ND	ND	ND	ND	ND	ND	540	330
Total PAHs	0	0	0	0	0	0	0	2,940	1,290
Method 8260 - TCL Volatile Organic Compounds (µg/kg)									
Methylene chloride	1 J	1 BJ	2 J	2 J	1 J	1 J	1 J	1 J	1 J
Method 8081 - TCL Pesticides and PCBs (µg/kg)									
4,4'-DDD	--	--	--	--	--	--	--	12 J	--
4,4'-DDE	--	--	--	--	--	--	--	18	--
4,4'-DDT	--	--	--	--	--	--	--	22	--
delta-BHC	--	--	--	--	--	--	--	10	--
Metals (mg/kg)									
Aluminum - Total	--	--	--	--	--	--	--	7,520	--
Antimony - Total	--	--	--	--	--	--	--	ND	--
Arsenic - Total	2.8	3.1	2.7	1.7	2	3.5	3	5	3.8
Barium - Total	13.4 J	12.7 J	8.3 J	6.9 J	9.6 J	14.4 J	13.6 J	29 J	36.7 J
Beryllium - Total	--	--	--	--	--	--	--	0.32 J	--
Cadmium - Total	ND	ND	ND	ND	ND	ND	ND	ND	0.2 J
Calcium - Total	--	--	--	--	--	--	--	4,380	--
Chromium - Total	6.9 J	8.3 J	6.7 J	4.2 J	5.1 J	8.6 J	8.2 J	12.2 J	12 J
Cobalt - Total	--	--	--	--	--	--	--	2.9 J	--
Copper - Total	--	--	--	--	--	--	--	14.9	--
Iron - Total	--	--	--	--	--	--	--	9,720	--
Lead - Total	4.1 J	4.7 J	5.8 J	3.1 J	3.8 J	4.3 J	6.1 J	53.4 J	97.1 J
Magnesium - Total	--	--	--	--	--	--	--	1,670	--
Manganese - Total	--	--	--	--	--	--	--	105	--
Mercury - Total	ND	ND	ND	ND	ND	ND	ND	0.08	0.06
Nickel - Total	--	--	--	--	--	--	--	6.9	--
Potassium - Total	--	--	--	--	--	--	--	549 J	--
Selenium - Total	ND	ND	ND	ND	ND	ND	ND	1.3	ND
Silver - Total	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sodium - Total	--	--	--	--	--	--	--	407 J	--
Thallium - Total	--	--	--	--	--	--	--	ND	--
Vanadium - Total	--	--	--	--	--	--	--	17.7	--
Zinc - Total	--	--	--	--	--	--	--	45.6	--
Wet Chemistry (mg/kg)									
Cyanide - Total	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	980	1,390	7,430	3,120	3,620	628	902	17,200	20,600

KEY:
A = Field duplicate sample
B = Analyte detected both in sample and associated laboratory blank
BGS = Below ground surface
J = Estimated value
ND = Not detected
µg/kg =micrograms per kilogram (parts per billion)
mg/kg =milligrams per kilogram (parts per million)
-- = Not analyzed
Data from Vanasse Hangen Brustlin, Inc., 2000. *Draft Environmental Site Assessment Report, Bay Ridge Little League Baseball Fields, Brooklyn, New York*, May 2000

Table 2-2
Summary of Prior Investigation Results
Subsurface Soil Samples
Bay Ridge Former Holder Stations A and B Site

Sample ID:	SB-1B	SB-2A	SB-2B	SB-3A	SB-4A	SB-5A	SB-6A	SB-6B	SB-7B	SB-8A	SB-8B	SB-8BDA	SB-9A	SB-9B	SB-10A
Sample Depth (feet BGS):	**17 - 18.5'**	**5 - 9'**	**12 - 14'**	**3 - 7'**	**5 - 7'**	**5.7 - 6'**	**4 - 4.5'**	**11 - 15.5'**	**10 - 12'**	**4 - 6'**	**15 - 18'**	**15 - 18'**	**3 - 5'**	**15 - 16'**	**5 - 6.3'**
Date Sampled:	**3/13/2000**	**3/13/2000**	**3/13/2000**	**3/13/2000**	**3/14/2000**	**3/14/2000**	**3/14/2000**	**3/14/2000**	**3/14/2000**	**3/15/2000**	**3/15/2000**	**3/15/2000**	**3/15/2000**	**3/15/2000**	**3/15/2000**
Method 8270 - TCL Semivolatile Organic Compounds (µg/kg)															
2-Methylnaphthalene	ND	1200	1200	ND	ND	ND	12000	ND	ND	ND	ND	ND	ND	1700	ND
Acenaphthene	ND	ND	78 J	ND	ND	ND	420	ND	ND	ND	ND	ND	ND	4700	ND
Acenaphthylene	ND	ND	74 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1100	ND
Anthracene	ND	160 J	97 J	ND	ND	ND	ND	ND	ND	440	ND	ND	ND	8800	ND
Benzo(a)anthracene	ND	ND	220 J	34 J	ND	ND	ND	ND	ND	1600	ND	ND	1500	14000	470
Benzo(a)pyrene	ND	ND	240 J	ND	ND	ND	ND	ND	ND	1100	ND	ND	1300	11000	320 J
Benzo(b)fluoranthene	ND	420 J	280 J	49 J	ND	ND	ND	ND	ND	1300	ND	ND	2000	14000	420
Benzo(ghi)perylene	ND	ND	190 J	13 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	2300	150 J
Benzo(k)fluoranthene	ND	190 J	180 J	20 J	ND	ND	ND	ND	ND	780	ND	ND	670	4200	130 J
Bis(2-ethylhexyl) phthalate	450 B	ND	210 BJ	290 BJ	130 BJ	ND	ND	ND	ND	ND	150 BJ	100 BJ	ND	ND	ND
Chrysene	ND	ND	240 J	36 J	ND	ND	ND	ND	ND	1400	ND	ND	1300	14000	470
Di-n-octyl phthalate	ND	ND	ND	120 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	41 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	750	ND
Dibenzofuran	ND	ND	45 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1800	ND
Fluoranthene	ND	980	490	65 J	ND	ND	470	ND	ND	2800	ND	ND	2800	31000	1100
Fluorene	ND	ND	150 J	ND	ND	ND	860	ND	ND	ND	ND	ND	ND	5400	ND
Indeno(1,2,3-cd)pyrene	ND	ND	180 J	13 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	2200	130 J
Naphthalene	ND	2600	2300	ND	ND	880	36,000 D	ND	ND	ND	ND	ND	ND	2600	ND
Phenanthrene	15 J	1000	540	41 J	ND	1000	1700	ND	ND	1600	ND	ND	1500	28000	460
Pyrene	ND	820	440	52 J	ND	400	650	ND	ND	2700	ND	ND	2800	35000	940
Total PAHs	15	7370	6940	323	0	2280	52100	0	0	13720	0	0	13610	180750	4590
Method 8260 - TCL Volatile Organic Compounds (µg/kg)															
Acetone	ND	27	ND	ND	ND	ND	70	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	16	ND	ND	11	470	ND	ND	ND	ND	ND	2 J	14	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	98	ND	ND	24	78,000 D	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	2 J	1 BJ	1 J	4 J	6	1 J	1 J	2 J	2 J	1 J	2 J	2 J	2 J
Styrene	ND	ND	10	ND	ND	21	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	4 J	ND	ND	23	10,000 D	ND	ND	5	1 J	1 J	4 J	13	ND
Total Xylenes	ND	ND	150	ND	ND	44	140,000 D	ND	ND	ND	ND	ND	ND	3 J	ND
Total BETX	0	0	268	0	0	102	228470	0	0	5	1	1	6	30	0

Table 2-2
Summary of Prior Investigation Results
Subsurface Soil Samples
Bay Ridge Former Holder Stations A and B Site

Sample ID:	SB-1B	SB-2A	SB-2B	SB-3A	SB-4A	SB-5A	SB-6A	SB-6B	SB-7B	SB-8A	SB-8B	SB-8BDA	SB-9A	SB-9B	SB-10A
Sample Depth (feet BGS):	17 - 18.5'	5 - 9'	12 - 14'	3 - 7'	5 - 7'	5.7 - 6'	4 - 4.5'	11 - 15.5'	10 - 12'	4 - 6'	15 - 18'	15 - 18'	3 - 5'	15 - 16'	5 - 6.3'
Date Sampled:	3/13/2000	3/13/2000	3/13/2000	3/13/2000	3/14/2000	3/14/2000	3/14/2000	3/14/2000	3/14/2000	3/15/2000	3/15/2000	3/15/2000	3/15/2000	3/15/2000	3/15/2000
Method 8081 - TCL Pesticides and PCBs (µg/kg)															
4,4'-DDD	--	--	--	--	--	--	10 J	--	--	11 J	--	--	--	--	--
4,4'-DDE	--	--	--	--	--	--	9.3 J	--	--	ND	--	--	--	--	--
Dieldrin	--	--	--	--	--	--	10 J	--	--	11 J	--	--	--	--	--
gamma-BHC (Lindane)	--	--	--	--	--	--	10	--	--	ND	--	--	--	--	--
Methoxychlor	--	--	--	--	--	--	ND	--	--	23 J	--	--	--	--	--
Metals (mg/kg)															
Aluminum - Total	--	--	--	--	--	--	7040	--	--	4710	--	--	-	--	--
Arsenic - Total	2.4	5.0	4.3	3.0	1.2	4.2	16.3	2.0	2.3	2.7 J	1.7	2.2	5.8 J	5.4 J	4.0 J
Barium - Total	23.1	90.6	71.3	20 J	23.3 J	70 J	171 J	35.5 J	37 J	37.5 J	29.8	32.4 J	56.6 J	94.1 J	29.1 J
Beryllium - Total	--	--	--	--	--	--	0.69	--	--	0.3 J	--	--	-	--	--
Cadmium - Total	ND	1.1	0.88	ND	ND	ND	1.9	ND	ND	ND	ND	ND	0.7 -	ND	ND
Calcium - Total	--	--	--	--	--	--	4160	--	--	1950	--	--	-	--	--
Chromium - Total	17.7	271	286	11.8	14.6 J	71.7 J	751 J	9.6 J	11 J	17.4	10	9.4	14.1 -	16.6	13.9
Cobalt - Total	--	--	--	--	--	--	11.4	--	--	5.3 J	--	--	-	--	--
Copper - Total	--	--	--	--	--	--	93.1	--	--	13.7	--	--	-	--	--
Iron - Total	--	--	--	--	--	--	33000	--	--	8910	--	--	-	--	--
Lead - Total	3.8	721	870	20	4.5 J	316 J	1,440 J	5.1 J	5.8 J	189 J	5.9	4.7 J	206 J	284 J	22.2 J
Magnesium - Total	--	--	--	--	--	--	4300	--	--	1,620 J	--	--	-	--	--
Manganese - Total	--	--	--	--	--	--	375	--	--	196 J	--	--	-	--	--
Mercury - Total	ND	0.13	0.09	ND	ND	ND	0.08	ND	ND	1.4	ND	ND	0.08 -	14.9	ND
Nickel - Total	--	--	--	--	--	--	21.7	--	--	15	--	--	-	--	--
Potassium - Total	--	--	--	--	--	--	1410	--	--	733	--	--	-	--	--
Selenium - Total	0.57	1.5	0.93	0.67	0.69	ND	0.78	ND	ND	ND	ND	ND	0.64 -	ND	ND
Sodium - Total	--	--	--	--	--	--	640 J	--	--	660 J	--	--	-	--	--
Vanadium - Total	--	--	--	--	--	--	144	--	--	14.5	--	--	-	--	--
Zinc - Total	--	--	--	--	--	--	647	--	--	66.5	--	--	-	--	--
Wet Chemistry (mg/kg)															
Cyanide - Total	ND	13.5	15.5	ND	ND	16.2	19.2	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	--	5200	6860	1050	ND	--	--	235	ND	5730	ND	ND	10300	--	2100

KEY:
A = Field duplicate sample
B = Analyte detected both in sample and associated laboratory blank
BGS = Below ground surface
J = Estimated value
ND = Not detected
µg/kg =micrograms per kilogram (parts per billion)
mg/kg =milligrams per kilogram (parts per million)
-- = Not analyzed
Data from Vanasse Hangen Brustlin, Inc., 2000. *Draft Environmental Site Assessment Report, Bay Ridge Little League Baseball Fields, Brooklyn, New York* , May 2000

Table 3-1
Proposed Site Characterization Sample Locations, Rationale, and Analytical Sample Summary
Bay Ridge Former Holder Stations A and B Site, Brooklyn, New York

Location ID	Sample ID	Completion Depth*	Sample Depth (bgs)	No. of Samples	Analyses	Rationale
Surface Soil/Subsurface Soil						
SS-101 (at SB-101)	SS-101	2 inches	Surface (0 - 2 inches)	1	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate existing surface soil on Site. Co-located with SB-101 outside and to the north of the footprint of former 180 ft diam. gas holder on Holder Station B
SS-102 (at SB-102)	SS-102	2 inches	Surface (0 - 2 inches)	1	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate existing surface soil on Site. Co-located with SB-102 outside and to the west of the footprint of former 180 ft diam. gas holder on Holder Station B.
SS-103 (at SB-103)	SS-103	2 inches	Surface (0 - 2 inches)	1	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate existing surface soil on Site. Co-located with SB-103 at perimeter of footprint of former 180 ft diam. gas holder on Holder Station B.
SS-104 (at SB-104)	SS-104	2 inches	Surface (0 - 2 inches)	1	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate existing surface soil on Site. Co-located with SB-104 at center of footprint of former 180 ft diam. gas holder on Holder Station B.
SS-105 (at SB-105)	SS-105	2 inches	Surface (0 - 2 inches)	1	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate existing surface soil on Site. Co-located with SB-105 located in between and northeast of footprints of the former 180 ft diam. gas holder and the 140 ft diam gas holder on Holder Station B.
SS-106 (at SB-106)	SS-106	2 inches	Surface (0 - 2 inches)	1	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate existing surface soil on Site. Co-located with SB-105 located in between and southwest west of footprints of the former 180 ft diam. gas holder and the 140 ft diam gas holder on Holder Station B.
SS-107	SS-107	2 inches	Surface (0 - 2 inches)	1	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate existing surface soil on Site between first and second base of the small baseball field.
SS-108	SS-108	2 inches	Surface (0 - 2 inches)	1	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate existing surface soil on Site between third base and home plate of the small baseball field.
SS-109	SS-109	2 inches	Surface (0 - 2 inches)	1	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate existing surface soil on Site between third base and home plate of the large baseball field.
SS-110	SS-110	2 inches	Surface (0 - 2 inches)	1	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate existing surface soil on Site between second and third base of the large baseball field.
SB-101 (at SS-101)	SB-101 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate outside, of former 180 ft diam gas holder at northwestern corner of the former holder site footprint on Holder Station B.
SB-102 (at SB-102)	SB-102 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate outside of former 180 ft diam gas holder at northwestern corner of the former gas holder site footprint on Holder Station B.
SB-103 (at SS-103)	SB-103 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate soil conditions at the perimeter of the footprint of the former 180 ft diam. gas holder on Holder Station B. Boring to be terminated at holder bottom, if encountered.
SB-104 (at SS-104)	SB-104 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate soil conditions at the center of the footprint of the former 180 ft diam. gas holder on Parcel B. Boring to be terminated at holder bottom, if encountered.
SB-105 (at SS-105)	SB-105 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate soil conditions in between and northeast of footprints of the former 180 ft diam. gas holder and the 140 ft diam gas holder on Holder Station B.
SB-106 (at SS-106)	SB-106 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate soil conditions in between and southwest of footprints of the former 180 ft diam. gas holder and the 140 ft diam gas holder on Holder Station B.
SB-107	SB-107 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate soil conditions north of the former 140 ft diam. gas holder on Holder Station B.

Table 3-1
Proposed Site Characterization Sample Locations, Rationale, and Analytical Sample Summary
Bay Ridge Former Holder Stations A and B Site, Brooklyn, New York

Location ID	Sample ID	Completion Depth*	Sample Depth (bgs)	No. of Samples	Analyses	Rationale
SB-108	SB-108 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate soil conditions within the interior of the footprint (and close to the center of, considering the presence of the building over) the footprint of the former 80 ft diam. gas holder on Holder Station B. Boring to be terminated at holder bottom, if encountered.
SB-109	SB-109 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate soil conditions at the perimeter of the footprint of the former 140 ft diam. gas holder on Holder Station B. Boring to be terminated at holder bottom, if encountered.
SB-110	SB-110 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate soil conditions at the center of the footprint of the former 140 ft diam. gas holder on Holder Station B. Boring to be terminated at holder bottom, if encountered.
SB-111 (at SS-5)	SB-111 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate former structures (pump house) at the southeastern corner of the site on Holder Station B.
SB-112	SB-112 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate outside of former 100 ft diam gas holder at southern end of the former footprint on Holder Station B.
SB-113	SB-113 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate former oil tank structure in-between former 100 ft diam. and the 140 ft diam gas holders on Holder Station B.
SB-114	SB-114 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate soil conditions at the center of the footprint of the former 100 ft diam. gas holder on Holder Station B. Boring to be terminated at holder bottom, if encountered.
SB-115	SB-115 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate soil conditions at the perimeter of the footprint of the former 100 ft diam. gas holder on Holder Station B. Boring to be terminated at holder bottom, if encountered.
SB-116	SB-116 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate outside of the former 4-million cu ft gas holder at northern corner of the former gasholder site footprint on Holder Station A.
SB-117	SB-117 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate outside of the former 4-million cu ft gas holder at western corner of the former gasholder site footprint on Holder Station A.
SB-118	SB-118 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate outside of the former 4-million cu ft gas holder at eastern corner of the former gasholder site footprint on Holder Station A.
SB-119	SB-119 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate outside of the former 4-million cu ft gas holder at southern corner of the former gasholder site footprint on Holder Station A.
SB-120	SB-120 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate soil conditions at the center of the footprint of the former 4-million cu ft gas holder on Holder Station A. Boring to be terminated at holder bottom, if encountered.
SB-121	SB-121 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate soil conditions at the perimeter of the footprint of the former 4-million cu ft gas holder on Holder Station A. Boring to be terminated at holder bottom, if encountered.
SB-122	SB-122 (depth)	Est. 50 feet max	Upper 5 feet, zone of worst-case impacts, and first clean or bottom	3	TCL VOCs, TCL SVOCs, TAL Metals, Free CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate soil conditions within (and near to the perimeter of, considering the presence of the building over) the footprint of the former 80 foot holder on Holder Station B. Boring to be terminated at holder bottom, if encountered.
Groundwater						
MW-101	MW-101 (date)	Est. 72 feet	~ 62-72 ft. (will be adjusted based on depth to groundwater)	1	TCL VOCs, TCL SVOCs, TAL Metals, Total CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate groundwater quality along the northern boundary of former gas holder site on Holder Station B, and determine groundwater flow direction.
MW-102	MW-102 (date)	Est. 72 feet	~ 62-72 ft. (will be adjusted based on depth to groundwater)	1	TCL VOCs, TCL SVOCs, TAL Metals, Total CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate groundwater quality along the northwestern corner of former gas holder site on Holder Station B, and determine groundwater flow direction.

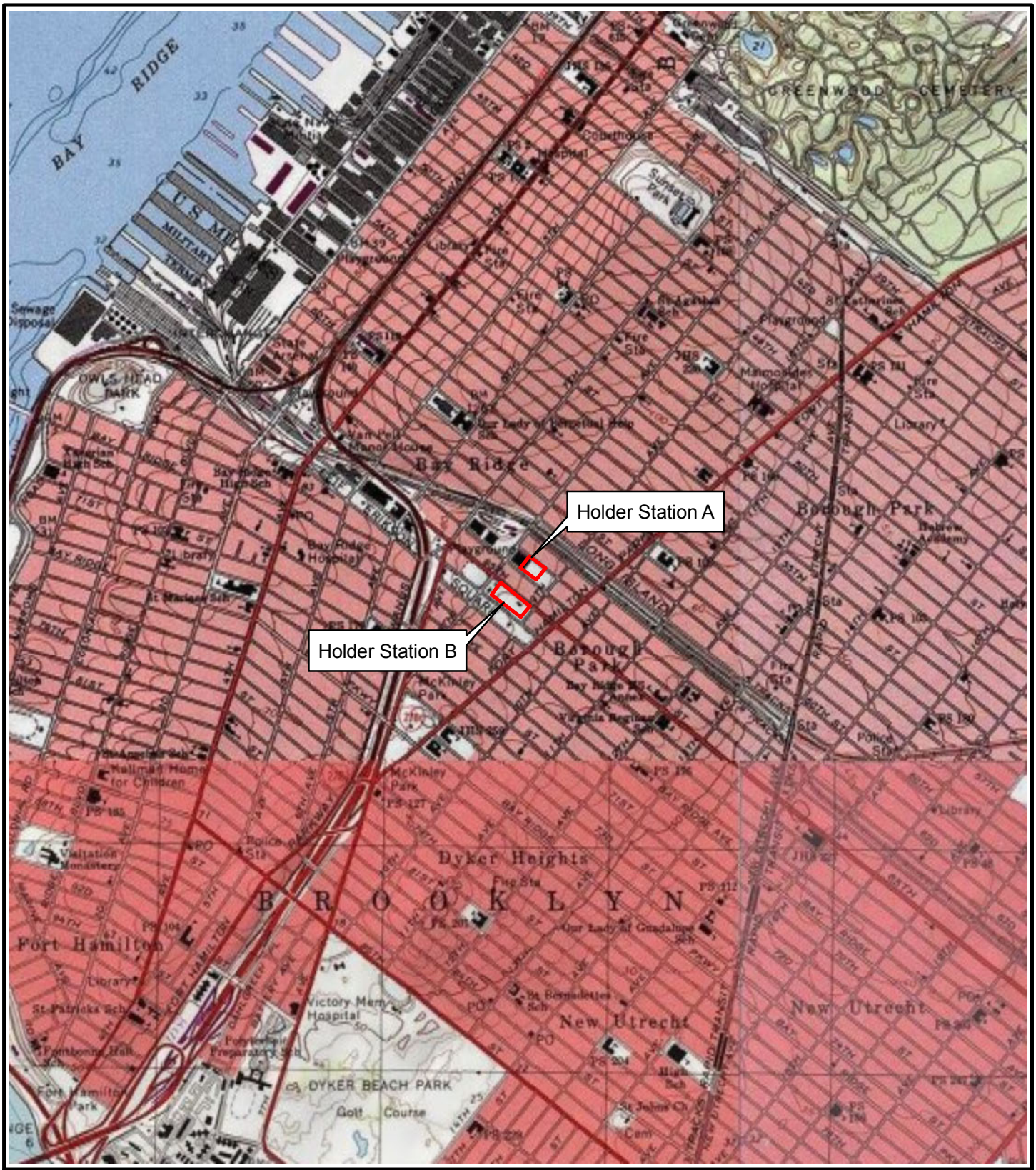
Table 3-1
Proposed Site Characterization Sample Locations, Rationale, and Analytical Sample Summary
Bay Ridge Former Holder Stations A and B Site, Brooklyn, New York

Location ID	Sample ID	Completion Depth*	Sample Depth (bgs)	No. of Samples	Analyses	Rationale
MW-105	MW-105 (date)	Est. 72 feet	~ 62-72 ft. (will be adjusted based on depth to groundwater)	1	TCL VOCs, TCL SVOCs, TAL Metals, Total CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate groundwater quality in between and northeast of footprints of the former 180 ft diam. gas holder and the 140 ft diam gas holder on Holder Station B, and determine groundwater flow direction.
MW-106	MW-106 (date)	Est. 72 feet	~ 62-72 ft. (will be adjusted based on depth to groundwater)	1	TCL VOCs, TCL SVOCs, TAL Metals, Total CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate groundwater quality in between and southwest of footprints of the former 180 ft diam. gas holder and the 140 ft diam gas holder on Holder Station B, and determine groundwater flow direction.
MW-111	MW-111 (date)	Est. 72 feet	~ 62-72 ft. (will be adjusted based on depth to groundwater)	1	TCL VOCs, TCL SVOCs, TAL Metals, Total CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate groundwater quality at the location of the former pump house and at the southeastern corner of the site on Holder Station B, and determine groundwater flow direction.
MW-112	MW-112 (date)	Est. 72 feet	~ 62-72 ft. (will be adjusted based on depth to groundwater)	1	TCL VOCs, TCL SVOCs, TAL Metals, Total CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate groundwater quality outside the footprint of the 100 ft diam former gas holder and at the southern corner of the site on Holder Station B, and determine groundwater flow direction.
MW-116	MW-116 (date)	Est. 72 feet	~ 62-72 ft. (will be adjusted based on depth to groundwater)	1	TCL VOCs, TCL SVOCs, TAL Metals, Total CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate groundwater quality outside of the former 4-million cu ft gas holder at northern corner of the former gasholder site footprint on Holder Station A, and determine groundwater flow direction.
MW-117	MW-117 (date)	Est. 72 feet	~ 62-72 ft. (will be adjusted based on depth to groundwater)	1	TCL VOCs, TCL SVOCs, TAL Metals, Total CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate groundwater quality outside of the former 4-million cu ft gas holder at western corner of the former gasholder site footprint on Holder Station A, and determine groundwater flow direction.
MW-118	MW-118 (date)	Est. 72 feet	~ 62-72 ft. (will be adjusted based on depth to groundwater)	1	TCL VOCs, TCL SVOCs, TAL Metals, Total CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate groundwater quality outside of the former 4-million cu ft gas holder at eastern corner of the former gasholder site footprint on Holder Station A, and determine groundwater flow direction.
MW-119	MW-119(date)	Est. 72 feet	~ 62-72 ft. (will be adjusted based on depth to groundwater)	1	TCL VOCs, TCL SVOCs, TAL Metals, Total CN, PCBs (as Aroclors), TCL Pesticides & Herbicides	Evaluate groundwater quality outside of the former 4-million cu ft gas holder at southern corner of the former gasholder site footprint on Holder Station A, and determine groundwater flow direction.

Notes

No. - number
ID - identification
NA - Not applicable
NYSDOH - New York State Department of Health
RCRA - Resource Conservation and Recovery Act
bgs - Below ground surface
SB - Soil Boring (Subsurface Soil)
MW - Monitoring Well (Groundwater Sample)
VOCs - volatile organic compounds
SVOCS - semi-volatile organic compounds
CN - cyanide
* - Depths may be adjusted shallower if 10 feet into clean achieved.

Figures



AECOM Environment
2 TECHNOLOGY PARK DRIVE
WESTFORD, MA 01886
(978) 589-3000
www.aecom.com

Site Location
National Grid
Bay Ridge Former Gas Holder Stations A & B Site
Bay Ridge, NY

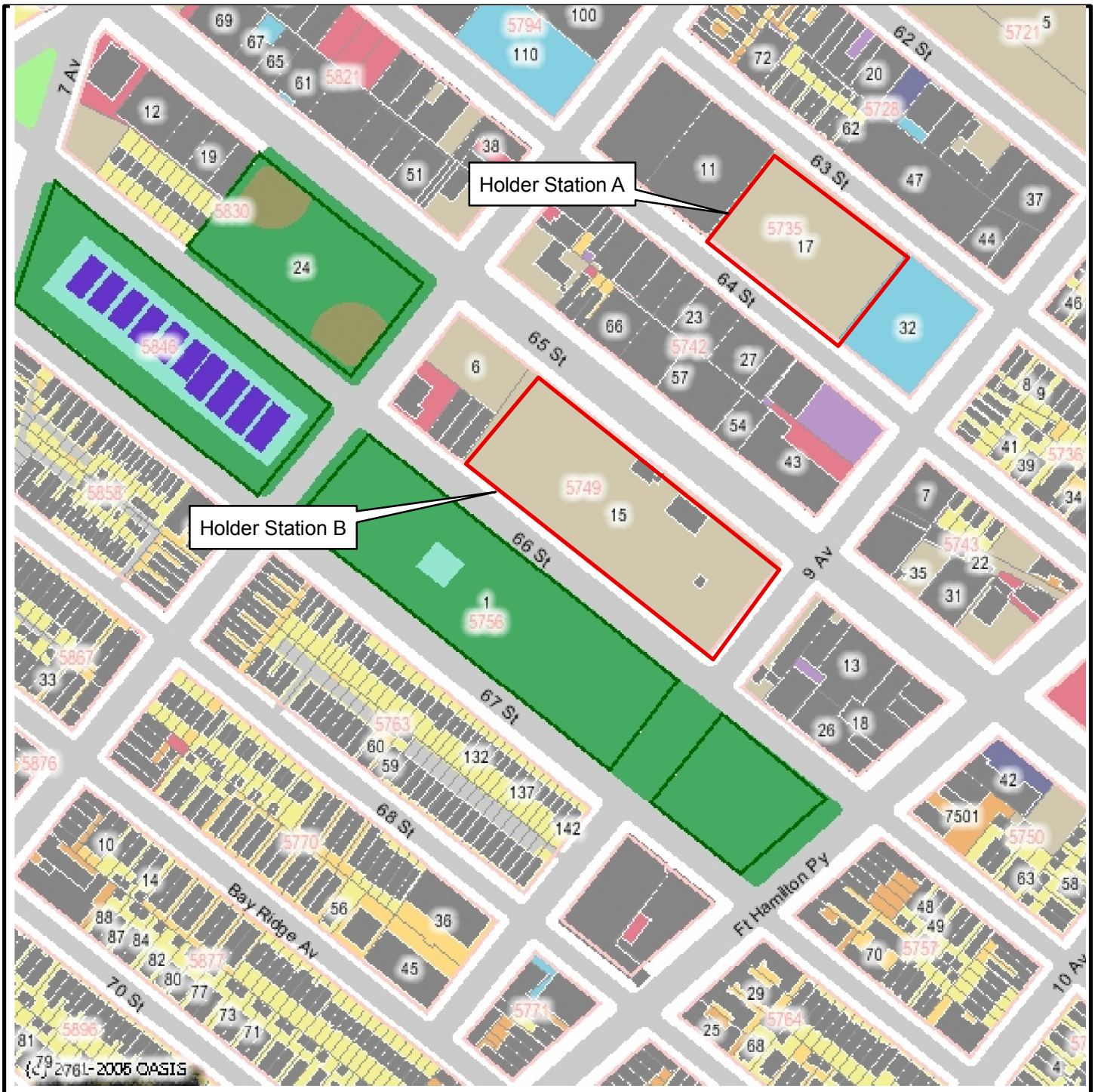
Data Source: USGS Topographic Quadrangle - Jersey City, 2009

Scale:	Date:	Project Number:
1"=2000'	January 2010	60137360.100

Figure Number:

1-1

J:\Rem_Eng\Project Files\P10 (1000 - 1999)\National Grid Bay Ridge\GIS\Projects\Figure_1-1_Site_Locus.mxd



Legend

- Block/Lot Boundaries
- Buildings
- Bay Ridge Former Gas Holder Stations A & B
- 1 & 2 Family Residential
- Multi-family Residential
- Mixed Use
- Commercial
- Institutions
- Transportation & Parking
- Industrial
- Vacant Lots
- Golf Courses
- Baseball/Soccer Fields
- Tennis/Basketball Courts & Tracks
- Cemeteries
- New York State Parks & Public Land
- Open Space (Dept. of City Planning)
- Community Gardens
- Playgrounds
- Green Spaces Along Streets

AECOM Environment
2 TECHNOLOGY PARK DRIVE
WESTFORD, MA 01886
(978) 589-3000
www.aecom.com

Parcel Locations
National Grid
Bay Ridge Former Gas Holder Stations A & B Site
Bay Ridge, NY

Scale:	Date:	Project Number:
	January 2010	60137360.100

Figure Number:

2-1

J:\Rem_Eng\Project Files\P10 (1000 - 1999)\National Grid Bay Ridge\GIS\Projects\Figure_2-1_Parcel_Map.mxd

AECOM Environment
2 TECHNOLOGY PARK DRIVE
WESTFORD, MA 01886
(978) 589-3000
www.aecom.com

Site Features
National Grid
Bay Ridge Former Gas Holder Stations A & B Site
Bay Ridge, NY

Data Source: NYSDOP Aerial Imagery 2006

Scale:	Date:	Project Number:
1"=150'	January 2010	60137360.100

Figure Number:

2-2

J:\Rem_Eng\Project Files\P10 (1000 - 1999)\National Grid Bay Ridge\GIS\Projects\Figure_2-2_Site_Features.mxd

AECOM Environment
2 TECHNOLOGY PARK DRIVE
WESTFORD, MA 01886
(978) 589-3000
www.aecom.com

Holder Station B Previous Site Characterization Locatons
National Grid
Bay Ridge Former Gas Holder Stations A & B Site
Bay Ridge, NY

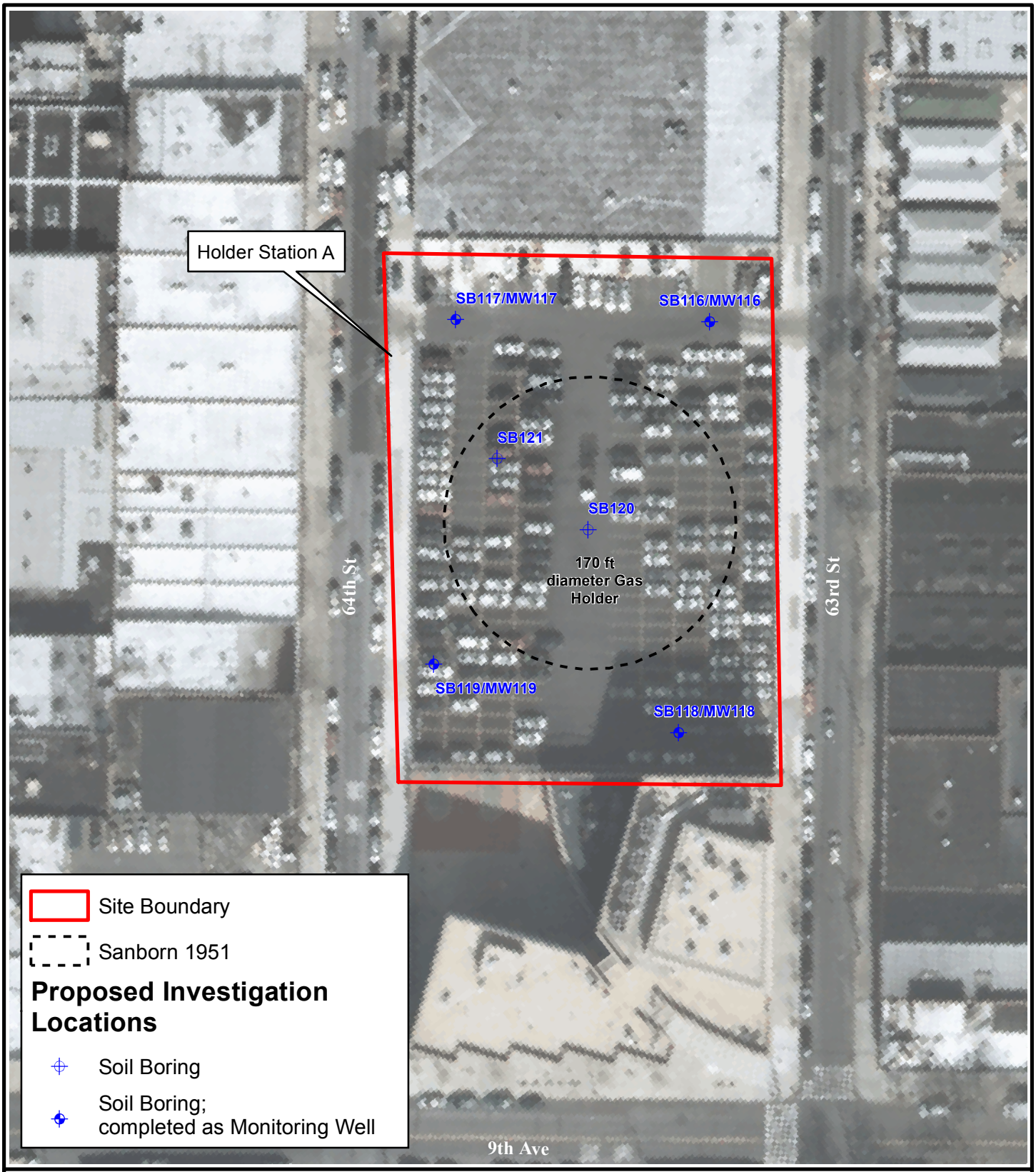
Data Source: NYSDOP Aerial Imagery 2006

Scale:	Date:	Project Number:
1"=75'	January 2010	60137360.100

Figure Number:

2-3

J:\Rem_Eng\Project Files\P10 (1000 - 1999)\National Grid Bay Ridge\GIS\Projects\Figure_2-3_Parcel_B_Previous_Site_Characterization_Locations.mxd



AECOM Environment
2 TECHNOLOGY PARK DRIVE
WESTFORD, MA 01886
(978) 589-3000
www.aecom.com

Holder Station A Proposed Site Characterization Locatons
National Grid
Bay Ridge Former Gas Holder Stations A & B Site
Bay Ridge, NY

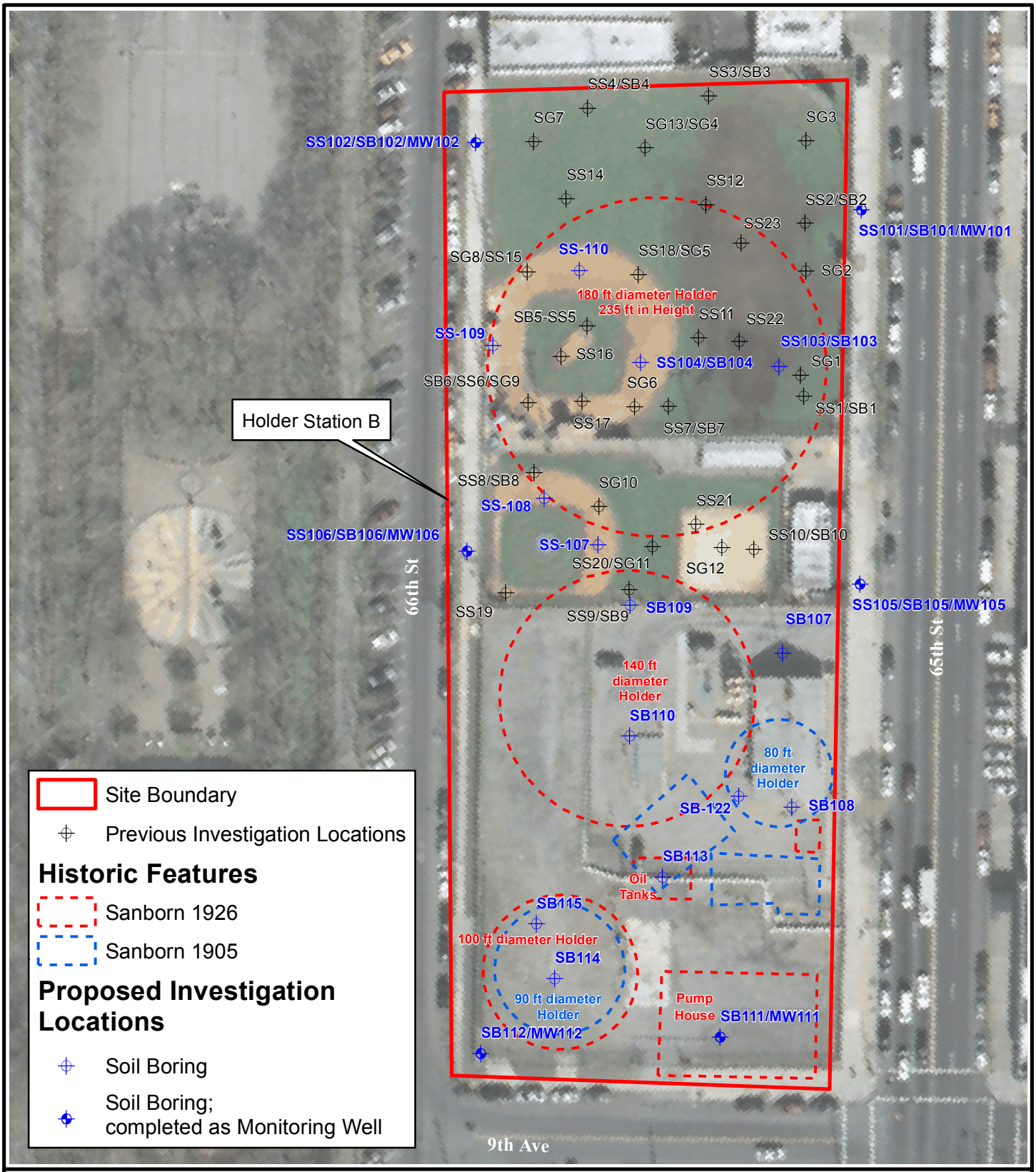
Data Source: NYSDOP Aerial Imagery 2006

Scale:	Date:	Project Number:
1"=75'	January 2010	60137360.100

Figure Number:

3-1

J:\Rem_Eng\Project Files\P10 (1000 - 1999)\National Grid Bay Ridge\GIS\Projects\Figure_3-1_Proposed_Site_Characterization_Locations_Station_A.mxd



AECOM Environment
2 TECHNOLOGY PARK DRIVE
WESTFORD, MA 01886
(978) 589-3000
www.aecom.com

Holder Station B Proposed Site Characterization Locatons
National Grid
Bay Ridge Former Gas Holder Stations A & B Site
Bay Ridge, NY

Data Source: NYSDOP Aerial Imagery 2006

Scale:	Date:	Project Number:
1"=75'	January 2010	60137360.100

Figure Number:

3-2

J:\Rem_Eng\Project Files\P10 (1000 - 1999)\National Grid Bay Ridge\GIS\Projects\Figure_3-2_Proposed_Site_Characterization_Locations_Station_B.mxd

Appendix A

Historic Sanborn Fire Insurance Maps and EDR Report

Sanborns

59TH ST.

5707

60TH ST.

40

5714

61ST ST.

31

8TH AV.

5721

9TH AV.

62ND ST.

39

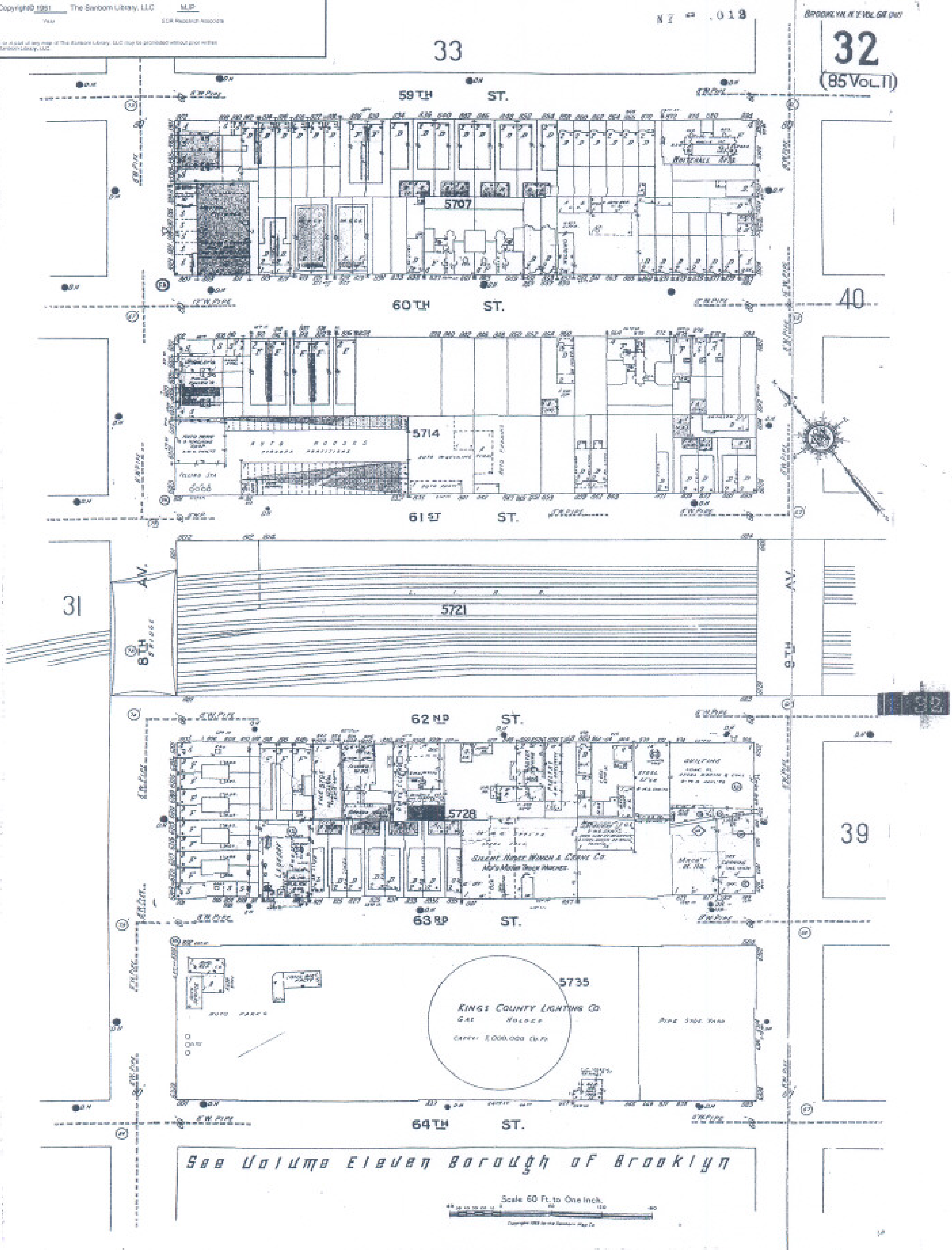
63RD ST.

5735

64TH ST.

See Volume Eleven Borough of Brooklyn

Scale 50 Ft. to One Inch.



33

59TH ST.

5707

60TH ST.

40

5714

61ST ST.

31

8TH AV.

5721

9TH AV.

62ND ST.

5728

39

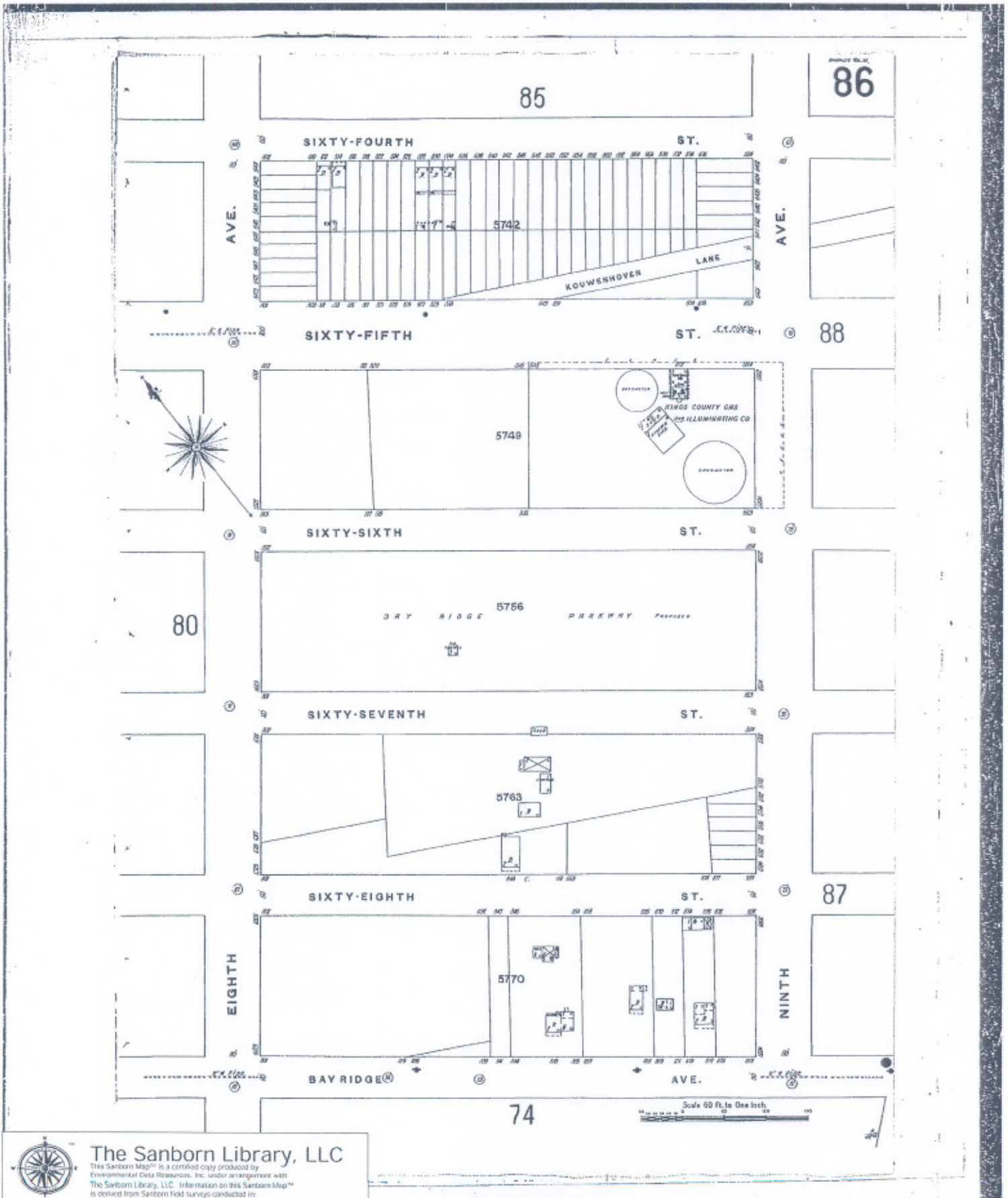
63RD ST.

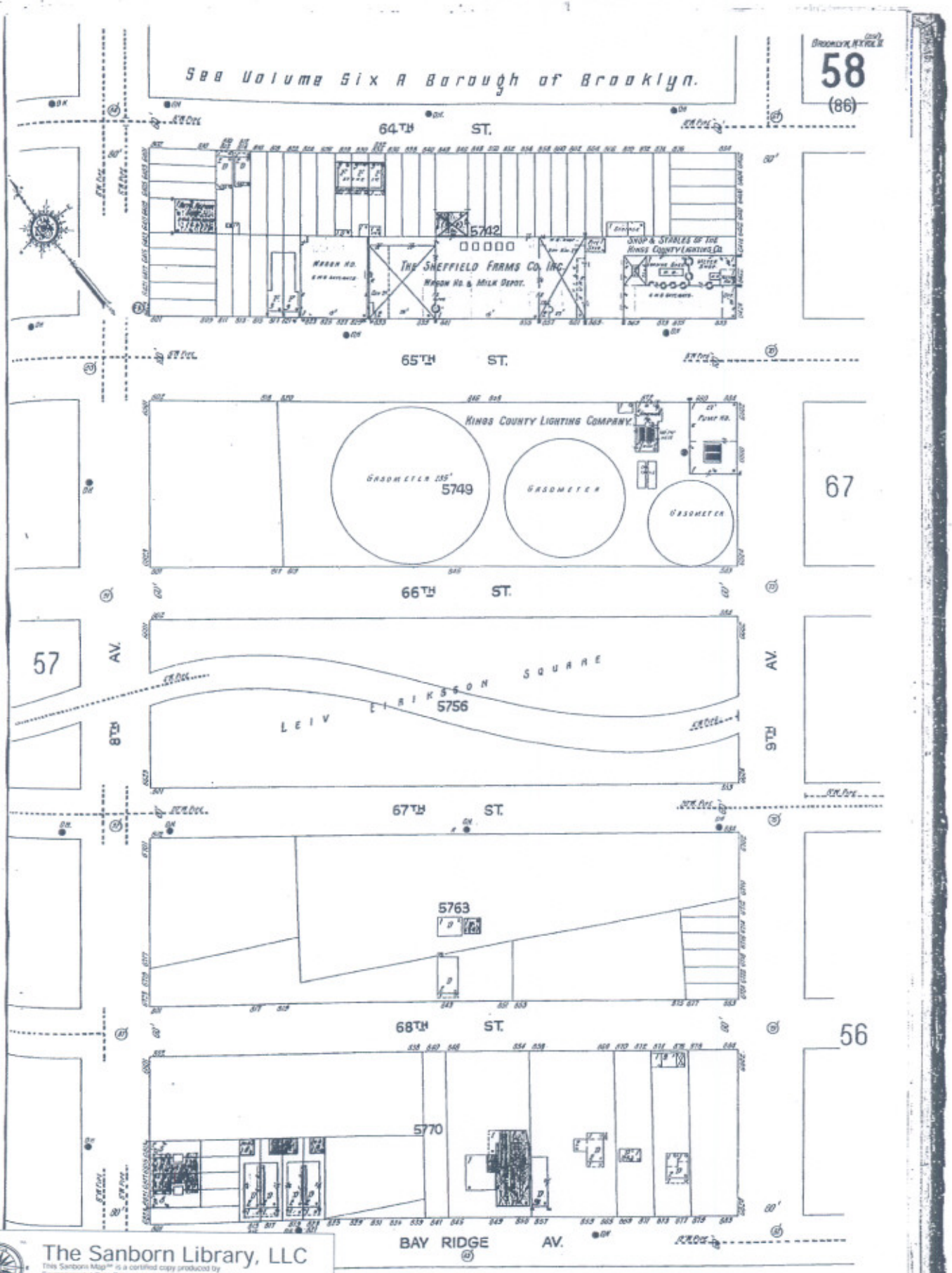
5735

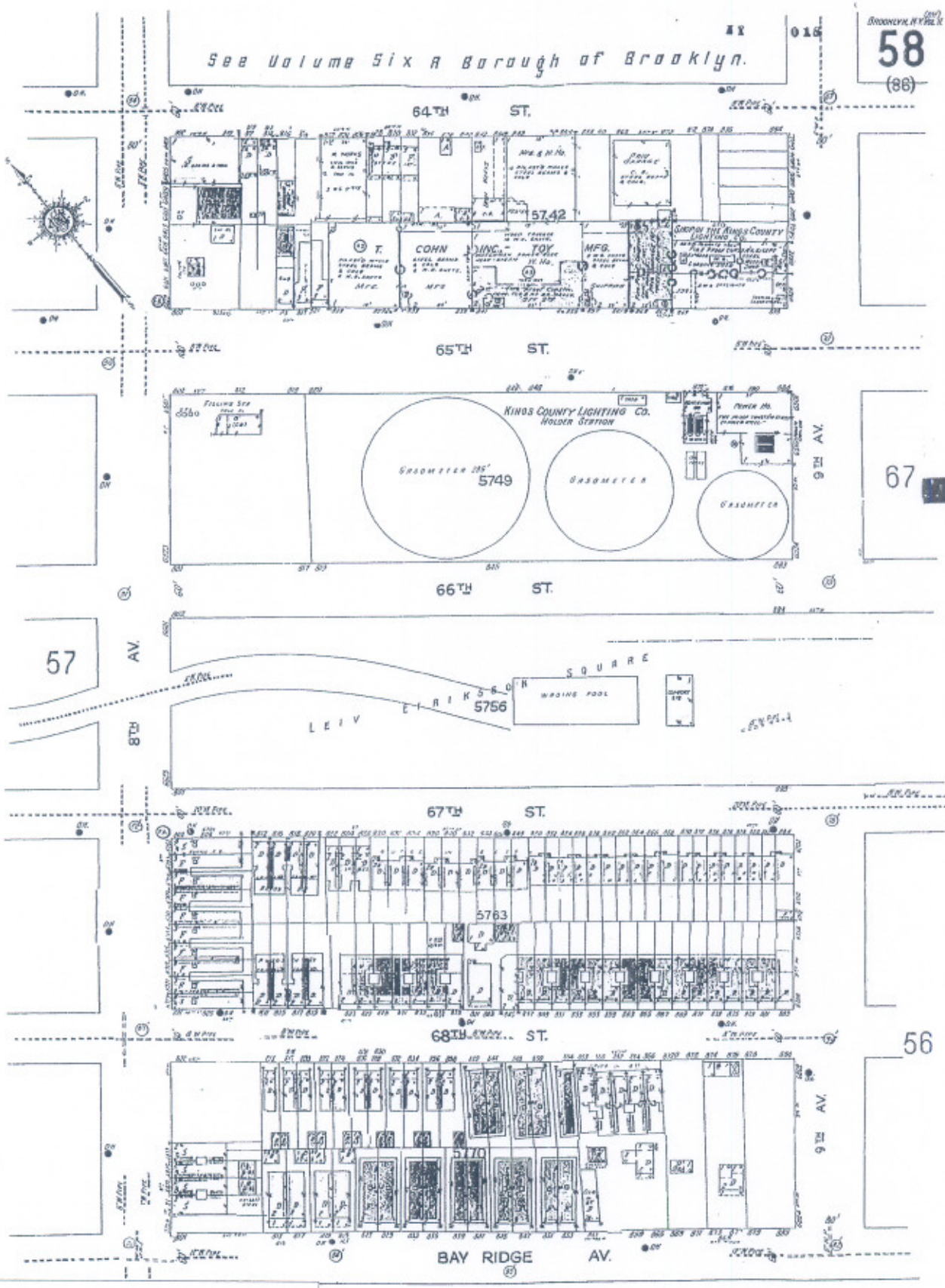
64TH ST.

See Volume Eleven Borough of Brooklyn

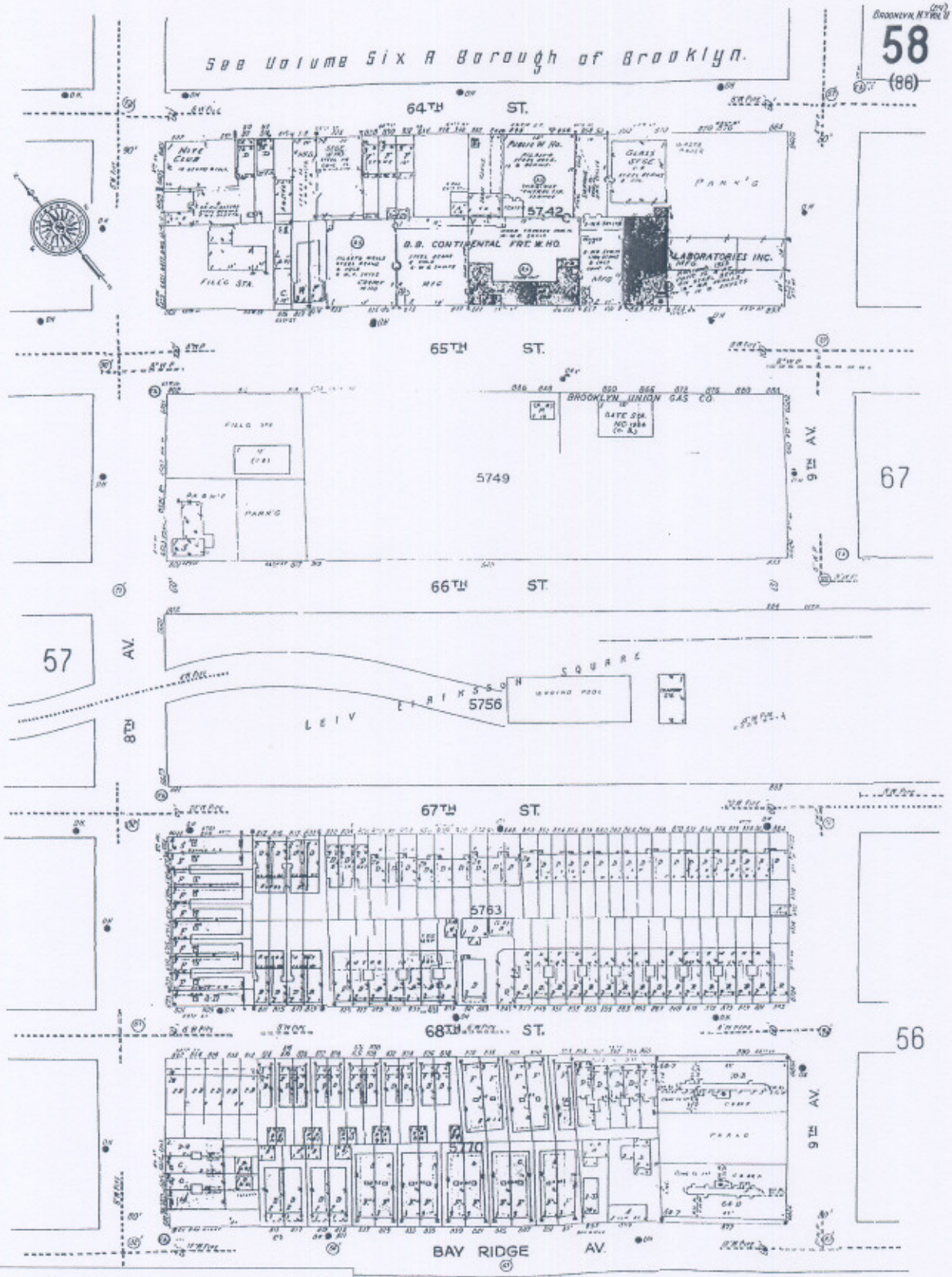
Scale 60 Ft. to One Inch.



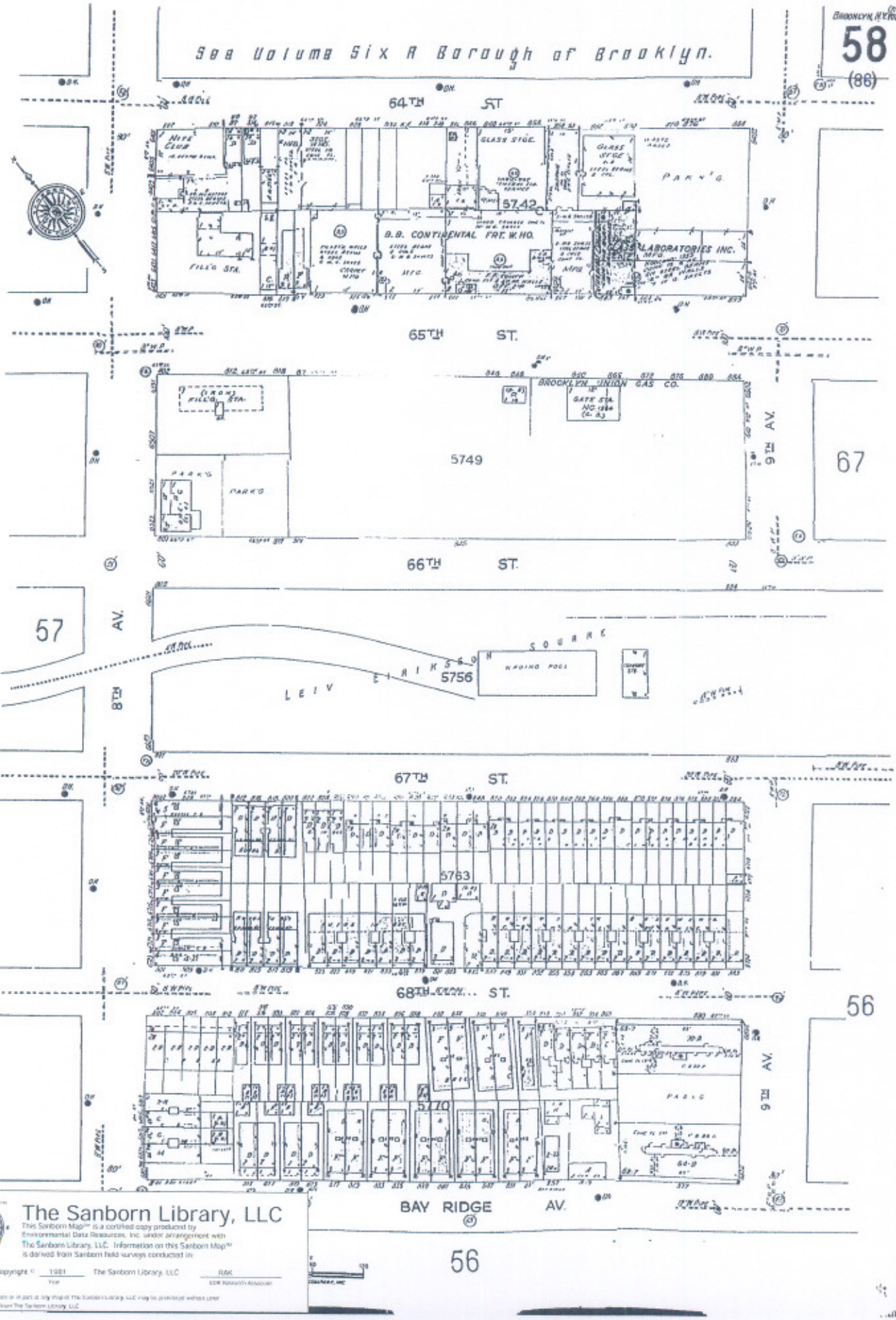


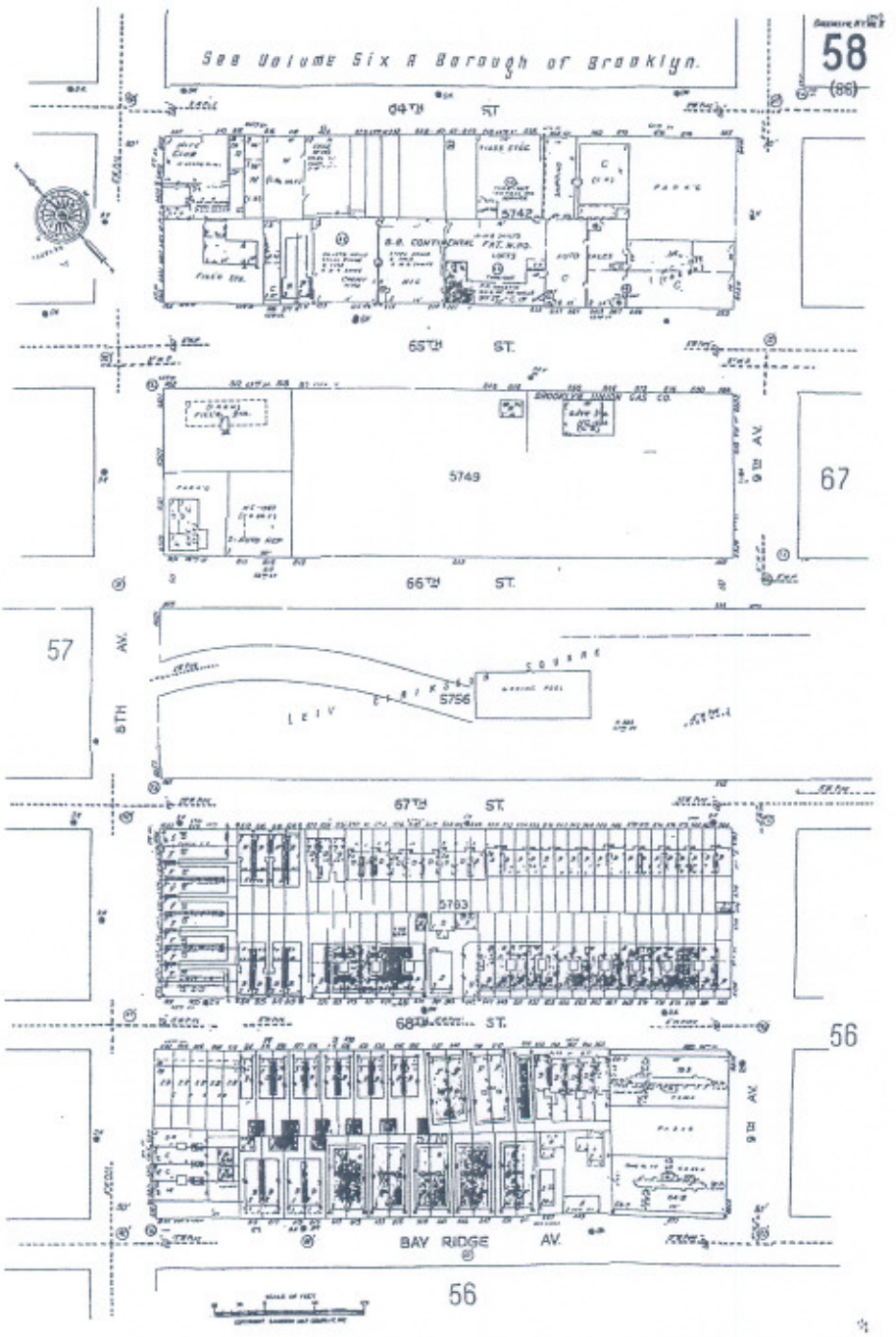


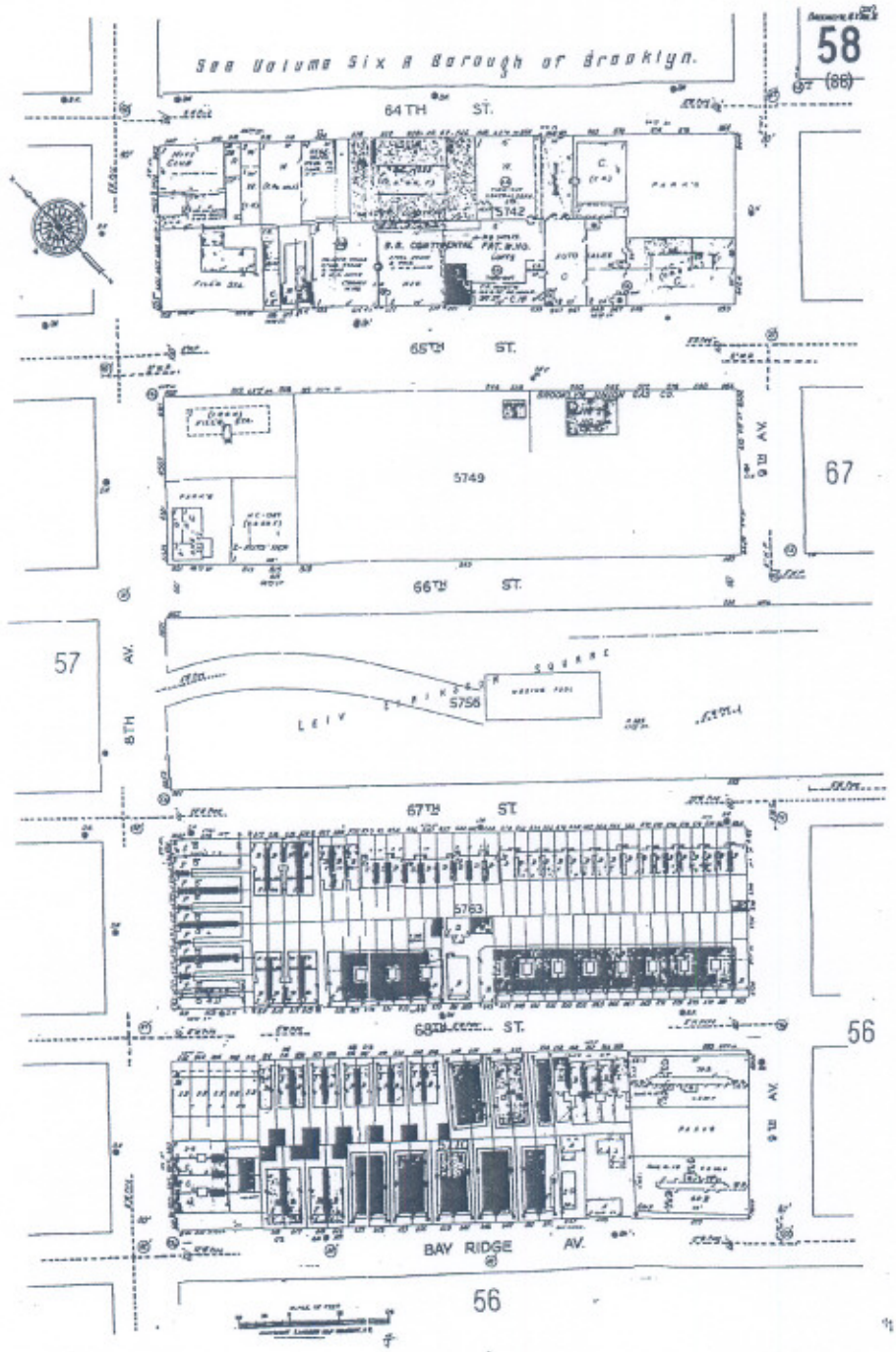
Scale 60 ft. to One Inch

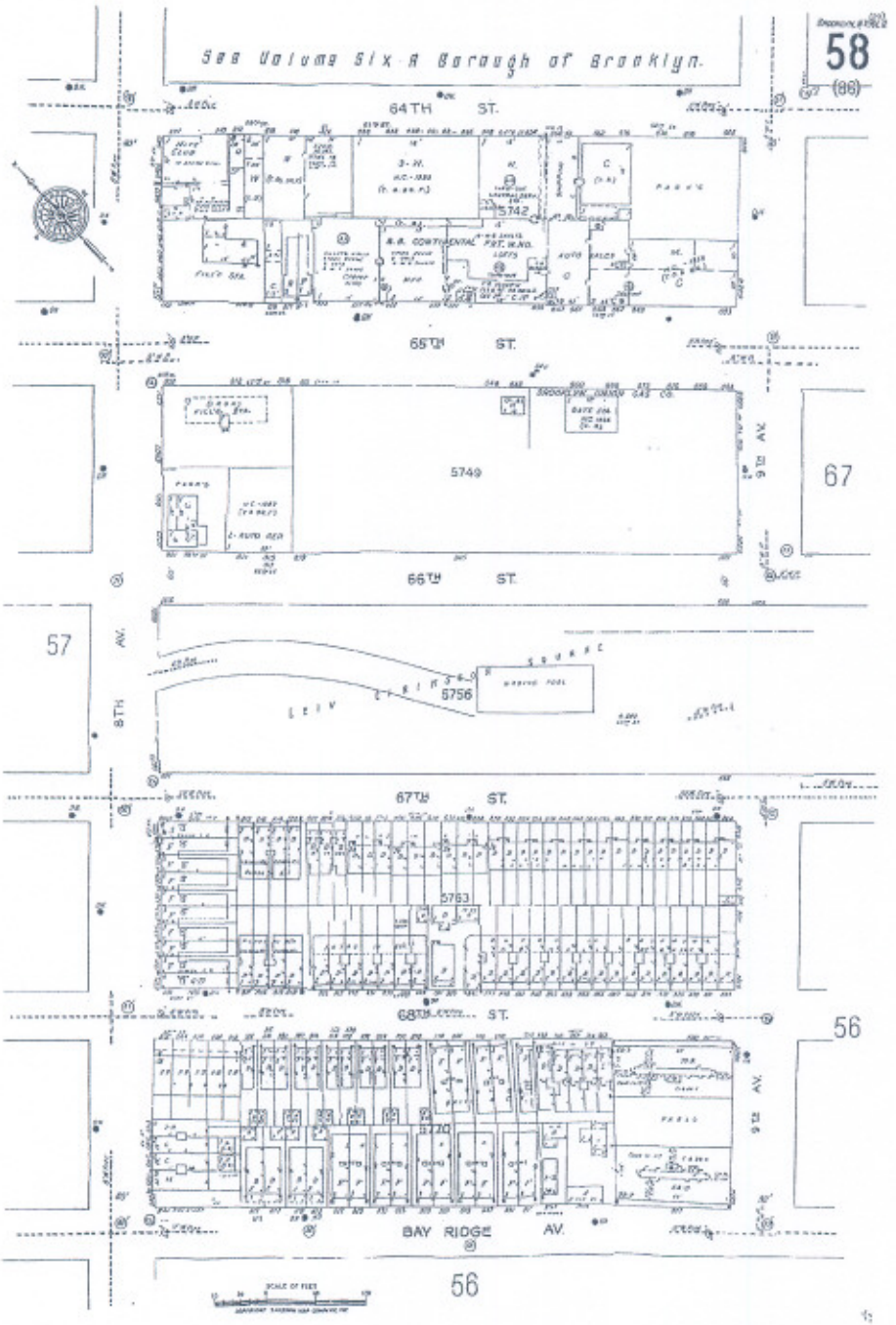


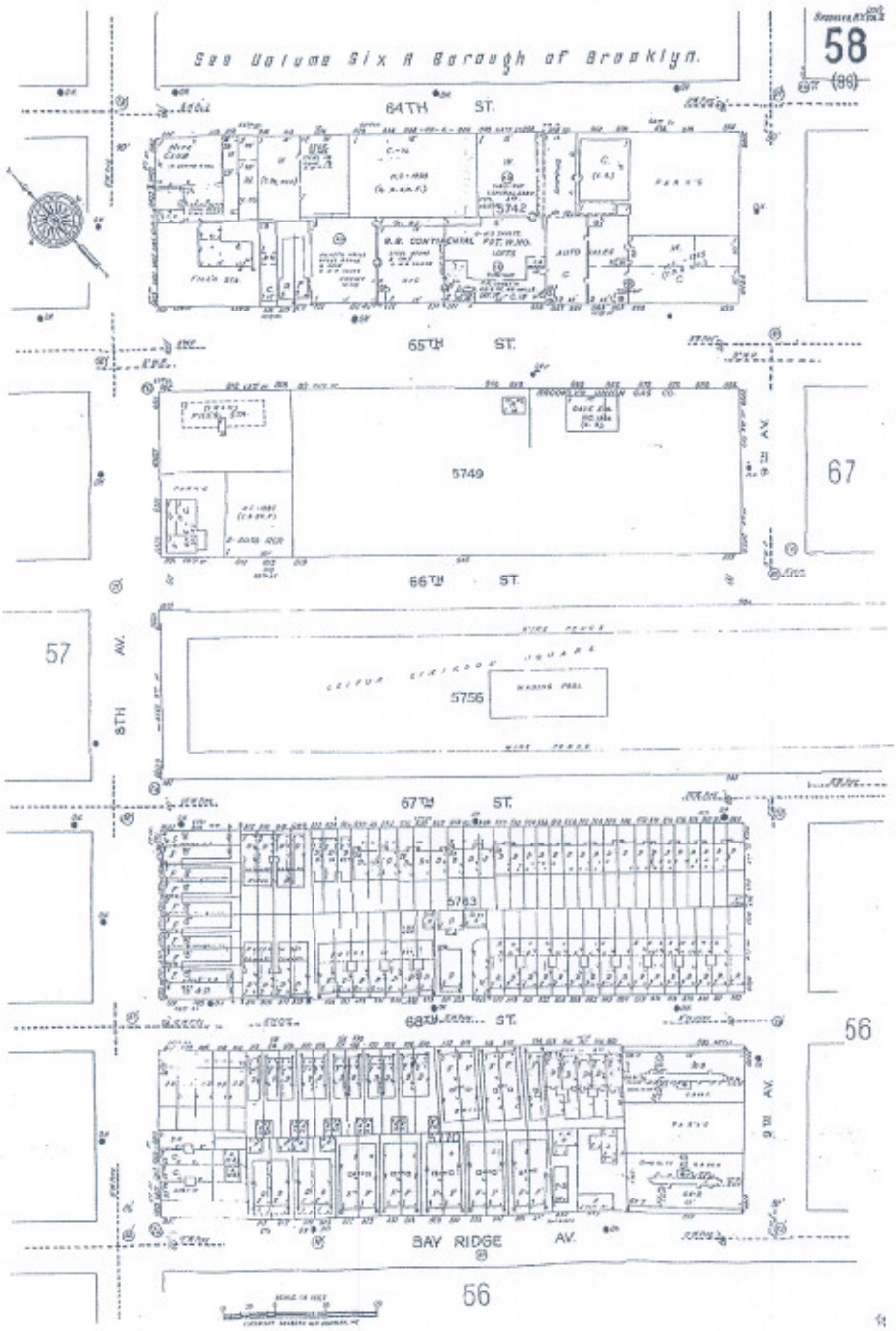
See Volume Six A Borough of Brooklyn.











EDR

(CD-ROM)

Appendix B

Previous Investigation Boring Logs

Environmental Site Assessment Report

Bay Ridge Little League Baseball Fields

Brooklyn
New York

Prepared for **KeySpan Corporation**
Brooklyn, New York

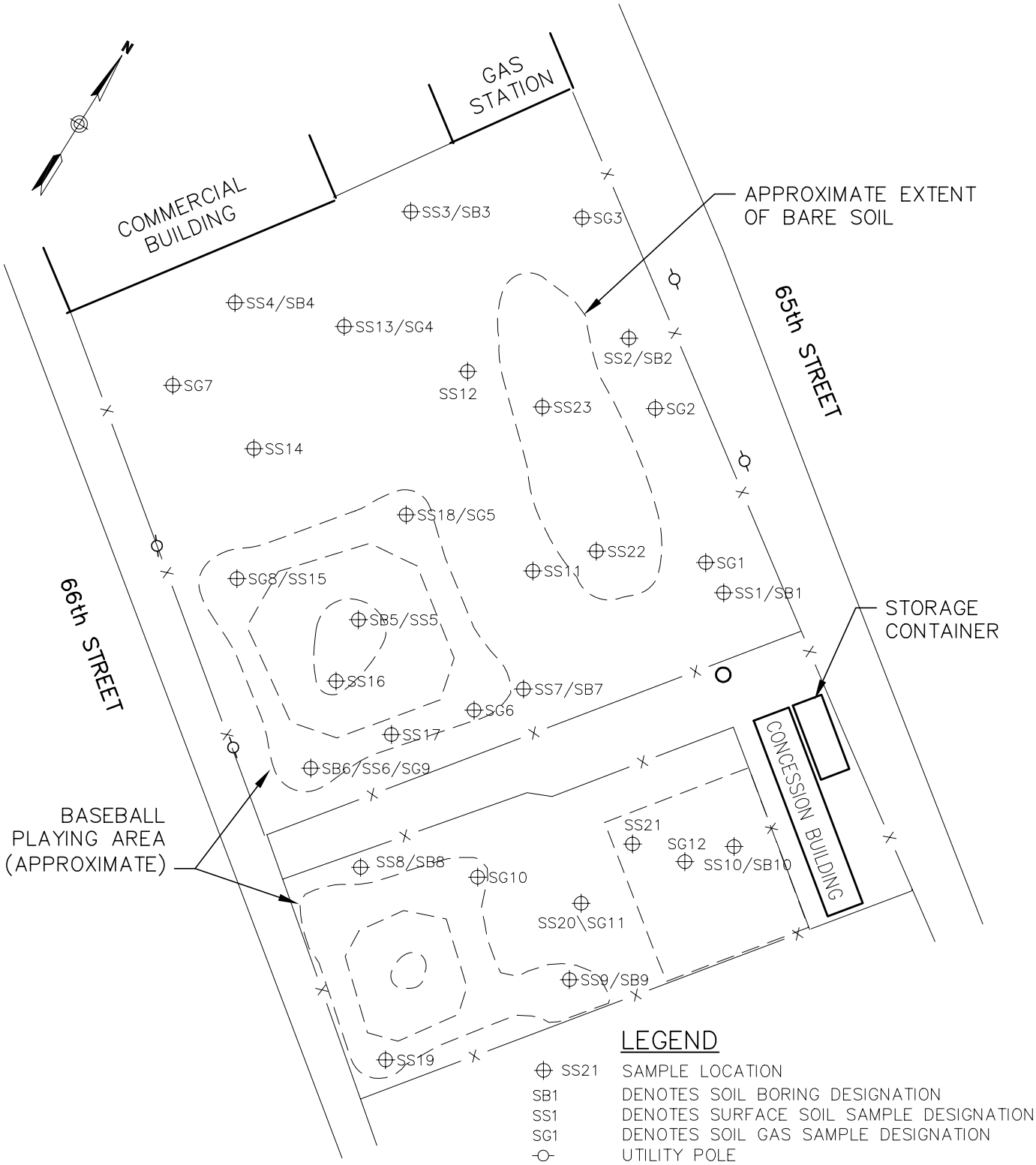
Prepared by ***VHB*/Vanasse Hangen Brustlin, Inc.**
Environmental Risk Management
Middletown, Connecticut

May 2000

DRAFT

Privileged and Confidential
Prepared at the Request of and to
Provide Technical Advise to Legal Counsel

\\ctmiddat\checkin\06392\cad\ev\planset\bayridge\bayridge-smp.dwg



60 0 60 120

SCALE IN FEET

Vanasse Hangen Brustlin, Inc.

Figure 1
Bay Ridge Former Gas Holder Site
Site Plan and
Sample Location Map
Brooklyn, New York

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-1

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 4¼-inch HSA with 2-in split spoons
Date: 3/13/2000
Weather: Partly sunny, 32°F

Boring Depth: 18.8 feet BGS
Depth to Ground Water: Perched water at 4.5 - 6 feet BGS
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 5.2' Light to medium brown sandy loam with debris (wire, rebar, glass, concrete, asphalt). Minor gravel including rounded quartz and angular marble. Saturated at 4.5' (perched water).
1 - 3		8	10	11	15	65%	0	
3 - 5		3	5	2	50/1"	38%	0	5.2 - 5.4' Black cinder-like material.
5 - 7		7	28	17	38	60%	0	5.4 - 5.6' Sandy gravel fill.
7 - 9		8	50/4"	x	x	25%	0	5.6 - 5.8' Concrete.
9 - 11		11	12	8	9	65%	0	5.8 - 7.2' Light brown sand with gravel (appears to be fill).
11 - 13		5	11	16	23	45%	0	7.2 - 9' No recovery. Cuttings are medium brown gravelly sand with cobbles (concrete fragments also entrained in cuttings but are probably from near 6').
13 - 15		8	9	10	9	65%	0	
15 - 17		4	6	8	8	65%	0	9 - 9.7' Reddish brown sandy silt with gravel; damp to wet.
17 - 19	SB-1B (17 - 18.5')	11	20	30	50/3"	47%	0	9.7 - 11.5' Variegated colors but primarily light brown, well-sorted fine-to medium-grained sand; primarily quartz with minor feldspar and mafic minerals. Trace subround gravel, amount increasing with depth.
								11.5 - 11.7' Light gray, well-sorted, fine-grained sand.
								11.7 - 18.8' Reddish brown sandy silt with trace subround to round gravel (till).

Key:

BGS = below ground surface
HSA = hollow-stem auger
NA = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-2

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 4¼-inch HSA with 2-in split spoons
Date: 3/13/2000
Weather: Mostly sunny, breezy, 35°F

Boring Depth: 20 feet BGS
Depth to Ground Water: Perched water at 5 - 14 feet BGS
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 1' Dark brown sandy loam with grael and trace brick and concrete fragments.
1 - 3		7	9	7	9	70%	0	1 - 4' Reddish brown sandy silt with trace gravel. Debris coming up augers including scrap metal and brick.
3 - 5		3	20	50/1"	x	45%	0	
5 - 7	SB-2A (5 - 9')	1	1	1	1	50%	0	4 - 7' Medium brown silty sand with trace gravel; wet below 5'; stained dark gray at approximately 6'.
7 - 9		0	0	1	1	40%	0	
9 - 11		0	0	0	1	60%	0	7 - 11' Grayish brown sandy silt; wet. Brick fragment at 9' BGS.
11 - 13	SB-2B (12 - 14')	0	0	0	0	50%	0	11 - 14' Grayish brown silty sand; wet. No PID readings, but emitted slight naphtha/fuel-like odor.
13 - 15		0	1	50\2"	x	100%	0	
16 - 18		21	28	34	36	90%	0	14.2 ' Split spoon refusal (concrete?). Augered through to 16'.
18 - 20		18	22	37	35	75%	0	16 - 20' (probable start depth below refusal at approx. 14.5 - 15') Very compact (dense) red sandy silt with trace gravel (basal till); dry (water is perched above this unit).

Key:

BGS = below ground surface
HSA = hollow-stem auger
NA = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-3

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 2¼-inch HSA with 2-in split spoons
Date: 3/13/2000
Weather: Sunny, breezy, 40°F

Boring Depth: 18.3 feet BGS
Depth to Ground Water: Not encountered
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 1' Dark brown sandy loam
1 - 3		2	4	18	12	65%	0	1 - 7' Orange-brown, well-sorted, fine-grained sand with silt; damp
3 - 5	SB-3A (3 - 7')	9	9	18	20	40%	0	7 - 9' Red sandy silt with gravel. Gravel is subround to subangular and of varied origin.
5 - 7		7	11	12	12	25%	0	
7 - 9		7	8	12	13	55%	0	9 - 12' Light brown to tan, well-sorted, fine-grained sand; dry.
9 - 11		4	8	11	9	75%	0	12 - 18.3' Dense, red sandy silt with gravel; similar to till encountered in SB-2, but not as dense and compacted. Layer of crushed limestone (natural) at 13.4 - 13.6'. Otherwise gravel is subround to angular and of varied origin (quartz, mafics, sandstone, etc.).
11 - 13		10	14	16	16	75%	0	
13 - 15		14	20	22	25	70%	0	
15 - 17		15	20	22	18	70%	0	18.3 ' Refusal (probable gravel/cobble layer).
17 - 19		16	21	50/4"	x	54%	0	

Key:

BGS = below ground surface
HSA = hollow-stem auger
NA = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-4

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 2¼-inch HSA with 2-in split spoons
Date: 3/14/2000
Weather: Partly to mostly sunny, breezy, 40°F

Boring Depth: 19 feet BGS
Depth to Ground Water: Not encountered
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 1' Dark brown sandy loam.
1 - 3		3	3	7	7	60%	0	1 - 3' Reddish brown sandy silt with trace gravel and debris (brick fragments).
3 - 5		10	9	11	8	80%	0	3 - 7' Light brown to tan, well-sorted, fine-grained sand; mostly quartz but some mica and a trace of mafic minerals.
5 - 7	SB-4A (5 - 7')	7	5	5	6	80%	0	
7 - 9		10	6	5	6	45%	0	7 - 10' Same as 3 - 7' BGS but reddish brown color.
9 - 11		3	7	5	9	90%	0	10 - 11.4' Same as 3 - 7' BGS.
11 - 13		5	8	8	8	75%	0	11.4 - 11.8' Dense, reddish brown, sandy silt.
13 - 15		9	9	9	8	80%	0	11.8 - 19' Same as 3 - 7' BGS.
15 - 17		7	9	9	13	80%	0	
17 - 19		11	12	9	10	90%	0	

Key:

BGS = below ground surface
HSA = hollow-stem auger
NA = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-5

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 2¼-inch HSA with 2-in split spoons
Date: 3/14/2000
Weather: Partly to mostly sunny, 45°F

Boring Depth: 19 feet BGS
Depth to Ground Water: Perched water approx. 4.5 - 6' BGS
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 0.5' Orange-brown sand (baseball infield sand).
1 - 3		3	3	8	13	65%	0	0.5 - 1.2' Dark brown sandy loam with gravel and a trace of debris (brick fragments).
3 - 5		7	7	4	5	60%	0	1.2 - 1.5' Orange-brown sand (baseball infield sand).
5 - 7	SB-5A (5.7 - 6')	4	5	50/2"	x	83%	0	1.5 - 3' Medium brown sandy silt with brick fragments.
7 - 9		14	10	12	6	50%	0	3 - 4.5' Reddish brown sandy silt with gravel.
9 - 11		2	3	4	5	50%	0	4.5 - 5.7' Medium brown sand with silt and debris (brick and cinder-like material); wet.
11 - 13		11	11	13	6	60%	0	
13 - 15		9	20	50/3"	x	38%	0	5.7 - 6' .
15 - 17		11	18	17	16	75%	0	6 - 6.5' (approximate) Concrete. Auger through to 7' BGS to resume sampling.
17 - 19		17	20	21	23	80%	0	7 - 8' Multicolored (but primarily light brown) gravelly sand with concrete fragments (concrete from above?).
								8 - 9' No recovery.
								9 - 11.5' Multicolored (but primarily light brown) gravelly sand (appears native).
								11.5 - 14.3' Dense, reddish brown, sandy silt with gravel. Gravel is subround to subangular and of varied origin (quartz, sandstone, mafics).
								14.3' Split spoon refusal on probably gravel/cobble layer. Auger through to 15' to resume sampling.
								15 - 19' Same as 11.5 - 14.3' BGS.

Key:

BGS = below ground surface
HSA = hollow-stem auger
NA = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-6

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 2¼-inch HSA with 2-in split spoons
Date: 3/14/2000
Weather: Sunny, breezy, 50°F

Boring Depth: 19 feet BGS
Depth to Ground Water: Not encountered
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
1 - 3		7	9	12	20	85%	0	0 - 1.5' Orange brown sand (baseball infield sand).
3 - 5	SB-6A (4 - 4.5')	16	16	15	7	65%	90	1.5 - 2' Reddish brown sandy silt with gravel.
5 - 7		50/4"	x	x	x	0%	N/A	2 - 2.7' Medium brown gravelly sand.
7 - 9		38	33	20	23	10%	0	2.7 - 3' No recovery.
9 - 11		11	10	10	13	50%	0	3 - 4' Orange to reddish brown, well-sorted, fine-grained sand. Concrete at 4'.
11 - 13	SB-6B (11-11.5' + 13-13.7' + 15-15.5')	9	11	11	9	25%	0	4 - 4.5' Gravelly sand, stained black, with very strong naphtha odor; maximum PID reading 90 ppm; maximum HCN = 0.8 ppm in headspace in jar; H_2S = 0.
13 - 15		6	9	8	9	35%	0	
15 - 17		6	4	4	5	65%	0	4.5 - 7' No recovery. Split spoon refusal at 5.4' on concrete. Auger through about 6 inches of concrete underlain by rubble to 7' BGS.
17 - 19		10	9	8	6	70%	0	
								7 - 9' No recovery - pushed concrete or a cobble from above.
								9 - 10' Multicolored gravelly sand; does not appear native (looks disturbed).
								10 - 11' No recovery.
								11 - 11.5' Same as 9 - 10' BGS.
								11.5 - 13' No recovery.
								13 - 13.7' Same as 9 - 10' BGS.
								13.7 - 15' No recovery.
								15 - 19' Multicolored (but primarily brown) sand with trace gravel. Appears undisturbed.

Key:

BGS = below ground surface
H_2S = hydrogen sulfide
HCN = hydrogen cyanide
HSA = hollow-stem auger
N/A = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-7

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 2¼-inch HSA with 2-in split spoons
Date: 3/14/2000
Weather: Sunny, windy, 50°F

Boring Depth: 20 feet BGS
Depth to Ground Water: Not encountered
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 1.5' Dark brown sandy loam.
1 - 3		5	5	4	12	70%	0	1.5 - 3.5' Medium to reddish brown sandy silt with gravel and trace debris (brick and cinder-like material). Crushed stone at 3.5' BGS.
3 - 5		10	28	48	50/1"	38%	0	
6 - 8		32	17	14	12	0%	N/A	3.5 - 4.6' No recovery.
8 - 10		4	23	19	15	65%	0	4.6 - 5.2' (approximate) Concrete. Auger through to 6' BGS.
10 - 12	SB-7B (10-12')	12	12	13	14	70%	0	6 - 8' No recovery. Concrete fragment wedged in split spoon shoe.
12 - 14		14	15	14	11	80%	0	8 - 8.5' Multicolored (primarily tan to reddish brown) sand, fine- to coarse-grained.
14 - 16		6	6	9	16	75%	0	8.5 - 8.8' Weathered concrete.
16 - 18		14	20	10	9	90%	0	8.8 - 14' Well-compacted, reddish brown, sandy silt (till).
18 - 20		4	8	12	12	85%	0	14 - 19' Multicolored gravelly sand; sand is fine- to coarse-grained; gravel is subround mafics and quartz and subangular red sandstone.
								19 - 20' Light brown, well-sorted, fine-grained sand.

Key:

BGS = below ground surface
HSA = hollow-stem auger
N/A = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-8

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 2¼-inch HSA with 2-in split spoons
Date: 3/15/2000
Weather: Partly sunny, 40°F

Boring Depth: 19 feet BGS
Depth to Ground Water: Perched water 5 - 7' BGS
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 1.5' Orange brown sand (baseball infield sand).
1 - 3		2	7	13	11	80%	0	1.5 - 4' Medium brown silty sand with debris (brick, cinder-like material, glass).
3 - 5	SB-8A (4 - 6')	14	10	11	10	60%	0	4 - 7' Light brown, well-sorted, fine-grained sand; some brick and glass to 4.5' BGS; wet below 5' BGS; concrete on split spoon shoe at 6.5' BGS.
5 - 7		3	4	34	50/1"	50%	0	
7 - 9		15	14	14	30	20%	0	7 - 7.5' Crushed stone (poor recovery).
9 - 11		14	13	34	30	30%	0	7.5 - 9' No recovery.
11 - 13		11	10	9	13	30%	0	9 - 9.6' Multicolored (but primarily reddish brown) fine- to coarse-grained sand with trace sandstone gravel.
13 - 15		7	22	22	25	40%	0	
15 - 17	SB-8B (15-16' + 17-18')	26	21	22	21	60%	0	9.6 - 11' No recovery.
17 - 19		18	17	21	18	90%	0	11 - 11.6' Same as 9 - 9.6' BGS.
								11.6 - 13' No recovery.
								13 - 13.8' Primarily gray, with some white and yellow, silt to coarse sand - saprolite consisting of quartz with high mica content and some mafic minerals.
								13.8 - 15' No recovery.
								15 - 16.2' Reddish brown, well-sorted silt with very fine-grained sand; wet.
								16.2 - 17' No recovery.
								17 - 19' Well-compacted, reddish brown, sandy silt with gravel (till).

Key:

BGS = below ground surface
HSA = hollow-stem auger
N/A = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-9

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 2¼-inch HSA with 2-in split spoons
Date: 3/15/2000
Weather: Partly sunny, 55°F

Boring Depth: 19 feet BGS
Depth to Ground Water: Perched water approx. 7 - 16' BGS
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 1' Orange brown sand (baseball infield sand).
1 - 3		8	12	50/1"	x	100%	0	1 - 2' Dark brown sandy loam with debris (brick, cinder-like material). Split spoon refusal at 2' BGS; auger through about 6 inches of concrete/rubble.
3 - 5	SB-9A (3-5')	4	10	10	13	65%	59	
5 - 7		6	7	6	8	20%	0	2 - 3' No recovery.
7 - 9		7	10	10	6	15%	0	3 - 5' Dark brown silty sand with gravel and debris (brick, cinder-like material [black, hard, brittle, with reflective "grains"]). Maximum PID reading 59 ppm and maximum HCN reading 0.3 ppm from split spoon (HCN = 4.3 ppm in sample jar headspace), H_2S = 0 ppm.
9 - 11		3	3	5	3	40%	0	
11 - 13		1	2	3	4	0%	N/A	
13 - 15		50/2"	x	x	x	0%	N/A	5 - 5.4' Brick and concrete; wet.
15 - 17	SB-9B (15-16')	10	14	11	9	80%	0	5.4 - 7' No recovery.
17 - 19		6	7	8	12	80%	0	7 - 7.3' Brick and concrete; wet.
								7.3 - 9' No recovery.
								9 - 9.8' Reddish brown fine- to coarse-grained sand; wet.
								9.8 - 11' No recovery.
								11 - 13' No recovery; split spoon is wet.
								13'± Refusal on concrete; auger through to 15' BGS.
								15 - 16' Gray gravelly sand with brick; wet.
								16 - 19' Well-compacted, reddish brown, sandy silt with gravel (till); dry.

Key:

BGS = below ground surface
HSA = hollow-stem auger
N/A = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-10

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 2¼-inch HSA with 2-in split spoons
Date: 3/15/2000
Weather: Sunny, light wind, 55°F

Boring Depth: 19 feet BGS
Depth to Ground Water: Not encountered
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 1.5' Orange brown sand (baseball infield sand).
1 - 3		8	8	7	7	80%	0	1.5 - 3.5' Medium brown silty sand with gravel and trace debris (brick, cinder-like material).
3 - 5		7	10	6	2	55%	0	
5 - 7	SB-10A (5-6.3')	10	10	10	8	65%	0	3.5 - 4' Orange-brown, well-sorted, fine-grained sand.
7 - 9		7	10	10	6	85%	0	4 - 5.1' Orange-brown sandy silt with gravel.
9 - 11		7	9	11	11	75%	0	5.1 - 6.3' Orange- to reddish brown sandy silt with gravel; trace cinder-like debris.
11 - 13		7	4	5	6	80%	0	6.3 - 7' No recovery.
13 - 15		9	7	11	10	55%	0	7 - 7.2' Reddish brown sandy silt.
15 - 17		15	13	11	13	60%	0	7.2 - 8.5' Tan, well-sorted, fine-grained sand.
17 - 19		15	12	11	12	65%	0	8.5 - 11' Reddish brown silt.
								11 - 19' Multicolored fine- to coarse-grained sand of varied origin; becomes increasingly gravelly below 15' BGS.

Key:

BGS = below ground surface
HSA = hollow-stem auger
N/A = not applicable
PID = photo-ionization detector
PPM = parts per million

Appendix C

Field Sampling and Analytical Plan (FSAP)

AECOM Environment

Submitted to:
National Grid
Brooklyn, New York

Submitted by:
AECOM
Manhattan, NY
60137360
January 2010

Field Sampling and Analytical Plan

Bay Ridge Former Holder Stations A and B Site
Brooklyn, New York
NYSDEC Site No.: 224058
Order on Consent Index #: A2-0552-0606

AECOM Environment

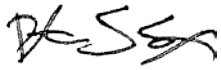
Submitted to:
National Grid
Brooklyn, New York

Submitted by:
AECOM
Manhattan, NY
60137360
January 2010

Field Sampling and Analytical Plan

Bay Ridge Former Holder Stations A and B Site
Brooklyn, New York
NYSDEC Site No.: 224058
Order on Consent Index #: A2-0552-0606

Prepared By: Scott G. Olson, PG, Project Geologist



Reviewed By: Peter S. Cox, PG, Senior Geologist

Revised By: Nelson J. Abrams, PG, Senior Project Manager

Contents

1.0 Introduction

This Field Sampling and Analytical Plan (FSAP) presents the methods and procedures to be used for performing the Site Characterization Investigation at the Bay Ridge Former Holder Stations A and B Site located in Brooklyn, New York. This site is comprised of two parcels both located between 8th and 9th Avenues, with Holder Station A between 63rd and 64th Streets, and Holder Station B between 65th and 66th Streets.

1.1 Overview of field activities

The following field activities will be performed as part of the Site Characterization:

- Surface Soil Sampling – Surface soil samples will be collected from approximately 10 locations, of which 6 are within planned soil boring locations.
- Soil Boring Installation – A total of 22 soil borings are planned (including 10 boring locations converted for monitoring well installation) with approximately 63 subsurface soil samples collected.
- Monitoring Well Installation and Groundwater Sampling – Approximately 10 monitoring wells will be installed, screened from approximately 60 to 70 feet bgs). Groundwater samples will be collected from the 10 new wells.
- Surveying – The locations and elevations of the Site Characterization investigation locations and important site features will be surveyed.

2.0 General field guidelines

2.1 Site hazards

Potential on-site surface hazards, such as sharp objects, overhead power lines, energized areas, vehicular traffic, and building hazards will be identified prior to initiation of the fieldwork. Generally, potential hazards at the site will be identified during a site reconnaissance by the project team on the first day of the investigation field activities. Additional safety measures to be undertaken for the work performed during the investigation are addressed in the Site-Specific Health and Safety Plan (HASP).

2.2 Underground utilities

Underground utilities, including electric lines, gas lines, storm and sanitary sewers, and communication lines will be identified prior to initiation of drilling and other subsurface work. Underground utility location will be accomplished as follows:

- All Site Characterization investigation locations will be flagged or marked out with white paint.
- Dig Safely of New York (800) 272-4480 will be contacted to initiate the locating activities. New York State law requires that Dig Safely of New York be notified at least two working days, and not more than 10 working days, before subsurface work is conducted.
- Companies with subsurface utilities present will locate and mark out all subsurface utility lines.
- Geophysical methods will be used to further evaluate the potential presence of underground utilities in the area of each proposed investigation location.
- Subsurface investigation locations will be hand cleared to five feet below ground surface (bgs) prior to advancing borings with mechanized equipment.

2.3 Field log books

All field activities will be carefully documented in field log books. Entries will be of sufficient detail that a complete daily record of significant events, observations, and measurements is developed. The field log book will provide a legal record of the activities conducted at the site. Accordingly:

- Field books will be assigned a unique identification number.
- Field books will be bound with consecutively numbered pages.
- Field books will be controlled by the Site Manager while fieldwork is in progress.
- Entries will be written with waterproof ink.
- Entries will be signed and dated at the conclusion of each day of fieldwork.
- Erroneous entries made while fieldwork is in progress will be corrected by the field person that made the entries. Corrections will be made by drawing a line through the error, entering the correct information, and initialing the correction.
- Corrections necessary after departing the field will be made by the person who entered the original information. Corrections will be made by drawing a line through the error, entering the correct information, and initialing and dating the time of the correction.

At a minimum, daily field book entries will include the following information:

- Location of field activity;
- Date and time of entry;
- Names and titles of field team members on site and site contacts;
- Names, titles of any site visitors, as well as the date and time entering and leaving the site;
- Weather information, for example: temperature, cloud coverage, wind speed, and direction;
- Purpose of field activity;
- A detailed description of the fieldwork conducted;
- Sample media (soil, sediment, groundwater, etc.);
- Sample collection method;
- Number and volume of sample(s) taken;
- Description of sampling point(s);
- Volume of groundwater removed before sampling;
- Preservatives used;
- Analytical parameters;
- Date and time of collection;
- Sample identification number(s);
- Sample distribution (e.g., laboratory);
- Field observations;
- All field measurements made, such as volatile organic compounds (VOCs) using a PID, pH, temperature, conductivity, water level, etc.;
- References for all maps and photographs of the sampling site(s); and
- Information pertaining to sample documentation such as:
  - Bottle lot numbers;
  - Dates and method of sample shipments;
  - Chain-of-custody (COC) record numbers; and
  - Federal Express air bill number.

3.0 Field equipment decontamination and management of investigation-derived residuals

3.1 Decontamination area

A temporary decontamination area lined with polyethylene sheeting will be constructed on site for use during decontamination of the drilling equipment. Water collected from the decontamination activities will be collected in 55-gallon drums or a bulk tank and managed as described in Section 3.3.

3.2 Equipment decontamination

The following procedures will be used to decontaminate equipment used during the Site Characterization activities.

- All drilling equipment including the drill rig, augers, bits, rods, tools, split-spoon samplers, and tremie pipes will be cleaned with a high-pressure, hot water pressure washing unit between investigation locations.
- Tools, drill rods, and augers will be placed on polyethylene plastic sheets following pressure washing. Direct contact with the ground will be avoided.
- The back of the drill rig and all tools, augers, and rods will be decontaminated at the completion of the work and prior to leaving the site.

3.2.1 Sampling equipment decontamination

Suggested Materials:

- Potable water;
- Phosphate-free detergent (such as Alconox™);
- Distilled water;
- Aluminum foil;
- Plastic/polyethylene sheeting;
- Plastic buckets and brushes; and
- Personal protective equipment (PPE) in accordance with the HASP.

Procedures:

- Prior to sampling, all non-dedicated sampling equipment (bowls, spoons, interface probes, etc.) will be washed with potable water and a phosphate-free detergent (such as Alconox™). Decontamination may take place at the sampling location as long as all liquids are contained in pails, buckets, etc.
- The sampling equipment will then be rinsed with potable water followed by a de-ionized water rinse.
- Between rinses, equipment will be placed on polyethylene sheets or aluminum foil, if necessary. At no time will washed equipment be placed directly on the ground.

- Equipment will be wrapped in polyethylene plastic or aluminum foil for storage or transportation from the designated decontamination area to the sampling location.

3.3 Management of investigation-derived residuals

3.3.1 Decontamination fluids

Hot water pressure wash and decontamination fluids will be collected in 55-gallon drums or a bulk tank. The storage drums or tank will be labeled as “pending analysis – investigation-derived residual decon water” and temporarily stored in a plastic-lined containment area pending characterization and proper disposal.

3.3.2 Drill cuttings

Drill cuttings will be contained in 55-gallon drums. The drums will be labeled as “pending analysis – investigation-derived residual – soil from drill cuttings” and temporarily stored in a plastic-lined containment area pending characterization and proper disposal.

3.3.3 Development and purge water

All development and purge water will be contained in 55-gallon drums or a bulk tank. The drums or tank will be labeled as “pending analysis - investigation derived residual development and purge water” and temporarily stored in a plastic-lined containment area pending characterization and proper disposal.

3.3.4 Personal protective equipment

All used PPE will be placed in 55-gallon drums or a lined cardboard yard box for proper disposal.

3.3.5 Dedicated sampling equipment

All dedicated groundwater sampling equipment will be placed in 55-gallon drums for disposal.

4.0 Soil sampling and well installation procedures

4.1 Introduction

Surface and subsurface investigation activities to be conducted at the Bay Ridge Former Holder Stations A and B Site will consist of the advancement of soil borings; collection of soil samples; and the installation of monitoring wells. These activities will require the use of the following equipment and material:

- Field book;
- Project plans;
- PPE in accordance with the HASP;
- Stakes, flagging and marking paint;
- Plastic bags for soil screening samples;
- Stainless steel or disposable bowls and spoons/spatulas;
- Tape measure;
- Decontamination supplies;
- Water level indicator;
- Electronic oil/water interface probe
- Clear polyethylene disposable bailers (NAPL confirmation in wells);
- Polyethylene disposable bailers (well development);
- Polypropylene rope (well development);
- Waterra™ pump or other purge pump (well development);
- Submersible electric pump (well development);
- Stainless steel or glass beakers (well development);
- Turbidity meter (well development);
- Temperature, conductivity, pH meter (well development).
- PID with a 10.2 or 10.6 eV lamp;
- Digital camera;
- Clear tape, duct tape;
- Laboratory sample bottles;
- Coolers and ice; and
- Shipping supplies.

Procedures for these activities are described in the following sections.

4.2 Soil Sampling

4.2.1 Surface soil

Approximately 6 surface soil samples will be collected from the ball fields in Former Holder Station B. The ground surface on the Holder Station A property is entirely concrete or paved asphalt; therefore, surface soil samples will not be collected. At each surface soil sampling location, vegetation will be cleared from the location, and the surface soil samples will be collected from 0 to 2 inches bgs using a steel shovel and a stainless steel spoon or disposal polyethylene trowel. A portion of the sample from each location will be collected directly into the sample container designated for volatile organic compound (VOC) analysis. The remaining soils will be homogenized in a stainless steel or disposable mixing bowl prior to transfer to the sample container for the remaining analyses (see Section 8 for the analytical program). Visual descriptions of the surface soil and field screening of the soils using a PID will be performed prior to homogenization.

4.2.2 Soil borings

Soil borings will be advanced and sampled with a combination of either rotosonic drilling methods equipped with 4-inch diameter sampling cores or hollow-stem augers (HSAs) equipped with 2-inch or 3-inch diameter split-spoon samplers. In some instances, a direct-push (Geoprobe™) drilling rig equipped with 4-foot long, 2-inch diameter Macro-Core™ samplers may be used if there are access limitations. All drilling equipment will be decontaminated between each boring in accordance with methods specified in Section 3.2.

All locations will be properly abandoned following the collection of samples. Boreholes for the direct-push borings will be filled with bentonite chips. All rotosonic or auger soil borings not used for the construction of monitoring wells will be tremie grouted to the ground surface following the completion of the soil sampling to prevent cross-contamination of permeable zones. The borings will be filled using a cement/bentonite grout mixture with the following specifications:

- Bentonite will be powdered sodium montmorillonite furnished in moisture resistant sacks without additives.
- Cement shall be a low-alkaline Portland cement, Type I in conformance with ASTM C-150 and without additives.
- The cement/bentonite grout mixture shall be to the following proportion:
  - Three sacks (94 pounds) of Type I Portland cement;
  - 14 pounds of granular bentonite (5% mix); and
  - 25 gallons of water.

The cement will be mechanically mixed, above ground, with water from a potable water source. Bentonite will be added to ensure a lump-free consistency. The mixture will be pumped through a tremie pipe as the drill is being withdrawn.

4.2.3 Geologic logging methods

The field geologist will log borehole geology and headspace measurements, and any other observations (e.g., odors, NAPL, soil staining, etc.), in the field book and the Drilling Record shown in Figure 4-1, or similar form. Soil samples retrieved from the borehole will be visually described for:

1) percent recovery,
2) soil type,

3) color,
4) moisture content,
5) texture,
6) grain size and shape,
7) consistency,
8) visible evidence of staining or other hydrocarbon-related impacts, and
9) any other relevant observations.

The descriptions will be in accordance with the Unified Soil Classification System (USCS) and the American Society for Testing and Materials (ASTM) guidelines. Descriptions will also follow National Grid's internal field description guidance (KeySpan, 2005) included in Appendix A.

Immediately after describing the core, a representative soil sample will be placed in a re-sealable plastic (e.g., "ziplock") bag filled approximately half full. The bag will be labeled with the boring number and interval sampled. After allowing the bagged soil to warm, the tip of the sample probe attached to the PID will be inserted into the bag to measure the headspace for organic vapors. Soil remaining after completion of sample description, collection, and field screening will be disposed of properly.

4.2.4 Collection of samples

The number and frequency of samples to be collected from each boring and the associated analytical parameters are summarized on Table 3-1 in the Site Characterization Work Plan. The sample locations, descriptions, and depths will be recorded on the borelogs.

Samples for laboratory analyses will be collected directly from the acetate liners, split-spoons, and/or core barrel and placed into appropriate containers (for VOC analyses); homogenized (for non-VOC analyses); and compacted to minimize headspace and pore space. Soil used for headspace analysis will not be used for laboratory VOC analysis. The sampling equipment will be decontaminated between samples in accordance with procedures described in Section 3. Soil remaining after completion of sample description, collection, and field screening will be disposed of properly.

The sample containers will be labeled, placed in a laboratory-supplied cooler, and packed with ice. The coolers will then be shipped to the laboratory for analysis. COC procedures will be followed as outlined in the QAPP. If there is a delay of sample shipment due to insufficient samples to warrant overnight delivery, the samples will be stored in a cool, secure place with sufficient ice to maintain a temperature of 4˚ C.

4.3 Monitoring well installation and development

The following methods will be used for drilling, installing, and developing the monitoring wells.

4.3.1 Overburden monitoring well installation

Figure 4-2 illustrates the construction details for a typical overburden monitoring well. Specific details regarding the depth and anticipated screened interval of proposed monitoring wells is provided in Table 3-1 of the Site Characterization Work Plan. In general, monitoring wells will be installed according to the following specifications:

- The monitoring well borings will be advanced with either 4.25-inch inner diameter (ID) hollow-stem augers or 4-inch ID flush casing.

- Wells will be constructed with 2-inch ID, threaded, flush-joint, Schedule 40 PVC casings and screens.
- Screens will be 10-feet long with 0.01-inch slot openings (or 0.02-inch, if NAPL present) with a 2-foot DNAPL sump at the base. Alternative screen lengths up to 20 feet long may be used at the discretion of the field geologist and with the approval of NYSDEC, based on site conditions.
- The annulus around the screens will be backfilled with clean silica sand having appropriate size (e.g., Morie No. 1) to a minimum height of 2 feet above the top of the screen. Auger flights or casing will be withdrawn as sand is poured in a manner that will minimize hole collapse and bridging.
- A bentonite chip seal with a minimum thickness of 2 feet will be placed above the sand pack. The bentonite seal will be hydrated with clean, potable water before placement of grout above the seal layer.
- The remainder of the annular space will be filled with cement-bentonite grout to ground surface. The grout will be allowed to set for a minimum of 24 hours before wells are developed, although 48 hours is preferred.
- Each monitoring well will include an expandable plug and locking cap. Completion as stickup or flushmount installations will depend on the monitoring well location. All well locations will be clearly marked with appropriate stakes, flagging, or other signage to facilitate location of the wells.
- The concrete pad will be sloped to channel water away from the well, and be of sufficient dimension and depth to remain stable during freezing and thawing of the ground.
- The top of the PVC well casing and ground surface will be marked and surveyed to 0.01 foot, and the elevation will be determined relative to a fixed benchmark or datum.
- The measuring point on all wells will be on the innermost PVC casing.
- Monitoring well construction details will be recorded on the Monitoring Well Construction Log shown in Figure 4-3, or similar form.
- If commercially available nested wells are considered to sample multiple aquifer depth zones in the same borehole, they will be discussed with NYSDEC prior to installation.

4.3.2 Monitoring well development

- A minimum of 24 hours after installation, the monitoring wells will be developed by surging and purging. Surging will be performed periodically, across the length of screen in 2-foot increments prior to, at interim periods of pumping, and immediately before the final pumping. Pumping methods may include using a centrifugal, submersible, or peristaltic pump and dedicated polyethylene tubing, using a Waterra™ positive displacement pump and dedicated polyethylene tubing, or other methods at the discretion of the field geologist.
- Water levels will be measured in each well to the nearest 0.01 foot prior to development.
- The wells will be developed until the water in the well is reasonably free of visible sediment (50 NTU if possible or until pH, temperature, and specific conductivity stabilize). A portable nephelometer will be used to make the turbidity measurement.
- Development water will be contained in 55-gallon drums and properly disposed of.
- Following development, wells will be allowed to recover for at least 14 days before groundwater is purged and sampled. All monitoring well development will be performed or overseen by a field geologist and recorded in the field book.

5.0 Groundwater sampling procedures

5.1 Introduction

Procedures for obtaining samples of groundwater are described in this section. Groundwater samples will be collected using low-flow, low-stress purge and sampling methods.

5.2 Groundwater sampling

The number and frequency of the samples that will be collected for laboratory analysis from each well and the analytical parameters are listed in Table 3-1 of the Site Characterization Work Plan.

The following method will be used to collect groundwater samples from monitoring wells:

5.2.1 Required Equipment and Supplies

- Field book
- Groundwater collection records
- Project plans
- PPE in accordance with the HASP
- Electronic oil/water interface probe
- Disposable polyethylene bailers and low-flow sampling pump
- Polypropylene rope
- Temperature, conductivity, and pH meter
- Turbidity meter
- Flow-through cell
- Decontamination supplies
- Peristaltic or submersible pump capable of achieving low-flow rates (i.e., 0.5 liters per minute or less)
- Plastic tubing
- Plastic sheeting
- PID
- Clear tape, duct tape
- Coolers and ice
- Laboratory sample bottles
- Federal Express labels

5.2.2 Groundwater purging and sampling method

5.2.2.1 Groundwater Purging

- Prior to sampling, the static water level and thickness of any light non-aqueous phase liquid (LNAPL) or dense non-aqueous phase liquid (DNAPL) will be measured to the nearest 0.01 foot

from the surveyed well elevation mark on the top of the PVC casing with a decontaminated oil/water interface probe. If NAPL is present, the NAPL thickness will be confirmed using a clear bailer or a weighted string. The measurement will be recorded in the field book.

- The probe will be decontaminated between uses.
- Purging will be conducted using the low-flow sampling technique specified by the USEPA Region 1 in its guidance document entitled "Low-Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells".
- Groundwater from the well will be purged until field parameters (measured within a flow through cell) stabilize, up to three well volumes are removed, or 1 hour of continuous purging is performed. Field parameters are considered to be stable when three consecutive readings are within the stabilization criteria for that parameter. The stabilization criteria are as follows:
    - Turbidity within10% or below 10 NTU;
    - Conductivity within 3%;
    - Temperature within 3%;
    - pH within 0.1 unit;
    - Oxidation Reduction Potentials (ORP) within 10 mV; and
    - Dissolved Oxygen (DO) within 10%, or within 0.5 mg/L if < 1 mg/L.
- The purge rate will be approximately 0.5 liter per minute or less.
- If a well goes dry before the required volumes are removed, it will be allowed to recover, purged a second time until dry or the required volumes and parameter stabilization criteria are met, and sampled when it recovers sufficiently, and ideally to allow for collection of the entire sample volume in one purge, in accordance with low-flow sampling protocol.
- Purge water will be managed and disposed of properly.

5.2.2.2 **Groundwater Sampling**

- Samples will be collected using dedicated 1/4- or 3/8-inch polyethylene tubing and/or bailers.
- Prior to filling the sample bottles, the temperature, pH, conductivity, dissolved oxygen, and oxidation reduction potential (ORP) will be measured within a flow-through cell. Turbidity will be measured with a separate portable turbidity meter. All measurements will be recorded on groundwater collection record.
- Appropriate laboratory sample containers will be filled in order from most to least volatile.
- Sample vials for VOC analyses will be filled to ensure that no bubbles are in the sample.
- Each sample container will be labeled, placed in a laboratory-supplied cooler, and packed on ice to maintain a temperature of 4ºC or lower. The cooler will be shipped overnight or delivered to the laboratory for analysis.
- COC procedures will be followed as outlined in the QAPP.
- Well sampling data will be recorded on the Groundwater Sampling Record shown in Figure 5-1, or similar form.

6.0 Air monitoring

6.1 Introduction

Two types of air monitoring will be performed during the site investigation:

1) work zone monitoring for protection of the workers performing the site investigation; and
2) community air monitoring at the perimeter of the work zones onsite or at the property boundary for protection of the local community.

6.2 Breathing zone air monitoring during ground-intrusive activity

Monitoring of air in the breathing zone within the work site will be conducted periodically during all drilling and sampling activities.

- An organic vapor meter (OVM) equipped with a PID will be used to monitor total organic vapors in the breathing zone and borehole, and to screen the samples.
- Additional air monitoring may be required as specified in the site-specific HASP.

The PID readings will be recorded in the field book and on the boring logs during drilling activities. The procedure for the PID operation and calibration is included in Section 7.1. Note that equipment calibration will be performed as often as needed to account for changing conditions or instrument readings. The minimum frequency of calibration is specified in the HASP; more frequent calibration will be performed if erratic and/or spurious readings are observed or there are other problems with the instruments.

6.3 Community air monitoring

Community air monitoring requires real-time monitoring for VOCs, particulates (i.e., dust), and residual holder-related odors at the downwind perimeter of each designated work area when certain activities are in progress at impacted sites. The community air monitoring is not intended for use in establishing action levels for worker respiratory protection. Rather, it is intended 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 for community air monitoring require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, community air monitoring helps to confirm that work activities do not spread contamination off site through the air.

The procedures and action levels for community air monitoring are presented in the CAMP that has been prepared for the Site Characterization at the Bay Ridge Former Holder Stations A and B Site.

7.0 Field instruments and calibration

All field analytical equipment will be calibrated immediately prior to each day's use and more frequently if required. 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 and required by the project. All instrument calibrations will be documented in the project field book and in an instrument calibration log. Records of all instrument calibration will be maintained by the Field Team Leader. Copies of all of the instrument manuals will be maintained on site by the Field Team Leader. All changes to instrumentation will be noted in the field log book.

The following field instruments will be used during the investigation:

- PID
- Particulate monitors
- Multi-parameter meter (pH, specific conductivity, dissolved oxygen, oxidation reduction, and temperature meter)
- Turbidity meter

7.1 Portable photo-ionization detector (PID)

- The photo-ionization detector will be equipped with either a 10.2 or 10.6 eV lamp. In this configuration, the PID is capable of ionizing and detecting compounds that account for over 70% of the VOCs on the USEPA Target Compound List.
- Calibration must be performed at the beginning of each day of use with a standard calibration gas having a concentration of 100 parts per million of isobutylene. If the unit experiences abnormal perturbation or erratic readings, more frequent or additional calibration will be required.
- All calibration data must be recorded in the project field notebooks.
- A battery check must be completed at the beginning and end of each working day.
- All changes to the PID will be noted in the field notes (such as lamp or filter cleaning or replacement or change of instrument).

7.2 Multi-parameter meter

- Calibration of the meter (YSI or equivalent) must be performed at the start of each day of use, and after very high or low readings as required by this Plan, according to manufacturer's instructions.
- National Institute of Standards and Technology - traceable standard calibration solutions will be used (where applicable). At least one backup meter will also be present on-site in the event of a malfunction.
- The calibration data must be recorded in the project field book each time it is performed.

7.3 Turbidity meter

- The turbidity meter must be checked at the start of each day of use according to manufacturer's instructions.

8.0 Analytical program

8.1 Environmental sample analyses

The laboratory samples for each media and the chemical analyses to be performed are summarized in Table 3-1 of the Site Characterization Work Plan.

8.1.1 Soil analyses

Surface soil and subsurface soil samples will be analyzed for the following parameters:

- TCL VOCs by USEPA Method 8260B;
- TCL SVOCs by USEPA Method 8270C;
- TAL Metals by USEPA Method 6000-7000 Series;
- Free Cyanide with extraction by USEPA Method 9014A and analysis by ASTM Method D4282-02 (microdiffusion);
- TCL Pesticides by USEPA Method 8081A;
- TCL Herbicides by USEPA Method 8151A; and
- PCBs (as Aroclors) by USEPA Method 8082.

8.1.2 Groundwater analyses

Similar to soils, the groundwater samples will be analyzed for the following parameters:

- TCL VOCs by USEPA Method 8260B;
- TCL SVOCs by USEPA Method 8270C;
- TAL Metals by USEPA Method 6000-7000 Series;
- Total Cyanide by USEPA Method 9014;
- TCL Pesticides by USEPA Method 8081A;
- TCL Herbicides by USEPA Method 8151A; and
- PCBs (as Aroclors) by USEPA Method 8082.

8.1.3 Waste characterization/profiling

Sufficient samples (a minimum of two) will be collected during the investigation and analyzed for full RCRA Hazardous Characteristics testing to determine if materials exhibiting hazardous characteristics may be present at the site and to support waste disposal profiling purposes. The analyses to be performed may include, but not be limited to, the following, depending on the medium and the selected disposal facility:

- Total Metals by USEPA Method 6010B (Mercury 7470A);
- Total Petroleum Hydrocarbons (DRO and GRO) by USEPA Method 8015 modified;
- PCBs by USEPA Method 8082;
- TCLP ZHE Extraction by USEPA Method 1311;
- TCLP VOC by USEPA Method 8260B;

- TCLP SVOC by USEPA Method 8270C;
- TCLP RCRA Metals by USEPA Method 6010B (Mercury 7470A);
- Corrosivity by USEPA Method 9045C;
- Ignitability/Flashpoint by USEPA Method 1010A;
- Reactive Cyanide and Reactive Sulfide by USEPA SW-846 Chapter 7, Sections 7.3.3.2 and 7.3.4.2; and
- Total Organic Halogens – USEPA Method 9020B.

8.2 Field quality control samples

Field quality control samples will be collected and analyzed to document the accuracy and precision of the samples. The quality control samples are described as follows:

- Trip Blank: One trip blank will accompany each shipment of samples for VOC analysis sent to the laboratory. The trip blank will be analyzed to test for any contaminants introduced while samples are being stored or transported to the laboratory. The trip blanks will be analyzed for VOCs only.
- Field Equipment Blanks: The purpose of the equipment blank is to detect any contamination from sampling equipment, cross-contamination from previously sampled locations, and contamination caused by conditions at sampling locations (e.g., airborne contaminants). One equipment blank will be collected for every 20 samples per medium collected during sampling with non-disposable sampling equipment. The samples will be collected by pouring analyte-free water, prepared in the laboratory, over decontaminated sampling equipment and collecting it in sample jars. The blanks will be collected in the vicinity of a sample location. This field blank will be analyzed for VOCs, SVOCs, PCBs, total or free cyanide (depending if the blank is from groundwater or soil sampling equipment), pesticides and herbicides, and TAL metals.
- Field Duplicates: Field duplicates are collected to determine the precision of the soil samples collected. This is achieved by homogenizing soil (for non-VOC analyses) and splitting it evenly between separate sample jars. Duplicate samples will be collected and analyzed for VOC, SVOCs, PCBs, total or free cyanide (depending if the duplicate sample is from groundwater or soil), pesticides and herbicides, and TAL metals. The minimum required number of field duplicates is one for every 20 samples per medium.
- Matrix Spikes, and Matrix Spike Duplicates (MS/MSD): These samples are laboratory quality control samples and will be completed as part of the laboratory analytical batch quality control. These samples will be collected in the same manner as the field duplicates. Both the matrix spike and matrix spike duplicate will be collected at the same sample location. The minimum required number of MS/MSD samples is one for every 20 samples per medium.

8.3 Sample location numbering system

- Surface soil samples will be numbered consecutively beginning with SS-101.
- Subsurface soil borings will be numbered consecutively beginning with SB-101 (soil borings). Individual samples will also be designated with a depth code (see below).
- Monitoring wells will be numbered consecutively beginning with MW-101. Note the exceptions at locations where monitoring wells are being installed adjacent to existing monitoring wells to create well pairs or triplets.

8.4 Sample identification

Each sample will be given a unique alphanumeric identifier in accordance with the following classification system:

Table 8-1 Sample Identification

LL*	NN*	N-N	LL
Sample Type	Sample Number	Depth Code	QC Identifier

Sample Type:	MW – Monitoring Well SS – Surface Soil	SB – Soil Boring
Sample Number:	Number referenced to a sample location map.	
Depth Code:	Depth in feet of sample interval (0-0.5, 2-4, 10-12, etc.)	
QC Identifier:	TB – Trip Blank	MS – Matrix Spike
	EB – Equipment Blank	MSD–Matrix Spike Duplicate
		MB – Matrix Blank

* L = Letter * N = Number

Field duplicate samples will be assigned identifiers that do not allow the laboratory to distinguish them as field duplicates. Each sample container will be labeled prior to packing for shipment. The sample identifier, site name, date and time of sampling, and analytical parameters will be written on the label in waterproof ink and recorded in the field book.

8.5 Chain-of-custody

- A Chain-of-Custody (COC) record (Figure 8-1 or similar) will accompany the sample containers during selection and preparation at the laboratory, during shipment to the field, and during return shipment to the laboratory.
- The COC will include the sample identities of each sample container and the analytical parameters for each, and will list the field personnel that collected the samples, preservation method, the project name and number, the name of the analytical laboratory that will receive the samples, and the method of sample shipment.
- If samples are split and sent to different laboratories, such as to a specialty laboratory for fingerprint analysis, a copy of the COC record will be sent with each sample shipment.
- The COC will be completed by field personnel as samples are collected and packed for shipment.
- Erroneous markings will be crossed-out with a single line and initialed by the author.
- The REMARKS space will be used to indicate if the sample is a matrix spike, matrix spike duplicate, or matrix duplicate.
- Trip and field blanks will be listed on separate rows.

- After the samples have been collected and sample information has been listed on the COC form, the method of shipment, the shipping cooler identification number(s), and the shipper airbill number will be entered on the COC.
- Finally, a member of the sampling team will write his/her signature, the date, and time on the first RELINQUISHED BY space.
- One copy of the COC will be retained by sampling personnel. The other copy and the original will be sealed in a plastic bag and taped inside the lid of the shipping cooler.
- Sample shipments will be refrigerated at 4 ˚C, typically by packing with bagged ice, to preserve the samples during shipment.
- After the shipping cooler is closed, custody seals provided by the laboratory will be affixed to the latch and across the front and back of the cooler lid, and signed by the person relinquishing the samples to the shipper.
- The seal will be covered with clear tape, and the cooler lid will be secured by wrapping with packing tape.
- The cooler will be relinquished to the shipper, typically an overnight carrier.
- The COC seal must be broken to open the container. Breakage of the seals before receipt at the laboratory may indicate tampering. If tampering is apparent, the laboratory will contact the Project Manager, and the samples will not be analyzed until directed to do so.
- The samples must be delivered to the laboratory within 48 hours of collection.

8.6 Sample documentation

The field team leader will retain a copy of the COC, and, in addition, the field team leader will ensure that the following information about each sample is recorded in the field book:

- Sample identifier;
- Identification of sampled media (e.g., soil, sediment, groundwater);
- Sample location with respect to known reference point;
- Physical description of sample location;
- Field measurements, (e.g., pH, temperature, conductivity, and water levels);
- Date and time of collection;
- Sample collection method;
- Volume of groundwater purged before sampling;
- Number of sample containers;
- Analytical parameters;
- Preservatives used; and
- Shipping information:
  - Dates and method of sample shipments;
  - COC Record numbers;
  - Federal Express Air Bill numbers; and
  - Sample recipient (e.g., laboratory name).

Figures

AECOM

Figure 4-1

Boring/Well ID:_____

Page _____ of _____

Project Name:	Drilling Company:	Surface Comp:
Project Number:	Drilling Method:	Grout (bgs):
Date Pre-Cleared:	Rig Type:	Filter Pack (bgs):
Date Started Drilling:	Casing ID:	Riser (bgs):
Date Finished Drilling:	Water Level While Drilling (bgs):	Well Screen (bgs):
Logged By:	Total Depth of Boring (bgs):	Sump (bgs):

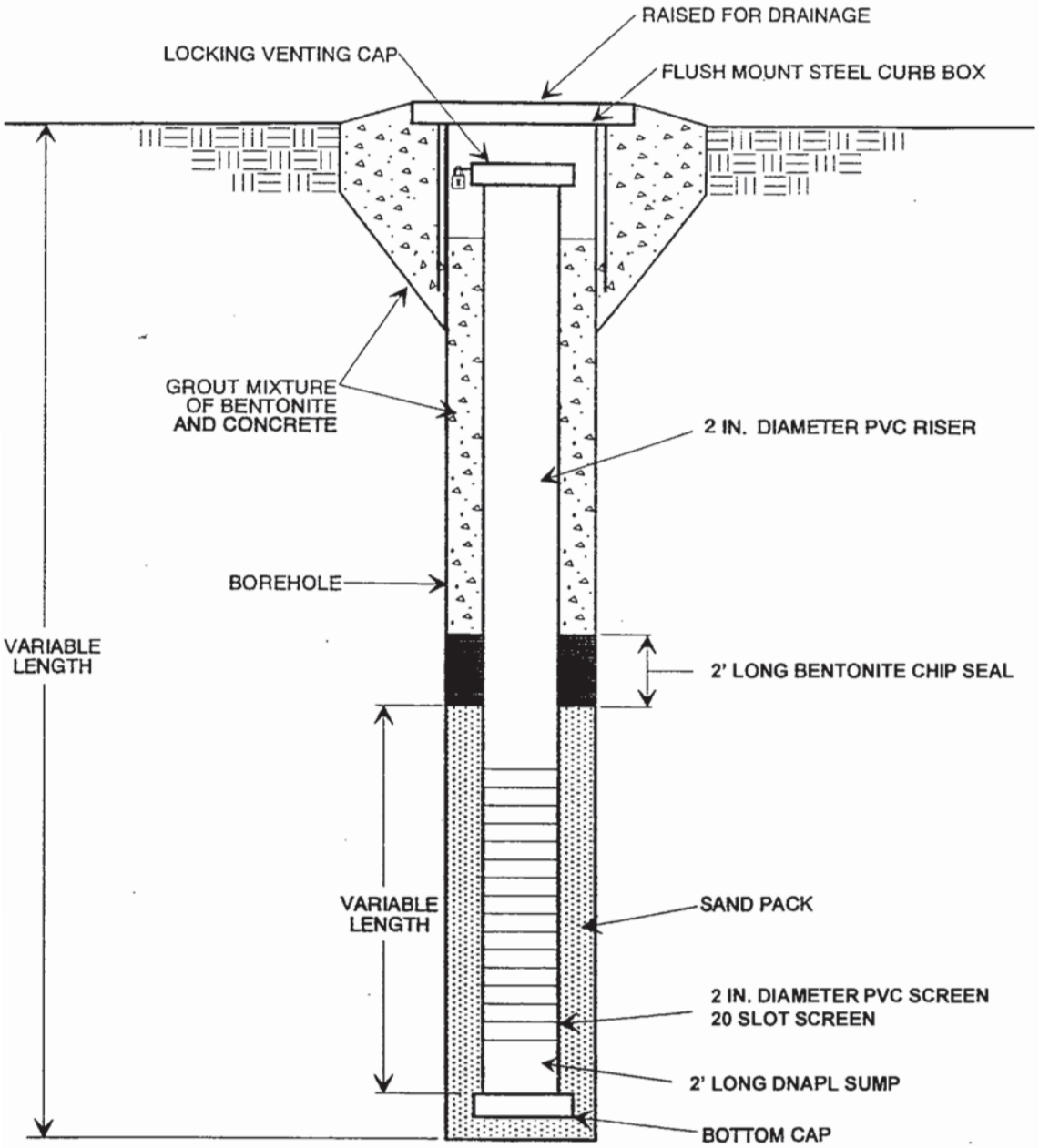
(Note: bgs = below ground surface)

Depth Range	Blow per 6 Inch	Re-covery ft/ft	PID	Lab Sample ID	USCS	Geologic Description Method:_____

Lithology:		Comments:
1.)	5.)	
2.)	6.)	
3.)	7.)	
4.)	8.)	

Figure 4-2

TYPICAL MONITORING WELL CROSS SECTION



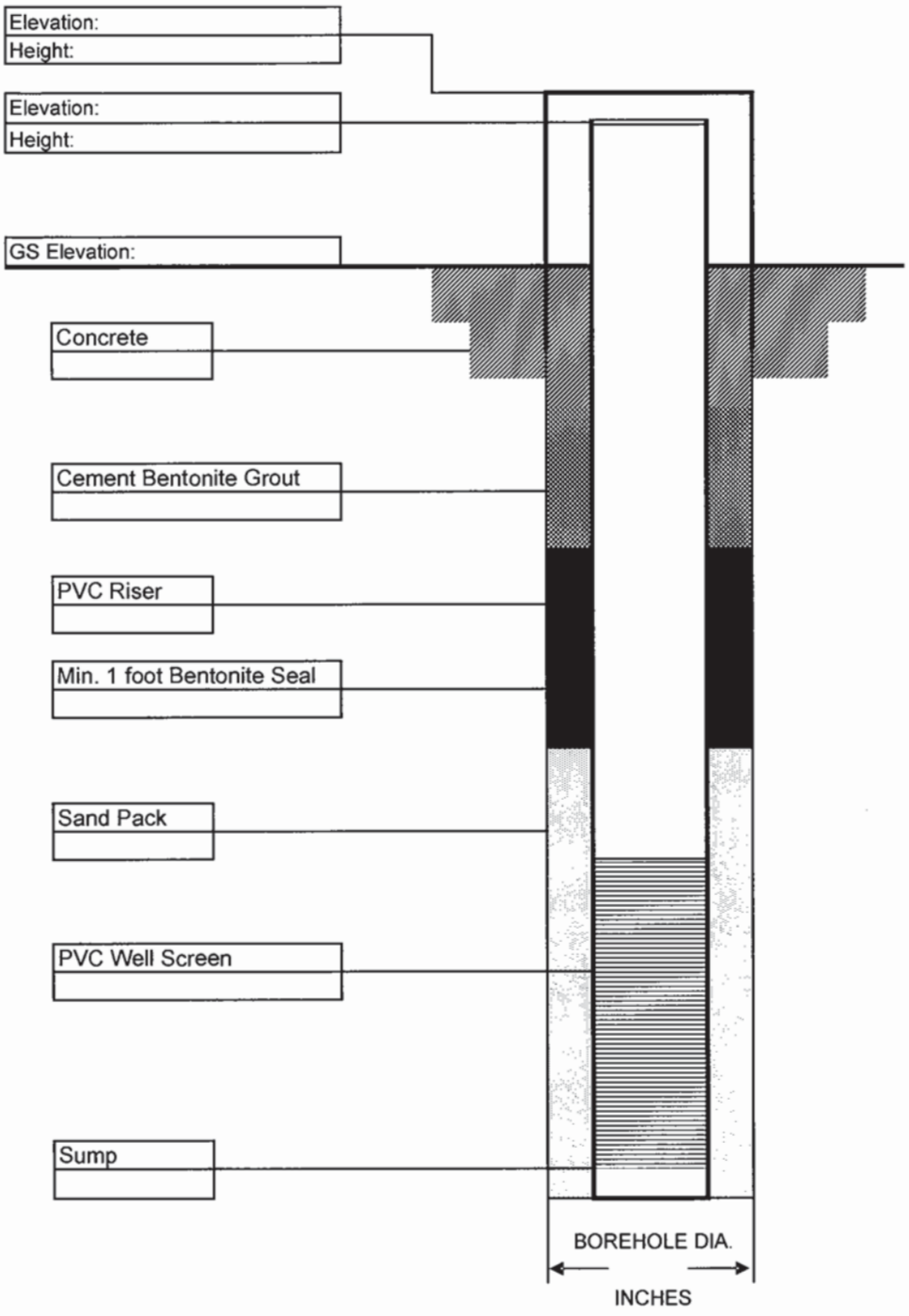
NOT TO SCALE

AECOM

Figure 4-3

WELL CONSTRUCTION LOG

WELL NO.:	FACILITY/SITE NAME:
PROJ. NO.:	CLIENT:
INSPECTOR:	DRILLING CONTACTOR:
DATE START:	DATE END:
LOCATION:	DRILLING METHOD:



PROTECTIVE CASING
Material:
Diameter:
Depth BGS:
Water Tight Seal:
Flushmount:
Weep hole:

GUARD POSTS
Material:
No. & Size:

SURFACE PAD
Composition:
Size:

RISER PIPE
Material:
Schedule:
Joint Type:
O-ring:
Diameter:

GROUT
Amt cement:
Amt bentonite:
Amt water:
Tremied:
Interval:

SEAL
Material:
Type:
Amount Used:
Interval:

FILTER PACK
Material:
Brand Name:
Amount Used:
Grain Size Dist.:
Interval:
Tremied:

SCREEN
Material:
Diameter:
Slot Size & Type:
Interval BGS:

SUMP
Interval BGS:
Bottom Cap:

BACKFILL PLUG
Material:
Setup/Hydration Time:

AECOM

Figure 5-1

LOW-STRESS GROUND WATER SAMPLING FORM

Project Number: _____
Project Name: _____
Date: _____
Weather: _____

Well ID: _____
Sample ID: _____
Permit Number: _____
Well Condition: _____

PRE-PURGE INFORMATION

Protective Casing Diameter (inch): _____
Inner Casing Diameter (inch): _____
Inner Casing Material: _____
Purge/Sample Method: _____
Pump Intake Setting* (feet): _____
PID/FID Reading of Well Headspace (ppm)
Before Cap Removal: _____
After Cap Removal: _____

Depth to Product* (feet): _____
Initial Depth to Water* (feet): _____
Product Thickness (feet): _____
Depth to Top of Screen* (feet): _____
Total Depth* (feet): _____
Water Column (feet): _____
Casing Volume (gal): _____
DTW After Pump Installed: _____

PURGING/SAMPLING INFORMATION

Time	Rate (gpm)	Gallons Purged	pH (SI Units)	Conductivity (µohms/cm)	Temp (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Depth to Water (ft)	Comments

Start Purge Date/Time: _____
End Purge Date/Time: _____
Total Volume Purged (gal): _____
Depth to Water After Purge* (feet): _____

Pre-Sample Depth to Water* (feet): _____
Start Sample Date/Time: _____
End Sample Date/Time: _____
Sampler Names: _____

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

_____

_____

_____

AECOM

Figure 5-1

LOW-STRESS GROUND WATER SAMPLING FORM

Sampling Sequence:

Analysis	Method	Container	Number of Bottles	Preservative	Comments
Volatile Organics					
Base/neutrals					
TPH					
Total Metals					
Dissolved Metals					
Cyanide					
Sulfate and Chloride					
Nitrate and Ammonia					
Preserved Inorganics					
Non-Preserved Inorg					
Bacteria					

Complete those analyses that apply.

Stabilization Ranges
Dissolved Oxygen: +/- 10%
Turbidity: +/- 10%
Specific Conductance: +/- 3%
Temperature: +/-3 %
pH: +/- 0.1 unit
Redox Potential: +/- 10mv

* = Measured from top of inner casing
DTW - Depth to Water
Thermo Environmental Instruments Model 580s OVM w/ 10.2 ev bulb
Water Levels Measured with an Electronic Water Level Meter
Field parameter meter calibration results are recorded in the field book.

AECOM

Chain of Custody Record № 0476

AECOM

Project Name:	Project Number:
Send Report To:	Sampler (Print Name):
Address:	Sampler (Print Name):
	Shipment Method:
	Airbill Number:
Phone:	Laboratory Receiving:
Fax:	

Analysis Requested

Page ____ of ____

Purchase Order #: _____

Field Sample ID	Sample Date	Sample Time	Sample Matrix	Number of Containers	Comments, Special Instructions, etc.	Lab Sample ID (to be completed by lab)

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Sample Custodian Remarks (Completed By Laboratory):

QA/QC Level		Turnaround		Sample Receipt	
Level I	☐	Routine	☐	Total # Containers Received?	
Level II	☐	24 Hour	☐	COC Seals Present?	
Level III	☐	1 Week	☐	COC Seals Intact?	
Other	☐	Other _____		Received Containers Intact?	
				Temperature?	

White: Lab Copy Yellow: PM Copy Pink: Field Copy Gold: PM/QA/QC Copy

FIGURE 9-1

Appendix A

Field Descriptions of Samples for Former Gas Holder Sites

Field Descriptions of Samples for Former Manufactured Gas Plant (MGP) Sites

Soil Sample Descriptions

It is important that descriptive qualifiers are consistently used to characterize degree and nature of contaminant impacts and visual-manual soil classification. The following presents some examples of descriptive qualifiers.

Soil Logging

- All soils are to be logged using the **Unified Soil Classification** (ASTM D 2488 field descriptions)
- **PID or FID** used to screen all soil samples (Jar Headspace method) – maximum readings should be recorded and included on the logs. PID/FID to be calibrated daily at a minimum
- **Moisture terms** are: Dry, Moist, and Wet
- **Color terms** - use geotechnical color charts - colors may be combined: e.g. red-brown. Color terms should be used to describe the "natural color" of the sample as opposed to staining caused by contamination (see below)
- **Log of each sample interval** should be prepared as follows:
  - **[Coarse Grained Example]** NARROWLY GRADED SAND (SP); mostly fine sand; <5% fines; red-brown, moist, environmental/depositional/geologic descriptions.
  - **[Fine Grained Example]** SANDY SILT (ML); heterogeneous till structure, nonplastic, ~30% fine to coarse, subangular sand; ~10% subangular fine gravel, max. size ~ 10 mm; brown; environmental/depositional/geologic descriptions.
- **Representativeness** – Soil logs should include particular notes if the field representative believes that there is a possibility the soil sample being described is not representative of the interval sampled.
- **Intervals for Description** – if using a 2' (split spoon) or 4' (Macro-core) long sampler – the field description should not necessarily be for the entire sample interval. It is important to look for, identify, and describe small-scale units and changes within each sample interval.

Description Of Contaminants

Visible Contamination Descriptors

- **Sheen** - iridescent petroleum-like sheen. Not to be used to describe a "bacterial sheen" which can be distinguished by its tendency to break up on the water surface at angles whereas petroleum sheen will be continuous and will not break up. A field test for sheen is to put a soil sample in a jar of water and shake the sample (jar shake test) , then observe the presence/absence of sheen on the surface of the water in the jar.
- **Stained** - used w/ color (i.e. black or brown stained) to indicate that the soil matrix is stained a color other than the natural (unimpacted) color of the soil.
- **Coated** - soil grains are coated with tar/free product – there is not sufficient free-phase material present to saturate the pore spaces.

- **Blebs** - observed discrete sphericals of tar/free product - but for the most part the soil matrix was not visibly contaminated or saturated. Typically this is residual product.
- **Saturated** - the entirety of the pore space for a sample is saturated with the tar/free product. Care should be taken to ensure that you're not observing water saturating the pore spaces if you use this term. Depending on viscosity, tar/free-phase saturated materials may freely drain from a soil sample.
- **Oil**. Used to characterize free and/or residual product that exhibits a distinct fuel oil or diesel fuel like odor; distinctly different from MGP-related odors/impacts.
- **Tar**. Used to describe free and/or residual product that exhibits a distinct "coal tar" type odor (e.g. naphthalene-like odor). Colors of product can be brown, black, reddish-brown, or gold.
- **Solid Tar**. Used to describe product that is solid or semi-solid phase. The magnitude of the observed solid tar should be described (e.g. discrete granules or a solid layer).
- **Purifier Material**. Purifier material is commonly brown/rust or blue/green wood chips or granular material. It is typically associated with a distinctive sulfur-like odor. Other colors may be present.

Olfactory Descriptors

Use terms such as " tar-like odor" or "naphthalene-like odor" or "fuel oil-like odor" that provide a qualitative description (opinion) as to the possible source of the odor.

Use modifiers such as strong, moderate, faint to indicate intensity of the observed odor.

DNAPL/LNAPL

A jar shake test should be performed to identify and determine whether observed tar/free-phase product is either denser or lighter than water. In addition, MGP residues can include both light and dense phases - this test can help determine if both light and dense phase materials are present at a particular location.

Viscosity of Free-Phase Product

If free-phase product/tar is present a qualitative description of viscosity should be made. Descriptors such as:

- Highly viscous (e.g. taffy-like)
- Viscous (e.g. No. 6 fuel oil or bunker crude like)
- Low viscosity (e.g. No. 2 fuel oil like)

Groundwater Sampling Observations

Any observations of sheen, blebs, free-phase product/tar, staining or coating of the sampling equipment, odor, etc. that made during sampling of groundwater are to be included in the groundwater sample collection log.

Appendix D

Quality Assurance Project Plan (QAPP)

AECOM Environment

Submitted to:
National Grid
Brooklyn, New York

Submitted by:
AECOM
Manhattan, NY
60137360
January 2010

Quality Assurance Project Plan

Bay Ridge Former Holder Stations A and B Site
Brooklyn, New York
NYSDEC Site No.: 224058
Order on Consent Index #: A2-0552-0606

AECOM Environment

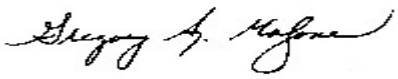
Submitted to:
National Grid
Brooklyn, New York

Submitted by:
AECOM
Manhattan, NY
60137360
January 2010

Quality Assurance Project Plan

Bay Ridge Former Holder Stations A and B Site
Brooklyn, New York
NYSDEC Site No.: 224058
Order on Consent Index #: A2-0552-0606

Prepared By Jennifer Atkins



Reviewed By Greg Malzone

Revised By: Nelson J. Abrams, PG, Senior Project Manager

Contents

List of Tables

List of Figures

List of Acronyms

%R	Percent recovery
ASP	Analytical services program
ASTM	American Society for Testing Materials
CAMP	Community Air Monitoring Plan
CAR	Corrective Action Request
CLP	Contract laboratory program
COC	Chain of custody
CRDLs	Contract Required Detection Limits
CRQLs	Contract Required Quantitation Limits
DQOs	Data quality objectives
DUSR	Data Usability Summary Report
EDD	Electronic data deliverable
ELAP	Environmental Laboratory Accreditation Program
GC/MS	Gas Chromatography/Mass Spectroscopy
HASP	Health and safety plan
LIMS	Laboratory information management system
MDLs	Method detection limits
MS	Matrix spike
MSD	Matrix spike duplicate
NIST	National Institute of Standards and Technology
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PA	Preliminary assessment
PID	Photoionization detector
PQL	Practical quantitation limit
QA	Quality assurance
QAO	Quality assurance officer
QAPP	Quality Assurance Project Plan
QC	Quality control
RPD	Relative percent difference
SOPs	Standard operating procedures
SVOA	Semivolatile organic analysis
SVOCs	Semivolatile organic compounds
TCLP	Toxicity characteristics leaching procedure
USEPA	United States Environmental Protection Agency

VOA	Volatile organic analysis
VOCs	Volatile organic compounds

1.0 Introduction

This Quality Assurance Project Plan (QAPP) details the protocols and procedures that will be followed during the proposed Site Characterization Investigation that will occur at the Bay Ridge Former Holder Stations A and B Site in Brooklyn, New York. The purpose of these protocols and procedures is to ensure that all project activities will be performed in a manner consistent with the data quality objectives (DQOs) established for the project and all data collected in support of the Site Characterization are precise, accurate, representative, comparable, and complete.

1.1 Project description

The Bay Ridge Former Holder Stations A and B Site is located in Brooklyn, New York and is comprised of two parcels both located between 8th and 9th Avenues, with Holder Station A between 63rd and 64th Streets, and Holder Station B between 65th and 66th Streets. The site was operated by Kings County Gas and Illuminating Company, a predecessor company to National Grid USA (National Grid), from prior to 1905 to sometime between 1950 and 1970. Holder Station A is currently used as a parking lot for a new car dealer. Holder Station B is currently used as a National Grid gate station (eastern portion) and as baseball fields (western portion). The Holder Station A property is owned by a third party, while the Holder Station B property is owned by National Grid.

The Site Characterization fieldwork proposed for the current site is described in *Site Characterization Work Plan, Bay Ridge Former Holder Stations A and B Site, Brooklyn, New York, NYSDEC Site No.: 224058* dated January 2010. The field investigation involves the installation of subsurface soil borings and monitoring wells and the collection of soil and groundwater samples.

Subsurface investigations have been performed on the Holder Station B parcel, but none have been performed on the Station A parcel. In 2000, an Environmental Site Assessment (ESA) was conducted in the ball field portion of the Holder Station B parcel (VHB, 2000). The ESA sampling activities included surface soil, subsurface soil, and soil vapor sampling. The ESA indicated that:

- Polycyclic aromatic hydrocarbons (PAHs) and low concentrations of pesticides were detected in surface soil samples;
- VOCs, PAHs, pesticides, metals, and total cyanide were detected in subsurface soil samples.
- VOCs and SVOCs were not detected in soil gas samples.

As a result of the ESA, 15 cubic yards of soil containing trace concentrations of total cyanide were removed at two discrete locations in the ball fields of the Holder Station B parcel.

1.2 Scope of work

The scope of work at the Site is described in the Site Characterization Work Plan dated September 2009. The following tasks will be performed as a part of the Site Characterization.

- Pre-investigation coordination (i.e., access agreements)
- Underground utility clearance
- Mobilization

- Surface/shallow subsurface soil sampling and analysis
- Soil boring advancement, subsurface soil sampling and analysis
- Monitoring well installation and development
- Groundwater sampling and analysis
- Investigation-derived waste management
- Community air monitoring
- Site survey
- Data validation evaluation, and reporting

1.3 Data quality objectives

DQOs are qualitative and quantitative statements to ensure that data of known and appropriate quality are obtained during sampling and analysis activities. Data developed during the Site Characterization will be used to achieve the overall objectives of the project. These objectives are to identify and investigate potential residual holder impacts at the Site and offsite. Specifically, to delineate the areal extent of residual holder impacts, determine the surface and subsurface characteristics of the Site, identify sources of contamination, migration pathways, and potential human or ecological receptors at the Site and offsite. The DQOs for delineation data include the following items:

- Data will identify holder-related constituents in soil and groundwater.
- Data will be collected using a systematic method to delineate the perimeter of holder-related impacts.
- Analytical methods will be of sufficient sensitivity that method detection limits (MDLs) and practical quantitation limits (PQLs) measure constituent concentrations at or below constituent NYSDEC guidance values.

1.3.1 Data quality levels

There are five analytical levels of data quality which may be used to accomplish these Site objectives. They are typically designated as follows:

- Level I – Field screening or analysis using portable instruments, calibrated to non-compound specific standards
- Level II – Field analysis using portable instruments, calibrated to specific compounds
- Level III – Non-Contract Laboratory Program (CLP/ASP) laboratory methods
- Level IV – ASP-CLP Routine Analytical Services methods
- Level V – Non-standard analytical methods.

To meet the specific objectives of this project, Levels I and III data quality levels will be utilized.

1.3.1.1 Level I – field screening methods

These tests, which are quantitative and/or semi-quantitative, are classified as field screening evaluations, even though they typically are not used for site characterization purposes.

Soil and soil headspace screening will be conducted using a photoionization detector (PID) to determine the soil boring interval(s) that will be submitted for analytical laboratory analysis.

In addition, as part of the Health and Safety Plan (HASP) and the Community Air Monitoring Plan (CAMP), worker safety and ambient air quality may be monitored using one or more of a variety of field screening tests. Applicable equipment may include but not be limited to: a PID, Draeger tubes, and personal monitors to test for volatile organic vapors, or a combustible gas indicator to test for explosive potential. Worker health and safety requirements are specified in the HASP.

1.3.1.2 Level III – Non-Contract Laboratory Program (CLP/ASP) laboratory methods

Samples will be analyzed according to the required United States Environmental Protection Agency (USEPA) SW-846 and ASTM methods described in the most recent editions of the USEPA reference methods (see section 7.0). Data will be analyzed using Level III Non-Contract Laboratory Program (CLP/ASP) laboratory methods; however, the laboratory will provide Level IV data packages for all data including hazardous waste classification data. Laboratory data will be reported in the New York State Analytical Services Program (ASP) Category B deliverables format. This level of data quality will ensure the generation of legally and technically defensible data for project use. The laboratory performing the analysis of samples will be certified for the specific parameters pursuant to NYSDOH ELAP Certification program.

2.0 Project organization

This Site Characterization will be completed for National Grid by AECOM Environment, an environmental contractor (the Contractor), who will arrange for the drilling and analytical services and provide an onsite field representative to perform the soil logging, soil sampling, surveying, and groundwater sampling. The Contractor will also perform the data interpretation and reporting tasks.

Key contacts for this project are as follows:

National Grid Project Manager
Donald Campbell, P.G.
Telephone: (718) 963-5453
Fax: (718) 963-5611

Contractor Project Manager (AECOM)

Nelson J. Abrams, Sr. PM
Telephone: 212-798-8548, Cell: 347-803-8722
Fax: 212-798-8501

Contractor Project Chemist (AECOM)

Gregory A. Malzone
Telephone: (412) 261-2910, extension 221
Fax: (412) 765-1421

Laboratory Representative

H2M Labs, Inc.
Jennifer Aracri
Telephone: (631) 694-3040, extension 1211
Fax: (631) 420.8436

Laboratory Quality Assurance Officer (QAO)

H2M Labs, Inc.
Nicole Crespi
Telephone: (631) 694-3040, extension 1260
Fax: (631) 420.8436

3.0 Quality assurance/quality control objectives for measurement of data

3.1 Introduction

The quality assurance and quality control (QA/QC) objectives for all measurement data include precision, accuracy, representativeness, completeness, and comparability. These objectives are defined in following subsections. They are formulated to meet the requirements of the USEPA SW-846. The analytical methods and their Contract Required Quantitation Limits (CRQLs) and Contract Required Detection Limits (CRDLs) are provided in Section 7.

3.2 Precision

Precision is an expression of the reproducibility of measurements of the same parameter under a given set of conditions. Specifically, it is a quantitative measurement of the variability of a group of measurements compared to their average value (USEPA, 1987). Precision is usually stated in terms of standard deviation, but other estimates such as the coefficient of variation (relative standard deviation), range (maximum value minus minimum value), relative range, and relative percent difference (RPD) are common.

For this project, field sampling precision will be determined by analyzing coded duplicate samples (labeled so that the laboratory does not recognize them as duplicates) for the same parameters, and then, during data validation (Section 8), calculating the RPD for field duplicate sample results.

Analytical precision will be determined by the laboratory by calculating the RPD for the results of the analysis of internal QC duplicates and matrix spike duplicates. The formula for calculating RPD is as follows:

$$RPD = \frac{|V1 - V2|}{(V1 + V2)/2} \times 100$$

where:

RPD = Relative Percent Difference

V1, V2 = The two values to be compared

|V1 - V2| = The absolute value of the difference between the two values

(V1 + V2)/2 = The average of the two values

For soil samples, the data quality objectives for analytical precision, calculated as the RPD between duplicate analyses, is presented in Table 3-1. The same is presented for groundwater in Table 3-2.

Table 3-1 Quality Control Limits For Soil Samples

Analytical	Analytical Method[a]	MS/MSD Compounds	MS/MSD % Recovery[b]			LCS[d] % Recovery		Surrogates	Surrogate % Recovery	
			Low	High	RPD[c]	Low	High		Low	High
VOCs[e]	8260B	1,1-Dichloroethene	59	172	22	59	172	1,2-Dichloroethane-d4	70	121
		Benzene	66	142	21	66	142	4-Bromofluorobenzene	59	113
		Chlorobenzene	60	133	21	60	133	Toluene-d8	84	138
		Toluene	59	139	21	59	139			
		Trichloroethene	62	137	24	62	137			
SVOCs[f]	8270C	2,4-Dinitrotoluene	28	116	47	24	96	1,2-Dichlorobenzene-d4	20[g]	130
		2-Chlorophenol	25	102	50	27	123	2,4,6-Tribromophenol	19	122
		4-Chloro-3-methylphenol	26	103	33	23	97	2-Chlorophenol-d4	20[g]	130
		4-Nitrophenol	11	114	50	10	80	2-Fluorobiphenyl	30	115
		Acenaphthene	31	137	19	46	118	2-Fluorophenol	25	121
		N-Nitroso-di-n-propylamine	41	126	38	41	116	4-Terphenyl-d14	18	137
		Pentachlorophenol	17	109	47	9	103	Nitrobenzene-d5	23	120
		Phenol	26	90	35	12	110	Phenol-d5	24	113
		Pyrene	35	142	36	26	127			
Pesticides	8081A	4,4´-DDT	23	134	27	23	134	Decachlorobiphenyl	30	150
		Aldrin	34	132	43	34	132	Tetrachloro-m-xylene	30	150
		Dieldrin	31	134	38	31	134			
		Endrin	42	139	45	42	139			
		gamma-BHC	35	135	31	35	135			
		Heptachlor	40	131	20	40	131			

Table 3-1 Quality Control Limits For Soil Samples (continued)

Analytical	Analytical Method[a]	MS/MSD Compounds	MS/MSD % Recovery[b]			LCS[d] % Recovery		Surrogates	Surrogate % Recovery	
			Low	High	RPD[c]	Low	High		Low	High
PCBs	8082	Aroclor 1016	50	136	40	56	127	Decachlorobiphenyl	30	150
		Aroclor 1260	45	154	40	45	145	Tetrachloro-m-xylene	30	150
Herbicides	8151A	2,4,5-T	16	136	40	16	136	DCAA	29	136
		2,4,5-TP (Silvex)	12	146	40	12	146			
		2,4-D	25	157	40	25	157			
		2,4-DB	50	150	40	50	150			
Inorganics[h]	6010B	Inorganic Analyte	75[i]	125	20[j]	80	120			
	6020		75[i]	125	20[j]	80	120			
	7471A		75[i]	125	20[j]	80	120			
	9014 (Cyanide)		75[i]	125	20[j]	80	120	NA	NA	

Notes

(a) Analytical Methods: USEPA SW-846, 3rd edition, Revision 1, November 1990, any subsequent revisions shall supersede this information
(b) Matrix Spike/Matrix Spike Duplicate
(c) Relative Percent Difference
(d) Laboratory Control Sample
(e) Target Compound List Volatile Organic Compounds
(f) Target Compound List Semivolatile Organic Compounds
(g) Limits are advisory only
(h) Target Analyte List Inorganics (metals and cyanide)
(i) Matrix spike only
(j) Laboratory duplicate RPD
NA - Not Applicable

Table 3-2 Quality Control Limits for Water Samples

Analytical	Analytical Method[a]	MS/MSD Compounds	MS/MSD % Recovery[b]			LCS[d] % Recovery		Surrogates	Surrogate % Recovery	
			Low	High	RPD	Low	High		Low	High
VOCs[e]	8260B	1,1-Dichloroethene	61	145	14	61	145	1,2-Dichloroethane-d4	76	114
		Benzene	76	127	11	76	127	4-Bromofluorobenzene	86	115
		Chlorobenzene	75	130	13	75	130	Toluene-d8	88	110
		Toluene	76	125	13	76	125			
		Trichloroethene	71	120	14	71	120			
SVOCs[f]	8270C	2,4-Dinitrotoluene	24	96	38	24	96	1,2-Dichlorobenzene-d4	16[g]	110
		2-Chlorophenol	27	123	40	27	123	2,4,6-Tribromophenol	10	123
		4-Chloro-3-methylphenol	23	97	42	23	97	2-Chlorophenol-d4	33[g]	110
		4-Nitrophenol	10	80	50	10	80	2-Fluorobiphenyl	43	116
		Acenaphthene	46	118	31	46	118	2-Fluorophenol	21	110
		N-Nitroso-di-n-propylamine	41	116	38	41	116	4-Terphenyl-d14	33	141
		Pentachlorophenol	9	103	50	9	103	Nitrobenzene-d5	35	114
		Phenol	12	110	42	12	110	Phenol-d5	10	110
		Pyrene	26	127	31	26	127			
Pesticides	8081A	4,4´-DDT	38	127	27	38	127	Decachlorobiphenyl	30	150
		Aldrin	40	120	22	40	120	Tetrachloro-m-xylene	30	150
		Dieldrin	52	126	18	52	126			
		Endrin	56	121	21	56	121			
		gamma-BHC	56	123	15	56	123			
		Heptachlor	40	131	20	40	131			

Table 3 2 Quality Control Limits for Water Samples (continued)

Analytical	Analytical Method[a]	MS/MSD Compounds	MS/MSD % Recovery[b]			LCS[d] % Recovery		Surrogates	Surrogate % Recovery	
			Low	High	RPD	Low	High		Low	High
PCBs	8082	Aroclor 1016	42	134	40	42	134	Decachlorobiphenyl	30	150
		Aroclor 1260	34	146	40	34	146	Tetrachloro-m-xylene	30	150
Herbicides	8151A	2,4,5-T	40	115	29	40	121	DCAA	36	121
		2,4,5-TP (Silvex)	48	113	23	64	128			
		2,4-D	39	111	34	53	115			
		2,4-DB	50	150	40	50	150			
Inorganics[h]	6010B	Inorganic Analyte	75[i]	125	20[j]	80	120			
	6020		75[i]	125	20[j]	80	120			
	7470A		75[i]	125	20[j]	80	120			
	9014 (Cyanide)		75[i]	125	20[j]	80	120	NA	NA	

Notes
(a) Analytical Methods: USEPA SW-846, 3rd edition, Revision 1, November 1990, any subsequent revisions shall supersede this information
(b) MS/MSD = Matrix Spike/Matrix Spike Duplicate
(c) RPD = Relative Percent Difference
(d) LCS = Laboratory Control Sample
(e) Target Compound List Volatile Organic Compounds
(f) Target Compound List Semivolatile Organic Compounds
(g) Limits are advisory only
(h) Target Analyte List Inorganics (metals and cyanide)
(i) Matrix spike only
(j) Laboratory duplicate RPD
NA - Not Applicable

3.3 Accuracy

Accuracy is a measure of the degree of agreement of a measured value with the true or expected value of the quantity of concern (Taylor, 1987), or the difference between a measured value and the true or accepted reference value. The accuracy of an analytical procedure is best determined by the analysis of a sample containing a known quantity of material, and is expressed as the percent of the known quantity which is recovered or measured. The recovery of a given analyte is dependent upon the sample matrix, method of analysis, and the specific compound or element being determined. The concentration of the analyte relative to the detection limit of the analytical method is also a major factor in determining the accuracy of the measurement. Concentrations of analytes which are close to the detection limits are less accurate because they are more affected by such factors as instrument "noise". Higher concentrations will not be as affected by instrument noise or other variables and thus will be more accurate.

Sampling accuracy may be determined through the assessment of the analytical results of field blanks and trip blanks for each sample set. Analytical accuracy is typically assessed by examining the percent recoveries of surrogate compounds that are added to each sample (organic analyses only), and the percent recoveries of matrix spike compounds added to selected samples and laboratory blanks. Additionally, initial and continuing calibrations must be established and be within method control limits. Instrument and method analytical accuracy can then be determined for any sample set.

Accuracy is normally measured as the percent recovery (%R) of a known amount of analyte, called a spike, added to a sample (matrix spike) or to a blank (blank spike). The %R is calculated as follows:

$$\%R = \frac{SSR - SR}{SA} \times 100$$

where:

%R = Percent recovery

SSR = Spike sample result: concentration of analyte obtained by analyzing the sample with the spike added

SR = Sample result: the background value, i.e., the concentration of the analyte obtained by analyzing the sample

SA = Spiked analyte: concentration of the analyte spike added to the sample

The acceptance limits for accuracy for each parameter are presented in Tables 3-1 and 3-2.

3.4 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness is a qualitative parameter which is most concerned with the proper design of the sampling program (USEPA, 1987). Samples must be representative of the environmental media being sampled. Selection of sample locations and sampling procedures will incorporate consideration of obtaining the most representative sample possible.

Field and laboratory procedures will be performed in such a manner as to ensure, to the degree that is technically possible, that the data derived represents the in-place quality of the material sampled. Every effort will be made to ensure that chemical compounds will not be introduced into the sample via sample containers, handling, and analysis. Decontamination of sampling devices and digging equipment will be performed between samples as outlined in Appendix C of the Site Characterization Work Plan. Analysis of field blanks, trip blanks, and method blanks will also be performed to monitor for potential sample contamination from field and laboratory procedures.

The assessment of representativeness also must consider the degree of heterogeneity in the material from which the samples are collected. Sampling heterogeneity will be evaluated during data validation through the analysis of coded field duplicate samples. The analytical laboratory will also follow acceptable procedures to assure the samples are adequately homogenized prior to taking aliquots for analysis, so the reported results are representative of the sample received.

Chain-of-custody procedures will be followed to document that contamination of samples has not occurred during container preparation, shipment, and sampling. Details of blank, duplicate and chain-of-custody procedures are presented in Sections 4 and 5.

3.5 Completeness

Completeness is defined as the percentage of measurements made which are judged to be valid (USEPA, 1987). The QC objective for completeness is generation of valid data for at least 90 percent of the analyses requested. Completeness is defined as follows for all sample measurements:

$$\%C = \frac{V}{T} \times 100$$

where:

%C = Percent completeness

V = Number of measurements judged valid

T = Total number of measurements

3.6 Comparability

Comparability expresses the degree of confidence with which one data set can be compared to another (USEPA, 1987). The comparability of all data collected for this project will be ensured by:

- Using identified standard methods for both sampling and analysis phases of this project,
- Requiring traceability of all analytical standards and/or source materials to the USEPA or National Institute of Standards and Technology (NIST),
- Requiring that all calibrations be verified with an independently traceable standard from a source other than that used for calibration (if applicable),
- Using standard reporting units and reporting formats including the reporting of QC data,

- Performing a complete data validation on all of the analytical results, including the use of data qualifiers in all cases where appropriate,
- Requiring that all validation qualifiers be considered any time an analytical result is used for any purpose.

These steps will ensure all future users of either the data or the conclusions drawn from them will be able to judge the comparability of these data and conclusions.

4.0 Sampling program

4.1 Introduction

The sampling program will provide data concerning the presence and the nature and extent of contamination of groundwater and soil. This section presents sample collection procedures, sample container preparation procedures, sample preservation procedures, sample holding times, and field QC sample requirements. Sample matrices and the anticipated number of environmental and QC samples to be collected are given in Table 4-1. Actual numbers of samples may change based on field conditions.

4.2 Sample collection

Soil and groundwater samples will be collected at the Site. The location and frequency of sampling and the methods selected for field procedures and laboratory analysis are described in detail in the Site Characterization Work Plan.

4.3 Sample container preparation and sample preservation

All sample containers will be new and will meet the specifications required by the USEPA. Copies of the sample container QC analyses will be provided by the laboratory for each container lot used for sample collection. The containers will be labeled and the appropriate preservatives will be added. The container requirements are shown in Tables 4-2 and 4-3.

Samples shall be preserved according to the preservation techniques given in Tables 4-2 and 4-3. Preservatives will be added to the sample bottles by the laboratory prior to their shipment in sufficient quantities to ensure that proper sample pH is met. Following sample collection, the sample bottles should be placed on ice in the shipping cooler, cooled to 4 ± 2 ºC with ice, and delivered to the laboratory within 48 hours of collection. Chain-of-custody (COC) procedures are described in Section 5.

4.4 Sample holding times

The sample holding times for organic and inorganic parameters are given in Tables 4-2 and 4-3 and must be in accordance with the NYSDEC ASP requirements. Holding times for Toxicity Characteristic Leaching Procedure (TCLP) samples are given in Table 4-4. The NYSDEC ASP holding times must be strictly adhered to by the laboratory. Any holding time exceedances must be reported to National Grid.

4.5 Field quality control samples

To assess field sampling and decontamination performance, two types of "blanks" will be collected and submitted to the laboratory for analyses. In addition, the precision of field sampling procedures will be assessed by collecting coded field duplicates and matrix spike/matrix spike duplicates (MS/MSD). The blanks will include the following.

- Trip Blanks – A trip blank will be prepared before the sample containers are sent by the laboratory. The trip blank will consist of a 40-ml VOA vial containing distilled, deionized water, which accompanies the water sample bottles into the field and back to the laboratory. A trip blank will be included with each shipment of water samples for volatiles analysis. The trip blank

will be analyzed for volatile organic compounds to assess any contamination from sampling, transport, storage, and internal laboratory procedures.

- Rinseate Blanks – Rinseate blanks will be taken at a minimum frequency of one per 20 field samples per sample matrix. Rinseate blanks are used to determine the effectiveness of the decontamination procedures for sampling equipment. It is a sample of reagent water provided by the laboratory that has passed through a decontaminated bailer or other sampling apparatus. It is usually collected as a last step in the decontamination procedure, prior to taking an environmental sample. The rinseate blank may be analyzed for all or some of the parameters of interest.

The duplicates collected to assess field sampling/laboratory precision and sample homogeneity will consist of the following.

- Coded Field Duplicate – To determine the representativeness of the sampling methods, coded field duplicates will be collected. The samples are termed "coded" because they will be labeled in such a manner that the laboratory will not be able to determine that they are field duplicate samples. This will eliminate any possible bias that could arise. Field duplicates will be taken at a minimum frequency of one per 20 field samples per sample matrix.
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) – MS/MSD samples (MS/MSD for organics; MS and laboratory duplicate for inorganics) will be collected at a frequency of one pair per 20 field samples. MS/MSD samples are used to assess the effect of the sample matrix on the recovery of target compounds or target analytes. The advisory acceptance limits for MS/MSD %R and RPDs are given in Tables 3-1 and 3-2.

Table 4-1 Summary of Samples and Analyses

Matrix [a]	Parameter	Analytical Method	Field Samples				QC Blanks		Total
			Field Samples	Field Duplicate	MS/MSD[b] (Total)	Sub-Total	Trip Blank	Rinse Blank	
Surface Soil Samples	TCL VOCs + 10	EPA SW 8260B (NY ASP OLM04.2)	10	1	1	12	1	1	14
	TCL SVOCs + 20	EPA SW 8270C (NY ASP OLM04.2)	10	1	1	12	-	1	13
	Free Cyanide	EPA SW 9014A (NY ASP ILM04.1)	10	1	1	12	-	1	13
	TAL Metals	EPA SW 6010B/6020/7471A (NY ASP ILM04.1)	10	1	1	12	-	1	13
	PCBs (as Aroclors)	EPA SW 8082 (NY ASP Category B)	10	1	1	12	-	1	13
	Pesticides	EPA SW 8081A (NY ASP Category B)	10	1	1	12	-	1	13
	Herbicides	EPA SW 8151A (NY ASP Category B)	10	1	1	12	-	1	13
Subsurface Soil Samples	TCL VOCs + 10	EPA SW 8260B (NY ASP OLM04.2)	66	4	4	74	4	4	82
	TCL SVOCs + 20	EPA SW 8270C (NY ASP OLM04.2)	66	4	4	74	4	4	82
	Free Cyanide	EPA SW 9014A (NY ASP ILM04.1)	66	4	4	74	4	4	82
	TAL Metals	EPA SW 6010B/6020/7471A (NY ASP ILM04.1)	66	4	4	74	4	4	82
	PCBs (as Aroclors)	EPA SW 8082 (NY ASP Category B)	66	4	4	74	4	4	82
	Pesticides	EPA SW 8081A (NY ASP Category B)	66	4	4	74	4	4	82
	Herbicides	EPA SW 8151A (NY ASP Category B)	66	4	4	74	4	4	82
Groundwater Samples	TCL VOCs + 10	EPA SW 8260B (NY ASP OLM04.2)	10	1	1	12	1	1	14
	TCL SVOCs + 20	EPA SW 8270C (NY ASP OLM04.2)	10	1	1	12	-	1	13
	Total Cyanide	EPA SW 9014 (NY ASP ILM04.1)	10	1	1	12	-	1	13
	TAL Metals	EPA SW 6010B/6020/7470A (NY ASP ILM04.1)	10	1	1	12	-	1	13
	PCBs (as Aroclors)	EPA SW 8082 (NY ASP Category B)	10	1	1	12	-	1	13
	Pesticides	EPA SW 8081A (NY ASP Category B)	10	1	1	12	-	1	13
	Herbicides	EPA SW 8151A (NY ASP Category B)	10	1	1	12	-	1	13

Matrix [a]	Parameter	Analytical Method	Field Samples				QC Blanks		Total
			Field Samples	Field Duplicate	MS/MSD[b] (Total)	Sub-Total	Trip Blank	Rinse Blank	
Waste Characterization	TCLP VOCs	EPA SW 1311/8260B (NY ASP OLM04.2)	5	-	-	5	-	-	5
	TCLP SVOCs	EPA SW 1311/8270C (NY ASP OLM04.2)	5	-	-	5	-	-	5
	TCLP Metals	EPA SW 1311/6010B/7470A (NY ASP ILM04.1)	5	-	-	5	-	-	5
	Total PCBs	EPA SW 8082 (NY ASP Category B)	5	-	-	5	-	-	5
	Total Petroleum Hydrocarbons	DRO: EPA SW 8015 modified GRO: EPA SW 8015 modified	5	-	-	5	-	-	5
	Corrosivity	EPA SW Method 9045C	5	-	-	5	-	-	5
	Ignitability	EPA SW Method 1010A	5	-	-	5	-	-	5
	Reactive Cyanide and Sulfide	EPA SW Chapter 7, Sections 7.3.3.2 and 7.3.4.2	5	-	-	5	-	-	5
	Total Organic Halogens	EPA SW Method 9020B	5	-	-	5	-	-	5

Notes
TCL - Target Compound List
TAL - Target Analyte List
(a) Number of samples is approximate and for information purposes only.
(b) Matrix spike / matrix spike duplicate for organic analyses; matrix spike and laboratory duplicate for inorganic analysis.

Table 4-2 Soil and Waste Sample Containerization and Holding Times

Analysis	Bottle Type	Preservation [(a)]	Holding Time [(b)]
Volatile Organic Compounds (VOCs)	Wide-mouth glass w/ Teflon lined cap	Cool to 4ºC	10 days
Extractable Organic Compounds (c)	Wide-mouth glass w/ Teflon lined cap	Cool to 4ºC	10 days*
Metals	Wide-mouth plastic or glass	Cool to 4ºC	6 months, except mercury (26 days)
Cyanide	Wide-mouth plastic	Cool to 4ºC	10 days
TCLP Organic Compounds	Wide-mouth glass w/ Teflon lined cap	Cool to 4ºC	See Table 4-4
TCLP Metals	Wide-mouth plastic or glass	Cool to 4ºC	See Table 4-4
Total Petroleum Hydrocarbons (TPH)	DRO: Clear glass GRO: Clear glass	DRO: Cool to 4ºC GRO: Cool to 4ºC	DRO: 7 days to extraction/40 days to analysis GRO: 14 days
Corrosivity	Clear glass	None	Analyze ASAP
Ignitability	Clear glass	None	Analyze ASAP
Reactive Cyanide and Sulfide	Clear glass	None	Analyze ASAP
Total Organic Halogens	Amber glass	pH < 2 with H2SO4, Cool to 4ºC, Dark	28 days

Notes
(a) All samples to be preserved with ice during collection and transport
(b) Days from verified time of sample receipt (VTSR).
(c) Semivolatile organic compounds, PCBs, pesticides, herbicides.

* Sohxlet or sonication procedures for extraction and concentration of soil/waste samples for SVOCs must be completed within 5 days of VTSR. Sohxlet or sonication procedures for extraction and concentration of soil/sediment/waste samples for PCBs must be completed within 5 days of VTSR. Extracts of soil samples must be analyzed within 40 days of extraction.

Table 4-3 Water Sample Containerization and Holding Times

Analysis	Bottle Type	Preservation [(a)]	Holding Time [(b)]
Volatile Organic Compounds (VOCs)	(2) 40 mL glass vial with Teflon septum	Cool to 4ºC	10 days
Extractable Organic Compounds (c)	1000 mL glass w/ Teflon-lined cap	Cool to 4ºC	5 days*
Metals	1000 mL plastic bottle	Nitric Acid to pH < 2 Cool to 4ºC	6 months, except mercury (26 days)
Cyanide	500 mL plastic bottle	NaOH to pH > 12 Cool to 4ºC	10 days

Notes
(a) All samples to be preserved in ice during collection and transport.
(b) Days from validated time of sample receipt (VTSR)
(c) Semivolatile organic compounds, PCBs, pesticides, herbicides

* Continuous liquid-liquid extraction is the required extraction for water samples for SVOCs. Continuous liquid-liquid extraction and concentration of water samples for SVOC analysis must begin within 5 days and be completed within 7 days of VTSR. Extracts of water samples must be analyzed within 40 days of extraction.

Table 4-4 TCLP[(a)] Sample Holding Times

Analytical Parameter	From: Sample Collection To: TCLP Extraction*	From: TCLP Extraction To: Preparative Extraction	From: Preparative Extraction To: Determinative Analysis
Volatiles	7 days	NA	7 days
Semivolatiles	5 days	7 days	40 days
PCBs (as Aroclors)	5 days	7 days	40 days
Mercury	5 days	NA	28 days
Metals (except Mercury)	180 days	NA	180 days

Notes:
NA - Not Applicable.
(a) Toxicity Characteristic Leaching Procedure.
*Times shown are from verified time of sample receipt (VSTR).

5.0 Sample tracking and custody

5.1 Introduction

This section presents sample custody procedures for both the field and laboratory. Implementation of proper custody procedures for samples collected in the field is the responsibility of field personnel. Both laboratory and field personnel involved in collection and transfer of samples will be trained as to the purpose and procedures for sample custody prior to implementation.

Evidence of sample traceability and integrity is provided by COC procedures. These procedures document the sample traceability from the selection and preparation of the sample containers by the laboratory, to sample collection, to sample shipment, to laboratory receipt and analysis. The sample custody flowchart is shown in Figure 5-1. A sample is considered to be in a person's custody if the sample is:

- In a person's possession,
- Maintained in view after possession is accepted and documented,
- Locked and tagged with Custody Seals so that no one can tamper with it after having been in physical custody,
- In a secured area which is restricted to authorized personnel.

5.2 Field sample custody

A COC record (Figure 5-2 or similar) accompanies the sample containers from selection and preparation at the laboratory, during shipment to the field for sample collection and preservation, and during the return to the laboratory. Triplicate copies of the COC must be completed for each sample set collected.

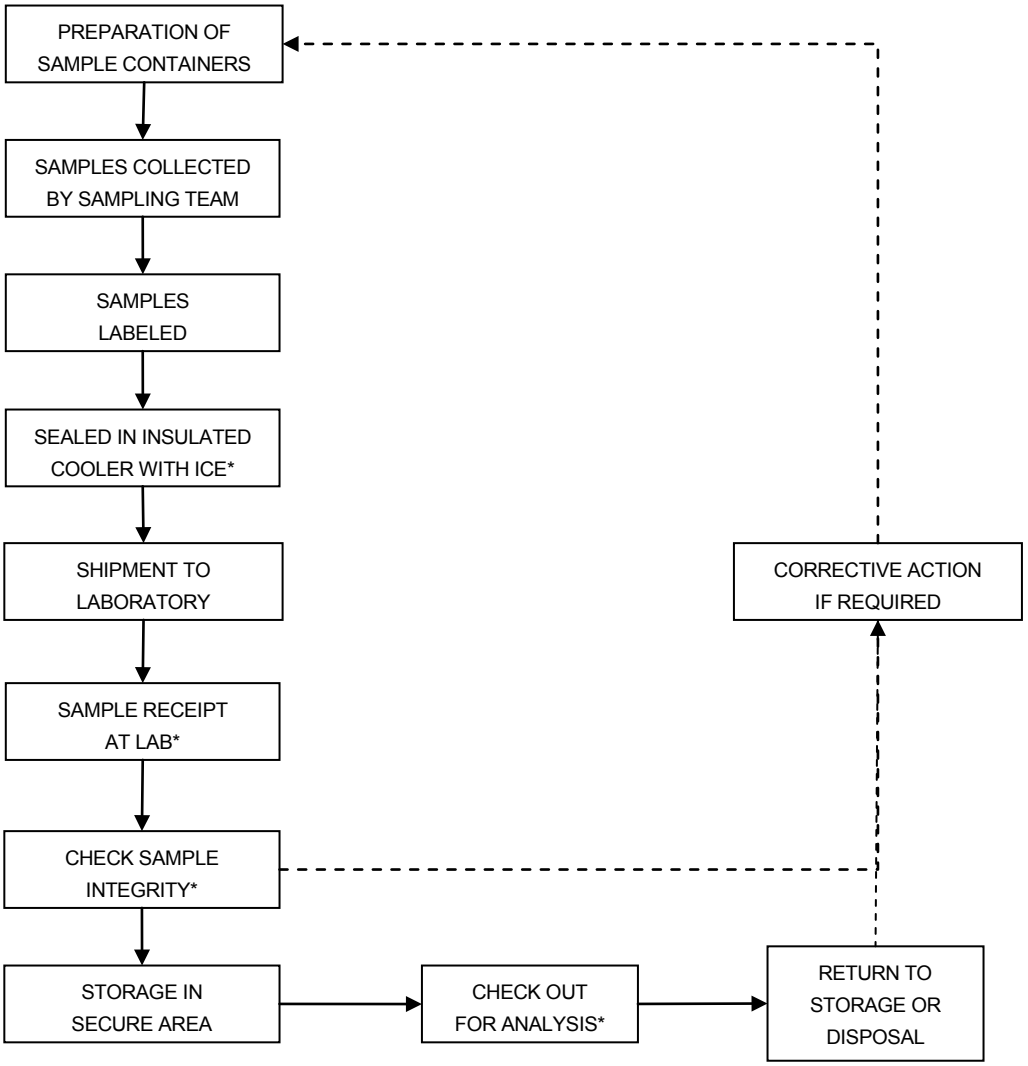
The COC lists the field personnel responsible for taking samples, the project name and number, the name of the analytical laboratory to which the samples are sent, and the method of sample shipment. The COC also lists a unique description of every sample bottle in the set. If samples are split and sent to different laboratories, a copy of the COC record will be sent with each sample.

The REMARKS space on the COC is used to indicate if the sample is a matrix spike, matrix spike duplicate, or any other sample information for the laboratory. Since they are not specific to any one sample point, trip and field blanks are indicated on separate rows. Once all bottles are properly accounted for on the form, a sampler will write his or her signature and the date and time on the first RELINQUISHED BY space. The sampler will also write the method of shipment, the shipping cooler identification number, and the shipper airbill number on the top of the COC. Errors in field records will be crossed out with a single line in ink and initialed by the author.

One copy of the COC is retained by sampling personnel and the other two copies are put into a sealable plastic bag and taped inside the lid of the shipping cooler. The cooler lid is closed, custody seals provided by the laboratory are affixed to the latch and across the back and front of the cooler lid, and the person relinquishing the samples signs their name across the seal. The seal is taped, and the cooler is wrapped tightly with clear packing tape. It is then relinquished by field personnel to personnel

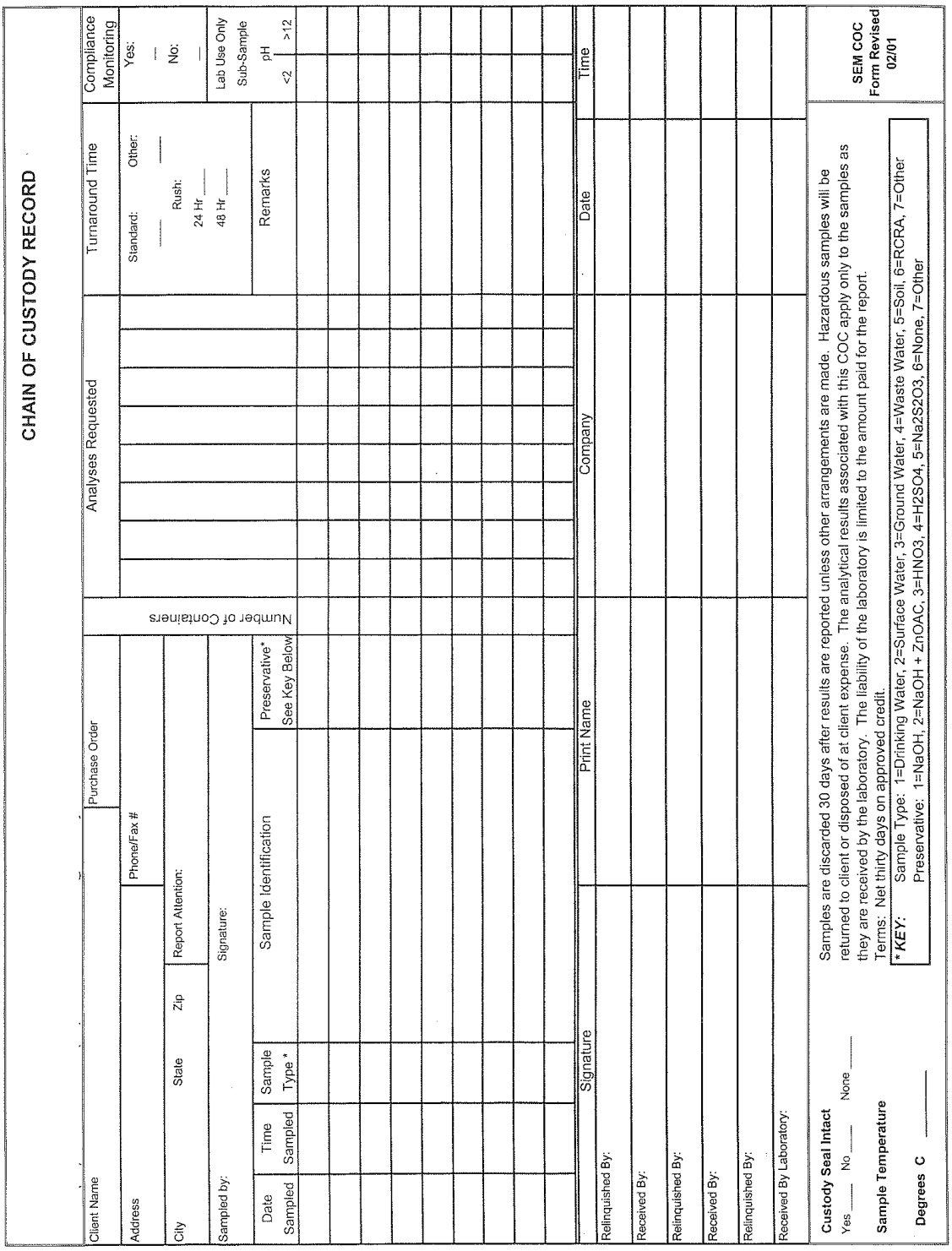
responsible for shipment, typically an overnight carrier. The COC seal must be broken to open the container. Breakage of the seals before receipt at the laboratory may indicate tampering. If tampering is apparent, the laboratory will contact the Project Manager, and the sample(s) will not be analyzed.

Figure 5-1 Sample Custody Flowdown



*Requires Sign-Off On Chain-Of-Custody.

Figure 5-2 Chain-Of-Custody Record



CHAIN OF CUSTODY RECORD

Client Name | Purchase Order | Analyses Requested | Turnaround Time | Compliance Monitoring

Address | Phone/Fax # | Standard: Other: | Yes: ___

City | State | Zip | Report Attention: | Rush: ___ | No: ___

Sampled by: | Signature: | 24 Hr ___ | Lab Use Only

48 Hr ___ | Sub-Sample pH

Date Sampled	Time Sampled	Sample Type *	Sample Identification	Preservative* See Key Below	Number of Containers								Remarks	<2	>12

	Signature	Print Name	Company	Date	Time
Relinquished By:					
Received By:					
Relinquished By:					
Received By:					
Relinquished By:					
Received By Laboratory:					

Custody Seal Intact
Yes ____ No ____ None ____

Sample Temperature
Degrees C ____

Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The analytical results associated with this COC apply only to the samples as they are received by the laboratory. The liability of the laboratory is limited to the amount paid for the report.
Terms: Net thirty days on approved credit.

***KEY:** Sample Type: 1=Drinking Water, 2=Surface Water, 3=Ground Water, 4=Waste Water, 5=Soil, 6=RCRA, 7=Other
Preservative: 1=NaOH, 2=NaOH + ZnOAC, 3=HNO3, 4=H2SO4, 5=Na2S2O3, 6=None, 7=Other

SEM COC Form Revised 02/01

5.3 Laboratory sample custody

The Project Manager or Field Team Leader will notify the laboratory of upcoming field sampling activities and the subsequent shipment of samples to the laboratory. This notification will include information concerning the number and type of samples to be shipped as well as the anticipated date of arrival.

The following laboratory sample custody procedures will be used:

- The laboratory will designate a sample custodian who will be responsible for maintaining custody of the samples and for maintaining all associated records documenting that custody.
- Upon receipt of the samples, the custodian will check cooler temperature, and check the original COC documents and compare them with the labeled contents of each sample container for correctness and traceability. The sample custodian will sign the COC record and record the date and time received.
- Care will be exercised to annotate any labeling or descriptive errors. In the event of documentation or sample integrity issues, the laboratory will immediately contact the Project Manager or Field Team Leader as part of the corrective action process. A qualitative assessment of each sample container will be performed to note any anomalies, such as broken or leaking bottles. This assessment will be recorded as part of the incoming COC procedure.
- The soil and water samples will be stored in a secured area until analyses commence, at a temperature of approximately 4 ± 2 ˚C if required.
- A laboratory tracking record will accompany the sample or sample fraction through final analysis for control.

A copy of the tracking record will accompany the laboratory report and will become a permanent part of the project records.

6.0 Calibration procedures

6.1 Field instruments

All field analytical equipment will be calibrated immediately prior to each day's use. The calibration procedures will conform to manufacturer's standard instructions and are described in the Appendix C of the Site Characterization Work Plan. This calibration will ensure that the equipment is functioning within the allowable tolerances established by the manufacturer and required by the project. Records of all instrument calibration will be maintained by the Field Team Leader. Copies of all the instrument manuals will be maintained onsite by the Field Team Leader.

Calibration procedures for instruments used for monitoring health and safety hazards (e.g., photoionization detector [PID] and explosimeter) are provided in the HASP. More frequent calibration may be needed depending on conditions encountered in the field.

6.2 Laboratory instruments

The laboratory will follow all calibration procedures and schedules as specified in the sections of the USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods given in Section 7.

7.0 Analytical procedures

7.1 Introduction

Soil, water, and waste samples will be analyzed according to the USEPA SW-846 "Test Methods for Evaluating Solid Waste," November 1986, 3rd edition and subsequent updates. The methods to be used for the laboratory analysis of water and soil samples are presented in Tables 7-1 and 7-2. These methods were selected because they attain the quantitation limits and DQOs required by the project, which are compiled on Tables 7-1 and 7-2.

Table 7-1 Project Quantitation Limits for Soil and Water

CAS No.	Analysis/Compound	Method	Quantitation Limits		State of New York Standards	
			Water (µg/L)	Soil (µg/kg)	Water (a) (µg/L)	Soil (b) (µg/kg)
Volatile Organics						
71-55-6	1,1,1-Trichloroethane	SW8260B	5	5	5	800
79-34-5	1,1,2,2-Tetrachloroethane	SW8260B	5	5	5	600
79-00-5	1,1,2-Trichloroethane	SW8260B	5	5	1	
76-13-1	1,1,2-Trichlorotrifluoroethane	SW8260B	5	5	5	
75-34-3	1,1-Dichloroethane	SW8260B	5	5	5	200
75-35-4	1,1-Dichloroethene	SW8260B	5	5	5	400
120-82-1	1,2,4-Trichlorobenzene	SW8260B	5	5	5	3400
96-12-8	1,2-Dibromo-3-Chloropropane	SW8260B	5	5	0.04	
106-93-4	1,2-Dibromoethane	SW8260B	5	5	0.0006	
95-50-1	1,2-Dichlorobenzene	SW8260B	5	5	3	7900
107-06-2	1,2-Dichloroethane	SW8260B	5	5	0.6	100
78-87-5	1,2-Dichloropropane	SW8260B	5	5	1	
541-73-1	1,3-Dichlorobenzene	SW8260B	5	5	3	1600
106-46-7	1,4-Dichlorobenzene	SW8260B	5	5	3	8500
78-93-3	2-Butanone	SW8260B	25	25	50	300
591-78-6	2-Hexanone	SW8260B	25	25	50	
108-10-1	4-Methyl-2-Pentanone	SW8260B	25	25		1000
67-64-1	Acetone	SW8260B	25	25	50	200
71-43-2	Benzene	SW8260B	5	5	1	60
75-27-4	Bromodichloromethane	SW8260B	5	5	50	
75-25-2	Bromoform	SW8260B	5	5	50	
74-83-9	Bromomethane	SW8260B	5	5	5	
75-15-0	Carbon Disulfide	SW8260B	5	5		2700
56-23-5	Carbon Tetrachloride	SW8260B	5	5	5	600
108-90-7	Chlorobenzene	SW8260B	5	5	5	1700
75-00-3	Chloroethane	SW8260B	5	5	5	1900
67-66-3	Chloroform	SW8260B	5	5	7	300
74-87-3	Chloromethane	SW8260B	5	5	5	
156-59-2	cis-1,2-Dichloroethene	SW8260B	5	5	5	
10061-01-5	cis-1,3-Dichloropropene	SW8260B	5	5	0.4	
110-82-7	Cyclohexane	SW8260B	5	5		
124-48-1	Dibromochloromethane	SW8260B	5	5	50	

CAS No.	Analysis/Compound	Method	Quantitation Limits		State of New York Standards	
			Water (µg/L)	Soil (µg/kg)	Water (a) (µg/L)	Soil (b) (µg/kg)
Volatile Organics (continued)						
75-71-8	Dichlorodifluoromethane	SW8260B	5	5	5	
100-41-4	Ethyl Benzene	SW8260B	5	5	5	5500
98-82-8	Isopropylbenzene	SW8260B	5	5	5	
79-20-9	Methyl Acetate	SW8260B	5	5		
1634-04-4	Methyl tert-butyl Ether	SW8260B	5	5		
108-87-2	Methylcyclohexane	SW8260B	5	5		
75-09-2	Methylene Chloride	SW8260B	5	5	5	100
100-42-5	Styrene	SW8260B	5	5	930	
10061-02-6	t-1,3-Dichloropropene	SW8260B	5	5	0.4	
127-18-4	Tetrachloroethene	SW8260B	5	5	5	1400
108-88-3	Toluene	SW8260B	5	5	5	1500
156-60-5	trans-1,2-Dichloroethene	SW8260B	5	5	5	300
79-01-6	Trichloroethene	SW8260B	5	5	5	700
75-69-4	Trichlorofluoromethane	SW8260B	5	5	5	
75-01-4	Vinyl Chloride	SW8260B	5	5	2	200
136777-61-2	m/p-Xylenes	SW8260B	10	10	5	1200
95-47-6	o-Xylene	SW8260B	5	5	5	
Semivolatile Organics						
92-52-4	1',1-Biphenyl	SW8270C	10	330	5	
108-60-1	2,2'-oxybis(1-Chloropropane)	SW8270C	10	330	5	
95-95-4	2,4,5-Trichlorophenol	SW8270C	10	330		100
88-06-2	2,4,6-Trichlorophenol	SW8270C	10	330		
120-83-2	2,4-Dichlorophenol	SW8270C	10	330		400
105-67-9	2,4-Dimethylphenol	SW8270C	10	330		
51-28-5	2,4-Dinitrophenol	SW8270C	10	330		200
121-14-2	2,4-Dinitrotoluene	SW8270C	10	330	5	
606-20-2	2,6-Dinitrotoluene	SW8270C	10	330	5	1000
91-58-7	2-Chloronaphthalene	SW8270C	10	330	10	
95-57-8	2-Chlorophenol	SW8270C	10	330		800
91-57-6	2-Methylnaphthalene	SW8270C	10	330		36400
95-48-7	2-Methylphenol	SW8270C	10	330		100
88-74-4	2-Nitroaniline	SW8270C	10	330	5	430
88-75-5	2-Nitrophenol	SW8270C	10	330		330

CAS No.	Analysis/Compound	Method	Quantitation Limits		State of New York Standards	
			Water (µg/L)	Soil (µg/kg)	Water (a) (µg/L)	Soil (b) (µg/kg)
Semivolatile Organics (continued)						
91-94-1	3,3'-Dichlorobenzidine	SW8270C	10	330	5	n/a
65794-96-9	3+4-Methylphenols	SW8270C	10	330		900
99-09-2	3-Nitroaniline	SW8270C	10	330	5	500
534-52-1	4,6-Dinitro-2-methylphenol	SW8270C	10	330		
101-55-3	4-Bromophenyl-phenyl ether	SW8270C	10	330		
59-50-7	4-Chloro-3-methylphenol	SW8270C	10	330		240
106-47-8	4-Chloroaniline	SW8270C	10	330	5	220
7005-72-3	4-Chlorophenyl-phenyl ether	SW8270C	10	330		
100-01-6	4-Nitroaniline	SW8270C	10	330	5	
100-02-7	4-Nitrophenol	SW8270C	10	330		100
83-32-9	Acenaphthene	SW8270C	10	330	20	50000
208-96-8	Acenaphthylene	SW8270C	10	330		41000
98-86-2	Acetophenone	SW8270C	10	330		
120-12-7	Anthracene	SW8270C	10	330	50	50000
1912-24-9	Atrazine	SW8270C	10	330	7.5	
56-55-3	Benzo(a)anthracene	SW8270C	10	330	0.002	224
50-32-8	Benzo(a)pyrene	SW8270C	10	330	ND	61
205-99-2	Benzo(b)fluoranthene	SW8270C	10	330	0.002	1100
191-24-2	Benzo(g,h,i)perylene	SW8270C	10	330		50000
207-08-9	Benzo(k)fluoranthene	SW8270C	10	330	0.002	1100
100-52-7	Benzaldehyde	SW8270C	10	330		
111-91-1	bis(2-Chloroethoxy)methane	SW8270C	10	330	5	
111-44-4	bis(2-Chloroethyl)ether	SW8270C	10	330	1	
117-81-7	bis(2-Ethylhexyl)phthalate	SW8270C	10	330	5	50000
85-68-7	Butylbenzylphthalate	SW8270C	10	330	50	50000
105-60-2	Caprolactam	SW8270C	10	330		
86-74-8	Carbazole	SW8270C	10	330		
218-01-9	Chrysene	SW8270C	10	330	0.002	400
53-70-3	Dibenzo(a,h)anthracene	SW8270C	10	330		14
132-64-9	Dibenzofuran	SW8270C	10	330		6200
84-66-2	Diethylphthalate	SW8270C	10	330	50	7100
131-11-3	Dimethylphthalate	SW8270C	10	330	50	2000
84-74-2	Di-n-butylphthalate	SW8270C	10	330	50	8100

CAS No.	Analysis/Compound	Method	Quantitation Limits		State of New York Standards	
			Water (µg/L)	Soil (µg/kg)	Water (a) (µg/L)	Soil (b) (µg/kg)
Semivolatile Organics (continued)						
117-84-0	Di-n-octyl phthalate	SW8270C	10	330	50	50000
206-44-0	Fluoranthene	SW8270C	10	330	50	50000
86-73-7	Fluorene	SW8270C	10	330	50	50000
118-74-1	Hexachlorobenzene	SW8270C	10	330	0.04	410
87-68-3	Hexachlorobutadiene	SW8270C	10	330	0.5	
77-47-4	Hexachlorocyclopentadiene	SW8270C	10	330	5	
67-72-1	Hexachloroethane	SW8270C	10	330	5	
193-39-5	Indeno(1,2,3-cd)pyrene	SW8270C	10	330	0.002	3200
78-59-1	Isophorone	SW8270C	10	330	50	4400
91-20-3	Naphthalene	SW8270C	10	330	10	13000
98-95-3	Nitrobenzene	SW8270C	10	330	0.4	200
621-64-7	N-Nitroso-di-n-propylamine	SW8270C	10	330		
86-30-6	N-Nitrosodiphenylamine	SW8270C	10	330	50	
87-86-5	Pentachlorophenol	SW8270C	10	330		1000
85-01-8	Phenanthrene	SW8270C	10	330	50	50000
108-95-2	Phenol	SW8270C	10	330		30
129-00-0	Pyrene	SW8270C	10	330	50	50000
Metals						
7429-90-5	Aluminum	6010B	200	20000	2000	SB
7440-36-0	Antimony	6010B	60	6000	6	SB
7440-38-2	Arsenic	6010B	10	1000	50	7500
7440-39-3	Barium	6010B	200	20000	2000	300000
7440-41-7	Beryllium	6010B	5	500	3	160
7440-43-9	Cadmium	6010B	5	500	5	1000
7440-70-2	Calcium	6010B	5000	500000		SB
7440-47-3	Chromium	6010B	10	1000	100	10000
7440-48-4	Cobalt	6010B	50	5000	5	30000
7440-50-8	Copper	6010B	25	2500	1000	25000
7439-89-6	Iron	6010B	100	10000	600	2000000
7439-92-1	Lead	6010B	3	300	50	400 (c)
7439-95-4	Magnesium	6010B	5000	500000	35000	SB
7439-96-5	Manganese	6010B	15	1500	600	SB
7440-02-0	Nickel	6010B	40	4000	200	13000

CAS No.	Analysis/Compound	Method	Quantitation Limits		State of New York Standards	
			Water (µg/L)	Soil (µg/kg)	Water (a) (µg/L)	Soil (b) (µg/kg)
Metals (continued)						
7440-09-7	Potassium	6010B	5000	500000		SB
7782-49-2	Selenium	6010B	5	500	20	2000
7440-22-4	Silver	6010B	10	1000	100	SB
7440-23-5	Sodium	6010B	5000	500000		SB
7440-28-0	Thallium	6010B	10	1000	0.5	SB
7440-62-2	Vanadium	6010B	50	5000		150000
7440-66-6	Zinc	6010B	20	2000	5000	20000
7439-97-6	Mercury	7470A/7471A	0.2	10	1.4	100
Inorganics						
n/a	Cyanide, Free	9014A		500		
n/a	Cyanide, Total	9014	10		400	
Pesticides						
72-54-8	4,4'-DDD	8081	0.1	3.3	0.3	2900
72-55-9	4,4'-DDE	8081	0.1	3.3	0.2	2100
50-29-3	4,4'-DDT	8081	0.1	3.3	0.2	2100
309-00-2	Aldrin	8081	0.05	1.7	ND	41
319-84-6	alpha-BHC	8081	0.05	1.7	0.01	110
319-85-7	beta-BHC	8081	0.05	1.7	0.04	200
319-86-8	delta-BHC	8081	0.05	1.7	0.04	300
58-89-9	gamma-BHC (Lindane)	8081	0.05	1.7	0.05	60
5103-71-9	alpha-Chlordane	8081	0.05	1.7		540
5566-34-7	gamma-Chlordane	8081	0.05	1.7		540
57-74-9	Chlordane	8081	1.0	33	0.05	540
60-57-1	Dieldrin	8081	0.1	3.3	0.004	44
959-98-8	Endosulfan I	8081	0.05	1.7		900
33213-65-9	Endosulfan II	8081	0.1	3.3		900
1031-07-8	Endosulfan sulfate	8081	0.1	3.3		1000
72-20-8	Endrin	8081	0.1	3.3	ND	100
7421-93-4	Endrin aldehyde	8081	0.1	3.3	5	
53494-70-5	Endrin ketone	8081	0.1	3.3	5	
76-44-8	Heptachlor	8081	0.05	1.7	0.04	100
1024-57-3	Heptachlor epoxide	8081	0.05	1.7	0.03	20

CAS No.	Analysis/Compound	Method	Quantitation Limits		State of New York Standards	
			Water (µg/L)	Soil (µg/kg)	Water (a) (µg/L)	Soil (b) (µg/kg)
Pesticides (continued)						
72-43-5	Methoxychlor	8081	0.5	17	35	
8001-35-2	Toxaphene	8081	5	170	0.06	
PCB's						
12674-11-2	Aroclor-1016	8082	1	33	0.09* Applies to the sum of the PCBs	1000 (total surface soil) 10000 (total subsurface soil)
11104-28-2	Aroclor-1221	8082	2	67		
11141-16-5	Aroclor-1232	8082	1	33		
53469-21-9	Aroclor-1242	8082	1	33		
12672-29-6	Aroclor-1248	8082	1	33		
11097-69-1	Aroclor-1254	8082	1	33		
11096-82-5	Aroclor-1260	8082	1	33		
37324-23-5	Aroclor-1262	8082	1	33		
11100-14-4	Aroclor-1268	8082	1	33		
Herbicides						
93-72-1	2,4,5-TP (Silvex)	8151	0.25	5	0.26	700
93-76-5	2,4,5-T	8151	0.25	5		1900
94-75-7	2,4-D	8151	0.5	10		500
94-82-6	2,4-DB	8151	0.5	10		

Notes:
N/A - Not Applicable
SB - soil background
ND - not detected
(a) - Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, NYSDEC, October 1993, reissued June 1998
(b) - Determination of Soil Cleanup Objectives and Cleanup Levels, NYSDEC, January 24, 1994
(c) - EPA Guidance on Residential Lead-Based Paint, Lead Contaminated Dust, and Lead Contaminated Soil, July 14, 1994

Table 7-2 Practical Quantitation Limits (PQLs) for TCLP

Compound	SW-846 Analysis	Water (µg/L)
TCLP Volatile Organic Compounds		
Benzene	1311 / 8260B	10
Carbon Tetrachloride	1311 / 8260B	10
Chloroform	1311 / 8260B	10
1,2-Dichloroethane	1311 / 8260B	10
1,1-Dichloroethene	1311 / 8260B	10
2-Butanone	1311 / 8260B	10
Tetrachloroethene	1311 / 8260B	10
Trichloroethene	1311 / 8260B	10
Vinyl Chloride	1311 / 8260B	10
TCLP Semivolatile Organic Compounds		
2-Methylphenol	1311 / 3510 / 8270B	10
3 & 4-Methylphenol	1311 / 3510 / 8270B	10
1,4-Dichlorobenzene	1311 / 3510 / 8270B	10
2,4-Dinitrotoluene	1311 / 3510 / 8270B	10
Hexachlorobutadiene	1311 / 3510 / 8270B	10
Hexachloroethane	1311 / 3510 / 8270B	10
Hexachlorobenzene	1311 / 3510 / 8270B	10
Nitrobenzene	1311 / 3510 / 8270B	10
Pentachlorophenol	1311 / 3510 / 8270B	25
Pyridine	1311 / 3510 / 8270B	10
2,4,5-Trichlorophenol	1311 / 3510 / 8270B	25
2,4,6-Trichlorophenol	1311 / 3510 / 8270B	10
TCLP Metals		
Arsenic	1311 / 3010 / 6010B	1000
Barium	1311 / 3010 / 6010B	10000
Cadmium	1311 / 3010 / 6010B	100
Chromium	1311 / 3010 / 6010B	1000
Lead	1311 / 3010 / 6010B	1000
Selenium	1311 / 3010 / 6010B	100
Silver	1311 / 3010 / 6010B	100000
Mercury	7470A	0.2

Table 7 2 Practical Quantitation Limits (PQLs) for TCLP (continued)

Compound	SW-846 Analysis	Water (µg/L)
TCLP Pesticides		
Chlordane	1311 / 8081A	2.0
Endrin	1311 / 8081A	0.2
Heptachlor (and its hydroxide)	1311 / 8081A	0.1
Lindane	1311 / 8081A	0.1
Methoxychlor	1311 / 8081A	1.0
Toxaphene	1311 / 8081A	10
TCLP Herbicides		
2,4-D	1311 / 8151A	5
2,4,5-TP Silvex	1311 / 8151A	2.5

Notes:
ND - Not Determined

8.0 Data reduction, assessment, and reporting

8.1 Data reduction

Data collected during the field investigation will be reduced in accordance with SW-846 protocols and reviewed by the laboratory QA personnel. The criteria used to identify and quantify the analytes will be those specified for the applicable methods in the USEPA SW-846 and subsequent updates.

8.2 Data quality assessment

NYSDEC recommends two levels of data review. The basic review is a Data Usability Summary Report (DUSR). Current NYSDEC policy is to require this level of review for analytical data from investigations on most sites. Full data validation is called for at sites where the data will be used in litigation, or where problems are expected with data quality (such as where matrix interference is expected to be significant). The laboratory deliverables (i.e., NYSDEC ASP Category B) are the same in both cases, and a DUSR can be upgraded to full validation at a later time if necessary. For this investigation a DUSR will be performed.

Based on the results of data assessment, the validated analytical results reported by the laboratory will be assigned one of the following USEPA-defined data usability qualifiers:

- U – Not detected at given value,
- UJ – Estimated not detected at given value,
- J – Estimated value,
- N – Presumptive evidence at the value given,
- R – Result not useable,
- No Flag – Result accepted without qualification.

Trained and experienced data assessors, who meet NYSDEC approval criteria, will perform the data review. Résumés of people who will perform the data validation and prepare the DUSR will be provided to NYSDEC for review and approval, upon request.

8.2.1 Data usability summary report (DUSR)

Data for this investigation will be evaluated and qualifications applied in accordance with the method specifications and the validation criteria set forth in the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Superfund Organic Methods Data Review, USEPA-540-R-07-003, July 2008, with additional reference to USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review, EPA 540/R-99-008, May 1999 and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, EPA-540-R-04-004, October 2004, as they applied to the analytical methods employed. Field duplicate RPD control limits were taken from the USEPA Region I Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses, February 1988, upheld in DRAFT 1993. A DUSR will be generated in accordance with USEPA Region II guidelines.

The DUSR will include a review and an evaluation of all the analytical results. To ensure compliance with the analytical method protocols the following parameters will be reviewed:

- Chain-of-custody forms
- Holding times
- Initial and continuing calibrations
- Blanks
- Laboratory control standards and matrix spikes
- Surrogate recoveries
- Matrix interference checks
- Field and laboratory duplicates
- Sample data

The DUSR will contain a description of the samples and parameters reviewed. Any deficiencies identified during the review will be noted and the effect on the generated data will be discussed. Any re-sampling or reanalysis recommendations will be then be made to the investigation's Project Manager. The results of the evaluation will be incorporated into the final investigative report.

8.2.2 Data validation

The determination to validate data will be made based on the presence of data anomalies, suspect data, or laboratory issues. Data for this investigation will be evaluated and qualifications applied in accordance with the method specifications and the validation criteria set forth in the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Superfund Organic Methods Data Review, USEPA-540-R-07-003, July 2008, with additional reference to USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review, EPA 540/R-99-008, May 1999 and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, EPA-540-R-04-004, October 2004, as they applied to the analytical methods employed. Field duplicate RPD control limits were taken from the USEPA Region I Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses, February 1988, upheld in DRAFT 1993.

A data validation report (DUSR) will be prepared by the project Chemist and reviewed by the Environmental Chemistry Group staff before issuance. The data validation report will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and COC procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method. A detailed assessment of each sample delivery group will follow. For each of the organic analytical methods, the following parameters will be assessed:

- Holding times
- Instrument tuning
- Instrument calibrations
- Blank results

- System monitoring compounds or surrogate recovery compounds (as applicable)
- Internal standard recovery results
- MS and MSD results
- Field duplicate results
- Target compound identification
- Result calculations
- Pesticide cleanup (if applicable)
- Compound quantitation and reported detection limits
- System performance
- Results verification

For each of the inorganic compounds, the following will be assessed:

- Holding times
- Calibrations
- Blank results
- Interference check sample
- Laboratory check samples
- Duplicates
- Matrix Spike(s)
- Furnace atomic absorption analysis QC
- ICP serial dilutions
- Results verification and reported detection limits
- Result calculations

8.3 Data reporting

The data package provided by the laboratory will contain all items discussed above in a NT ASP Category B “CLP-equivalent” format. Data quality issues will be discussed in a case narrative included with the data report. The completed copies of the COC records (both external and internal) accompanying each sample from time of initial bottle preparation to completion of analysis shall be attached to the analytical reports.

Two copies of the analytical data packages and an electronic data deliverable (EDD) will be provided by the laboratory approximately 30 days after receipt of a complete sample delivery group. The Project Manager will immediately arrange for filing one package. A second copy and the EDD will be used to generate summary tables. These tables will form the database for assessment of the site contamination condition.

The EDD format required is current format Earthsoft EQuIS® Environmental Data Management Software.

Each EDD must be formatted and copied using an MS-DOS operating system. To avoid transcription errors, data will be loaded directly into the ASCII format from the laboratory information management system (LIMS). If this cannot be accomplished, the consultant should be notified via letter of transmittal indicating that manual entry of data is required for a particular method of analysis. All EDDs must also undergo a QC check by the laboratory before delivery. The original data, tabulations, and electronic media are stored in a secure and retrievable fashion.

The Project Manager or Task Manager will maintain close contact with the QA reviewer to ensure all nonconformance issues are resolved prior to use of the data.

9.0 Internal quality control checks

QC procedures and checks are used to evaluate the precision and accuracy of analytical data. Field QC checks are used to identify potential problems associated with sample collection procedures. Laboratory QC checks are used to identify problems associated with sample preparation and analysis.

9.1 Field quality control checks

To check the quality of data from field sampling efforts, blanks and duplicate samples will be collected for analysis. Field duplicate and rinseate blank samples will be collected at a frequency of one in 20 samples. Trip blank samples will be analyzed at a frequency of one per each shipment of VOC samples. Field MS/MSD samples will be collected at a frequency of one in 20 samples. These samples will be treated as separate samples for identification, logging, and shipping purposes. Analytical results for blanks and duplicates will be reported with the field sample data.

9.2 Laboratory quality control checks

The analytical laboratory must have an implemented QC program documented in a QA manual to ensure the reliability and validity of the analysis performed at the laboratory. All analytical procedures are documented in writing as standard operating procedures (SOPs) and each SOP must include a QC section that addresses the minimum QC requirements for the procedure. The internal QC checks differ slightly for each individual procedure, but in general the QC requirements include the following:

- Method blanks
- Reagent/preparation blanks (applicable to inorganic analysis)
- Instrument blanks
- MS/MSDs
- Surrogate spikes (organic methods only)
- Analytical spike (applicable to graphite furnace analysis)
- Laboratory control samples
- Internal standard areas for GC/MS analysis
- Mass tuning for GC/MS analysis
- Endrin/4,4'-DDT degradation checks for pesticide analysis
- Second, dissimilar column confirmation for pesticide and polychlorinated biphenyl (PCB) analysis

All data obtained will be properly recorded. The data package will include a full deliverable package capable of allowing the recipient to reconstruct QC information and compare it to QC acceptance criteria. The laboratory will reanalyze any samples associated with nonconforming quality control checks, if sufficient volume is available. It is expected that sufficient volumes/weights of samples will be collected to allow for reanalysis when necessary.

10.0 Performance and system audits and frequency

Two types of audit procedures are conducted during any environmental investigation: performance and system audits. These audits are performed on the laboratory as well as field activities. The laboratory and field auditors will be independent of the function they will be auditing. Audits will be documented and maintained by the respective Laboratory or Contractor Project Manager.

10.1 Performance audits

10.1.1 Laboratory performance audits

Laboratory performance audits are administered by the laboratory QA department on a periodic basis (e.g., semi-annually). The audit samples are used to monitor accuracy and identify and resolve problems in sample preparation and analysis techniques, which lead to the generation of nonconforming data.

The laboratory performance audits include verification of each analyst's record keeping, proper use and understanding of procedures, and accuracy evaluation. Corrective action will be taken for any performance failure noted.

10.1.2 Field performance audits

The QAO or designee will perform field performance audits of the field sample team on an annual basis at a minimum. The field team leader will review all field data. The analytical results of the field blanks and replicate samples are indirect audits of the level of performance of field activities. If a nonconformance is found in the evaluation of field QC data, corrective action will be taken to resolve the issue. The corrective action will be documented.

10.2 System audits

10.2.1 Laboratory system audits

Laboratory system audits will be conducted against the QA Manual and the administrative and method SOPs, by the laboratory QA department, on an annual basis. System audits are used to ensure that all aspects of the laboratory's QC program are implemented and effective. This involves a thorough review of all laboratory practices and documentation to confirm that work is performed according to project specifications.

Outside agency performance and system audits may be used to verify contract compliance or the laboratory's ability to meet requirements for analytical methods and documentation. Copies of current certifications and accreditations may be used in lieu of an audit by the Contractor Project Manager.

10.2.2 Field system audits

The QAO or designee shall perform field system audits of the field sampling team on an annual basis at a minimum. All field activities will be audited to ensure that the field work is being performed according to the approved work plans, QAPP, and method procedures. Accuracy, precision, and documentation clarity will be evaluated. Any time a deficiency is noted during an ongoing systems audit, the project

manger or designee will inform the field staff immediately so that corrective actions may be implemented.

11.0 Preventive maintenance

11.1 Field instrument preventive maintenance

Written procedures will establish the schedule for servicing critical items in order to minimize the downtime of the measurement system(s). Field instruments will be checked and calibrated daily before use. Calibration checks will be documented on the field calibration log sheets. Critical spare parts such as tape and batteries will be kept on-site to reduce potential downtime. Backup instruments and equipment will be available on-site or within 1-day shipment to avoid delays in the field schedule.

11.2 Laboratory instrument preventive maintenance

Designated laboratory employees regularly perform routine scheduled maintenance and repair of all instruments. All maintenance that is performed is documented in the laboratory's operating records. All laboratory instruments are maintained in accordance with manufacturer's specifications. The laboratory's QA Manual specifies the typical frequency with which components of key analytical instruments or equipment will be serviced.

11.3 Records

Logs shall be established to record maintenance and service. All maintenance records will be controlled and traceable to the designated equipment, instruments, tools, or gauges. Records produced shall be reviewed, maintained, and filed by the operators at the laboratories. The QAO may audit the field maintenance records to verify complete adherence to these procedures.

12.0 Corrective action

12.1 Introduction

The following procedures have been established to ensure that conditions adverse to quality, such as malfunctions, deficiencies, deviations, and errors, are promptly investigated, documented, and corrected.

12.2 Procedure description

When a significant condition adverse to quality is noted at site, laboratory, or subcontractor location, the cause of the condition will be determined and corrective action will be taken to preclude recurrence. Condition identification, cause, reference documents, and corrective action planned to be taken will be documented and reported to the QAO, Contractor Project Manager, Field Team Leader, and involved contractor management, at a minimum. Implementation of corrective action is verified by documented follow-up action.

All project personnel have the responsibility, as part of the normal work duties, to promptly identify, report, and investigate conditions adverse to quality. Corrective actions will be initiated as follows.

- When predetermined acceptance standards are not attained
- When procedure or data compiled are determined to be deficient
- When equipment or instrumentation is found to be faulty
- When samples and analytical test results are not clearly traceable
- When quality assurance requirements have been violated
- When designated approvals have been circumvented
- As a result of system and performance audit findings
- As a result of a management assessment
- As a result of laboratory/field comparison studies
- As required by USEPA SW-846 and subsequent updates, or by the NYSDEC ASP

Project management and staff, such as field investigation teams, remedial response planning personnel, and laboratory groups, will monitor on-going work performance in the normal course of daily responsibilities. Work may be audited at the sites, laboratories, or contractor locations. Activities or documents ascertained to be nonconforming with quality assurance requirements will be documented. Corrective actions will be mandated through audit finding sheets attached to the audit report. Audit findings are logged, maintained, and controlled by the Task Manager.

Personnel assigned to quality assurance functions will have the responsibility to issue and control Corrective Action Request (CAR) Forms (Figure 12-1 or similar). The CAR identifies the out-of-compliance condition, reference document(s), and recommended corrective action(s) to be administered. The CAR is issued to the personnel responsible for the affected item or activity. A copy is

also submitted to the Contractor Project Manager. The individual to whom the CAR is addressed returns the requested response promptly to the QA personnel, affixing his/her signature and date to the corrective action block, after stating the cause of the conditions and corrective action to be taken. The QA personnel maintain the log for status of CARs, confirms the adequacy of the intended corrective action, and verifies its implementation. CARs will be retained in the project file.

Any project personnel may identify issues requiring corrective action; however, the QAO is responsible for documenting, numbering, logging, and verifying the closeout action. The Contractor Project Manager will be responsible for ensuring that all recommended corrective actions are implemented, documented, and approved.

Figure 12-1 Corrective Action Form

CORRECTIVE ACTION REQUEST Number: _____ Date: _____
TO: _____ You are hereby requested to take corrective actions indicated below and as otherwise determined by you to (a) resolve the noted condition and (b) to prevent it from recurring. Your written response is to be returned to the project quality assurance manager by _____
CONDITION:
REFERENCE DOCUMENTS:
RECOMMENDED CORRECTIVE ACTIONS:
_____ _____ _____ _____ _____ _____ Originator Date Approval Date Approval Date
RESPONSE
CAUSE OF CONDITION
CORRECTIVE ACTION (A) RESOLUTION (B) PREVENTION (C) AFFECTED DOCUMENTS
C.A. FOLLOW-UP: CORRECTIVE ACTION VERIFIED BY: _____ DATE:_____

13.0 References

GEI Consultants, 2007. *Bay Ridge Former Holder Stations A and B Site, Site Number 224058, Records Search*, April 6, 2007.

Taylor, J. K., 1987. *Quality Assurance of Chemical Measurements*. Lewis Publishers, Inc., Chelsea, Michigan

United States Environmental Protection Agency (USEPA), 1986. SW-846 Test Method for Evaluating Solid Waste, Washington, D.C., November 1986,

USEPA, 1987. *Data Quality Objectives for Remedial Response Actions Activities: Development Process*, EPA/540/G-87/003, OSWER Directive 9355.0-7, Washington, D.C.

USEPA, 2008*. USEPA Contract Laboratory Program, National Functional Guidelines for Superfund Organic Methods Data Review*, June 2008.

USEPA, 2004. USEPA *Contract Laboratory Program, National Functional Guidelines for Inorganic Data Review*, October 2004.

Vanasse Hangen Brustlin, Inc., 2000. *Draft Environmental Site Assessment Report, Bay Ridge Little League Baseball Fields, Brooklyn, New York*, May 2000.

Appendix E

Community Air Monitoring Plan (CAMP)

AECOM Environment

Prepared for:
National Grid
Brooklyn, New York

Submitted by:
AECOM
Manhattan, NY
60137360
January 2010

Community Air Monitoring Plan

Bay Ridge Former Holder Stations A and B Site
Brooklyn, New York
NYSDEC Site No.: 224058
Order on Consent Index #: A2-0552-0606

AECOM Environment

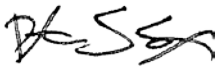
Prepared for:
National Grid
Brooklyn, New York

Submitted by:
AECOM
Manhattan, NY
60137360
January 2010

Community Air Monitoring Plan

Bay Ridge Former Holder Stations A and B Site
Brooklyn, New York
NYSDEC Site No.: 224058
Order on Consent Index #: A2-0552-0606

Prepared By Jennifer L. Atkins, Project Engineer



Reviewed By Peter S. Cox, Project Manager

Revised By: Nelson J. Abrams, Senior Project Manager

Contents

List of Appendices

List of Tables

List of Figures

1.0 Introduction

This document provides the Community Air Monitoring Plan (CAMP) that will be implemented during the Site Characterization Investigation of the Bay Ridge Former Holder Stations A and B Site located in Brooklyn, New York. This site is comprised of two parcels both located between 8th and 9th Avenues, with Holder Station A between 63rd and 64th Streets, and Holder Station B between 65th and 66th Streets.

This CAMP has been prepared by AECOM Environment (AECOM) on behalf of National Grid to present the methods and procedures that will be used to evaluate air quality in the immediate vicinity of investigation activities and provide protection to potential off-site receptors.

The current property owners are listed below. Holder Station A and the ball field portion of Holder Station B are now owned by third parties.

Parcel	Owner	Parcel Address	Land Use
Block 5735 Lot 17 (Holder Station A)	Carmello Giuffre	837 64th Street, Brooklyn, NY 11220	Parking facilities
Block 5749 Lot 15 (Holder Station B)	National Grid	195 65th Street, Brooklyn, NY 11220	Transportation and utility

*Information according to the *Bay Ridge Former Holder Stations A and B Site, Site Number 224058, Records Search*, GEI Consultants, April 6, 2007.

The site was operated by Kings County Gas and Illuminating Company, a predecessor company to National Grid USA (National Grid), from prior to 1905 to sometime between 1950 and 1970. Holder Station A is currently used as a parking lot for a new car dealer. Holder Station B is currently used as a National Grid gate station (eastern portion) and as baseball fields. The Holder Station A property is owned by a third party, while the Holder Station B property is owned by National Grid.

The Site Characterization fieldwork proposed for the current site is described in *Site Characterization Work Plan, Bay Ridge Former Holder Stations A and B Site, Brooklyn, New York, NYSDEC Site No.: 224058* dated September 2009. The field investigation involves the installation of subsurface soil borings and monitoring wells and the collection of soil and groundwater samples.

The objectives of this CAMP are to:

- Ensure that the airborne concentrations of constituents of concern (COC) are minimized to protect human health and the environment
- Provide an early warning system so that potential emissions can be controlled on site at the source
- Measure and document the concentrations of airborne COC to confirm compliance with regulatory limits

The community air monitoring will be performed around the site perimeter, and will measure the concentrations of organic vapors and dust during all ground-intrusive activities (soil boring and well

installations). Because the site consists of two non-adjacent parcels, the community air monitoring activities detailed in this document will be applied separately at each parcel when ground-intrusive investigation activities are being conducted there.

This CAMP is a companion document to AECOM's site-specific Health and Safety Plan (HASP). The HASP is a separate document and is directed primarily toward protection of on-site workers within the designated work zones.

2.0 Constituents of concern and action levels

The Bay Ridge Former Holder Stations A and B Site is known to have subsurface impacts dating from the site's historical use for gas holders. As such, the constituents of concern are volatile and semi-volatile organic compounds (VOCs and SVOCs). The primary VOCs of concern are benzene, ethylbenzene, toluene, and xylene (BTEX compounds). VOCs are more volatile than SVOCs and are generally of greater concern when monitoring the air quality during gas holder site investigations.

Airborne dust is also a concern and must be monitored and controlled due to its ability to co-transport adsorbed constituents and because of its nuisance properties.

Odors, though not necessarily indicative of high constituent concentrations, could create a nuisance (especially when working within or in close proximity to existing buildings and building entrances) and will be monitored and controlled to the extent practicable.

State and federal regulatory agencies have provided action levels for many of these constituents. The action levels are the allowable airborne concentrations above which respiratory protection or other health and safety controls are required. For work at the former gas holder site, the following levels should not be exceeded for more than 15 consecutive minutes at the downwind perimeter of the site:

- Benzene 1 part per million (ppm)
- Total VOCs 5 ppm
- Dust 100 micrograms per cubic meter (µg/m3)

The action levels cited here are above (in addition to) the background ambient (upwind) concentration.

3.0 Air monitoring equipment and methods

Air quality monitoring will be performed for total VOCs, benzene, and dust as outlined below.

Two perimeter locations will be established each day and an air monitoring technician will check the instrumentation at each of these locations frequently during the work. Typically there will be monitoring locations at one upwind site perimeter location and one downwind perimeter location. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. Field personnel will be prepared to monitor multiple locations in the event that there is little wind or if the wind direction changes frequently. If ground-intrusive investigation activities are being conducted on both parcels of the site on the same day, separate perimeter locations and monitoring will be established for each parcel.

The monitoring instruments will be calibrated at the start of each workday, and again during the day if the performance of an instrument is in question.

3.1 Volatile organic compounds and benzene monitoring

3.1.1 Ambient air monitoring

VOC monitoring will be performed using three field photoionization detectors (PIDs) (RAE Systems MiniRAE or equivalent). The monitoring instruments will be checked by a technician every 15 minutes, and the real-time measurements recorded. The PIDs will be equipped with an audible alarm to indicate exceedance of the action level.

A 15-minute running average concentrations will be calculated, which can then be compared to the action levels. If real-time measurements of total VOCs indicate that the action level is exceeded, the benzene concentration will also be determined at that location using benzene-specific colorimetric tubes. The data will be downloaded at the end of each day, and monitoring records will be kept at the site during the work in case there is an inquiry or complaint.

PID measurements will be made at one upwind and one downwind location around the work area. The locations of the instruments may be changed during the day to adapt to changing wind directions.

3.2 Particulate (dust) monitoring

Particulate (dust) monitoring will be performed during intrusive activity (drilling) at the site. Two particulate monitors (TSI DustTrak or equivalent) will be used for continuous real-time dust monitoring. The monitoring instruments will be checked by a technician every 15 minutes, and the real-time measurements recorded. A 15-minute average concentration will be determined. The data will be downloaded at the end of each day, and monitoring records will be kept at the site during the work in case there is an inquiry or complaint.

In addition, fugitive dust migration will be visually assessed during all work activities, and the observations recorded.

Measurements will be made at one upwind and one downwind location around the work area. The locations of the instruments may be changed during the day to adapt to changing wind directions.

4.0 Emission control plan

4.1 Ambient air

Odor, vapor, and dust control will be required for this project due to the close proximity of commercial buildings and public roadways and sidewalks. Table 1 provides a response chart for the monitoring and control of vapor emissions. Table 2 provides a list of emergency contacts.

- If the ambient air concentration of total VOC levels at the downwind perimeter of the work area or exclusion zone exceeds 5 ppm (or the benzene level exceeds 1 ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor levels readily decreases (per instantaneous readings) below 5 ppm (and the benzene level drops below 1 ppm) over background, work activities can resume with continued monitoring.
- If total VOC levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm (or the benzene level persists over 1 ppm) over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions until the concentrations drop below the action levels, 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 will be shutdown.

Site perimeter particulate concentrations will also be monitored continuously. In addition, dust migration will be visually assessed during all work activities.

- If the downwind particulate level is 100 µg/m3 greater than the background (upwind perimeter) level for a 15-minute period, or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that downwind particulate levels do not exceed 150 µg/m3 above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind particulate levels are greater than 150 µg/m3 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 particulate concentration to within 150 µg/m3 of the upwind level and in preventing visible dust migration.

Typical emission control measures may include:

- Apply water for dust suppression;
- Relocate operations, if applicable; and
- Reassess the existing control measures.

Figure 4-1 Vapor Emission Response Chart

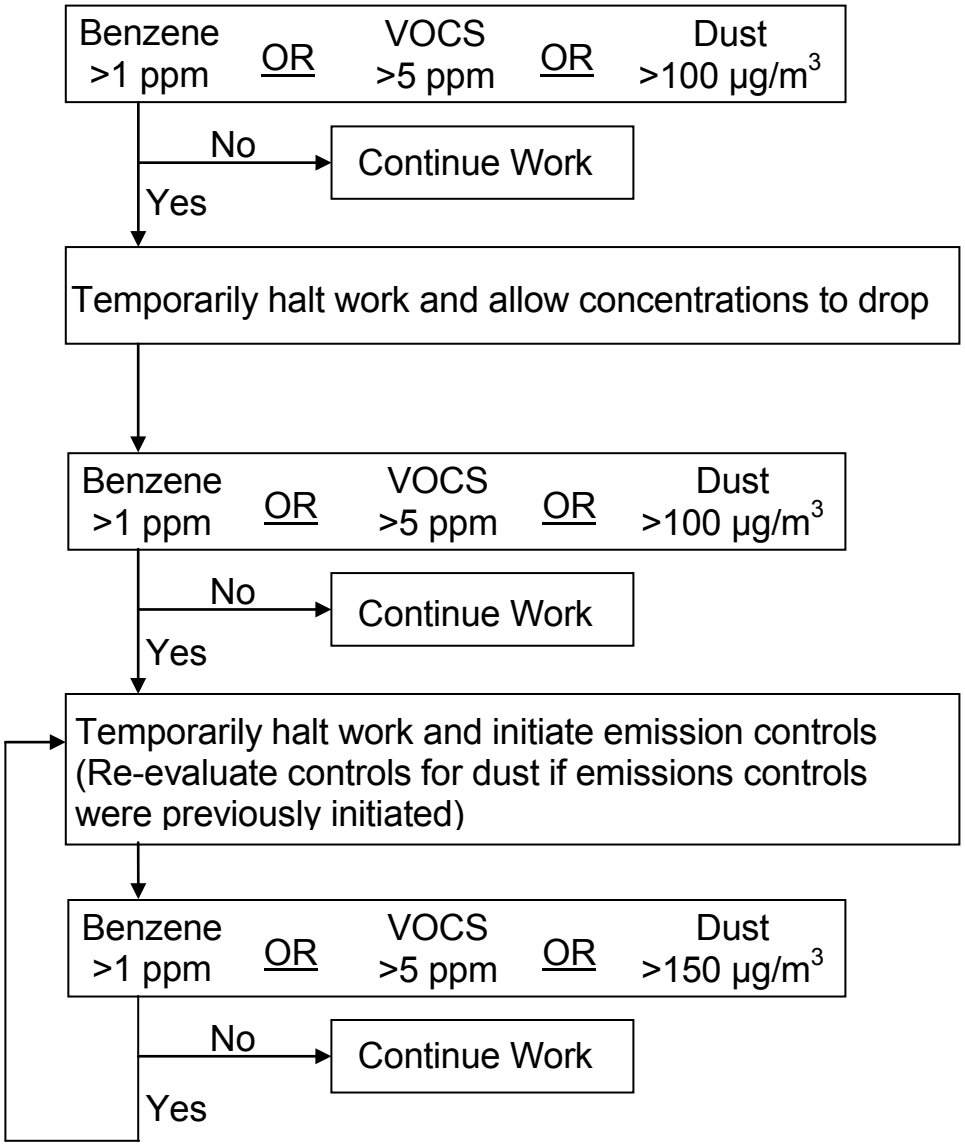


Table 4-1 Emergency Contacts and Telephone Numbers

Fire:	911	
Police:	911	
Ambulance:	911	
AECOM Environment Contacts	Shail Pandya	(718) 309-5643 cell
National Grid Contacts	Donald Campbell	(973) 715-8447 cell

5.0 Odor control procedures

This section outlines the procedures to be used to control odors that may be generated during the Site Characterization field activities. The investigation program will be conducted using one principal investigation technique that may generate odors: subsurface soil borings/monitoring well installations. The remainder of this section is intended to provide site managers, representatives of NYSDEC and New York State Department of Health (NYSDOH), and the public with information summarizing typical odor control options, and to provide some guidance for their implementation. A description of potential sources of odors and methods to be used for odor control is presented in the following sections.

5.1 Potential sources of odors

Generally, the residuals encountered at former gas holder sites are well defined. They are related to residual coal tar-like materials and petroleum, and principally contain VOCs, polynuclear aromatic hydrocarbons (PAHs), and a number of inorganic constituents, including metal-complexed cyanide compounds, and metals. Constituents indicative of holder residuals or petroleum products can produce odor emissions during investigation activities when they are unearthed in soil borings/well installations. When this occurs, VOCs and light-end SVOCs can volatilize into the ambient air. Some holder residuals can cause distinctive odors that are similar to mothballs, roofing tar, or asphalt driveway sealer. However, the constituent concentrations generally associated with these odors are typically significantly less than levels that might pose a potential health risk. It is important to note that the CAMP will provide for continual monitoring of VOCs and dust during the fieldwork to monitor for any potential release of constituents which may pose a threat to health.

5.2 Odor monitoring

The field investigation personnel will record observations of odors generated during the implementation of the Site Characterization. When odors attributable to the uncovering of impacted media are generated in the work area during intrusive activities such as soil borings, observations will also be made at the down-wind limit of the former gas holder site, in order to assess the potential for off-site odors. The down-wind odor monitoring will be performed in conjunction with the Site Characterization and dust monitoring program described in this CAMP.

Upon detection of odors at the site perimeter, site controls, starting in the work area, will be implemented. The site controls described in the following sections will be used to assist with odor mitigation to minimize, and to prevent where practicable, the off-site migration of odors. Due to the short distances between any work area at the site and the property line or nearby potential receptors, site controls will be implemented proactively when odors are detected in the breathing zone at any work area.

5.3 General site controls

Several general drilling procedure site controls that will be implemented include:

- Every effort will be made to minimize the amount of time that impacted material is exposed to ambient air at the site.
- Drill cuttings from the soil borings will be containerized as soon as possible during completion of each soil boring.

- Meteorological conditions are also a factor in the generation and migration of odors. Some site activities may be limited to times when specific meteorological conditions prevail, such as when winds are blowing away from a specific receptor.

5.4 Secondary site controls

If substantial odors still present an issue following implementation of the above procedures, secondary controls will be enacted. The AECOM field representative will work through the applicable list of secondary controls until the perimeter odor issues are resolved. The AECOM field representative will work closely with National Grid and NYSDEC during this task, if present. Final selection of controls will be dependent on field conditions encountered. Secondary controls include the following:

- For stockpiled impacted soil, temporary tarps or polyethylene covers will be used to control odors.
- The placement of portable barriers close to small active source areas an elevate the discharge point of emissions to facilitate dispersion and minimize the effect on downwind receptors. The barriers can be constructed using materials such as plastic “Jersey barriers”, or fence poles and visual barrier fabric/plastic. The barriers are placed as temporary two or three-sided structures around active intrusive investigation areas, oriented such that the barriers are placed on the upwind and downwind sides of the source. If only one side of the source can be accessed, then the barrier should be placed on the downwind side.
- Two agents that can be sprayed over impacted soil have been determined to be effective in controlling emissions. They include odor suppressant solution (BioSolve™), and hydro-mulch. These agents may be used where tarps cannot be effectively deployed over the source material, or where tarps are ineffective in controlling odors:
  - BioSolve™ can provide immediate, localized control of odor emissions. Information regarding the preparation and use of BioSolve™ is provided in Appendix A.
  - Hydromulch - Although it is unlikely that it will be necessary, a modified hydromulch slurry may be used to cover inactive sources for extended periods of time (up to several days). The hydromulch, typically cellulose fibers (HydroSealR) is modified by mixing a tackifier (glue) with the mulch and water to form a slurry. It is applied using a standard hydroseed applicator to a thickness of ¼ inch. The material forms a sticky, cohesive, and somewhat flexible cover. Reapplication may be necessary if the applied layer becomes desiccated or begins to crack.

5.5 Record keeping and communication

Similar to readings recorded during the monitoring specified in the CAMP, all odor monitoring results will be recorded in the field log book or other air monitoring forms, and be available for review by the agencies upon request.

The AECOM field representative, in consultation with National Grid, will also provide information on odor monitoring and odor management to residents of the neighborhood should they inquire. In the event that odors persist after these efforts, work will be temporarily discontinued until a mutually agreeable solution with National Grid, NYSDEC, and NYSDOH staff can be worked out which allows the work to be completed while minimizing the off-site transport of nuisance odors.

6.0 Documentation and reporting

Data generated during perimeter air monitoring will be recorded in field logs and summarized daily in spreadsheets. The electronic measurements from the PIDs and dust meters will be downloaded each day, reviewed, and archived. Exceedances of the action levels, if any, and the actions to be taken to mitigate the situations, will be discussed immediately with the on-site representatives. Summaries of all air monitoring data will be provided to NYSDEC as requested.

Appendix A

Vapor Suppression Information

BioSolve®
Hydrocarbon Mitigation Technology

...Is Making A Difference!

VAPOR SUPPRESSION / ODOR CONTROL

BioSolve® offers a relatively simple and cost effective method of suppressing Odors and VOC release from soils, during excavation, loading, stockpiling, etc. The following guidelines will apply to the most common situations encountered on site.

In most cases a 3% BSW solution (1 part **BioSolve®** concentrate to 33 parts water) will be adequate to keep vapor emissions within acceptable limits and control fugitive odor problems on contact. Although, some sites may only require a 2% solution, up to a 6% solution may be recommended on sites with elevated levels or particularly difficult/ mixed stream contaminants are present.

The **BioSolve®** solution should be applied evenly to the soil surface in sufficient quantity to saturate the surface area. As a general rule, use 1-3 litres of **BioSolve®** solution to 1 square metre of surface area. (1 gallon of **BioSolve®** per solution will cover approximately 4-sq. yd. of soil surface area) **BioSolve®** is a water-based surfactant that will apply like water.

BioSolve®, in its concentrated form, is a viscous liquid material that must be diluted with water. A fluorescent red tracing dye is present in the formula allowing **BioSolve®** to be detected during application. Once diluted, **BioSolve®** can be applied with virtually any equipment that can spray water. **BioSolve®** will not harm equipment or clog pipes. For large sites, applicators such as water truck, portable agricultural sprayers, foam inductors & pressure sprayers can be used. For smaller jobs, garden sprayers, water extinguishers or a garden hose with a fertiliser attachment on the nozzle can be used effectively. This characteristic makes **BioSolve®** very adaptable and much most convenient to use in almost any situation. **BioSolve®** is equally effective when used with all types of water (soft, hard, salt or potable).

On stockpiled soil or other soil that will be left undisturbed, a single application of **BioSolve®** to the exposed surfaces may last up to 10 to 14 days or more (depending on environmental conditions). **BioSolve®,** when applied, will form a "cap" of clean soil. If the soil is not disturbed, via weather, movement, etc. this "cap" will remain functional. During excavation, loading or other movement of the soil, it may be required to spray an additional amount of **BioSolve®** to the freshly exposed surface area to keep emissions at an acceptable level.

In case of an extremely high level of emissions, or if the soil is heavily contaminated, it may be necessary to increase the strength of the **BioSolve®** solution or apply more solution per square metre to reduce emissions adequately. It is important that the site be monitored regularly and that the **BioSolve®** solution be reapplied if and when necessary to insure that VOC emissions and odors remain under control.

BioSolve® is packaged and readily available in 55 gallon (208 liter) drums, 5 gallon (19 liter) pails and in 4X1 gallon (3.8 liter X 4) cases. Contact The Westford Chemical Corporation® Toll Free @ 1-800-225-3909, via e-mail at info@biosolve.com or your Local BioSolve distributor for pricing.

BioSolve® should only be used in accordance with all regulatory rules and regulations.

SOIL VAPOR SUPPRESSION UTILIZING BIOSOLVE

BioSolve is being utilized by numerous environmental consultants, response contractors, and fire departments to suppress VOC's & LEL's as well as problem odors. BioSolve encapsulates the source of the vapor rather than temporarily blanketing it like a foam or other physical barrier. Vapor reduction is so fast and effective that BioSolve is used to comply with the tough emission standards regulated by each State.

BioSolve offers a relatively simple and cost effective method of suppressing VOC vapor release from soils during excavation, loading, stockpiling… The following guidelines will apply to the most common situations encountered on site.

In most cases a 3% solution of BioSolve will be adequate to keep vapor emissions within acceptable limits. Dilute BioSolve concentrate with water at a ratio of 1 part BioSolve to 33 parts water to make a 3% solution.

The BioSolve solution should be applied evenly to the soil surface in sufficient quantity to dampen the surface well, (as a general rule, 1 gallon of BioSolve solution will cover approximately 4 sq. yd. of soil surface area). BioSolve is not a foam, it is a surfactant based product that will apply like water. The solution may be applied with a hand sprayer, high pressure power sprayer, water truck, etc., whichever method best suits the site and/or conditions.

NOTE: In the case of extremely high emission levels and/or very porous soil it may be necessary to increase the strength of the BioSolve solution (6%) or apply more per sq. yd. to reduce emissions adequately. On stockpiled soil or other soil that will be undisturbed, a single application of BioSolve to the exposed surfaces may last 10-14 days or more. During excavation, loading, or other movement of soil it may be necessary or required to spray each freshly exposed surface to keep emissions below acceptable

levels.It is important that the site be monitored regularly and the BioSolve solution be reapplied if/when necessary to insure that vapor emissions remain at or below acceptable standards.

MATERIAL SAFETY DATA SHEET

THE WESTFORD CHEMICAL CORPORATION®
P.O. Box 798
Westford, Massachusetts 01886 USA

Ref. No.: 2001
Date: 1/1/2002

Phone: (978) 392-0689
Phone: (508) 878-5895
Emergency Phone-24 Hours: 1-800-225-3909

Fax: (978) 692-3487
Web Site: http://www.BioSolve.com
E-Mail: info@BioSolve.com

SECTION I - IDENTITY

Name:	**BioSolve®**
CAS #:	138757-63-8
Formula:	Proprietary
Chemical Family:	Water Based, Biodegradable, Wetting Agents & Surfactants
HMIS Code:	Health 1, Fire 0, Reactivity 0
HMIS Key:	4 = Extreme, 3 = High, 2 = Moderate, 1 = Slight, 0 = Insignificant

---

SECTION II - HAZARDOUS INGREDIENTS

Massachusetts Right to Know Law or 29 C.F.R. (Code of Federal Regulations) 1910.1000 require listing of hazardous ingredients.

This product does not contain any hazardous ingredients as defined by CERCLA, Massachusetts Right to Know Law and California's Prop. 65.

SECTION III - PHYSICAL - CHEMICAL CHARACTERISTICS

Boiling Point	: 265°F	Specific Gravity	: 1.00 +/-.01
Melting Point	: 32°F	Vapor Pressure mm/Hg	: Not Applicable
Surface Tension- 6% Solution	: 29.1 Dyne/cm at 25°C	Vapor Density Air = 1	: Not Applicable
Reactivity with Water	: No	Viscosity - Concentrate	: 490 Centipoise
Evaporation Rate	: >1 as compared to Water	Viscosity - 6% Solution	: 15 Centipoise
Appearance	: Clear Liquid unless Dyed	Solubility in Water	: Complete
Odor	: Pleasant Fragrance	pH	: 9.1+/-.3
Pounds per Gallon	: 8.38		

SECTION IV - FIRE AND EXPLOSION DATA

Special Fire Fighting Procedures	: None	Flammable Limit	: None
Unusual Fire and Explosion Hazards	: None	Auto Ignite Temperature	: None
Solvent for Clean-Up	: Water	Fire Extinguisher Media	: Not Applicable
Flash Point	: None		

SECTION V - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

Precautions to be taken in Handling and Storage: Use good normal hygiene.
Precautions to be taken in case of Spill or Leak -

Small spills, in an undiluted form, contain. Soak up with absorbent materials.
Large spills, in an undiluted form, dike and contain. Remove with vacuum truck or pump to storage/salvage vessel. Soak up residue with absorbent materials.

Waste Disposal Procedures -

Dispose in an approved disposal area or in a manner which complies with all local, state, and federal regulations.

SECTION VI - HEALTH HAZARDS

Threshold Limit Values: Not applicable
Signs and Symptoms of Over Exposure-

Acute : Moderate eye irritation. Skin: Causes redness, edema, drying of skin.
Chronic: Pre-existing skin and eye disorders may be aggravated by contact with this product.

Medical Conditions Generally Aggravated by Exposure: Unknown
Carcinogen: No
Emergency First Aid Procedures -

Eyes: Flush thoroughly with water for 15 minutes. Get medical attention.
Skin: Remove contaminated clothing. Wash exposed areas with soap and water. Wash clothing before reuse. Get medical attention if irritation develops.
Ingestion: Get medical attention.
Inhalation: None considered necessary.

SECTION VII - SPECIAL PROTECTION INFORMATION

Respiratory Protection	: Not necessary	Local Exhaust Required	: No
Ventilation Required	: Normal	Protective Clothing	: Gloves, safety glasses Wash clothing before reuse.

SECTION VIII - PHYSICAL HAZARDS

Stability	: Stable	Incompatible Substances	: None Known
Polymerization	: No	Hazardous Decomposition Products	: None Known

---

SECTION IX - TRANSPORT & STORAGE

DOT Class	: Not Regulated/Non Hazardous		
Freeze Temperature	: 28°F	Storage	: 35°F-120°F
Freeze Harm	: None (thaw & stir)	Shelf Life	: Unlimited Unopened

---

SECTION X - REGULATORY INFORMATION

The Information on this Material Safety Data Sheet reflects the latest information and data that we have on hazards, properties, and handling of this product under the recommended conditions of use. Any use of this product or method of application, which is not described on the Product label or in this Material Safety Data Sheet, is the sole responsibility of the user. This Material Safety Data Sheet was prepared to comply with the OSHA Hazardous Communication Regulation and Massachusetts Right to Know Law.

Appendix F

Health and Safety Plan (HASP)

AECOM Environment

Prepared for:
National Grid
Brooklyn, New York

Submitted by:
AECOM
Manhattan, NY
60137360
January 2010

HEALTH AND SAFETY PLAN

Site Characterization Work Plan

Bay Ridge Former Holder Stations A and B Site
Brooklyn, New York
NYSDEC Site No.: 224058
Order on Consent Index #: A2-0552-0606

AECOM Environment

Prepared for:
National Grid
Brooklyn, New York

Submitted by:
AECOM
Manhattan, NY
60137360
January 2010

HEALTH AND SAFETY PLAN

Site Characterization Work Plan

Bay Ridge Former Holder Stations A and B Site
Brooklyn, New York
NYSDEC Site No.: 224058
Order on Consent Index #: A2-0552-0606

September 28, 2009
Prepared By Jennifer Atkins Date

September 28, 2009
Reviewed By Peter Sullivan, Regional SH&E Manager Date

January 19, 2010
Revised By Nelson J. Abrams, Pg, Senior Project Manager Date

Contents

List of Appendices

Emergency Information and Hazard Assessment

Site Characterization - Former Bay Ridge Holder Stations A and B Site
Brooklyn, Kings County, New York

OCCUPATIONAL CARE CLINIC - Once the injury has been reported, seek treatment at the identified occupational care clinic for non-critical injuries; i.e. injuries of the First Aid variety.

Hospital: *First Medical*

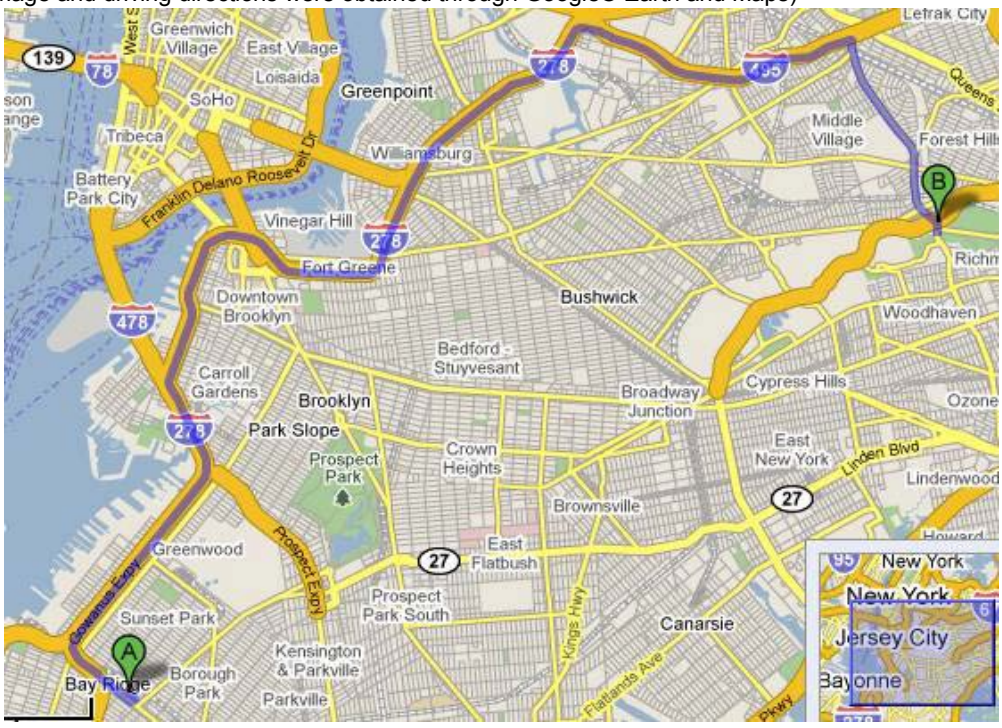
Address: *82-17 Woodhaven Blvd, Glendale, NY 11385*

Phone #: *718-805-9581*

Directions from the Bay Ridge Former Holder Stations A & B to First Medical

Start out going SOUTHEAST on 64TH ST toward 9TH AVE.	475 ft
Turn RIGHT onto 9TH AVE.	264 ft
Turn RIGHT onto 65TH ST.	0.46 mi
Merge onto I-278 E/BROOKLYN QUEENS EXPY toward MANHATTAN.	10.41 mi
Take the I-495/L I EXPWY exit, EXIT 35, toward MIDTOWN TUN/EASTERN L I/48 ST.	0.16 mi
Merge onto I-495 E via EXIT 35E toward EASTERN LONG IS.	2.09 mi
Take the WOODHAVEN BLVD exit, EXIT 19, toward ROCKAWAYS.	0.80 mi
Turn RIGHT onto WOODHAVEN BLVD.	2.24 mi
Make a U-TURN at MYRTLE AVE onto WOODHAVEN BLVD.	0.18 mi
Turn LEFT onto 81ST RD.	53 ft
Turn LEFT onto WOODHAVEN BLVD.	475 ft
Estimated driving time: 29 minutes	**16.59mi**

(Map image and driving directions were obtained through Google® Earth and Maps)



EMERGENCY REFERENCES

For critical injuries, dial 911 and/or seek treatment at the identified local Emergency Room

Ambulance: 911

Fire: 911

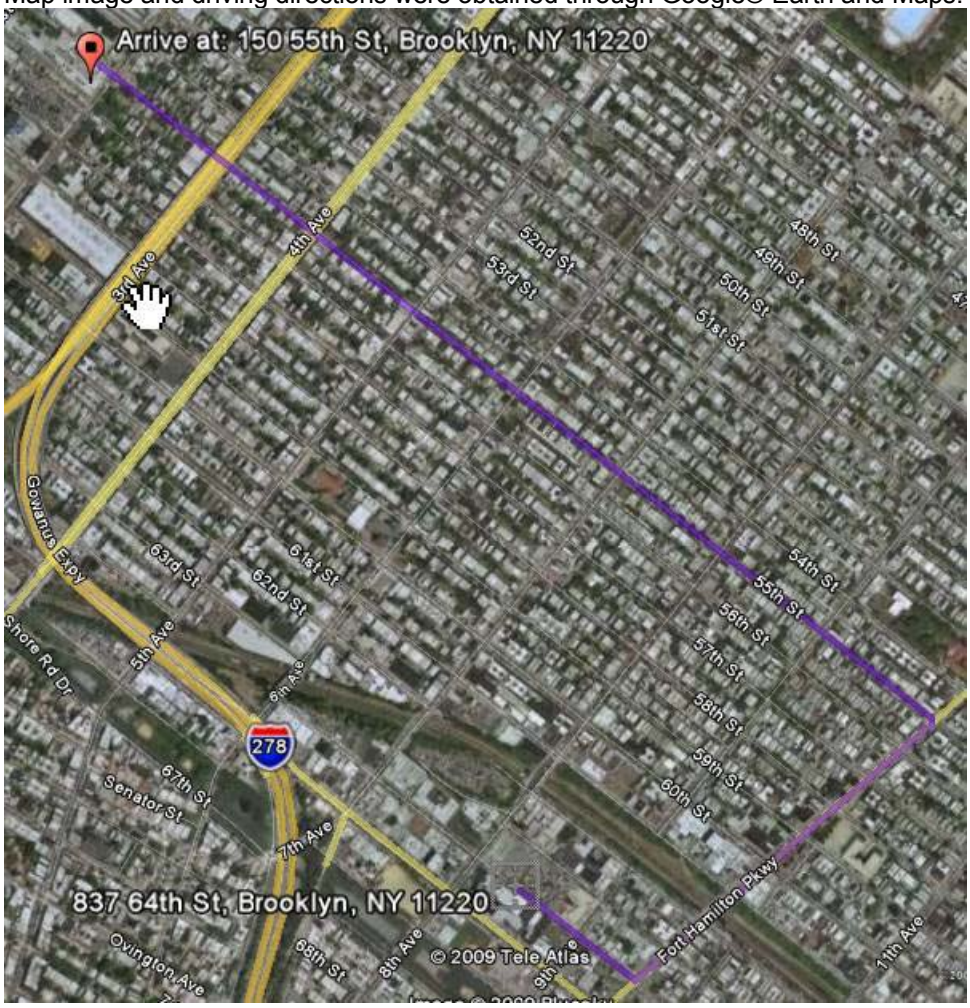
Police: 911

Medical Services:

Emergency Room: Lutheran Medical Center, 150 55th Street, Brooklyn, NY 11220, Tel: 718-630-7300

Directions
1. Head southeast on 64th St toward 9th Ave 0.2 mi
2. Take the 2nd left onto Fort Hamilton Pkwy 0.5 mi
3. Turn left at 55th St 1.2 mi
Destination will be on the left

Map image and driving directions were obtained through Google® Earth and Maps.



When using any driving directions or map, it's a good idea to do a reality check and make sure the road still exists, watch out for construction, and follow all traffic safety precautions. This is only to be used as an aid in planning.

Underground Utilities – www.call811.com

Dig Safely of New York
Phone: (800) 272-4480
http://www.digsafelynewyork.com/

Emergency Chemical Information – InfoTrac (800) 535-5053

Poison Control Center – http://www.aapcc.org/

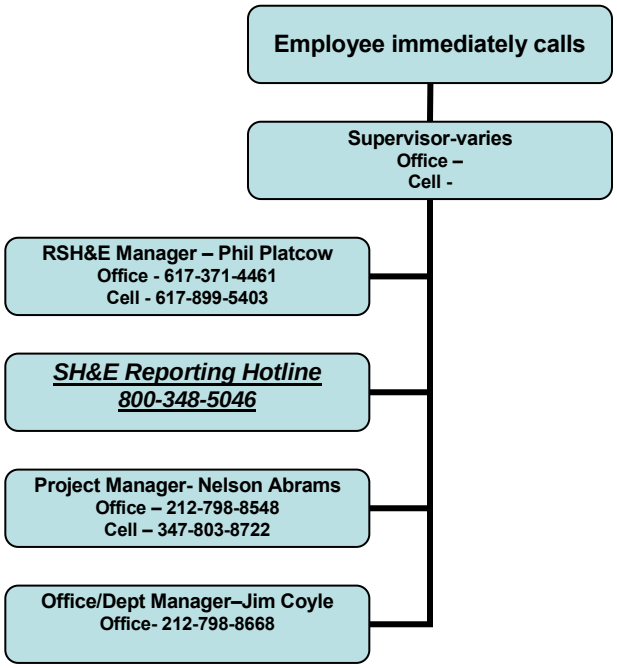
(800) 222-1222

Emergency Muster Point

The escape route from the site and an emergency muster point will be determined and provided to all workers during the project mobilization, and will be noted in the space below.

Emergency Contact Phone Tree

Key Personnel:
Northeast RSM - Phil Platcow
Project Manager –Nelson J. Abrams
Employee Supervisor(s)* – _____
Client Account Manager – Mark McCabe
Report All Incidents Immediately
to the *SH&E Reporting Hotline*



*Supervisor and Department/Office Manager names and numbers will be filled in based on the specific field team assigned to this project.

AECOM Medical Records and Medical Consultant
In the event of a non-critical injury, and once preliminary reporting been completed, if the injured employee desires/needs to speak with a medical professional to consult on the nature of their injury and treatment options, employees may contact WorkCare directly if they have not be directed to call WorkCare, been contacted by WorkCare directly, or they have been unable to speak directly with any of the personnel identified in the Emergency Contact Phone Tree provided above.

Work Care North
Alameda, CA 94502
Telephone: 510-748-6900
Fax: 510-748-6915

When using any driving directions or map, it's a good idea to do a reality check and make sure the road still exists, watch out for construction, and follow all traffic safety precautions. This is only to be used as an aid in planning.

Hazard Assessment

Task-Specific Hazard Assessment – Physical & Chemical

Hazard	General Site Hazard	Soil Boring & MW Installation	Soil Sampling	Groundwater Sampling
Cold	√	√	√	√
Concrete Coring	√	√		
Corrosive Liquids	√		√	√
Drilling	√	√		
Dust	√	√	√	
Exposure to Chemical Hazards	√	√	√	√
Falling	√	√	√	√
Heat	√	√	√	√
Heavy Equipment	√	√		
Insects	√	√	√	√
Lifting	√	√	√	√
Noise	√	√		
Overhead Materials	√	√		
Overhead Utilities	√	√		
Pinch Points	√	√	√	√
Poisonous Plants	√	√	√	√
Rotating Equipment	√	√		
Sharp Objects	√	√	√	√
Splashing Liquids	√	√	√	√
Traffic	√	√	√	√
Tripping	√	√	√	√
Underground Utilities	√	√		
Vehicle Operations	√	√	√	√
Weather	√	√	√	√

Chemical Hazards

Chemical Name	PEL[1]	TLV[2]	VP[3]	VD[4]	SG[5]	SOL[6]	FP[7]	LEL[8]	UEL[9]
Benzene	1	0.5	75	2.8	0.88	<1	12	1.2	7.8
Toluene	200	50	21	4	0.87	<1	40	1.1	7.1
Ethyl Benzene	100	100	7	4	0.87	<1	55	0.8	6.7
Xylene	100	100	9	4	0.86	<1	81	1.1	7.0
Benzo(a)Pyrene	?	?	<1	NA	NA	<1	>300	NA	NA
Cyanide	**	***	630	0.95	0.69	100	0	5.6	40
Naphthalene	10	10	1	4.4	1.2	<1	189	0.9	5.9

[1] Permissible Exposure Limit in ppm
[2] Threshold Limit Value in ppm
[3] Vapor Pressure in mm Hg
[4] Vapor Density (air = 1)
[5] Specific Gravity (water = 1)
[6] Solubility in Water in %
[7] Flash Point in °F
[8] Lower Explosive Limit in % by volume
[9] Upper Explosive Limit in % by volume
NA = Not Applicable
? = Not known
C = Ceiling limit not to be exceeded

Personal Protective Equipment

PPE Item	General Site Hazard	Soil Boring & MW Installation	Soil Sampling	Groundwater Sampling
Hard Hat	1	✓	✓	1
Traffic Vests	1	1	1	1
Steel Toed Safety Shoes	✓	✓	✓	✓
Safety Glasses with Side shields	✓	✓	✓	✓
Goggles or Face shield	2	2	2	2
Hearing Protection	3	✓	3	3
Tyvek Coveralls	4	4	4	4
Nitrile Gloves	4	4	4	4
Heavy Duty Work or Kevlar Gloves	5	5	5	5
Ivy Block® or Ivy Screen® barrier cream	6	6	6	6
Polycoated Tyvek coveralls with hood, double Nitrile gloves, rubber boots, and taped transitions.	7	7	7	7

✓ Required PPE

1 Traffic vests and hardhats are required when working within twenty feet of any public road or any private road with active traffic. Hard hats are also required when working around heavy equipment, when falling objects may cause impact injuries, or when working around energized electrical lines.

2 Goggles or a Face Shield are necessary when splashing liquid hazards are present in the work area. If tool use presents a hazard of creating high velocity object hazards, a Face Shield is recommended to protect against face and eye trauma.

3 Hearing protection should be worn around soil boring equipment if normal conversation cannot be understood.

4 Tyvek coveralls and Nitrile gloves are only required of those that are likely to come in direct contact with potentially contaminated soils and/or groundwater. Tyvek coveralls and Nitrile gloves will be worn to protect workers from poison ivy and poison oak when contact cannot be avoided.

5 Heavy duty work gloves should be worn when handling tools and equipment that present pinch point and laceration hazards. Kevlar gloves should be used when cut and laceration hazards are present.

6 Ivy Block® or Ivy Screen® barrier cream should be worn on exposed skin where there is a potential for exposure to poison ivy or oak.

7 When working in areas with high potential for excessive contact with hazardous chemicals, precautions will be taken to reduce the potential for direct dermal contact that may incorporate the use of polycoated Tyvek, double gloves, and additional protective measures based upon the permeability of the PPE chosen and the potential for chemicals of concern to degrade the selected PPE.

If the sustained PID reading exceeds 250 ppm as isobutylene or if irritating dust is encountered Level B PPE must be donned.

Air Monitoring Instruments

Task	Instrument	Action Limit and Action
All tasks involving potential exposure to contaminated soils and/or groundwater	Photoionization Detector	**5 ppm as isobutylene**; Don respiratory protection as discussed in Section 7
All tasks involving exposure to site chemicals of concern	Colorimetric detector tubes or Draeger Chip System for Benzene	**0.5 ppm Benzene** Don respiratory protection described in section 7.2
All tasks with the potential to generate dust.	Particulate meter	**>1.0 mg/m^3**; Apply dust suppression controls and don respiratory protection **>1.5 mg/m^3**; **STOP WORK** until levels are reduced below1.0 mg/m^3

Respiratory Protection

Task	Action Limit	Respiratory Protection	Level
All tasks involving potential exposure to contaminated soils and/or groundwater	5 ppm as Isobutylene for 5 minute	Half or full face mask respirator with combination organic vapor/HEPA cartridges	C
	10 ppm as Isobutylene	Full face respirator with organic vapor/HEPA cartridges	C
	50 ppm as isobutylene	Supplied air respirator, STOP WORK	B
All tasks involving potential exposure to contaminated soils and/or groundwater	0.5-10 ppm as Benzene on Draeger tube	Half or full face mask respirator with combination organic vapor/HEPA cartridges	C
	10 ppm as Benzene on Draeger tube	Full face respirator with organic vapor/HEPA cartridges	C
	50 ppm as Benzene on Draeger tube	Supplied air respirator, STOP WORK	B
All tasks with the potential to produce Dust	1.0 mg/m3 particulates in air	Half or full face mask respirator with combination organic vapor/HEPA cartridges	C
	1.5 mg/m3 particulates in air	STOP WORK and apply dust suppression techniques until levels have returned to ambient conditions	C

I, Jennifer Atkins, certify that this hazard assessment and evaluation was performed on September 25, 2009.

1.0 Introduction

1.1 AECOM Environment Safety Policy

AECOM Environment (AECOM) is committed to providing our employees with a safe and healthy work environment. It is not only our obligation to each other, but also a sound business practice to do so. Work related injuries and illnesses cause needless pain and suffering, cost money, and adversely affect our reputation with our clients. It is our firm belief that all work related injuries and illnesses are preventable, and it is therefore our goal to have a workplace that is free from occupational injuries and illnesses. Every attempt shall be made to eliminate the possibility of injuries and illnesses. No aspect of the company's activities, including expediency and cost, shall take precedence over the health and safety of our employees.

1.1.1 Maximum Duration of the Work Day for Field Activities

An employee may not work a shift that exceeds 16 hours in duration. For the purpose of this policy, the work shift includes time spent at lunch on break, and driving to and from the site. If an employee works more than one shift during the course of a calendar day, the total number of hours worked in that day cannot exceed 16 hours. If work is to be done continuously in ambient air temperatures of less than 20oF, the Site Safety Officer and Field Manager will use a guideline of limiting work shifts to 10 hours in duration, including 8 hours working outdoors and 2 hours of time spent at lunch, breaks, and travel. Refer to Section 5.15, Cold Stress, for further work day guidelines.

1.1.2 Short Service Employee

A Short Service Employee (SSE) is an employee with fewer than three months experience working supervised on field projects or an employee who has not completed required training or received required certifications.

Short Service Employees will not be assigned to this project unless they are supervised on site by a qualified person.

1.2 Health and Safety Plan (HASP)

1.2.1 HASP Purpose

The purpose of this HASP is to identify hazards associated with this project and specify engineering and administrative controls and personal protective equipment necessary to mitigate the risks associated with these hazards. This HASP addresses the hazards recognized prior to writing or updating the documents. As new hazards are encountered, a Job Hazard Assessment (JHA) or Job Safety Analysis (JSA) must be conducted and the results input into the HASP.

This HASP also assigns responsibilities for the implementation of safety programs on this project and defines monitoring and emergency response planning specific to the project.

1.2.2 HASP Applicability

This site-specific Health and Safety Plan (HASP) has been developed by AECOM. It establishes the health and safety procedures required to minimize potential risk to AECOM and contractor personnel involved with the Site Characterization work at the former Bay Ridge Holder Stations A and B Site located in Brooklyn, Kings County, New York. AECOM is conducting this work on behalf of National Grid USA (National Grid).

The provisions of this plan apply to AECOM personnel who could potentially be exposed to safety and/or health hazards related to activities described in Section 3.0 of this document.

Client, Subcontractor employees, and third party personnel performing work that potentially exposes them to the chemical and physical hazards at the site are recommended to work under their own HASP and are also expected to review and acknowledge this HASP as a recognition of the SH&E standards that AECOM expects outside personnel to uphold.

This HASP has been written to comply with the requirements of the Occupational Safety and Health Administration (OSHA) Personal Protective Equipment Standard (29 CFR 1910.132) for all activities and the OSHA Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120) for tasks where there are potential exposures to subsurface contaminants. All activities covered by this HASP must be conducted in complete compliance with this HASP and with all applicable federal, state, and local health and safety regulations. Personnel covered by this HASP who cannot or will not comply will be excluded from site activities.

This plan will be distributed to each employee involved with the proposed activities at the site, including subcontractor employees. Each employee must sign a copy of the attached health and safety plan sign-off sheet (see Attachment A).

This HASP only pertains to the tasks that are listed in Section 3.0. A task specific HASP or addendum to this HASP will be developed at a later date for any other subsequent investigative/remedial activities at the site.

1.3 Organization/Responsibility

The implementation of health and safety at this project location will be the shared responsibility of the AECOM Project Manager (PM), the AECOM Regional Safety, Health & Environment Manager (RSM), the AECOM Project Site Safety Officer (SSO) and other AECOM personnel and AECOM's contractors implementing the proposed scope of work.

1.3.1 AECOM Project Manager

The AECOM PM (Nelson Abrams) is the individual who has the primary responsibility for ensuring the overall health and safety of this project. As such, the PM is responsible for ensuring that the requirements of this HASP are implemented. Some of the PM's specific responsibilities include:

- Assuring that all personnel to whom this HASP applies, including AECOM subcontractors, have received a copy of it;
- Providing the RSM with updated information regarding conditions at the site and the scope of site work;
- Providing adequate authority and resources to the on-site SSO to allow for the successful implementation of all necessary safety procedures;
- Supporting the decisions made by the SSO and RSM;
- Maintaining regular communications with the SSO and, if necessary, the RSM;
- Coordinating the activities of all AECOM subcontractors and ensuring that they are aware of the pertinent health and safety requirements for this project,
- In the event that an incident occurs, leading the incident investigation to identify root causes, corrective actions and lessons learned; and
- Conducting random project audits.

1.3.2 AECOM Regional Safety, Health & Environment Manager

The AECOM RSM (Peter Sullivan) is the individual responsible for the preparation, interpretation and modification of this HASP. Modifications to this HASP which might result in less stringent precautions cannot be undertaken by the PM or the SSO without the approval of the RSM. Specific duties of the RSM include:

- Writing, approving and amending the HASP for this project;
- Advising the PM and SSO on matters relating to health and safety on this site;
- Recommending appropriate personal protective equipment (PPE) and respiratory equipment to protect personnel from potential site hazards;
- Assisting with Incident investigations; and,
- Maintaining regular contact with the PM and SSO to evaluate site conditions and new information which might require modifications to the HASP; and
- Conducting random project audits.

1.3.3 AECOM Site Safety Officer

All AECOM field technicians are responsible for implementing the safety requirements specified in this HASP. However, one field technician will serve as the SSO. The SSO will be appointed by the PM. The SSO will be on-site during all activities covered by this HASP. The SSO is responsible for enforcing the requirements of this HASP once work begins. The SSO has the authority to immediately correct all situations where noncompliance with this HASP is noted and to immediately stop work in cases where an immediate danger is perceived. Some of the SSO's specific responsibilities include:

- Assuring that all personnel to whom this HASP applies, including all subcontractors, have reviewed this HASP, and submitted a completed copy of the HASP review and acceptance form (Attachment A);
- Assuring that all personnel to whom this HASP applies have attended a pre-entry briefing and any subsequent safety meetings that are conducted during the implementation of the program;
- Maintaining a high level of health and safety consciousness among employees implementing the proposed investigative activities;
- Securing Work Permits. The SSO must determine what, if any, work permits must be secured from the facility prior to the commencement of activities. If required, the SSO must determine how long the work permit is good for and verify that all the provisions of the work permit can be met by AECOM and its subcontractors.
- Procuring the air monitoring instrumentation required and performing air monitoring for investigative activities;
- Procuring and distributing the PPE and safety equipment needed for this project for AECOM employees;
- Verifying that all PPE and health and safety equipment used by AECOM is in good working order;
- Verifying that AECOM contractors are prepared with the PPE, respiratory protection and safety equipment required for this program;
- Preparing an initial Job Safety Analysis (JSA) during the initial mobilization and revising the Job Safety Analysis if conditions or tasks change and communicating with all workers the results of the Job Safety Analysis. See attachment B for a JSA form. The JSA will be reviewed daily by all workers and updated as needed.

- Notifying the PM of all noncompliance situations and stopping work in the event that an immediate danger situation is perceived;
- Monitoring and controlling the safety performance of all personnel within the established restricted areas to ensure that required safety and health procedures are being followed;
- Conducting accident/incident investigations and preparing accident/incident investigation reports;
- Conducting the pre-entry briefing prior to beginning work and subsequent safety meetings as necessary; and
- Initiating emergency response procedures in accordance with Section 11.0 of this HASP.

1.3.4 AECOM Field Personnel

All AECOM field personnel covered by this HASP are responsible for following the health and safety procedures specified in this HASP and for performing their work in a safe and responsible manner. Some of the specific responsibilities of the field personnel are as follows:

- Assess each task prior to beginning work on that task for hazards and necessary precautions.
- Assess the work area for changing conditions and new hazards and address the hazards;
- Stop work and initiate corrective actions if work site hazards create unacceptable risk;
- Reading this HASP in its entirety prior to the start of on-site work;
- Submitting a completed HASP Review and acceptance form (Attachment A)to the AECOM SSO prior to the start of work;
- Attending the required pre-entry briefing prior to beginning on-site work and any subsequent safety meetings that are conducted during the implementation of the program;
- Bringing forth any questions or concerns regarding the content of the HASP to the PM or the SSO prior to the start of work;
- Reporting all Incidents, injuries and illnesses, regardless of their severity, to the AECOM SSO; and,
- Complying with the requirements of this HASP and the requests of the SSO.

1.3.5 Contractors

Additionally, contractors hired by AECOM are responsible for:

- Reading the HASP in its entirety prior to the start of on-site work;
- Attending the required pre-entry briefing prior to beginning on-site work and any subsequent safety meetings that are conducted during the implementation of the program;
- Ensuring that their equipment is in good working order via daily inspections;
- Operating their equipment in a safe manner;
- Appointing an on-site safety coordinator to interface with the AECOM SSO;
- Providing AECOM with copies of material safety data sheets (MSDS) for all hazardous materials brought on-site; and,
- Providing all the required PPE, respiratory equipment and safety supplies to their employees.

1.4 SH&E Expectations

Commitment to safety, health, and environmental excellence requires that all work proceed only after it is safe and environmentally sound to do so. The responsibility for ensuring that this takes place rests with every worker present at this property. Effectively meeting these responsibilities depends upon open communication between individuals and their supervisors prior to work beginning, and – in certain cases – after safety, health and/or environmental issues are identified. Completing a Job Safety Analysis (JSA) to aid in planning safe work performance will be an integral part of meeting safety, health and environment (SHE) expectations.

The safety and health of on site personnel will take precedence over cost and schedule considerations for all project work. All AECOM personnel have the authority to STOP WORK if they see a potential or actual hazard that may threaten the safety of people or the environment. Upon stopping work, the SSO must be immediately notified and provided with information regarding the nature of the safety, health or environmental concern. The SSO should meet with the worker with the intent of resolving the worker's concerns. Once the concerns are resolved to the satisfaction of the worker, work can proceed.

If the concerns are not resolved to the satisfaction of the worker and/or the SSO, work does not proceed. The AECOM RSM will be contacted to obtain assistance in resolving the concerns. Using his/her expertise, safety, health, and environmental rules, regulations, and procedures, the AECOM RSM will attempt to resolve the matter with all parties involved. Work will not resume until this criterion is met.

1.5 Management of Change/Modification of the HASP

1.5.1 Management of Change

This document discusses the physical hazards associated with the proposed activities. However, unanticipated site-specific conditions or situations might occur during the implementation of this project. Also, AECOM and/or the contractors may elect to perform certain tasks in a manner that is different from what was originally intended due to a change in field conditions. As such, this HASP must be considered a working document that is subject to change to meet the needs of this dynamic project.

1.5.2 HASP Modification

Should significant information become available regarding potential on-site hazards, it will be necessary to modify this HASP. All proposed modifications to this HASP must be reviewed and approved by the AECOM RSM before such modifications are implemented. Any significant modifications must be incorporated into the written document as addenda and the HASP must be reissued. The AECOM PM will ensure that all personnel covered by this HASP receive copies of all issued addenda. Sign-off forms will accompany each addendum and must be signed by all personnel covered by the addendum. Sign-off forms will be submitted to the AECOM PM. The HASP addenda should be distributed during the daily safety meeting so that they can be reviewed and discussed. Attendance forms will be collected during the meeting.

1.5.3 Job Safety Analysis (JSA)

AECOM and/or AECOM's contractors will prepare a Job Safety Analysis (JSA) for each task to be performed prior to commencing work. The use of new techniques will be reviewed and if new hazards are associated with the proposed changes, they will be documented and evaluated on the JSA form. An effective control measure must also be identified for each new hazard. JSA forms will be reviewed by the SSO prior to being implemented. Once approved, the completed forms will be reviewed with all field staff during the daily safety meeting. A blank JSA form is presented as Attachment B.

1.5.4 Employees Working Alone

Employees working alone at project sites will review the JSA for their tasks as they are conducting their daily overview and reconnaissance of the site. After completing the JSA review/revision and site reconnaissance, the employee should call the Project Manager and report any new hazards or site conditions observed.

2.0 Site Description and History

2.1 Site Description

The Bay Ridge Former Holder Stations A and B Site is located in Brooklyn, Kings County, New York. The site is comprised of two parcels both located between 8th and 9th Avenues, with Holder Station A between 63rd and 64th Streets, and Holder Station B between 65th and 66th Streets.

The site was operated by Kings County Gas and Illuminating Company, a predecessor company to National Grid, and began operations prior to 1905 and ceased operations sometime between 1950 and 1970.

Holder Station A is currently used as a parking lot for a new car dealer. This parcel is entirely paved and fenced with two locked gates on 64th Street on one on 65th Street. It is unknown if the holder foundation is still present on this parcel.

Holder Station B is currently used as a National Grid gate station (eastern portion) and as little league baseball fields (western portion). This parcel is fenced with gates on 65th Street and 9th Avenue. There are two ball fields with bleachers, dugouts, a concession building and a storage shed. The gate station has a building on 65th Street, an asphalt parking area on 9th Avenue and a grassed area on 66th Street.

Map image was obtained through Google® Earth.

2.2 Site History

A review of the site history of the former Bay Ridge Holder Stations A and B Site has been developed based on a review of the historic Sanborn Fire Insurance maps, aerial photographs for the site as well as historic investigation reports.

2.2.1 Bay Ridge Holder Station A

Sanborn maps were available for Holder Station A from 1942, 1951 and 1970. The 1942 map does not show a holder present on this parcel; however, the 1951 map shows one holder and associated building. The holder was operated by Kings County Lighting according to the 1951 Sanborn map. The 1970 Sanborn map no longer shows the holder. The southeastern portion of the Holder Station A site has been vacant and used for new automobile storage since 1970.

2.2.2 Bay Ridge Holder Station B

Sanborn maps were available for Holder Station B from 1905, 1926, 1950, 1977, 1981, 1992, 1993, 1994, and 1995. Aerial photos were available for 1966, 1975 and 1984 and reviewed in the *Environmental Site Assessment Report* (Vanasse Hangen Brustlin, Inc. [VHB], May 2000). A summary is provided below.

1905 Sanborn	Two gas holders (80- and 90-foot diameters) and two other structures including a storage shed owned by Kings County Gas and Illuminating Company were present southeast of the site in the area of the current KeySpan gate station. Residential property lots existed across 65th Street and a proposed highway in noted across 66th Street from the site.
1926 Sanborn	The structures from the 1905 map are gone, and three gas holders (100-, 140-, and 180-foot diameters), oil tanks, and several other structures owned by Kings County Lighting Company existed at the site. The largest diameter gas holder is labeled 235 feet (tall). Across 65th Street at the corner of 9th Avenue are the shop and stables of the Kings County Lighting Co. A portion of the former residential lots across 65th Street from the site house Sheffield Farms Company wagon house and milk depot. The property across 66th Street is identified as “Leif Eriksson Square.”
1950 Sanborn	Ownership and site layout are essentially the same as in 1926 with the addition of one small structure (shed). However, a gasoline filling station was present at the corner of 65th Street and 8th Avenue. In addition, the property across 65th Street formerly owned by Sheffield Farms is identified as T. Cohn, Inc. (toy manufacturing).
1966 aerial photo	One large gas holder and several smaller structures existed. The two other gas holders are not present, and were therefore removed some time between 1950 and 1966.
1975 aerial photo	The remaining gas holder had been removed, the site re-graded, and only one structure (gate station) existed on the parcel.
1977 Sanborn	The gate station is the only identifiable structure on the parcel. A small unidentifiable building that was not present in 1975 is present to the west of the gate station. New unspecified development is present at the eastern corner of 8th Avenue and 66th Street.
1984 aerial photo	The baseball diamond on the large playing field was in place.
1977, 1988, 1992-1995	Each of these maps are similar. All gas holders and other related structures have been removed from the site. The Brooklyn Union Gas Company gate station building is

Sanborns present in its current location on all maps and additional commercial development is present along 8th Avenue and across 65th Street including a second filling station, auto repair shop, a glass manufacturer, and freight company.

2.3 Contaminants of Concern

Contaminants of concern in soil include:

- VOCs, primarily BTEX;
- SVOCs, primarily naphthalene and low molecular weight PAHs;
- Total petroleum hydrocarbons
- Metals, primarily arsenic, lead, and mercury
- Cyanide
- Possibly pesticides and herbicides
- Possibly PCBs

Contaminants of concern in groundwater are as of yet unknown, as no groundwater samples have been collected or analyzed at this site. The following are contaminants of concern that could reasonably be expected to be present in groundwater are the same as those listed above.

3.0 Scope of Work and Assumptions

3.1 Project Goals

The purpose of the investigation is to determine what impact, if any, the activities at the site might have had on subsurface soils and groundwater at the property. The objectives of the Site Characterization include the following:

- Complete a detailed records search to review and summarize available documents and reports pertaining to the site.
- Verify, to the extent possible, and investigate the locations of the former holders and related structures.
- Collect soil and groundwater data to characterize the surface and subsurface characteristics of the site.
- Determine the presence or absence of residual holder wastes in the surface soil, subsurface soil, and groundwater.

3.2 Field Tasks

The specific field tasks being implemented at the site include:

- Advancing soil borings, using rotosonic, hollow stem auger, and/or direct-push drilling techniques to completion depth;
- Collecting surface and subsurface soil samples from each boring for field screening with a photoionization detector (PID) and subsequent laboratory analyses;
- Installing groundwater monitoring wells to approximately 7 feet below the water table; and,
- Collecting a groundwater sample from each monitoring well for subsequent laboratory analyses.

3.3 Assumptions

- Site security measures are sufficient to protect Client, AECOM, and Subcontractor personnel.
- All work can be performed using Level D Personal Protective Equipment;
- Site management will assist in locating subsurface utilities, vessels, and structures located on the property and outside the scope of the utility locator service; and
- No confined spaces will be entered on this project.

4.0 Chemical Hazard Assessment and Control

4.1 Chemical Contaminants of Concern

4.1.1 BTEX

Petroleum is a highly complex mixture of aliphatic and aromatic hydrocarbons. Benzene, toluene, ethylbenzene, and xylene are natural but minor components of fuel oils, kerosene and diesel fuels. Gasoline contains higher quantities of these aromatic hydrocarbons.

Exposure to the vapors of BTEX above their respective permissible exposure limits (PELs) as an 8-hr time weighted average (TWA) may produce irritation of the mucous membranes of the upper respiratory tract, nose and mouth. Overexposure may also result in the depression of the central nervous system. Symptoms of such exposure include drowsiness, headache, fatigue and euphoria. Chronic and prolonged overexposure to the vapors of benzene may cause damage to the blood-forming organs and is known to cause leukemia in humans.

Gasoline is typically 1 – 2% benzene. The PEL for benzene is 1 ppm. The ACGIH has set a TLV for Benzene at 0.5 ppm; however, for this project the SSO will use the OSHA PEL's and will utilize an action level of one half the PEL for various responses. Benzene is considered to be a carcinogen by the ACGIH.

The PELs for ethylbenzene and xylene are 100 ppm. The PEL for toluene is 200 ppm. The American Conference of Governmental Industrial Hygienists (ACGIH) have recommended a threshold limit value of 50 ppm for toluene.

4.1.2 Petroleum Hydrocarbons

Petroleum hydrocarbons are generally considered to be of moderate to low toxicity. Federal or recommended airborne exposure limits have not been established for the vapors of petroleum hydrocarbons. However, inhalation of low concentrations of the vapor may cause mucous membrane irritation. Inhalation of high concentrations of the vapor (which would only be likely to occur in confined spaces where the liquid had been significantly heated) may cause extensive pulmonary edema. Chronic direct skin contact with the liquid may produce skin irritation as a result of defatting.

4.1.3 Volatile Organic Compounds (VOCs & SVOCs)

Volatile Organic Compounds refer to a group of volatile compounds or mixtures that are relatively stable chemically and that exists in the liquid state at temperatures of approximately 32° to 82°F.

VOCs are typically organic solvents used for extracting, dissolving, or suspending materials such as fats, waxes, and resins that are not soluble in water. The removal of the solvent from a solution permits the recovery of the solute intact with its original properties. Solvents are used in paints, adhesives, glues coatings, and degreasing/ cleaning agents.

Semivolatile Organic Compounds (SVOCs) are less volatile chemicals that tend to persist in the environment.

Inhalation and percutaneous absorption are the primary routes of exposure. Organic compounds are metabolized or they accumulate in the lipid-rich tissues such as the liver, fat cells, or the nervous system.

Solvent inhalation by workers can cause effects ranging from an alcohol-like intoxication to narcosis and death from respiratory failure. Symptoms that include drowsiness, headache, dizziness, dyspepsia, and nausea.

4.1.4 Dust

Dust generated during coring or cutting of concrete, boring, or excavations can be hazardous to the respiratory system and irritating to the eyes. Dust can also carry the contaminants of concern potentially exposing workers by skin contact and inhalation. The ACGIH has established an eight-hour exposure limit for dust at 3 mg/M^3. The concentrations of the chemicals of concern in the soil are low enough that inhalation of dust would not by itself be an exposure hazard. However contamination of skin and clothing can provide additional exposures. Therefore the generation and contact with dust should be minimized.

Water or other methods should be used to control dust during dusty operations; however care must be used to prevent electrical shock if electric tools are used in the same area. If dusts become irritating and engineering controls such as the application of water can not be used, respirators should be donned as discussed in Section 7.

4.1.5 Coal Tar

Typical coal gasification byproduct (coal tar) constituents are referred to as polycyclic aromatic hydrocarbon (PAH) compounds. Repeated contact with PAH compounds may cause photosensitization of the skin, producing skin burns after subsequent exposure to ultra-violet light. Repeated contact with certain PAHs has been associated with the development of cancer.

Of the PAH compounds typically present at MGP sites, naphthalene is typically present at higher concentrations than the other compounds. Naphthalene is easily detected due to its characteristic moth-ball like odor. The inhalation of high concentrations of naphthalene vapor may result in nausea, vomiting, abdominal pain and irritation of the bladder. Prolonged overexposure may result in renal shut down.

Phenolic compounds are often associated with coal tars. Phenolics are generally strong irritants that can have a corrosive effect on the skin and can also penetrate the skin. Chronic overexposure to phenol and phenolic compounds may result in liver and kidney damage.

4.1.6 Benzo(a)Pyrene

The toxicological properties of this chemical have not been fully investigated. However, the chemical is a suspect carcinogen and is recognized as a carcinogen in California. Contact with dust containing Benzo(a)pyrene can cause skin, respiratory tract, and eye irritation.

4.1.7 Naphthalene

Inhalation of dust or vapors can cause headache, nausea, vomiting, extensive sweating, and disorientation. The predominant reaction is delayed intravascular hemolysis with symptoms of anemia, fever, jaundice, and kidney or liver damage.

Contact with Naphthalene can irritate the skin and, prolonged contact, may cause rashes and allergy. "Sensitized" individuals may suffer a severe dermatitis.

4.1.8 Cyanide

Cyanide present in soil or groundwater normally exists as a salt with various metals. Unless the pH is low no hydrogen cyanide is expected. Hydrogen cyanide and the common salts of cyanide will penetrate intact skin. All skin surfaces that could come in contact with contaminated water or soil must be protected.

Cyanide when inhaled, ingested or absorbed through skin reacts with the muscle cells preventing them from using oxygen in the blood. The result is that the muscles cease to function and the oxygen level in the blood reaches saturation. The saturated blood causes the victim to become flushed and the lips and fingernails become very red. CPR is not affective on victims of cyanide poisoning. Get medical attention immediately if cyanide poisoning is suspected.

4.1.9 Metals

Common toxic metals found at industrial sites include Arsenic, Cadmium, Chromium, Lead, Mercury, Nickel, Silver and Zinc. The metal contaminate level at this site is expected to be below worker health and safety levels of concern.

Metals can enter the body by:

- Ingesting small amounts present in food and water
- Drinking contaminated water near manufacturing or waste sites
- Drinking contaminated water or a beverage that has been stored in metal containers or flows through pipes that have been coated with zinc to resist rust
- Breathing zinc particles in the air at manufacturing sites.

Many of these metals are required in trace amounts for normal human metabolic process. Harmful health effects generally begin at levels from 10-15 times the Recommended Daily Amount (in the 1 to 250 mg/day range). Doses in this range can cause irritability, hypertension, stomach cramps, nausea, and vomiting.

Breathing large amounts of the metals (as dust or fumes) can cause a specific short-term disease called metal fume fever. This is believed to be an immune response affecting the lungs and body temperature.

4.2 Summary of Hazardous Properties of Potential Contaminants

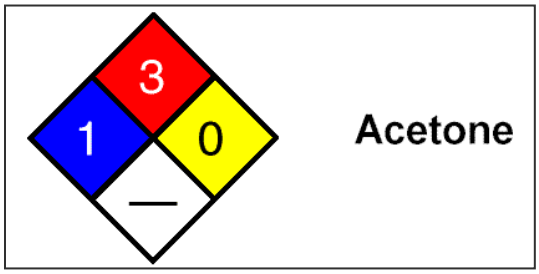
Chemical Name	PEL[1]	TLV[2]	VP[3]	VD[4]	SG[5]	SOL[6]	FP[7]	LEL[8]	UEL[9]
Benzene	1	0.5	75	2.8	0.88	<1	12	1.2	7.8
Toluene	200	50	21	4	0.87	<1	40	1.1	7.1
Ethyl Benzene	100	100	7	4	0.87	<1	55	0.8	6.7
Xylene	100	100	9	4	0.86	<1	81	1.1	7.0
Benzo(a)Pyrene	?	?	<1	NA	NA	<1	>300	NA	NA
Cyanide	**	***	630	0.95	0.69	100	0	5.6	40
Naphthalene	10	10	1	4.4	1.2	<1	189	0.9	5.9

[1] Permissible Exposure Limit in ppm
[2] Threshold Limit Value in ppm
[3] Vapor Pressure in mm Hg
[4] Vapor Density (air = 1)
[5] Specific Gravity (water = 1)
[6] Solubility in Water in %
[7] Flash Point in °F
[8] Lower Explosive Limit in % by volume
[9] Upper Explosive Limit in % by volume
NA = Not Applicable
? = Not known
C = Ceiling limit not to be exceeded

4.3 Hazard Substances Brought On Site by AECOM

A material safety data sheet (MSDS) must be available for each hazardous substance that AECOM or its contractors bring on the property. This includes solutions/chemicals that will be used to decontaminate sampling equipment and gases needed to calibrate air monitoring equipment.

In addition, all containers of hazardous materials must be labeled in accordance with OSHA's Hazard Communication Standard. Either the original manufacturer's label or an NFPA 704M label specific for the material (as shown at the right) is considered to be an acceptable label.



4.4 Chemical Exposure and Control

4.4.1 Chemical Exposure Potential

Employees can be exposed by inhalation to the chemicals of concern during the installation of the soil borings and sampling activities. Another route of potential exposure to the contaminants of concern is via direct dermal contact with soils and groundwater during sampling.

Although highly unlikely, exposure to all of the contaminants of concern can occur via ingestion (hand-to-mouth transfer). The decontamination procedures described in Section 9.0 address personal hygiene issues that will limit the potential for contaminant ingestion.

4.4.2 Chemical Hazard Control

The chemical hazards associated with the investigative and sampling activities can be controlled in several ways, including:

AECOM will perform air monitoring (Section 6) in the worker's breathing zone to determine exposure to the chemicals of concern during the installation of soil borings and the sampling program. If exposures exceed the action levels, respiratory protection as discussed in Section 7, will be donned.

To avoid direct dermal contact with contaminated media, protective clothing, as described in Section 7 will be required when collecting samples and decontaminating sampling equipment.

4.5 Hazardous Waste Management

Waste generated as a result of investigation activities will be containerized local to the point of generation, sampled for characterization purposes and secured prior to off-site transportation and disposal. Upon receipt of analytical results, the AECOM project team will work with the Client to properly characterize, profile and dispose of the waste(s).

5.0 Physical Hazards and Controls

5.1 Back Safety

Using the proper techniques to lift and move heavy pieces of equipment is important to reduce the potential for back injury. The following precautions should be implemented when lifting or moving heavy objects:

- Bend at the knees, not the waist. Let your legs do the lifting;
- Do not twist while lifting;
- Bring the load as close to you as possible before lifting;
- Be sure the path you are taking while carrying a heavy object is free of obstructions and slip, trip and fall hazards;
- Use mechanical devices to move objects that are too heavy to be moved manually; and,
- If mechanical devices are not available, ask another person to assist you.

5.2 Concrete and Asphalt Coring & Cutting

Cutting and coring concrete and asphalt can involve numerous hazards. The noise generated as a result of the tools used, and adequate hearing protection is necessary when conditions outlined in the Noise section below are encountered. Tools used which can include drills and saws, must be appropriately guarded to prevent hands, PPE, and other objects from being caught-up in the moving parts and drawing employees in. Dust may also be generated while cutting concrete and either respiratory protection or dust suppression will need to be utilized to prevent exposure. Additional consideration must be given chemical hazard concerns that may exist in the materials underlying the concrete.

5.3 Corrosive Liquids

Site activities may require the use of corrosive liquids for preserving samples once collected, identifying substances in the field, or as part of system operations and maintenance. When corrosive liquids are identified in the work area, PPE upgrades will need to include an appropriate glove to mitigate the hazard, protective eye wear to guard against splashing liquids, and the potential need for poly-coated Tyvek to be worn. Additionally, the job task will be analyzed to determine if splashing and spilling can be minimized through the use of special equipment or procedures. Examples include using a funnel, identifying an alternative substance for use, and more.

5.4 Drilling Hazards

Use of a drill rig to advance soil borings and install monitoring wells will require all personnel in the vicinity of the operating rig to wear steel-toed boots, hard hats, hearing protection and safety eyewear. Personnel shall not remain in the vicinity of operating equipment unless it is required for their work responsibilities.

Additionally, the following safety requirements must be adhered to:

- All drill rigs and other machinery with exposed moving parts must be equipped with an operational emergency stop device. Drillers and geologists must be aware of the location of this device. This device must be tested prior to job initiation and periodically thereafter.

- The driller must never leave the controls while the tools are rotating unless all personnel are kept clear of rotating equipment.

- A long-handled shovel or equivalent must be used to clear drill cuttings away from the hole and from rotating tools. Hands and/or feet are not to be used for this purpose.

- A remote sampling device must be used to sample drill cuttings if the tools are rotating or if the tools are readily capable of rotating. Samplers must not reach into or near the rotating equipment. If personnel must work near any tools, which could rotate, the driller must shut down the rig prior to initiating such work.

- Driller's Drillers, helpers and geologists must secure all loose clothing, long hair, or jewelry when in the vicinity of drilling operations.

- Only equipment, that has been approved by the manufacturer, may be used in conjunction with drilling equipment Pins that protrude excessively from augers shall not be allowed

- No person shall climb the drill mast while tools are rotating.

- No person shall climb beyond 6 feet above ground on the drill mast without the use of ANSI-approved fall protection (approved belts, lanyards and a fall protection slide rail) or portable ladder that meets the requirements of OSHA standards.

- When using the rig's hoist to lift or move objects other than the equipment associated with the direct push operation, an assessment of the force required to perform the lift and the rig's design specifications must be made to determine whether the lift can be made safely. In all cases personnel must not be in line with the cable when it is under tension.

- If drilling operations are to be performed within an enclosed space proper procedures must be followed to prevent the accumulation of carbon monoxide within the work area.

- Open doors and windows and provide ventilation to the outside.

- Employ the use of a mechanical ventilation system, i.e. blower or fan, appropriately sized for the room to circulate fresh air.

- Connect equipment exhaust points to hoses that can be direct ventilated to an outside area.

5.4.1 Rotary Auger & Rotating Parts

Exposure to rotating parts can occur when working near the drilling rig or the internal combustion engine. All rotating parts should be covered with guards to prevent access by workers. When performing maintenance activities that require the rotating parts to be exposed, workers should not allow loose clothing, hands, or tools to approach the rotating parts. Guards must be replaced as soon as possible after completing the maintenance task.

Operation of drilling equipment also creates hazards associated with pinch points and rotating equipment. Employees will evaluate work procedures to avoid placing their body and extremities in the path of rotating equipment and tools to avoid being struck by moving equipment, tools and machinery. Similarly, these hazards also create pinch point hazards where the body and extremities, especially the hands, can be caught in moving equipment and crushed. Employees will evaluate equipment and tool use procedures to identify pinch points and develop procedures to avoid placing body parts in a position where they can be caught in moving equipment, tools and machinery.

5.4.2 Direct Push Hazards

Use of the Direct Push System to advance soil borings and collect soil samples will require all personnel in the vicinity of the operating unit to wear steel-toed boots, hardhats, hearing protection and safety eyewear. Personnel shall not remain in the vicinity of operating equipment unless it is required for their work responsibilities. Additionally, the following safety requirements must be adhered to:

- A remote vehicle ignition is located on the control panel of the Geoprobe unit. This allows the operator to start and stop the vehicle engine from the rear. This device must be tested prior to job initiation and periodically thereafter. All employees should be aware of how to access and operate the rear ignition.
- The driller must never leave the controls while the probe is being driven.
- Drillers, helpers and geologists must secure all loose clothing when in the vicinity of drilling operations.
- The Geoprobe vehicle shall not be moved any distance with the probe in the extended position. Check for clearance at roof or the vehicle before folding the Geoprobe out of the carrier vehicle.
- Be sure the parking brake is set, or vehicle wheels have been chocked, before probing.
- Never allow the derrick foot to be lifted more than 6" off of the ground surface.
- Deactivate hydraulics when adding or removing probe rods, anvils or any tool in the hammer.
- Verify that all threaded parts are completely threaded together before probing.

5.4.2.1 Cuts and Lacerations

Geoprobe soil samples are collected in acetate liners that must be cut open in order to collect the sample. Additionally, tubing will need to be cut to facilitate groundwater sampling. Additional tasks for the job may also pose laceration hazards. Tube-cutters are available and should be used to eliminate this hazard. However, if it is necessary to use knives or blades, follow the safety precautions listed below:

- Keep your free hand out of the way
- Secure the acetate liner so it won't roll or move while you are cutting
- Use only sharp blades; dull blades require more force which results in less knife control
- Pull the knife at an angle to your body; pulling motions are easier to manage
- Don't put your knife in your pocket
- Use a hooked knife (i.e. linoleum knife) or a utility knife with a self-retracting blade
- Wear leather or Kevlar® gloves when using knives or blades.

5.4.3 Sonic Drilling

Use of a Sonic Drill Rig to advance soil borings, collect soil samples and/or install monitoring wells will require all personnel in the vicinity of the operating unit to wear steel-toed boots, hardhats, hearing protection and safety eyewear. Personnel shall not remain in the vicinity of operating equipment unless it is required for their work responsibilities. Additionally, the following safety requirements must be adhered to:

- A remote vehicle ignition may be located on the control panel of the Drill Rig. This allows the operator to start and stop the vehicle engine from the rear. This device must be tested prior to job initiation and periodically thereafter. All employees should be aware of how to access and operate the rear ignition.

- The driller must never leave the controls while the probe is being driven.
- Drillers, helpers and geologists must secure all loose clothing when in the vicinity of drilling operations.
- The Drill Rig shall not be moved any distance with the mast in the extended position. Check for clearance at roof or the vehicle before folding the Rig out of the carrier vehicle.
- Be sure the parking brake is set, vehicle wheels have been chocked and/or outrigger stabilizers have been positioned before drilling.
- Never allow the derrick foot to be lifted more than 6" off of the ground surface.
- Deactivate hydraulics when adding or removing rods, anvils or any tool in the hammer.
- Verify that all threaded parts are completely threaded together before drilling.

5.5 Driving Safety

Drivers must be licensed to drive the class of vehicle they are operating and trained in defensive driving. Only AECOM personnel may drive AECOM vehicles or vehicles rented for AECOM business; client, subcontractor, or other work-related personnel may ride. Drivers and passengers must comply with all traffic laws and posted signs, and will not operate a vehicle if under the influence of impairing medication, alcohol, or any other substance.

Make sure that the following basic safe driving practices are followed at all times while working on this project:

- Always wear a seat belt while operating a motor vehicle or while traveling as a passenger.
- Obey speed limits and local traffic laws at all times.
- Obtain proper directions to the site in advance and take the route that is most likely to be free of known traffic hazards (e.g., congestion, construction, etc.) and that avoids travel through potentially dangerous neighborhoods.
- Abstain from distractions while driving (e.g., the use of cell phones, eating/drinking, reading maps, etc.) If necessary, stop the vehicle and pull over to perform such activities safely. AECOM policy is engine on, cell phone off. You must **NOT** operate a vehicle while talking on your cell phone, regardless of “hands free” or not. If you receive a call, pull over to answer it. **DO NOT** allow other distractions to interfere with your safe operation of the vehicle.
- Do not operate a motor vehicle if you are tired and/or have not had sufficient rest. AECOM’s H&S policy 1.2 limits the maximum length of the workday to 16 hours for fieldwork. This limit includes the time spent driving to/from a site.
- All unattended personnel transport vehicles will not be allowed to idle, and must be turned off when not in use.

5.5.1 Planning / Preparation

- Prior to departure, check traffic reports, weather conditions, road construction, and road closures. If necessary, develop an alternate route and new, approved JMP (Journey Management Plan).
- Prior to entering the vehicle, inspect the vehicle.
- Leave early to allow for contingencies.

5.5.2 DOT

If you are to operate a vehicle exceeding 10,000 pounds (or vehicle and trailer with a combined weight over 10,000 pounds), or you are to transport greater than 1,000 pounds of hazardous materials, you MUST comply with DOT regulations. These are NOT addressed in this HASP; contact the H&S Department if this applies.

5.5.3 Secure Packing

Do not move your vehicle unless all equipment and supplies are secured. Items and material which may roll, slide, or move about in your vehicle while traveling are a major hazard. Secure the load!

5.5.4 Emergency Procedures

Always move out of traffic if possible; even if those in front of you have stopped. Stopping on an active highway can precipitate being hit from the rear. If you must stop on an active roadway, leave at least one car length in front of you, and watch the rear mirror, so you can ease up if someone behind can't stop. Keep your flashers on in this situation. If you are the only driver coming to a stop on an active roadway, leave the flashers on and when safe to do so, exit the car and get to a safe location.

If you must stop due to vehicle failure, etc. try to coast out of traffic. Put on your flashers, and tie a white handkerchief, etc. on the driver's side door or mirror. If you remain in the vehicle, lock the doors. Use your cell phone to summon help.

5.6 Flying Objects Hazards

Activities involving the use of power tools, drilling rigs, and hand tools, among other activities, can create flying object hazards where objects can become projectiles. When flying objects represent projectiles employees need to use equipment that is appropriately guarded to minimize the creation of projectile hazards, and also use the appropriate PPE including hard hats, safety goggles, face shields to prevent projectiles from causing injuries to employees.

5.7 Hand Safety

5.7.1 Glove Selection

To protect onsite workers from hand injuries, the following gloves will be used for when performing a specific duty:

Brightly colored gloves will be used to help emphasize and easily locate the hands. It is recommended that the color of gloves be changed monthly to draw attention to the hands.

Pinch points are found between a moving object and a stationary object, or between two continuously moving objects. Yellow hand stickers will be placed on equipment to remind workers of pinch points.

5.7.2 Working with Glassware

Glass bottles, laboratory equipment, and VOA vials can break and cause lacerations and puncture wounds. The follow preventive measures should be taken to reduce the potential for broken glassware.

- Package all glassware such that there is no glass to glass contact during transportation or storage;
- Assume that any time glass strikes another object it is damaged;
- Inspect all glassware for cracks, scratches, and other damage before using;

- Lids and caps should be “finger tight” unless there is a torque specification and you use a torque wrench;
- Never fill a glass container (other than VOA vials with a septum) liquid full, always leave an air space to buffer thermal expansion of the liquid; and
- Avoid rapid temperature changes when filling glass containers.

Glass often has flaws that cannot be detected by visual inspection and the force needed to open and tighten lids can cause these flaws to fracture the glass. Any time force is applied to glass, workers should wear leather or preferably Kevlar® gloves. Kevlar® glove liners are available for use under Nitrile or cotton gloves.

5.7.3 Hand Tools

Rules for the safe use of hand tools:

- Select the right size tool for the job. Don’t use “cheaters” and avoid pulling old tools from the waste stream. There’s a reason why they were thrown away!
- All hand tools must be in safe condition.
- Handles must be sound, straight and tight-fitting.
- Always inspect tools before use and replace or repair worn or damaged tools.
- Always keep the cutting edges sharp and never test a cutting edge with your finger.
- When working on an elevated surface (ladder, truck, scaffold), ensure your tools are secure. Falling tools can cause serious injury.
- Always carry your tools correctly and never put sharp or pointed tools in your pocket.
- When carrying hand tools, always point the cutting edge to the ground.
- Always keep your tools in a dry place to prevent rust.
- Cutting tools must be kept sharp and properly shaped.
- Secure work pieces prior to cutting or drilling.
- Keep the unused hand and other people away from the tool.

5.7.4 Specific Tool Use

5.7.4.1 Screwdrivers

Most screwdrivers are not designed to be used on electrical equipment. Use an insulated screwdriver for electrical work.

Do not hold an object in the palm of one hand and press a screwdriver into it; place the object on a bench or table. Never hammer with a screwdriver. Never use a screwdriver with a broken handle, bent or burred blade, etc.

5.7.4.2 Pliers

Do not use pliers as a substitute for hammers, wrenches, pry bars, etc. Use insulated pliers when doing electrical work. Inspect the pliers frequently to make certain that they are free of breaks or cracks.

Use the right type of pliers for the specific task – adjustable, locking (Vise Grip®), standard, bolt size fit, pipe wrench.

5.7.4.3 Hammers

Use the correct hammer for the specific type of striking work (task) to be done. Always wear safety glasses when using a hammer to strike an object. Always use the claw portion of a hammer to remove nails and not as a pick or awl. Have an unobstructed view and swing when using a hammer. Watch for overhead interference on back and forward swing. Use a good grip and use something other then your hand to hold a nail when starting hammering. Check for defects on the handle and head before using. If the hammer head shows signs of mushrooming, replace it immediately.

Handles may be wood, tubular/solid steel or fiberglass. Replace any hammer with a loose handle before the head flies off and causes injury to you or someone else. Tighten loose handles with the proper wedges; never use nails or staples for wedges. If a steel or fiberglass handle is loose replace it, since it is more difficult to repair than a wooden one. Some fiberglass handles can be tightened with the aid of a repair kit with epoxy materials.

5.7.4.4 Wrenches

Select the correct size of wrench for the job. Never use a pipe wrench as a wrench handle extension. Too much leverage can ruin a tool and cause injury.

To avoid sudden slips, stand in a balanced position and always pull on the wrench instead of pushing against the fixed jaw, particularly when a pinch point is created. Wear gloves when using a wrench in a confined space.

Whenever possible use a box end wrench instead of an open end wrench to avoid slipping.

5.7.4.5 Chisels

Always wear safety goggles or a face shield when using a chisel. Drive chisels outward and away from your body. Do not use chisels to pry. Keep edges sharp for most effective work and protect when not in use. Driven tools (chisels, punches, etc.) must be dressed to remove any mushrooming. Use the proper hammer when using a chisel.

5.7.4.6 Knives

Always perform a thorough Job Safety Analysis (JSA) to define the proper cutting tool for the task.

Always place the item to be cut on a solid surface, attempt to hold the cut item without your hand and cut in a direction away from the body and hand.

Always keep hands and body clear of the knife stroke. Always keep the cutting tool blades sharp.

Make sure there is plenty of open space around you when using any cutting tool.

Use the following safer tools in replace of fixed open blade knives (FOBK) whenever possible:

- Self-retracting utility knives
- Guarded utility knives
- Shears, snips, and/or scissors
- Concealed blade cutters
- Pipe cutters
- Specialty cutters (e.g. Geoprobe Acetate Liner Cutter)
- Ratcheting tools

5.8 Heavy Equipment

The use of heavy equipment for earth moving work poses potential hazards to employees. Such equipment can cause trauma injuries to the operator or nearby workers. It may also roll over, or fall on sloped ground or unstable soil. AECOM personnel are to remain clear of operating heavy equipment to the extent feasible.

Operators of earth moving equipment must be experienced or trained in the use of the equipment. They must inspect the equipment each day before use to assure that it is in safe operational condition. The equipment must be set up in a stable configuration, with the outriggers fully extended and supported on stable soil to prevent rollover. The rear swing-radius must be barricaded to prevent injuries to persons passing behind the equipment.

When employees must work near the equipment, eye contact and clear communication must be maintained.

5.9 Heavy Equipment – Drill Rigs

Drill rigs are considered to be heavy equipment, and therefore precautions must be incorporated into job activities when working in close proximity to drill rigs. In addition the wearing the PPE that has been determined to be necessary for the project, employees will need to ensure that Drill Rig Operators conduct inspections of the drill rig on a daily basis. A drill rig inspection is included in Attachment C as a reference. Focal points of the inspection should include checking hydraulic lines, tools and drilling equipment, emergency stop switches, and other parts of the equipment to insure that they are maintained in a safe operating condition.

Employees will also consider the staging their work area so that they are not within the shadow of the drill rig's mast. Working within this area creates a potential to be contacted by the drill rig if it were to tip over on its side. Likewise, when establishing a drilling location, the rig shall be positioned so that it won't clip overhead power lines should it tip over.

5.10 Insects, Spiders, Wasps and Bees

Employees are encouraged to review AECOM SHE SOP 509 – Biological Hazards Injury & Illness Prevention, for detailed discussion on working around insects within the workplace and procedures that can be used to minimize and prevent exposure.

5.10.1 Ticks

Ticks are bloodsuckers, attaching themselves to warm-blooded vertebrates to feed. Deer ticks are the most common carriers of Lyme disease, a bacterial infection that is transmitted to humans through the bite of the tick.

Personnel should carefully inspect themselves each day for the presence of ticks or any rashes. This is important since prompt removal of the tick can prevent disease transmission. Female deer ticks are about one-quarter inch in length and are black and brick red in color. Males are smaller and all black.

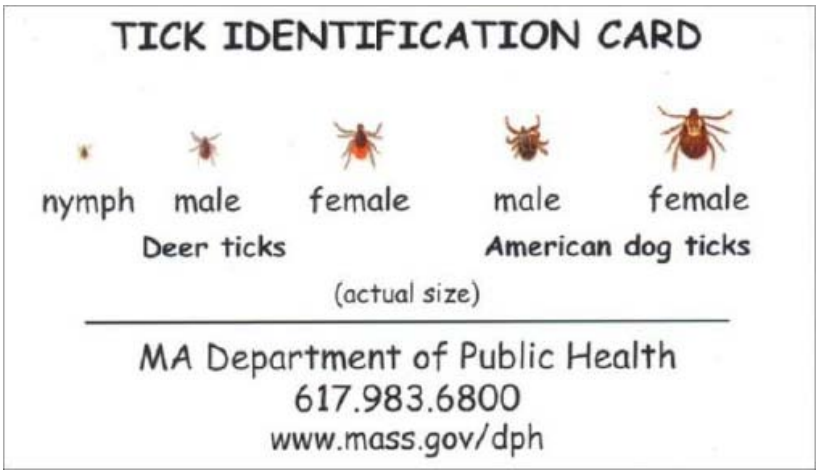
Removal of the tick is important in that the tick should not be crushed and care must be taken so that the head is also removed. If the head is not completely removed or if the tick is allowed to remain for days feeding on human blood, a condition known as tick paralysis can develop, this is due to a neurotoxin that the tick apparently injects while engorging. This neurotoxin acts upon the spinal cord causing loss of coordination, weakness and paralysis.

One characteristic symptom of Lyme disease is a bulls-eye rash that develops around the bite site. The rash appears in about 60-80% of all Lyme disease cases. Contact your OHSC immediately if you develop such a rash.

Tick season typically lasts from April through October; peak season is May through July; seasons can very depending on climate. Wear light-colored clothing (easier to spot ticks) with long sleeves and make sure that shirts are tucked into pants and pants are tucked into socks or boots. Ticks have a tendency to crawl upwards. These procedures will make it more difficult for a tick to reach your skin.

Studies have determined that repellants containing DEET as a main ingredient are most effective against mosquitoes and ticks. DEET can be directly applied to the exposed skin of adults and/or clothing. Products containing DEET can't be used with Fire Resistant Clothing (FRC) as it diminishes the garments' capacity to resist ignition in a fire. Permethrin is another repellent; however, it can only be directly applied to clothing.

The pictogram below, provided by the Massachusetts Department of Public Health, can be used to identify ticks and depicts the approximate actual size of ticks.



5.10.2 Mosquitoes

Mosquitoes, carriers of the West Nile Virus, Yellow Fever and other diseases, are indigenous to the area. As mentioned above, DEET is an effective mosquito repellent and is recommended. Although concentrated DEET formulations protect longer than those that are more dilute, little improvement is offered by concentrations of the active ingredient higher than 50 percent. Adverse effects, though documented, are infrequent and are generally associated with gross overuse of the product. Users should avoid the temptation to apply the most concentrated product available. The transient protection offered by more dilute preparations can be extended by reapplication. When using DEET care should be taken to reapply the repellant when its effectiveness wears off.

5.10.3 Spiders

Spiders and wasps may be found in derelict buildings, sheltered areas, and even on open ground. Exercise care when collecting samples and avoid reaching into areas where visibility is limited. If bitten by a spider, notify a co-worker or someone who can help if you should you have an allergic reaction or develop other symptoms related to spider venom. Stay calm and treat the area with ice or cold water. Seek medical attention if you have any reactions to the bite such as developing a rash, excessive swelling or pain at the site of the bite or sting or any swelling or numbness beyond the site of the bite.

5.10.4 Wasps and Bees

Wasps (hornets and yellow-jackets) and bees (honeybees and bumblebees) are common insects that may pose a potential hazard to the field team if work is performed during spring, summer or fall. Bees normally build their nests in the soil. However, they use other natural holes such as abandoned rodent nests or tree hollows. Wasps make a football-shaped, paper-like nest either below or above the ground.

Yellow-jackets tend to build their nests in the ground but hornets tend to build their nests in trees and shrubbery. Bees are generally more mild-mannered than wasps and are less likely to sting. Bees can only sting once while wasps sting multiple times because their stinger is barbless. Wasps sting when they feel threatened. By remaining calm and not annoying wasps by swatting, you lessen the chance of being stung.

Wasps and bees inject a venomous fluid under the skin when they sting. The venom causes a painful swelling that may last for several days. If the stinger is still present, carefully remove it with tweezers or y scraping a credit card or other blunt object against the sting site in the opposite direction in which the stinger is embedded. Some people may develop an allergic reaction, i.e. anaphylaxis, to a wasp or bee sting. If such a reaction develops, seek medical attention at once. Persons who are allergic to bee and wasp stings should carry an epinephrine pen, e.g., epi-pen, with them that is prescribed by a doctor and used to help abate swelling that occurs due to their allergy. Even if an employee utilizes their epi-pen, they still need to seek medical attention for follow-up care and observation.

5.11 Noise Exposure

The use of drilling equipment can expose the field team to noise levels that exceed the OSHA PEL of 90 dB for an 8-hour day. Exposure to noise can result in the following:

- Temporary hearing losses where normal hearing returns after a rest period;
- Interference with speech communication and the perception of auditory signals;
- Interference with the performance of complicated tasks; and,
- Permanent hearing loss due to repeated exposure resulting in nerve destruction in the hearing organ.

Since personal noise monitoring will not be conducted during the proposed activities, employees must follow this general rule of thumb: If the noise levels are such that you must shout at someone two (2) feet away from you, you need to be wearing hearing protection. Employees can wear either disposable earplugs or earmuffs but all hearing protection must have a minimum noise reduction rating (NRR) of 27 dB.

5.12 Overhead Materials

Overhead materials can include objects, tools, utilities, equipment and machinery that are, or have the potential to be, elevated above the work area. Overhead materials pose a significant safety risk because of the force that can be generated when they fall and strike an employee. Special attention should be paid when setting up a work area to evaluate the potential for overhead materials to cause traumatic blunt force trauma. Consideration must be given to potential for these overhead objects to be contacted during the course of work by AECOM employees and Subcontractors, and what the result of contacting these overhead materials will be.

If possible, the work area should be adjusted or moved so that no overhead materials present a hazard. Likewise, if the object overhead can be relocated to remove the hazard, that is the preferred course of mitigation. When the hazard can't be eliminated, then protective measures to shield the employees from being struck by falling objects should be taken. As a last resort, and as part of the minimum PPE for site work, employees working in areas where falling objects pose a hazard will wear a hard hat.

5.13 Pinch Points

The use of hand tools, mechanical equipment, heavy machinery and more can create pinch points within the working area. Pinch points can be recognized when moving objects are present in the work space in close proximity to employees, and it is reasonable to assume that a part of the employee's body can be caught between the moving objects. Pinch points will be considered when performing a Job Safety

Analysis for the task being performed and recommendations will be made to reduce the potential for body parts to become caught in moving parts, including but not limited to:

- The use of PPE, e.g. gloves, boots, etc, to protect exposed body parts;
- Guarding machinery and equipment to prevent body parts from being caught in the moving objects;
- Using tools as an extension of the body to avoid placing body parts in the path of harm. When tools are used as an extension of the body consideration will be given to how the tool may become a hazard if it is caught within moving parts.

5.14 Poisonous Plants

Employees are encouraged to review AECOM SHE SOP 509 – Biological Hazards Injury & Illness Prevention, for detailed discussion on working around poisonous plants within the workplace and procedures that can be used to minimize and prevent exposure.

All undeveloped property potentially has poison ivy, oak, or sumac growing in areas where vegetation is not controlled. These plants can also be found in cultivated and landscaped areas. Perform a hazard analysis appropriate for the working conditions and consider the existence of poisonous plants. Use appropriate PPE to prevent exposure, including but no limited to, full length clothing, Tyvek coveralls, and dermal barrier creams.

Poison Ivy • Grows in West, Midwest, Texas, East. • Several forms – vine, trailing shrub, or shrub. • Three leaflets (can vary 3-9). • Leaves green in summer, red in fall. • Yellow or green flowers. • White berries.	 
Poison Oak • Grown in the East (NJ to Texas), Pacific Coast. • 6-foot tall shrubs or long vines. • Oak-like leaves, clusters of three. • Yellow berries.	 
Poison Sumac • Grows in boggy areas, especially in the Southwest and Northern states. • Shrub up to 15 feet tall. • Seven to 13 smooth-edged leaflets. • Glossy pale yellow or cream-colored berries.	 
Giant Hogweed • Grows in the East; present in eastern Nassau County, NY. • Invasive and introduced Asian weed. • "Umbelliferous" plant looks like a giant carrot or parsnip plant. • Parasol-shaped flower cluster. • Grows up to 15-feet in height with 5-foot wide leaves. • Poisonous sap causes Phytophotodermatitis (psoralen chemicals react to UV). • Causes blistering and dermal lesions. • Avoid leaves and flowers.	

If you must enter areas containing such plants, wear protective clothing, such as Tyvek® coveralls, Nitrile or latex gloves, and boot covers. The use of a barrier cream such as Ivy Block can prevent the

active agent in poisonous plants from affecting skin and Tecnu cleansing wipes can remove the plant oil from exposed skin.

Avoid using mowers and weed trimmers in areas where poison ivy and oak are likely. Additional care should be taken during early winter after the leaves have fallen from the poisonous plants; the poison still exists in the vines and stubble remaining above the ground. Wash any contaminated skin immediately with cold water and mild soap.

5.15 Slips, trips and fall hazards

On any work area, it is expected that the ground might be uneven. The ground surface might be unreliable due to settling. Surface debris might be present and wet or swampy areas can exist.

Employees should walk around, not over or on top of debris or trash piles. When carrying equipment, identify a path that is clear of any obstructions. It might be necessary to remove obstacles to create a smooth, unobstructed access point to the work areas on site.

During the winter months, snow shovels and salt crystals or calcium chloride should be kept on site to keep work areas free of accumulated snow and ice. Furthermore, use sand or other aggregate material to help keep work surfaces from being slippery, especially where salt/calcium chloride cannot be used. In addition, make sure work boots have soles that provide good traction. When walking on ice is necessary crampons or Yaktrax® should be used.

Maintaining a work environment that is free from accumulated debris is the key to preventing slip, trip and fall hazards at construction sites. Essential elements of good housekeeping include

- Orderly placement of materials, tools and equipment;
- Placing trash receptacles at appropriate locations for the disposal of miscellaneous rubbish;
- Prompt removal and secure storage of items that are not needed to perform the immediate task at hand; and,
- Awareness on the part of all employees to walk around, not over or on, equipment that might have been stored in the work area.

5.16 Splashing Liquids

Groundwater sampling activities can produce splashing hazards in the work area. Employees will use techniques that minimize the production of splashing hazards while handling liquids, including groundwater, sample container preservatives, decontamination solutions and any other liquids in the work area. Employees will also evaluate the working tasks to consider the use of goggles while working with liquids.

5.17 Traffic Safety

5.17.1 Basic Procedures

To make certain that motorists are aware of our presence, all employees who are potentially exposed to traffic hazards should wear orange or yellow ANSI Class II or III safety vests. Work area should be delineated with traffic cones, or other suitable warning barriers, to prevent motorists from inadvertently driving through. As for vests, cones or other barrier materials should be reflectorized if work will be performed during dusk or evening hours. Where it is not feasible to implement such procedures, a standby observer should be assigned to warn the work crew of any impending traffic hazards.

5.17.2 Work On/Adjacent to Public Roadways

For projects that involve potential exposure to traffic on or adjacent to public roadways, consult the "**Work Zone Traffic Control" handbook**, under "Traffic Control" on AECOM's H&S Website, at the following web address: http://intranet.AECOM.com/healthweb.

The handbook was developed by the State of Maine DOT and provides examples of traffic control applications for typical road work situations (e.g., closure of one lane of a two lane road, stationary work on the shoulder of a road, mobile work along the shoulder of a road, etc.). Although it was written to reflect the basic requirements of Part VI of the Federal Highway Administration's (FHWA) Manual of Uniform Traffic Control Devices (MUTCD), this handbook is not a regulatory document. Since specific requirements will vary from state to state, and within a state, by county, city or town.

5.17.3 Flagging/Redirecting Traffic

Specific requirements exist when traffic must be redirected around a work area that is on or adjacent to a public roadway. In certain locations only police officers may redirect traffic. As a minimum, OSHA requires that flaggers be formally trained in accordance with the requirements specified in ANSI D6.1-1971. As a result, AECOM personnel should not redirect traffic on public roadways.

http://www.atssa.com/cs/flagger

When traffic must be redirected, and the local police do not perform that role, a traffic control firm should be hired (these are frequently listed in the yellow pages under "safety").

5.18 Utility Hazards

5.18.1 Underground Utilities

Law requires that a utility clearance be performed prior to initiation of any subsurface work.

Dig Net of New York City and Long island
(800) 272-4480 or http://www.dignetnycli.com/

Call to request a mark-out of natural gas, electric, telephone, cable television, water and sewer lines in the proposed drilling locations. In many locations, a separate location request must be submitted to the municipality providing potable water, sanitary and storm sewerage. Work will not begin until the required utility clearances have been performed.

Utility clearance organizations typically do not mark-out underground utility lines that are located on private property. As such, the drilling contractor must exercise due diligence and try to identify the location of any private utilities on the property being investigated. AECOM can fulfill this requirement in several ways, including:

- Obtaining as-built drawings for the areas being investigated from the property owner;
- Visually reviewing each proposed soil boring locations with the property owner or knowledgeable site representative;
- Performing a geophysical survey to locate utilities;
- Hiring a private line locating firm to determine the location of utility lines that are present at the property;
- Identifying a no-drill zone; or
- Hand digging in the proposed soil boring locations if insufficient data is available to accurately determine the location of the utility lines.

The client or property owner may have specific requirements and procedures for underground utility clearance.

5.18.2 Overhead Utilities

All overhead lines will be considered “energized” unless properly de-energized, grounded and tested by the utility company before working within the clearance distance as defined below. The AECOM SSO must observe de-energizing process and reconfirm that the lines are de-energized on a daily basis.

Any vehicle or mechanical equipment that is capable of having parts of its structure elevated near energized overhead lines shall be operated so that a minimum clearance of 10 feet is maintained at all times. This 10 foot distance shall be increased a minimum of 0.4 inches for each 1 kV over 50 kV. If the voltage of the overhead line is unknown, maintain a clearance distance of 35 feet from ground projection of the nearest power line to the vehicle. Any work within the clearance distance must be approved by the Regional Health and Safety Manager and the utility company.

Precautions must be taken when handling lengths of pipe or tubing that can approach overhead power and utility lines. When working with pipe or tubing, maintain a distance equal to the length of pipe plus the clearance distance defined above.

5.19 Weather

5.19.1 Inclement Weather

The Site Safety Officer will check the weather forecast for the project area each morning prior to mobilization. Predicted weather conditions will be included in the Job Safety Analysis. Weather changes should initiate a review and update of the JSA as necessary.

Severe weather can occur with little warning. The employee must be aware of the potentials for lightning, flash flooding and high wind events.

Be Prepared, Know What is Coming your Way

- Listen to the radio for severe weather alerts.
- Check the Storm Prediction Center's web page for alerts and warnings.

  http://www.spc.noaa.gov/products/wwa/

- Pay attention to the weather in your area, up wind of your location, and in the watershed up stream from your location.
- When in the field, be aware of the route you must take to get to shelter.
- When working in low areas be aware of the potential for flash flooding and the route to higher ground.

5.19.2 Heat Stress

5.19.2.1 Types of Heat Stress

Heat related problems include heat rash, fainting, heat cramps, heat exhaustion and heat stroke. Heat rash can occur when sweat isn't allowed to evaporate; leaving the skin wet most of the time and making it subject to irritation. Fainting may occur when blood pools to lower parts of the body and as a result, does not return to the heart to be pumped to the brain. Heat related fainting often occurs during activities that require standing erect and immobile in the heat for long periods of time. Heat cramps are painful spasms of the muscles due to excessive salt loss associated with profuse sweating.

Heat exhaustion results from the loss of large amounts of fluid and excessive loss of salt from profuse sweating. The skin will be clammy and moist and the affected individual may exhibit giddiness, nausea and headache.

Heat stroke occurs when the body's temperature regulatory system has failed. The skin is hot, dry, red and spotted. The affected person may be mentally confused and delirious. Convul¬sions could occur. EARLY RECOGNITION AND TREATMENT OF HEAT STROKE ARE THE ONLY MEANS OF PREVENTING BRAIN DAMAGE OR DEATH. A person exhibiting signs of heat stroke should be removed from the work area to a shaded area. The person should be soaked with water to promote evaporation. Fan the person's body to increase cooling.

Increased body temperature and physical discomfort also promote irritability and a decreased attention to the performance of hazardous tasks.

5.19.2.2 Early Symptoms of Heat-Related Health Problems:

decline in task performance	excessive fatigue
incoordination	reduced vigilance
decline in alertness	muscle cramps
unsteady walk	dizziness

5.19.2.3 Susceptibility to Heat Stress Increases due to:

lack of physical fitness	obesity
lack of acclimatization	drug or alcohol use
increased age	sunburn
dehydration	infection

People unaccustomed to heat are particularly susceptible to heat fatigue. First timers in PPE need to gradually adjust to the heat.

5.19.2.4 The Effect of Personal Protective Equipment

Sweating normally cools the body as moisture is removed from the skin by evaporation. However, the wearing of certain personal protective equipment (PPE), particularly chemical protective coveralls (e.g., Tyvek), reduces the body's ability to evaporate sweat and thereby regulate heat buildup. The body's efforts to maintain an acceptable temperature can therefore become significantly impaired by the wearing of PPE.

5.19.2.5 Measures to Avoid Heat Stress:

The following guidelines should be adhered to when working in hot environments:

- Establish work-rest cycles (short and frequent are more beneficial than long and seldom).
- Identify a shaded, cool rest area.
- Rotate personnel, alternative job functions.
- Water intake should exceed sweat produced. Most workers exposed to hot conditions drink less fluids than needed because of an insufficient thirst. **DO NOT DEPEND ON THIRST TO SIGNAL WHEN AND HOW MUCH TO DRINK.** Consume enough liquid to force urination

every two hours. In humid climates ice water or ice should be consumed to help maintain normal body temperature since evaporation does not provide an efficient mechanism for heat removal.

- Eat light meals before and during work shifts. Avoid highly salted foods.
- Drink sports drinks such as Gatorade® diluted 1:1 with water.
- Save most strenuous tasks for non-peak heat hours such as the early morning or at night.
- Avoid alcohol during prolonged periods of heat. Alcohol will cause additional dehydration.
- Avoid double shifts and/or overtime.

The implementation and enforcement of the above mentioned measures will be the joint responsibility of the Project Manager and health and the Site Safety Officer. Potable water and fruit juices should be made available each day for the field team.

5.19.2.6 Heat Stress Monitoring Techniques

Site personnel should regularly monitor their heart rate as an indicator of heat strain by the following method:

Radial pulse rates should be checked by using fore-and middle fingers and applying light pressure top the pulse in the wrist for one minute at the beginning of each rest cycle. If the pulse rate exceeds 110 beats/minute, the next work cycle will be shortened by one-third and the rest period will be kept the same. If, after the next rest period, the pulse rate still exceeds 110 beats/minute, the work cycle will be shortened again by one-third.

5.19.3 Cold Stress

5.19.3.1 Type of Cold Stress

Cold injury is classified as either localized, as in frostbite, frostnip or chilblain; or generalized, as in hypothermia. The main factors contributing to cold injury are exposure to humidity and high winds, contact with wetness and inadequate clothing.

The likelihood of developing frostbite occurs when the face or extremities are exposed to a cold wind in addition to cold temperatures. The freezing point of the skin is about 30o F. When fluids around the cells of the body tissue freeze, skin turns white. This freezing is due to exposure to extremely low temperatures. As wind velocity increases, heat loss is greater and frostbite will occur more rapidly.

5.19.3.2 Symptoms of Cold Stress

The first symptom of frostbite is usually an uncomfortable sensation of coldness, followed by numbness. There might be a tingling, stinging or aching feeling in the affected area. The most vulnerable parts of the body are the nose, cheeks, ears, fingers and toes.

Symptoms of hypothermia, a condition of abnormally low body temperature, include uncontrollable shivering and sensations of cold. The heartbeat slows and can become irregular, the pulse weakens and the blood pressure changes. Pain in the extremities and severe shivering can be the first warning of dangerous exposure to cold.

Maximum severe shivering develops when the body temperature has fallen to 95o F. Productive physical and mental work is limited when severe shivering occurs. Shivering is a serious sign of danger. Immediately remove any person who is shivering from the cold.

5.19.3.3 Methods to Prevent Cold Stress

When the ambient temperature, or a wind chill equivalent, falls to below 40o F (American Conference of Governmental Industrial Hygienists recommendation), site personnel who must remain outdoors should wear insulated coveralls, insulated boot liners, hard hat helmet liners and insulated hand protection. Wool mittens are more efficient insulators than gloves. Keeping the head covered is very important, since 40% of body heat can be lost when the head is exposed. If it is not necessary to wear a hard hat, a wool knit cap provides the best head protection. A facemask may also be worn.

Persons should dress in several layers rather than one single heavy outer garment. The outer piece of clothing should ideally be wind and waterproof. Clothing made of thin cotton fabric or synthetic fabrics such as polypropylene is ideal since it helps to evaporate sweat. Polypropylene is best at wicking away moisture while still retaining its insulating properties. Loosely fitting clothing also aids in sweat evaporation. Denim is not a good protective fabric. It is loosely woven which allows moisture to penetrate. Socks with a high wool content are best. If two pairs of socks are worn, the inner sock should be smaller and made of cotton, polypropylene or similar types of synthetic material that wick away moisture. If clothing becomes wet, it should be taken off immediately and a dry set of clothing put on.

If wind conditions become severe, it might become necessary to shield the work area temporarily. The SSO and the PM will determine if this type of action is necessary. Heated break trailers or a designated area that is heated should be available if work is performed continuously in the cold at temperatures, or equivalent wind chill temperatures, of 20o F.

Dehydration occurs in the cold environment and can increase the susceptibility of the worker to cold injury due to significant change in blood flow to the extremities. Drink plenty of fluids, but limit the intake of caffeine

5.19.4 Work/Rest Cycles for Cold Weather

If wind chill temperatures fall below minus 25o F, breaks from the cold will occur at a rate of one every hour. If wind chill temperatures fall below minus 45o F, all work will cease and persons will be required to go indoors. Also see Section 1.1.1 regarding shift duration. However, these guidelines can be modified at any time based on actual site conditions and professional judgment rendered by either the Field Manger and/or SSO. For example, the Field Manger and/or SSO will evaluate field crew fitness; the condition of their cold-weather gear, including boots; and will observe employees alertness, including fatigue and rate of cold tolerance/acclimation.

If weather conditions warrant, portable tents might become necessary to shield the work area from wind, rain, snow, etc. The SSO and the Field Manager will determine if this type of action is necessary. However, under no conditions will the tents be heated and as a precautionary measure, a Photoionization Detector (PID) with a 10.6 ev lamp will be used to monitor the breathing zone of personnel inside the tent. See Section 6 for action levels based on PID readings. A JSA should be prepared and discussed with all workers detailing the precautions for working in these cold weather conditions.

5.20 Well Development and Groundwater Monitoring

During purging and development of borings into monitoring wells, the PPE indicated in Section 7 below will be worn to avoid chemical contact / exposure, as well as physical trauma. Bailing wells requires proper gloves, eye protection, and possibly protective coveralls to prevent splashing. Back and lifting precautions outlined in Section 5.1 shall be used to avoid ergonomic injuries.

5.21 Confined Spaces

No confined space entries are planned or allowed on this project.

When working in industrial settings, it is common to need to enter a confined space to make observations, collect samples, or perform other duties. AECOM employees or sub contractors must not enter any confined space containing a hazard.

A confined space is defined as any space that meets the following criteria:

- Is not designed for human occupancy
  - excludes vehicles, elevator cabins etc,
  - includes elevator shafts and wells, tanks, vaults, etc.
- Is large enough to physically enter with the whole body, and
- Has a restricted exit path (you must climb over pipes, through man ways, etc.)

If the confined space contains any hazard, entry may only be made if permitted in writing by the space owner or the Regional Health and Safety Manger, the entry is monitored by an observer, and with the prior written approval of the AECOM Regional Health and Safety Manager.

Typical hazards include but are not limited to:

- Flammable materials
- Toxic materials
- Corrosive materials
- Exposed electrical circuits
- Falls greater than six feet
- Moving machinery
- Oxygen deficient atmosphere

If there is any doubt about whether a space meets the above criteria, call the AECOM Health and Safety Staff.

6.0 Air Monitoring

6.1 Monitors

6.1.1 Photoionization Detector

As a precautionary measure, a Photoionization Detector (PID) with a 10.6 ev lamp will be used to monitor the breathing zone of personnel during the proposed activities. If the PID indicates sustained (5 minute) breathing zone vapor concentrations in excess of 5 ppm as isobutylene, respiratory protection, as described in Section 7.2 of this document, will be donned.

6.1.2 Colorimetric Detector Tubes/Draeger Chip System

If a properly calibrated PID reads 5 ppm as isobutylene sustained for 5 minutes, colorimetric detector tubes, e.g. Draeger or Sensydine, or a Draeger Chip system equipped with the appropriate constituent monitoring chip, shall be used to confirm the presence and concentration of site-specific chemicals of concern, e.g. Benzene. If a site-specific chemical of concern is detected at concentration of half its' PEL then respiratory protection shall be used as described in Section 7.2 of this document.

6.1.3 Dust/Particulate Meter

A particulate meter will be used to monitor dust levels within the work zone. If particulate levels exceed 1.0 mg/m3 in air, respiratory protection, as described in Section 7.2 of this document, will be donned. Additionally, actions will be taken to suppress particulates in the work area.

Task	Instrument	Action Limit and Action
All tasks involving potential exposure to contaminated soils and/or groundwater	Photoionization Detector	**5 ppm as isobutylene**; Don respiratory protection as discussed in Section 7
All tasks involving exposure to site chemicals of concern	Colorimetric detector tubes or Draeger Chip System for Benzene	**0.5 ppm Benzene** Don respiratory protection described in section 7.2
All tasks with the potential to generate dust.	Particulate meter	**>1.0 mg/m^3**; Apply dust suppression controls and don respiratory protection **>1.5 mg/m^3**; **STOP WORK** until levels are reduced below1.0 mg/m^3

6.2 Personal Air Sampling

The need for personal air sampling is not anticipated by AECOM during the activities covered by this HASP. The AECOM Project Manager, or the AECOM RSM can prescribe personal air sampling based on observations or concerns recognized during the project.

6.3 Calibration and Recordkeeping

Equipment used by AECOM will be calibrated in accordance with AECOM's standard operating procedures. A log of the calibrations and readings will be kept in the field notebook. Daily calibration information will also be recorded in the field notebook.

7.0 Personal Protective Equipment

Personal protective equipment (PPE) will be worn during these activities to prevent on-site personnel from being injured by the safety hazards posed by the site and/or the activities being performed. In addition, chemical protective clothing will be worn to prevent direct dermal contact with the site's chemical contaminants. The following table describes the PPE and chemical protective clothing to be worn for general site activities and for certain specific tasks.

7.1 Personal Protective Equipment

PPE Item	General Site Hazard	Soil Boring & MW Installation	Soil Sampling	Groundwater Sampling
Hard Hat	1	✓	✓	1
Traffic Vests	1	1	1	1
Steel Toed Safety Shoes	✓	✓	✓	✓
Safety Glasses with Side shields	✓	✓	✓	✓
Goggles or Face shield	2	2	2	2
Hearing Protection	3	✓	3	3
Tyvek Coveralls	4	4	4	4
Nitrile Gloves	4	4	4	4
Heavy Duty Work or Kevlar Gloves	5	5	5	5
Ivy Block® or Ivy Screen® barrier cream	6	6	6	6
Polycoated Tyvek coveralls with hood, double Nitrile gloves, rubber boots, and taped transitions.	7	7	7	7

✓ Required PPE

1 Traffic vests and hardhats are required when working within twenty feet of any public road or any private road with active traffic. Hard hats are also required when working around heavy equipment, when falling objects may cause impact injuries, or when working around energized electrical lines.

2 Goggles or a Face Shield are necessary when splashing liquid hazards are present in the work area. If tool use presents a hazard of creating high velocity object hazards, a Face Shield is recommended to protect against face and eye trauma.

3 Hearing protection should be worn around soil boring equipment if normal conversation cannot be understood.

4 Tyvek coveralls and Nitrile gloves are only required of those that are likely to come in direct contact with potentially contaminated soils and/or groundwater. Tyvek coveralls and Nitrile gloves will be worn to protect workers from poison ivy and poison oak when contact cannot be avoided.

5 Heavy duty work gloves should be worn when handling tools and equipment that present pinch point and laceration hazards. Kevlar gloves should be used when cut and laceration hazards are present.

6 Ivy Block® or Ivy Screen® barrier cream should be worn on exposed skin where there is a potential for exposure to poison ivy or oak.

7 When working in areas with high potential for excessive contact with hazardous chemicals, precautions will be taken to reduce the potential for direct dermal contact that may incorporate the use of polycoated Tyvek, double gloves, and additional protective measures based upon the permeability of the PPE chosen and the potential for chemicals of concern to degrade the selected PPE.

7.2 Respiratory Protection

Although not likely, respiratory protection as described below will be required if worker breathing zone PID concentrations are sustained above the action levels in the following table.

Task	Action Limit	Respiratory Protection	Level
All tasks involving potential exposure to contaminated soils and/or groundwater	5 ppm as Isobutylene for 5 minute	Half or full face mask respirator with combination organic vapor/HEPA cartridges	C
	10 ppm as Isobutylene	Full face respirator with organic vapor/HEPA cartridges	C
	50 ppm as isobutylene	**STOP WORK**	
All tasks involving potential exposure to contaminated soils and/or groundwater	0.5-10 ppm as Benzene on Draeger tube	Half or full face mask respirator with combination organic vapor/HEPA cartridges	C
	10 ppm as Benzene on Draeger tube	Full face respirator with organic vapor/HEPA cartridges	C
	50 ppm as Benzene on Draeger tube	**STOP WORK**	
All tasks with the potential to produce Dust	1.0 mg/m^3 particulates in air	Half or full face mask respirator with combination organic vapor/HEPA cartridges	C
	1.5 mg/m^3 particulates in air	**STOP WORK** and apply dust suppression techniques until levels have returned to ambient conditions	C

Respiratory protection (half or full face mask respirator with combination organic vapor/HEPA cartridges) should also be donned if odors become objectionable at any time or if respiratory tract irritation is noticed.

All employees who are expected to don respiratory protection must have successfully passed a qualitative or quantitative fit-test within the past year for the brand, model and size respirator they plan to don.

If worn, respirators will be cleaned after each use with respirator wipe pads and will be stored in plastic bags after cleaning. Respirators will be thoroughly cleaned using disinfectant material within one week following any respirator use. Refer to the cleaning instructions provided with the respirator or specified by Appendix B-2 to the OSHA regulations at 29 CFR 1910.134.

7.3 Other Safety Equipment

The following is a list of additional safety items that may need to be available at the project site depending on the facility activity level, proximity to emergency assistance and other factors:

- Portable, hand-held eyewash bottles,
- First aid kit,
- Type A-B-C Fire extinguisher,
- Fire blanket,
- Emergency telephone and, if available, two-way radio on facility frequency,

- Emergency air horn,
- Drinking water, ice and cups,
- Caution tape or traffic cones,
- High visibility traffic vests (if working near vehicle traffic),
- Traffic cones or barricades,
- Flashlight/lantern, and
- Spill containment kit.

8.0 Site Control

To prevent both exposure of unprotected personnel and migration of contamination due to tracking by personnel or equipment, hazardous work areas will be clearly identified and decontamination procedures will be required for personnel and equipment leaving those areas.

8.1 Designation of Zones

AECOM designates work areas or zones as suggested in the "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities," NIOSH/OSHA/USCG/EPA, November 1985. They recommend that the areas surrounding each of the work areas to be divided into three zones:

- Exclusion or "Hot" Zone
- Contamination Reduction Zone
- Support Zone

8.1.1 Exclusion Zone

An exclusion zone will be established around the work area. The perimeter of the exclusion zone will be marked with caution tape, traffic cones or other identifier so that employees, visitors, and client or host employer personnel are aware of the work being conducted.

All AECOM and contractor personnel entering these work areas must wear the prescribed level of protective equipment.

8.1.2 Contamination Reduction Zone

A decontamination zone will be established adjacent to each work area. Personnel will remove contaminated gloves and other disposable items in this area and place them in a plastic bag until they can be properly disposed of.

8.1.3 Support Zone

At this site the support zone will include the area outside of the exclusion zone.

8.1.4 Site Access Control

The public will be restricted from the project site and monitoring well locations (during monitoring) by fences, barricade tape, traffic cones, and/or signs.

8.1.5 Parking and Staging Areas

Parking will be restricted to areas that have been cleared of tall grass and combustible material. Vehicles parked on the public streets will be marked with cones both in front of and behind the vehicle.

8.1.6 Pedestrian Walkways

Pathways within the work areas will be kept clear of obstructions. Public pathways will be clearly marked to provide access to the business onsite and protect the public from the hazards of the project.

8.2 General Site Safety Practices

The following measures are designed to augment the specific health and safety guidelines provided in this plan.

- The "buddy system" will be used at all times by all field personnel. No one is to perform field work alone. Standby team member must be intimately familiar with the procedures for initiating an emergency response. If an employee will be alone in a work area, they will develop a procedure to contact their Supervisor or PM on a regular schedule to confirm that the employee is safe. Subcontractors working on-site with AECOM employees can help fulfill the role of a Buddy while site activities are occurring.
- Eating, drinking, chewing gum or tobacco, smoking or any practice that increases the probability of hand-to-mouth transfer and ingestion of materials is prohibited in the immediate work area and the decontamination zone. Water and Ice may be consumed in all areas to prevent heat stress but precautions must be taken to prevent contamination of the water and ice.
- Smoking is prohibited in all work areas. Matches and lighters are not allowed in these areas.
- Hands must be thoroughly washed upon leaving the work area and before eating, drinking or any other activities.
- Beards or other facial hair that interfere with respirator fit are prohibited.
- The use of alcohol or illicit drugs is prohibited during the conduct of field operations.
- All equipment must be decontaminated or properly discarded before leaving the site in accordance with the project work plan.
- Parking and pedestrian areas will be established and communicated to all workers.

9.0 Decontamination

9.1 Personal Decontamination

Proper decontamination is required of all personnel before leaving the site. Decontamination will occur within the contamination reduction zone.

Regardless of the type of decontamination system required, a container of potable water and liquid soap should be made available so employees can wash their hands and face before leaving the site for lunch or for the day.

9.2 PPE Decontamination

Disposable PPE, such as Tyvek coveralls, gloves, etc. will be removed in the decon zone and placed in garbage bags. Final disposal of contaminated PPE will be in accordance with the work plan.

If worn, respirators assigned to an individual will be cleaned after each use with respirator wipe pads and will be stored upright in plastic bags. Respirators will be thoroughly cleaned using disinfectant material within one week following any respirator use. Respirators that have the potential to be shared by employees within the workplace will be completely dismantled and thoroughly cleaned after each use. Refer to the cleaning instructions provided with the respirator or specified by Appendix B-2 to the OSHA regulations at 29 CFR 1910.134.

9.3 Equipment Decontamination

Equipment will be decontaminated prior to being moved to other locations. Decontamination procedures will be specified in the Field Sampling and Analysis Plan (FSAP).

10.0 Medical Monitoring and Training Requirements

Each worker subject to this HASP shall have copies of documentation that the requirements for training, medical surveillance, and respirator use are current. Copies of these documents shall be made available to AECOM or AECOM's client upon request.

10.1 Medical Monitoring

All personnel performing activities covered by this HASP must be active participants in a medical monitoring program that complies with 29 CFR 1910.120(f). Each individual must have completed an annual surveillance examination and/or an initial baseline examination within the last year prior to performing any work on the site covered by this HASP.

10.2 Health and Safety Training

10.2.1 HAZWOPER

All personnel performing activities covered by this HASP must have completed the appropriate training requirements specified in 29 CFR 1910.120 (e). Each individual must have completed an annual 8-hour refresher training course and/or initial 40-hour training course within the last year prior to performing any work on the sites covered by this HASP.

10.2.2 Pre-Entry Briefing/Tailgate Meetings

Prior to the commencement of daily project activities, a pre-entry briefing or tailgate meeting will be conducted by the SSO to review the specific requirements of this HASP, review and revise the JSA, discuss Incidents, Near Misses and lessons learned from the previous day's activities, and discuss site conditions that have changed since the previous day or trip to the site. Attendance at the daily tailgate meeting is mandatory for all personnel covered by this HASP at the site and must be documented on the attendance form provided in Attachment D. HASP sign-off sheets should also be collected at the time of the tailgate meetings. All documentation should be maintained in the project file.

The pre-entry briefing must be completed for each new employee before they begin work at the site. Short safety refresher meetings will be conducted, as needed, throughout the duration of the project.

11.0 Emergency Response

OSHA defines emergency response as any "response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual-aid groups, local fire departments, etc.) to an occurrence which results, or is likely to result in an uncontrolled release of a hazardous substance." According to AECOM policy, AECOM personnel shall not participate in any emergency response where there are potential safety or health hazards (i.e., fire, explosion, or chemical exposure). AECOM response actions will be limited to evacuation and medical/first aid as described within this section below. As such this section is written to comply with the requirements of 29 CFR 1910.38 (a).

The basic elements of an emergency evacuation plan include:

- employee training
- alarm systems
- escape routes
- escape procedures
- critical operations or equipment
- rescue and medical duty assignments
- designation of responsible parties
- emergency reporting procedures
- methods to account for all employees after evacuation

11.1 Spill Response

Employees are only authorized to respond to incidental spills and releases of hazardous substances. The following criteria must be met for a spill to be considered incidental with the employee having the ability to respond to the spill:

- Quantity of spilled material is minimal enough where additional, third party assistance is not needed to manage the spill
- Material is not immediately threatening to impact an open water way
- The conditions of the spill do not present a hazardous condition that is immediately dangerous to life and health (IDLH)
- The employee responding has:
  - received training on proper spill response techniques relative to the spilled material
  - full knowledge of what has been spilled and the proper clean up techniques to be used
  - the means to protect themselves against exposure to harmful conditions caused by the spill including the necessary PPE
  - the means to containerize and dispose of the spilled material properly

Employees may be equipped with the following materials, assembled into a spill response kit, to manage incidental workplace spills:

- Absorbent pads or media, i.e. speedy-dry, kitty litter

- Broom and dust pan to clean up spent granular spill control media or impacted earth
- Shovel to clean up impacted earth or create a dam or dyke to prevent the spill area from increasing
- Disposal drums and over-pack drums
- Appropriate waste identification labels
- Appropriate PPE

If a spill is not considered incidental, then additional assistance will be sought to aid in clean-up. The responding employee shall contact the Project Manager and provide initial notification of the release. The Project Manager will then notify the client representative and determine a suitable course of action. Chem-trec may be contacted to provide additional support in responding to a spill. Consideration will need to be given to whether or not the spill is deemed to be a reportable quantity (RQ) by the EPA, if the National Spill Response Center needs to be contacted due to surface water impact, and if local, state or federal agencies need to be contacted to provide information related to public health threats and environmental impact.

All spills must be reported to the AECOM PM and RSM, with the PM providing notification to the client representative, no matter how small the spill is. After initial response actions have been completed an incident investigation will be performed to determine the root causes of the incident and corrective actions, and lessons learned shall be shared to prevent future reoccurrence. Once the response is complete, the responding employee will also conduct an inventory of supplies used during the response effort and re-stock any used response equipment that could not be decontaminated and reused.

11.2 Employee Training

Employees must be instructed in the site-specific aspects of emergency evacuation. On-site refresher or update training is required anytime escape routes or procedures are modified or personnel assignments are changed.

11.3 Alarm System/Emergency Signals

An emergency communication system must be in effect at all sites. The simplest and most and effective emergency communication system in many situations will be direct verbal communications. Each site must be assessed at the time of initial site activity and periodically as the work progresses. Verbal communications must be supplemented anytime voices can not be clearly perceived above ambient noise levels (i.e., noise from heavy equipment; drilling rigs, backhoes, etc.) and anytime a clear line-of-sight can not be easily maintained amongst all AECOM personnel because of distance, terrain or other obstructions.

Verbal communications will be adequate to warn employees of hazards associated with the immediate work area. The property is occupied but AECOM may not have access to facility phones. Therefore, AECOM will bring a portable phone to the site to ensure that communications with local emergency responders is maintained, when necessary.

11.4 Escape Routes and Procedures

The escape route from the site and an emergency muster point will be determined and provided to all workers during the project mobilization.

Prior to mobilizing to a new project area, the Site Safety Officer or his designee will confirm that the escape routes are clear and lead to a safe area.

11.5 Employee Accounting Method

The SSO is responsible for identifying all AECOM personnel on-site at all times. AECOM and its subcontract employees will notify the SSO when they enter and leave the site. The SSO will account for all AECOM and its subcontract employees following an evacuation.

11.6 Injuries and Illnesses

The phone numbers of the police and fire departments, ambulance service, local hospital, and AECOM representatives are provided in the emergency reference sheet on page 1. This sheet will be posted in the site vehicle.

11.6.1 First Aid

Minor injuries will be treated on site using materials from the first aid kit or other local sources. All cuts and abrasions will be cleaned with potable water and a clean dressing applied. The injured employee will be evaluated at the end of the work day and the following day when the employee arrives at the project site to determine whether the wound has started the healing process. The wound will be protected from contamination during the project activities.

11.6.2 Professional Treatment

In the event an injury or illness requires more than first aid treatment, the SSO will accompany the injured person to the medical facility and will remain with the person until release or admittance is determined. The escort will relay all appropriate medical information to the on-site project manager and the RSM.

If the injured employee can be moved from the accident area, he or she will be brought to the CRZ where their PPE will be removed. If the person is suffering from a back or neck injury the person will not be moved and the requirements for decontamination do not apply. The SSO must familiarize the responding emergency personnel about the nature of the site and the injury. If the responder feels that the PPE can be cut away from the injured person's body, this will be done on-site. If this not feasible, decontamination will be performed after the injured person has been stabilized.

11.7 Designation of responsible parties

The SSO is responsible for initiating emergency response. In the event the SSO can not fulfill this duty, the alternate SSO will take charge.

11.8 Emergency Response Drills

A table-top run through of the evacuations procedures will be conducted the first day on the site and reviewed with all workers arriving on site after that date.

Emergency Response drills and subsequent personnel briefings on evacuation procedures will be documented in the safety briefing agenda or briefing notes.

11.9 Incident Reporting and Investigation

Any incident (other than minor first aid treatment) resulting in injury, illness or property damage requires an Incident investigation and report. The investigation should be conducted as soon as emergency conditions are under control. The purpose of the investigation is not to attribute blame but to determine the pertinent facts so that repeat or similar occurrences can be avoided. An AECOM Incident investigation form is presented in Attachment E of this HASP. The injured AECOM employee's supervisor, the AECOM Project Manager, and the RSM should be notified immediately of the injury.

If a subcontractor employee is injured, they are required to notify the AECOM SSO. Once the incident is under control, the subcontractor will submit a copy of their company's Incident investigation report to the AECOM SSO.

Attachment A

Health and Safety Plan Review Form

Health and Safety Plan Acceptance Form

Site Characterization Work Plan
Bay Ridge Former Holder Stations A and B Site
Brooklyn, New York

I have reviewed a copy of the Health and Safety Plan prepared for the above-referenced site and activities. I have read and understood its contents and I agree that I will abide by its requirements.

Name: _____

Signature: _____

Date: _____

Representing: _____

Attachment B

Job Safety Analysis

Job Safety Analysis

JSA Type: ☐ Investigation ☐ O&M ☐Office ☐ Construction	☐ New ☐ Revised	Date:
Work Activity:		
Personal Protective Equipment (PPE):		

Development Team	Position/Title	Reviewed By	Position/Title	Date

❶ Job Steps[1]	❷ Potential Hazards[2]	❸ Critical Actions[3]	STOP Stop Work Criteria
		•	•
		•	•
		•	•
		•	•
		•	•

Attachment C

Drill Rig Inspection Form

Drill Rig Inspection Log

Project Name: _____ Project Number: _____

Date: _____ Subcontractor Inspected: _____

AECOM Site Manager: _____

General Safety		
Safety Officer Designated for Job:	☐ Yes	☐ No
Name:		
Safety Meeting Performed (Daily)	☐ Yes	☐ No
Personal Protective Equipment (PPE)		
Hard Hats	☐ Yes	☐ No
Safety Glasses	☐ Yes	☐ No
Steel Toed Boots	☐ Yes	☐ No
Hearing Protection	☐ Yes	☐ No
Work Gloves	☐ Yes	☐ No
Orange Work Vests	☐ Yes	☐ No
Traffic Cones and Signs	☐ Yes	☐ No
Other	☐ Yes	☐ No
Disposal of PPE in Proper Waste Containers (if applicable)	☐ Yes	☐ No
Comments:		
Daily Inspections of Drill Rig:		
Structural Damage, Loose Bolts	☐ Yes	☐ No
Proper Tension in Chain Drives	☐ Yes	☐ No
Loose or Missing Guards, Fluid Leaks	☐ Yes	☐ No
Damaged Hoses and/or Damaged Pressure	☐ Yes	☐ No
Gages and Pressure Relief Valves	☐ Yes	☐ No
Comments:		

Check and test all safety devices such as:		
Emergency shutdown switches, at least daily	☐ Yes	☐ No
All gages and warning lights and ensure control levers are functioning properly	☐ Yes	☐ No
First Aid and fire extinguishers on drill rig	☐ Yes	☐ No
Back up alarm functioning properly	☐ Yes	☐ No
Comments:		

Drill Crew Training Requirements:		
40-hour OSHA Training	☐ Yes	☐ No
8-hour Annual Refresher Training	☐ Yes	☐ No
Drill Rig Training/Safe Operating Practices	☐ Yes	☐ No
First Aid/CPR	☐ Yes	☐ No
Emergency Procedures	☐ Yes	☐ No
Emergency Phone Numbers Posted	☐ Yes	☐ No
Site Orientation	☐ Yes	☐ No
Health and Safety Plan Review	☐ Yes	☐ No
Comments:		

Housekeeping:		
Suitable storage for tools, materials, and supplies	☐ Yes	☐ No
Pipes, drill rods, casing, and augers stacked on racks to prevent rolling and sliding	☐ Yes	☐ No
Platforms and other work areas free of debris materials and obstructions	☐ Yes	☐ No
Comments:		

Hand Tools:		
Tools in good condition	☐ Yes	☐ No
Broken tools discarded and replaced	☐ Yes	☐ No
Right tool used for the right job	☐ Yes	☐ No
Comments:		

Drilling Operations:		
Mast or derrick down when moving rig	☐ Yes	☐ No
Overhead obstructions identified before mast is raised	☐ Yes	☐ No
Drill rig stabilized using leveling jacks or solid cribbing	☐ Yes	☐ No
Secure and lock derrick	☐ Yes	☐ No
Comments:		

Overhead and Buried Utilities:		
Buried utilities identified and marked	☐ Yes	☐ No
Safe distance of drill rig from overhead power lines	☐ Yes	☐ No
Comments:		

Wire Line Hoists Wire Rope and Hardware:		
Inspection for broken wires where reduction in rope diameter, wire diameter, fatigue, corrosion, damage from gear jamming, crushing, bird caging, kinking	☐ Yes	☐ No
Inspect and lubricate parts daily	☐ Yes	☐ No
Comments:		

Auger Operations - What to look for:

- A system of responsibility between the operator and the tool handler when connecting and disconnecting auger sections and inserting and removing auger fork.
- During connecting and disconnecting auger sections and inserting auger for the tool, handler should position himself away from the auger column while it is rotating.
- When securing the auger to the power coupling, pin should be inserted and tapped into place using a hammer or other similar device.
- Tool hoist should be used to lower second section of auger into place.
- Both operators should be clear of auger as it is being lifted into place.
- Long-handled shovel should be used to move dirt away from auger.

Overall Summary:

Attachment D

Pre-Entry Briefing Attendance Form

Health and Safety Pre-Entry Briefing Attendance Form

Site Characterization Work Plan
Bay Ridge Former Holder Stations A and B Site
Brooklyn, New York

Conducted by:		**Date Performed:**	
List of Daily Activities/Tasks	1.		
	2.		
	3.		
	4.		
Topics Discussed:	1. Review of the content of the HASP (Required 1st day; applicable sections ongoing)		
	2.		
	3.		
	4.		

Printed Name	Signature	Representing

Attachment E

Supervisor's Report of Incident

Supervisor's Report of Incident

1. Seek immediate medical attention if necessary.
2. Employee must report **all** incidents to their supervisor **immediately**.
3. Supervisor calls the Incident, Injury and Near Miss Reporting Line at **(800) 348-5046**.

Section 1 - Organization Information

Region: ☐West ☐ Midwest ☐ Southwest/Mountain ☐ Southeast ☐ Mid-Atlantic ☐ Northeast	District:	Section/Dept Number:
Business Line: ☐ Infrastructure-Water ☐ Infrastructure-Transportation ☐ Infrastructure-Energy & Power ☐ PDD-Facilities ☐ PDD-Design ☐ Environmental		Office Name:
Client Name:		Project Number:
Project Name:		

Section 2 - Type of Incident (SRI Sections to be Completed)

☐ Injury/ illness (Sections 3, 4, and 7)	☐ Vehicle Incident (Sections 3, 4, 5, and 7)	☐ Property Damage (Sections 3, 4, 6 and 7)	☐Environmental Spill/Release (Sections 3, 4, and 7)
☐ Regulatory Inspection or Notification: (Sections 3, 4,7)			☐ Other (describe)

Section 3 – Contact/Incident Information

Employee/Claimant Name:		Employee Job Title:	☐ Full-Time Employee ☐ Subcontractor/Subconsultant ☐ Temp Agency Employee ☐ Part-Time Employee ☐ Third Party Employee
Work Phone:	Cell Phone:	Home Phone:	Employee Number:
Date/Time of Incident:		Date/Time Reported to Supervisor:	
Street Address of Incident or approximately:		City:	State/Zip:
Body Part Injured:		Type of Treatment: Medical/hospital or doctor ☐ First Aid Only ☐	
Medical Facility Contact Info: (Name, Address, Phone)			

Section 4 - Descriptions of Incident *(employee, supervisor and witness statements)*

Employee Description of Incident: *(use additional paper if necessary)*	
Employee Signature:	**Date and Time:**

Supervisor Description of Incident: (*Supervisor signs in Section 7*) (*use additional paper if necessary*)

Witness Name :	Witness Address:	Witness Phone No.:
Witness Description of the Incident: (*use additional paper if necessary*)		
Witness Signature:		***Date and time:***

Section 5 - Vehicle Incident Information **(fill out for motor vehicle incidents only)**

5a - AECOM Driver Name:		Drivers License #:	State Issued:	Expiration Date:	
Vehicle Year:	Make:	Model:	Color:	License Plate:	State:
VIN Number:					
AECOM Vehicle was: ☐ AECOM Owned ☐ Leased ☐ Rented ☐ Personal Vehicle			**Who was involved?** ☐ AECOM Vehicle(Section 5a) ☐ Another Vehicle(Section 5b) ☐ Pedestrian ☐ Property		
Use of Vehicle at Time of Incident: ☐ Office Visit ☐ Site Visit ☐ Client Meetings ☐ Field Work ☐ Personal ☐ Other_____			Vehicle Type: ☐ Commercial Motor Vehicle ☐ Non Commercial Motor Vehicle		
5b - Name of Other Driver:		Address:	City:	State/Zip:	
Work Phone:			Cell Phone:		
Date of Birth:	Drivers License #:		State Issued:	Expiration Date:	
Vehicle Year:	Make:	Model:	Color:	License Plate:	State:
VIN Number, Insurance Company Name, Insurance Policy Number:					

If *Vehicle Owner* is different from driver then complete owner's contact information	Owner Name:	
	Address, City, State, Zip:	
	Work Phone:	Cell Phone:
Authorities contacted? ☐ Yes ☐ No	If so, who responded?	
Citations Issued? ☐ Yes ☐ No	Type of Citation:	Person Cited:

Section 6 - General Liability (***Fill out for property damage only***)

Description of damaged property:	
Where can the property be seen?	
Property Owner Name:	
Address, City, State, Zip:	
Work Phone:	Cell Phone:

Section 7- Signatures

Supervisor

Print Name:	Signature:	Date:	Telephone:

Office/Location Manager

Print Name:	Signature:	Date:	Telephone:

Regional SH&E Manager

Print Name:	Signature:	Date:	Telephone:
Comments:			

Attention: This form must be completed and forward to the Regional SH&E Manager within one (1) business day following the occurrence of the incident.

Attachment F

Material Safety Data Sheets

…..Alconox

SPI Supplies Division
Structure Probe, Inc.
P.O. Box 656 West Chester, PA 19381-0656 USA
Phone: *1-(610)-436-5400* ***Fax:*** *1-(610)-436-5755*
E-mail: *spi3spi@2spi.com*
WWW: http://www.2spi.com
Manufacturer's CAGE: 1P573

Material Safety Data Sheet

SPI #01200-AB and #01200A-AB Alconox® Powdered Detergent

Section 1: Identification

Date Effective..... November 14, 2005 (most recent revision)

Chemical Name/Synonyms... On Label: Alconox®

Chemical Family..... Anionic powdered detergent

Emergencies
Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...
Worldwide phone: 1-(703)-527-3887
Worldwide FAX: 1-(703)-741-6090
Toll-free phone: 1-(800)-424-9300 USA only

Product or Trade Name.... SPI #01200-AB and #01200A-AB Alconox® Powdered Detergent

CAS #. Not applicable

Chemical Formula..... Not applicable

Section 2 Composition Component Name CAS # OSHA OSHA ACGIH ACGIH

No hazardous ingredients in Alconox Powdered Detergent as defined by the OSHA Standard and Hazardous Substance List 29 CFR 1910 Subpart Z.

Hazardous Material Information System USA	**Health**	**0**	**National Fire Protection Association USA**	
	Fire Hazard	**0**		
	Reactivity	**0**		

	Personal Protection			

NFPA (National Fire Protection Association) Rating (Scale 0-4):
HEALTH=0 FLAMMABILITY=0 REACTIVITY=0 OTHER=0 Not known

Section 3: Hazard Identification

Routes of entry
Inhalation? Yes
Skin? No
Ingestion? Yes

Health Hazards (Acute and chronic):
Inhalation of powder may prove locally irritating to mucous membranes.
Ingestion may cause discomfort and/or diarrhea. Eye contact may prove irritating.

Carcinogenicity:
NTP? No
IARC Monographs? No
OSHA Regulated? No

Section 4: First Aid Measures

Signs and Symptoms of Exposure:
Exposure may irritate mucous membranes. May cause sneezing.

Medical conditions generally aggravated by exposure: Not established. Unnecessary exposure to this product or any industrial chemical should be avoided.

Respiratory conditions may be aggravated by powder if air borne.

Emergency and First Aid Procedures:

Eyes: Immediately flush eyes with copious amounts of water for minimum 15 minutes. Call physician.

Skin: Flush with plenty of water.

Ingestion: Drink large quantities of water or milk. Do not induce vomiting. If vomiting occurs re-administer fluids. See a physician for discomfort.

Section 5: Fire Fighting Measures

NFPA Rating: Not known

Extinguishing Media
Suitable/Not suitable:

SMALL FIRE: Use DRY chemical powder, water, foam, carbon dioxide

LARGE FIRE: Use extinguishing media suitable for the surrounding materials.

Special firefighting procedures:
Self-contained positive pressure breathing apparatus and protective clothing should be worn when fighting fires involving chemicals.

Unusual Fire/Explosion Hazards: None

Hazardous thermal decomposition products: None known.

Protection of fire fighters: No special measures are required.

Flammable Limits:
LEL: No data
UEL: No data

Section 6: Accidental Release Measures

Personal precautions: No special precautions

Environmental Precautions and Clean Up Methods:
Material foams profusely. Recover as much as possible and flush remainder to sewer. Material is biodegradable.

Section 7: Handling and Storage

Material should be stored in a dry area to prevent caking.

Section 8: Exposure Controls and Personal Protection

Engineering controls: Normal ventilation is normally required when handling or using this product. Avoid conditions that could produce dusting.

Personal Protective Equipment

Respiratory system: Dust mask recommended but not required.

Skin and body: Laboratory coat recommended but not required.

Hands: Impervious gloves recommended

Eyes: Goggles are recommended, especially when handling solutions irrespective of what they might be.

Other: Wash hands before eating, drinking, or smoking.

Section 9: Physical and Chemical Properties

Physical State and Appearance: White powder interspersed with cream colored flakes.

Odor: None

Boiling Point: Not applicable

Melting Point: Not applicable

Density (water = 1): Not applicable

Solubility: Appreciable, to 10% at ambient conditions.

Octanol/water partition coefficient: Not available

pH: Not known

Flash Point: None

Flammability: Non-flammable

Autoignition temperature: Not applicable

Section 10: Stability and Reactivity

Chemical Stability: The product is stable

Hazardous polymerization: Will not occur

Conditions to Avoid: None

Hazardous Products of Deposition: May release CO_2 on burning.

Reactions with Air and Water:
Does not react with air, water or other common materials.

Section 11: Toxicological Information

Summary: Not considered to be toxic to humans or animals.

Skin Effects: Can be locally irritating

Eye Irritation: Can be irritating to the eyes

Inhalation: Dust can be irritating to mucous membranes

Sensitization: Not known

Chronic toxicity: There is no known effect from the chronic exposure to this product.

Section 12: Ecological Information

Exotoxicity: Not know but it is expected to be low because the material is biodegradable.

Environmental Fate: It is biodegradable.

Bioaccumulation: Not expected to occur (because the material is biodegradable).

Section 13: Disposal Considerations

This material is NOT classified as a hazardous material by RCRA. Use only licensed transporters and permitted disposal facilities and conform to all laws.

Recycle to process, if possible.

Germany water class: VCI WGK: No products were found.

Methods of disposal; waste of residues; contaminated packaging:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

Proper Shipping Name: Non-Regulated, No dangerous cargo

DOT Hazard Class: Non-Regulated, No dangerous cargo

UN/NA ID: Non-Regulated, No dangerous cargo

Packing Group: Not Applicable

Labels: Not Regulated

Marine Pollutant: No

NAER Guidebook: Not Regulated

DOT Status: Not Regulated

Land-Road/Railway:
ADR/RID Class: No dangerous cargo

Sea:
IMDG Class: No dangerous cargo

Air:

IATA-DGR Class: No dangerous cargo

Section 15: Regulatory Information

TSCA: All components of this product are listed on the TSCA 8(b) inventory. If identified components of this product are listed under the TSCA 12(b) Export Notification Rule, they will be listed below.
TSCA 12(b) Component Listed under TSCA Section
SARA Title 3: Section 313 Information/Emissions Reporting (**40 CFR 372**):
Component Reporting Threshold
SARA-Section 311/312:
No components present in this product are subject to the reporting requirements of this statute.

CERCLA Hazardous Substances and their Reportable Quantities:
Component Reportable Quantity
EU Regulations: Risk Phrases: This product is not classified according to the EU regulations.

Safety Phrases: Not applicable

Contains: Not applicable

California Prop. 65:
Proposition 65 requires manufacturers or distributors of consumer products into the State of California to provide a warning statement if the product contains ingredients for which the State has found to cause cancer, birth defects or other reproductive harm. If this product contains an ingredient listed by the State of California to cause cancer or reproductive toxicity, it will be listed below:

None found

Section 16: Other Information

Disclaimer of Liability:

Caution! Do not use SPI Supplies products or materials in applications involving implantation within the body; direct or indirect contact with the blood pathway; contact with bone, tissue, tissue fluid, or blood; or prolonged contact with mucous membranes. Products offered by SPI Supplies are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. SPI Supplies will not provide to customers making devices for such applications any notice, certification, or information necessary for such medical device use required by US FDA (Food and Drug Administration) regulation or any other statute. SPI Supplies and Structure Probe, Inc. make no representation, promise, express warranty or implied warranty concerning the suitability of these materials for use in implantation in the human body or in contact with internal body tissues of fluids.
****
The information and recommendations set forth above are taken from sources believed to be accurate as of the date hereof, however SPI Supplies and Structure Probe, Inc. make no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assume no liability to any user thereof. The information contained in this sheet does not constitute a hazard assessment and should not be used in place of the user's own assessment of work place risks as required by other health and safety legislation. Be aware of the Structure Probe, Inc. Copyright Policy. Structure Probe, Inc. grants a nonexclusive license to make unlimited copies of this safety sheet for internal use only. Quite obviously, this information

would pertain only to this material when purchased from SPI Supplies as product from other sources, with other ingredients and impurity levels could have substantially different properties.

Thursday February 22, 2007

Worldwide Distributors, Representatives, and Agents

MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI and Canadian WHMIS Standards

PART I *What is the material and what do I need to know in an emergency?*

1. PRODUCT IDENTIFICATION

CHEMICAL NAME; CLASS: **NON-FLAMMABLE GAS MIXTURE**

- Document Number: 002103

PRODUCT USE: For general analytical/synthetic chemical uses.
SUPPLIER/MANUFACTURER'S NAME: AIRGAS INC.
ADDRESS: 259 North Radnor-Chester Road, Suite 100
Radnor, PA 19087-5283
BUSINESS PHONE: 1-610-687-5253
EMERGENCY PHONE: 1-800-949-7937
International: 1-423-479-0293
DATE OF PREPARATION: April 22, 2001

2. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	mole %	EXPOSURE LIMITS IN AIR					
			ACGIH		OSHA		NIOSH IDLH ppm	OTHER ppm
			TLV ppm	STEL ppm	PEL ppm	STEL ppm		
Isobutylene	115-11-7	1 ppm - 1.7%	There are no specific exposure limits for Isobutylene. Isobutylene is a simple asphyxiant (SA). Oxygen levels should be maintained above 19.5%.					
Air	25635-88-5	Balance	There are no specific exposure limits applicable to Air.					
Air is a mixture of gases. The primary components of air, and the approximate concentration of each component, are listed below								
Nitrogen	7727-37-9	79%	There are no specific exposure limits for Nitrogen. Nitrogen is a simple asphyxiant (SA). Oxygen levels should be maintained above 19.5%.					
Oxygen	7782-44-7	21%	There are no specific exposure limits for Oxygen					

NE = Not Established. See Section 16 for Definitions of Terms Used.
NOTE (1): ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-1998 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: This product is a colorless, odorless, non-flammable gas. The main health hazards associated with releases of this gas are related to the high pressure within the cylinder. Air, the main component of this product, is generally considered non-flammable, however, Air will support combustion. The flammable component of this gas mixture is below the LEL. A cylinder rupture hazard exists when this product, which is under pressure, is subjected to heat or flames. Emergency responders must wear personal protective equipment appropriate for the situation to which they are responding.

SYMPTOMS OF OVER-EXPOSURE BY ROUTE OF EXPOSURE: The most significant route of over-exposure for air is by inhalation at elevated or reduced pressure.

INHALATION: This product is non-toxic. Air, the main component of this product, is necessary for life.

OTHER POTENTIAL HEALTH EFFECTS: Contact with rapidly expanding gases (which are released under high pressure) may cause frostbite. Symptoms of frostbite include change in skin color to white or grayish-yellow. The pain after contact with liquid can quickly subside.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in **Lay Terms**. Over-exposure to this product may cause the following health effects:

ACUTE: The most significant hazards associated with compressed air is the pressure hazard. Contact with rapidly expanding gases (which are released under high pressure) may cause frostbite. Symptoms of frostbite include change in skin color to white or grayish-yellow. The pain after contact with liquid can quickly subside.

CHRONIC: There are currently no known adverse health effects associated with chronic exposure to this gas.

TARGET ORGANS: ACUTE: Respiratory system under ambient low pressure conditions. Central nervous system under ambient high pressure conditions. CHRONIC: None expected.

PART II *What should I do if a hazardous situation occurs?*

4. FIRST-AID MEASURES

RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO THIS PRODUCT WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. At a minimum, Self-Contained Breathing Apparatus equipment should be worn.
Victim(s) must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to physician or other health professional with victim(s). Remove victim(s) to fresh air, as quickly as possible. In case of eye contact which leads to irritation, immediately flush eyes with copious amounts of water for at least 15 minutes. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Only trained personnel should administer supplemental oxygen.
In case of frostbite, place the frostbitten part in warm water. DO NOT USE HOT WATER. If warm water is not available, or is impractical to use, wrap the affected parts gently in blankets. Alternatively, if the fingers or hands are frostbitten, place the affected area in the armpit. Encourage victim to gently exercise the affected part while being warmed. Seek immediate medical attention.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Acute or chronic respiratory conditions, as well as disorders involving the "Target Organs", as listed in Section 3 (Hazard Information), may be aggravated by overexposure to the components of this product.
RECOMMENDATIONS TO PHYSICIANS: Administer oxygen as soon as possible, following exposure.

5. FIRE-FIGHTING MEASURES

FLASH POINT: Not applicable.
AUTOIGNITION TEMPERATURE: Not applicable.
FLAMMABLE LIMITS (in air by volume, %):
Lower (LEL): Not applicable.
Upper (UEL): Not applicable.

5. FIRE-FIGHTING MEASURES (Continued)

FIRE EXTINGUISHING MATERIALS: Non-flammable gas. Use extinguishing media appropriate for surrounding fire.
UNUSUAL FIRE AND EXPLOSION HAZARDS: When involved in a fire, this material may decompose and produce toxic gases including carbon monoxide and carbon dioxide. Additionally, when involved in fire, the cylinders may rupture.
Explosion Sensitivity to Mechanical Impact: Not Sensitive.
Explosion Sensitivity to Static Discharge: Not Sensitive.

SPECIAL FIRE-FIGHTING PROCEDURES: Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move fire-exposed cylinders from area, if it can be done without risk to fire-fighters. Withdraw immediately in case of rising sounds from venting pressure relief devices or any discoloration of tanks or cylinders due to a fire.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a release, clear the affected area, protect people, and respond with trained personnel. Minimum Personal Protective Equipment should be **Level D: safety glasses, and mechanically-resistant gloves. Level B, which includes the use of Self-Contained Breathing Apparatus, should be worn when oxygen levels are below 19.5% or are unknown.** Locate and seal the source of the leaking gas. If this does not stop the release (or if it is not possible to reach the valve), allow the gas to release in place or remove it to a safe area and allow the gas to be released there.

PART III *How can I prevent hazardous situations from occurring?*

7. HANDLING and STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: Do not eat or drink while handling chemicals.

STORAGE AND HANDLING PRACTICES: Cylinders should be stored in dry, well-ventilated areas away from sources of heat. Compressed gases can present significant safety hazards. Store containers away from heavily trafficked areas and emergency exits.

SPECIAL PRECAUTIONS FOR HANDLING GAS CYLINDERS: Protect cylinders against physical damage. Store in cool, dry, well-ventilated, fireproof area, away from flammable or combustible materials and corrosive atmospheres. Store away from heat and ignition sources and out of direct sunlight. Do not store near elevators, corridors or loading docks. Do not allow area where cylinders are stored to exceed 52°C (125°F). Isolate from incompatible materials including flammable materials (see Section 10, Stability and Reactivity), which can burn violently. Use only storage containers and equipment (pipes, valves, fittings to relieve pressure, etc.) designed for the storage of Air. Do not store containers where they can come into contact with moisture. Cylinders should be stored upright and be firmly secured to prevent falling or being knocked over. Cylinders can be stored in the open, but in such cases, should be protected against extremes of weather and from the dampness of the ground to prevent rusting. Never tamper with pressure relief devices in valves and cylinders. The following rules are applicable to situations in which cylinders are being used:
Before Use: Move cylinders with a suitable hand-truck. Do not drag, slide or roll cylinders. Do not drop cylinders or permit them to strike each other. Secure cylinders firmly. Leave the valve protection cap in-place until cylinder is ready for use.
During Use: Use designated CGA fittings and other support equipment. Do not use adapters. Do not heat cylinder by any means to increase the discharge rate of the product from the cylinder. Use check valve or trap in discharge line to prevent hazardous backflow into the cylinder. Do not use oils or grease on gas-handling fittings or equipment.
After Use: Close main cylinder valve. Replace valve protection cap. Mark empty cylinders “EMPTY”.
NOTE: Use only DOT or ASME code containers. Earth-ground and bond all lines and equipment associated with this product. Close valve after each use and when empty. Cylinders must not be recharged except by or with the consent of owner. For additional information refer to the Compressed Gas Association Pamphlet P-1, *Safe Handling of Compressed Gases in Containers*. Additionally, refer to CGA Bulletin SB-2 “*Oxygen Deficient Atmospheres*”.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain application equipment is locked and tagged out safely. Purge gas handling equipment with inert gas (i.e. nitrogen) before attempting repairs. Always use product in areas where adequate ventilation is provided.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation.
RESPIRATORY PROTECTION: Maintain Oxygen levels above 19.5% in the workplace. If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations, or the Canadian CSA Standard Z94.4-93 and applicable standards of Canadian Provinces. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998).
EYE PROTECTION: Splash goggles, face-shields or safety glasses. If necessary, refer to U.S. OSHA 29 CFR 1910.133, or Canadian Standards.
HAND PROTECTION: Wear mechanically-resistant gloves when handling cylinders of this product. If necessary, refer to U.S. OSHA 29 CFR 1910.138 or appropriate Standards of Canada.
BODY PROTECTION: Use body protection appropriate for task. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR.

9. PHYSICAL and CHEMICAL PROPERTIES

The following information is for **Air**, the main component of this product , unless otherwise stated:
RELATIVE VAPOR DENSITY: 1 EVAPORATION RATE (nBuAc = 1): Not applicable.
SPECIFIC GRAVITY: Not applicable. FREEZING POINT: -216.2°C (-357.2°F)
SOLUBILITY IN WATER: 1.49% (v/v) BOILING POINT @ 1 atmos: -194.3°C(-317.8°F)
VAPOR PRESSURE, mmHg @ 20°C:. pH: Not applicable.
EXPANSION RATIO: Not applicable. VAPOR PRESSURE: Not applicable.
SPECIFIC VOLUME: 13.3 ft_3/lb; (0.833 m_3/kg) ODOR THRESHOLD: Not applicable.
COEFFICIENT WATER/OIL DISTRIBUTION: Not applicable.

The following information is pertinent to this gas mixture:
APPEARANCE, ODOR AND COLOR: This product is a colorless, odorless gas.
HOW TO DETECT THIS SUBSTANCE (warning properties): There are no distinctive properties to this product. In terms of leak detection, fittings and joints can be painted with a soap solution to detect leaks, which will be indicated by a bubble formation.

10. STABILITY and REACTIVITY

STABILITY: Normally stable.
DECOMPOSITION PRODUCTS: None known.
MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE. Air (the main component of this product) is not compatible with fuels, in that air will support combustion. The Isobutylene component of this mixture is incompatible with Strong oxidizers (e.g., chlorine, bromine pentafluoride, oxygen, oxygen difluoride, and nitrogen trifluoride).
HAZARDOUS POLYMERIZATION: Will not occur.
CONDITIONS TO AVOID: Contact with incompatible materials and exposure to heat, sparks and other sources of ignition. Cylinders exposed to high temperatures or direct flame can rupture or burst.

PART III *How can I prevent hazardous situations from occurring?*

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The following toxicology data are for the components of this gas mixture present at a level greater than 1 mole %:
ISOBUTYLENE:
LC50 (Inhalation-Rat) 620 gm/m3/4 hours LC50 (Inhalation-Mouse) 415 gm/m3/2 hours

SUSPECTED CANCER AGENT: No component of this gas mixture is found on the following lists: FEDERAL OSHA Z LIST, NTP, CAL/OSHA, IARC, and therefore is not considered to be, nor suspected to be, cancer causing agents by these agencies.

IRRITANCY OF PRODUCT: Contact with rapidly expanding gases can cause frostbite and damage to exposed skin and eyes.
SENSITIZATION OF PRODUCT: No component of this product is a skin or respiratory sensitizer.
REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of this product and its components on the human reproductive system.
Mutagenicity: This product is not reported to cause mutagenic effects in humans.
Embryotoxicity: This product is not reported to cause embryotoxic effects in humans.
Teratogenicity: This product is not reported to cause teratogenic effects in humans.

Reproductive Toxicity: This product is not reported to cause adverse reproductive effects in humans.
A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generation lines. An embryotoxin is a chemical which causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with
the reproductive process.
BIOLOGICAL EXPOSURE INDICES: Biological Exposure Indices (BEIs) have been determined for the components of this product are as follows:

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: This gas will be dissipated rapidly in well-ventilated areas.
EFFECT OF MATERIAL ON PLANTS or ANIMALS: No adverse effect is anticipated to occur to plant-life, except for frost produced in the presence of rapidly expanding gases.
EFFECT OF CHEMICAL ON AQUATIC LIFE: No evidence of an adverse effect of this product on aquatic life is currently available.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Product removed from cylinder must be disposed of in accordance with appropriate U.S. Federal, State and local regulations or with regulations of Canada and its Provinces. Return cylinders with residual product to Airgas, Inc. Do not dispose of locally.

14. TRANSPORTATION INFORMATION

THIS GAS MIXTURE IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

PROPER SHIPPING NAME: Compressed gases, n.o.s. (Air, Isobutylene)
HAZARD CLASS NUMBER and DESCRIPTION: 2.2 (Compressed Gas)
UN IDENTIFICATION NUMBER: UN 1956
PACKING GROUP: Not Applicable
DOT LABEL(S) REQUIRED: Compressed Gas
NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2000): 126

TRANSPORT CANADA, TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This gas mixture is considered as dangerous goods, per regulations of Transport Canada. Use the above information for the preparation of Canadian Shipments.

15. REGULATORY INFORMATION

ADDITIONAL U.S. REGULATIONS:
U.S. SARA REPORTING REQUIREMENTS: The components of this gas mixture are not subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for this material. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.
U.S. CERCLA REPORTABLE QUANTITY (RQ): Not applicable.
U.S. TSCA INVENTORY STATUS: The components of this product are listed on the TSCA Inventory.
OTHER U.S. FEDERAL REGULATIONS: Not applicable.
U.S. STATE REGULATORY INFORMATION: The components of this gas mixture are covered under specific State regulations, as denoted below:

Alaska - Designated Toxic and Hazardous Substances: None.
California - Permissible Exposure Limits for Chemical Contaminants: None.
Florida - Substance List: Isobutylene. **Illinois - Toxic Substance List:** None.
Kansas - Section 302/313 List: None.
Minnesota - List of Hazardous Substances: Isobutylene.
Massachusetts - Substance List: None.
Missouri - Employer Information/Toxic Substance List: None.
New Jersey - Right to Know Hazardous Substance List: Isobutylene.
North Dakota - List of Hazardous Chemicals, Reportable Quantities: None.
Pennsylvania - Hazardous Substance List: Isobutylene.
Rhode Island - Hazardous Substance List: None.
Texas - Hazardous Substance List: None.
West Virginia - Hazardous Substance List: None.
Wisconsin - Toxic and Hazardous Substances: None.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): No component of this product is on the California Proposition 65 Lists.

LABELING: **CAUTION:** HIGH PRESSURE GAS.
MAY ACCELERATE COMBUSTION.
Keep oil and grease away.
Use equipment rated for cylinder pressure.
Close valve after each use and when empty.
Use in accordance with the Material Safety Data Sheet.

FIRST-AID: **IF INHALED**, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
IN CASE OF FROSTBITE, obtain immediate medial attention.
DO NOT REMOVE THIS PRODUCT LABEL.

ADDITIONAL CANADIAN REGULATIONS:
CANADIAN DSL INVENTORY: The components of this product are listed on the DSL Inventory.
OTHER CANADIAN REGULATIONS: Not applicable.
CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS: The components of this product are not on the CEPA Priorities Substances Lists.
CANADIAN WHMIS SYMBOLS: **Class A:** Compressed Gases

16. OTHER INFORMATION

PREPARED BY: CHEMICAL SAFETY ASSOCIATES, Inc.
9163 Chesapeake Drive, San Diego, CA 92123-1002
858/565-0302

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. AirGas, Inc. assumes no responsibility for injury to the vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, AirGas, Inc. assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the

material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these which are commonly used include the following:

CAS #: This is the Chemical Abstract Service Number which uniquely identifies each constituent.

EXPOSURE LIMITS IN AIR:

ACGIH - American Conference of Governmental Industrial Hygienists, a professional association which establishes exposure limits. **TLV -** Threshold Limit Value - an airborne concentration of a substance which represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour Time Weighted Average **(TWA)**, the 15-minute Short Term Exposure Limit, and the instantaneous Ceiling Level **(C)**. Skin absorption effects must also be considered.

OSHA - U.S. Occupational Safety and Health Administration. **PEL -** Permissible Exposure Limit - This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL," is placed next to the PEL which was vacated by Court Order.

IDLH - Immediately Dangerous to Life and Health **-** This level represents a concentration from which one can escape within 30- minutes without suffering escape-preventing or permanent injury. **The DFG - MAK** is the Republic of Germany's Maximum Exposure Level, similar to the U.S. PEL. **NIOSH** is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. **O**ccupational **S**afety and **H**ealth **A**dministration (**OSHA**). NIOSH issues exposure guidelines called **R**ecommended **E**xposure **L**evels (**REL**s). When no exposure guidelines are established, an entry of **NE** is made for reference.

HAZARD RATINGS:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: Health Hazard: **0** (minimal acute or chronic exposure hazard); **1** (slight acute or chronic exposure hazard); **2** (moderate acute or significant chronic exposure hazard); **3** (severe acute exposure hazard; onetime overexposure can result in permanent injury and may be fatal); **4** (extreme acute exposure hazard; onetime overexposure can be fatal). Flammability Hazard: **0** (minimal hazard); **1** (materials that require substantial pre-heating before burning); **2** (combustible liquid or solids; liquids with a flash point of 38-93□C [100-200□F]);**3** (Class IB and IC flammable liquids with flash points below 38□C [100□F]);**4** (Class IA flammable liquids with flash points below 23 □C [73□F] and boiling points below 38□C [100□F]. Reactivity Hazard:**0** (normally stable); 1 (material that can become unstable at elevated temperatures or which can react slightly with water); **2** (materials that are unstable but do not detonate or which can react violently with water); **3** (materials that can detonate when initiated or which can react explosively with water); **4** (materials that can detonate at normal temperatures or pressures).

PERSONAL PROTECTIVE EQUIPMENT CODES: B: Gloves and goggles; **C:** Gloves, goggles, rubber apron (appropriate body protection); **D:** Gloves, goggles, faceshield; rubber apron (appropriate body protection);. **X:** Special attention should be given to PPE Selection.

NATIONAL FIRE PROTECTION ASSOCIATION: Health Hazard: **0** (material that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials); **1** (materials that on exposure under fire conditions could cause irritation or minor residual injury); **2** (materials that on intense or continued exposure under fire conditions could cause temporary incapacitation or possible residual injury); **3** (materials that can on short exposure could cause serious temporary or residual injury); **4** (materials that under very short exposure could cause death or major residual injury). Flammability Hazard and Reactivity Hazard: Refer to definitions for "Hazardous Materials Identification System".

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the National Fire Protection Association (**NFPA**). Flash Point – Minimum temperature at which a liquid gives off sufficient vapors to form an ignitable mixture with air. Autoignition Temperature: The minimum temperature required to initiate combustion in air with no other source of ignition. LEL - the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. UEL – the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

TOXICOLOGICAL INFORMATION:
Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. Definitions of some terms used in this section are: **LD50** - Lethal Dose (solids & liquids) which kills 50% of the exposed animals; **LC50** – Lethal Concentration (gases) which kills 50% of the exposed animals; **ppm** concentration expressed in parts of material per million parts of air or water; **mg/m3** concentration expressed in weight of substance per volume of air; **mg/kg** quantity of material, by weight, administered to a test subject, based on their body weight in kg. Data from several sources are used to evaluate the cancer-causing potential of the material. The sources are: **IARC** - the International Agency for Research on Cancer; **NTP** - the National Toxicology Program, **RTECS** - the Registry of Toxic Effects of Chemical Substances, **OSHA** and **CAL/OSHA**. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. Other measures of toxicity include **TDLo**, the lowest dose to cause a symptom and **TCLo** the lowest concentration to cause a symptom; **TDo**, **LDLo**, and **LDo**, or **TC**, **TCo**, **LCLo**, and **LCo**, the lowest dose (or concentration) to cause lethal or toxic effects. **BEI** - Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV. Ecological Information: EC is the effect concentration in water.

REGULATORY INFORMATION:
This section explains the impact of various laws and regulations on the material. **EPA** is the U.S. Environmental Protection Agency. **WHMIS** is the Canadian Workplace Hazardous Materials Information System. **DOT** and **TC** are the U.S. Department of Transportation and the Transport Canada, respectively. Superfund Amendments and Reauthorization Act **(SARA)**; the Canadian Domestic/Non-Domestic Substances List **(DSL/NDSL)**; the U.S. Toxic Substance Control Act **(TSCA)**; Marine Pollutant status according to the **DOT**; the Comprehensive Environmental Response, Compensation, and Liability Act **(CERCLA or Superfund)**; and various state regulations.

Appendix G

Previous Investigation Reports

GEI Consultants

April 6, 2007

Geotechnical
Environmental and
Water Resources
Engineering

Ms. Tracey Bell
Project Manager
KeySpan Corporation
Environmental Asset Management
One Metro Tech Center
Brooklyn, NY 11201-3850

Re: Bay Ridge Former Holder Stations A and B Site
Site Number 224058
Records Search

Dear Ms. Tracey Bell:

KeySpan Corporation (KeySpan) requested that GEI Consultants, Inc. (GEI) perform a records search at the Bay Ridge Former Holder Stations A and B site.

This letter summarizes the results of the records search for the Bay Ridge Former Holder Stations A and B site.

This letter report was prepared in accordance with GEI's March 20, 2007 *Cost Proposal to Conduct Records Search for Five Sites, Brooklyn and Queens, New York.* The work was performed according to the cost and assumptions provided in this document and the labor rates were in accordance with Environmental Consulting Services for MGP Sites Agreement between GEI and KeySpan executed in May 2006.

While this report includes elements found in environmental site assessment reports, this report is not intended to comply with the ASTM E 1527-05 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, ASTM E 1528 *Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process*, or the U.S. Environmental Protection Agency's *Standards and Practices for All Appropriate Inquiry.*

Records Search Scope of Work

As part of the Proposal, KeySpan requested a record search report for the Bay Ridge Former Holder Stations A and B site including:

- Environmental data and information currently available
- History and description of site including nature of operations
- Types, quantities, physical state, locations, methods and dates of disposal or release of hazardous wastes
- Current site security
- Identity of other PRPs at the site

GEI Consultants, Inc.
455 Winding Brook Drive, Suite 201, Glastonbury, Connecticut 06033
860.368.5300 fax: 860.368.5307

A Freedom of Information Law (FOIL) request was submitted to the NYSDEC on March 23, 2007. A response to the FOIL has not been received as of April 6, 2007. A search of the New York State Department of Environmental Conservation (NYSDEC) Spill Incidents and Environmental Site Remediation databases was conducted, Sanborn Fire Insurance (Sanborn) maps (Appendix A) were reviewed, and an EDR Radius Map with GeoCheck report was reviewed.

Current Site Conditions

GEI visited the Bay Ridge Former Holder Stations A and B site on April 2, 2007. Representative photographs are included as Appendix B. Holder Station A is currently used as a parking lot for new cars. The site is entirely paved and fenced with 2 locked gates on 64th Street and 1 on 65th Street. The main entrance is located on 65th Street near the Lexus service entrance. Holder Station B is currently used as a KeySpan gate station (eastern portion) and a little league ball park (western portion). The site is fenced with gates on 65th Street and 9th Avenue. There are 2 ball fields with bleachers, dugouts, a concessions building and a storage shed. The gate station has a building on 65th Street, an asphalt parking area on 9th Avenue and a grassed area on 66th Street. A recent aerial photograph is shown on Figure 1.

The current property owners are listed below.

	Block 5735 Lot 17	Parcel Address	837 64th Street
Owner	Carmelo Giuffre		Brooklyn, NY 11220
	(Holder Station A)	Occupant/Land Use	Parking Facilities
	Block 5749 Lot 15	Parcel Address	195 65th Street
Owner	KeySpan Corporation		Brooklyn, NY 11220
	(Holder Station B)	Occupant/Land Use	Transportation and Utility

The former holder stations occupied the above parcels as shown on Figure 1.

Site History

Bay Ridge Holder Station A

According to 1942 and 1951 Sanborn maps, a gas holder and associated building was constructed on the Bay Ridge Holder Station A parcel sometime between 1942 and 1951. This gas holder station was not shown on the 1942 or 1970 Sanborn maps. The holder was operated by Kings County Lighting according to the 1951 Sanborn map. The southeastern portion of the Bay Ridge Holder Station A site has been vacant and used for new automobile storage since 1970.

Bay Ridge Holder Station B

A 1905 Sanborn map shows a gas holder station on the Bay Ridge Holder Station B parcel. Sanborn maps indicate the holder station was located on the parcel until sometime between 1950 and 1977. The 1977 Sanborn Map does not show any gas holders; however, a gate station is shown on the southeastern portion of the parcel, which remains today. Playing fields are located on the northwestern portion of the Bay Ridge Holder Station B parcel.

In March 1985, Roux Associates, Inc conducted a subsurface investigation, including soil sample collection, on the Bay Ridge Holder Station B parcel. A report of the investigation indicated that soil samples were retained for laboratory analysis; however, the report did not include the results of the analysis.

According to the U.S. Environmental Protection Agency, a preliminary assessment (PA) was prepared for the site dated September 24, 1986. Information regarding the PA was not reviewed as part of this submittal.

An Environmental Site Assessment (ESA) was conducted at the Bay Ridge Holder Station B parcel by Vanasse Hangen Brustlin, Inc. (VHB) on behalf of KeySpan, and the ESA Draft Report is dated May 2000. The ESA site sampling activities included surface soil (0-2 inches), subsurface soil, and soil vapor sampling and laboratory analysis. The ESA indicated that

- Semivolatile organic compounds (SVOCs) (specifically polycyclic aromatic hydrocarbons or PAHs) were detected in surface soils
- Volatile organic compounds (VOCs), PAHs, pesticides, metals, and total cyanide were detected in subsurface soil samples
- No VOCs or SVOCs were detected in soil gas samples.

In April 2000, KeySpan removed 15 cubic yards of soil containing trace concentrations of total cyanide at two discrete locations on the northwestern portion (playing fields) of the Bay Ridge Holder Station B parcel.

Records of Materials Handling, Storage Processes, and Waste Generation

A search of the NYSDEC spill incidents and environmental site remediation databases was conducted, Sanborn maps were reviewed, and an EDR Radius Map with GeoCheck report was reviewed. Records of materials handling, storage processes, and waste generation were not identified for the site.

Possible Subsurface Structures

It is unknown if the Bay Ridge Former Holder Station A foundation is present at the site. Subsurface investigations and/or remote sensing methods would be required to evaluate whether any subsurface structures are still present. The ESA states that at the Bay Ridge Holder Station B site, the gas holders were decommissioned and demolished and removed to grade. The site was then filled and graded to the current elevation prior to the construction of the ball fields. The locations of the former holders are shown on Figure 1.

No other records of possible subsurface structures or product lines were identified through the NYSDEC database search, Sanborn maps or the EDR Radius report.

Environmental Records Information

An EDR Radius Map with GeoCheck report was reviewed, a FOIL request was submitted to the NYSDEC and a search of the NYSDEC spill incidents and environmental site remediation databases were conducted. A response to the FOIL request has not been received.

No environmental records information or known discharges on the Bay Ridge Holder Station A site were identified based on the records search. Environmental records information for the Bay Ridge Holder Station B site was identified and is listed below.

Name and Location	Description
Bay Ridge Gate Station 820-884 65th Street	Large Quantity Generator, liquid condensate in pipelines has been known to be contaminated with PCBs, PA completed 9/24/1986, ESA completed May 2000.

Environmental records information and known discharges for properties abutting the Bay Ridge Holder Station A site are listed below.

Name and Location	Direction and Distance From Site	Description
6301 8th Avenue, LLC. 813 64th Street	Northwest, adjacent	Petroleum bulk storage facility, underground fuel oil storage tank
Subaru of Bay Ridge 6301 8th Avenue	Northwest, adjacent	Small quantity generator
Bay Ridge Lexus 813 64th Street	Northwest, adjacent	Small quantity generator
Silent Hoist & Crane Co. Inc. 841-877 63rd Street	North, adjacent	Petroleum bulk storage facility, under ground fuel oil tank (removed)

Environmental records information and known discharges for properties abutting the Bay Ridge Holder Station B site are listed below.

Name and Location	Direction and Distance From Site	Description
Sunoco Company 805 65th Street	Northwest, adjacent	Gasoline spilled on 2/8/1989 and 2/13/1989 from leaking underground storage tanks, gasoline spilled on land on 7/17/2003, Petroleum bulk storage facility, 5 underground storage tanks, conditionally exempt small quantity generator
802 65th Street	Northwest, adjacent	Gasoline spilled on 10/23/1998 on land
Amoco Corporation 802 65th Street	Northwest, adjacent	Petroleum bulk storage facility, 8 underground storage tanks
Leveland Oil Co 802 65th Street	Northwest, adjacent	Small quantity generator
TM 2469 65th Street and 8th Avenue	Northwest, adjacent	15 gallons of oil (likely transformer oil) spilled on 07/01/2001
65th Street and 8th Avenue	Northwest, adjacent	Gasoline spilled on 2/10/1993 at a gas station
66th Street between 8th & 9th Avenues	South, adjacent	Medical waste found on 5/31/1989
Al Eastman & Sons 65th Street between 8th & 9th Avenues	South, adjacent	4 gallons of diesel was spilled on 10/19/2006 due to commercial vehicle equipment failure

Current/former storage/disposal of petroleum products or potentially hazardous waste

An EDR Radius Map with GeoCheck report was reviewed, a FOIL request was submitted to the NYSDEC and a search of the NYSDEC spill incidents and environmental site remediation databases were conducted. A response to the FOIL request has not been received.

No current or former storage of petroleum or hazardous waste was identified on the Bay Ridge Former Holder Station A site based on the records search. Current or former storage of petroleum or hazardous waste on the Bay Ridge Former Holder Station B site was identified and is shown below.

Name and Location	Description
Bay Ridge Gate Station 820-884 65th Street	Large Quantity Generator, liquid condensate in pipelines has been known to be contaminated with PCBs, PA completed 9/24/1986, ESA completed May 2000.

Current or former storage of petroleum or hazardous waste for properties abutting the Bay Ridge Holder Station A site are listed below.

Name and Location	Direction and Distance From Site	Description
6301 8th Avenue, LLC. 813 64th Street	Northwest, adjacent	Petroleum bulk storage facility, underground fuel oil storage tank
Subaru of Bay Ridge 6301 8th Avenue	Northwest, adjacent	Small quantity generator

Name and Location	Direction and Distance From Site	Description
Bay Ridge Lexus 813 64th Street	Northwest, adjacent	Small quantity generator
Silent Hoist & Crane Co. Inc. 841-877 63rd Street	North, adjacent	Petroleum bulk storage facility, under ground fuel oil tank (removed)

Current or former storage of petroleum or hazardous waste for properties abutting the Bay Ridge Holder Station B site are listed below.

Name and Location	Direction and Distance From Site	Description
Sunoco Company 805 65th Street	Northwest, adjacent	Petroleum bulk storage facility, 5 underground storage tanks, conditionally exempt small quantity generator
Amoco Corporation 802 65th Street	Northwest, adjacent	Petroleum bulk storage facility, 8 underground storage tanks
Leveland Oil Co 802 65th Street	Northwest, adjacent	Small quantity generator

Identity of Other PRPs

Sanborn maps were used to identify other PRPs. These businesses that are on site or abutting the site have a potential to have impacted the subsurface soil or groundwater on site. No PRPs were identified on the Bay Ridge Holder Station A or B parcels.

PRPs that abut the Bay Ridge Holder Station A site were identified and are shown below.

Name and Location	Direction and Distance From Site	Facility Operations
Unknown 8th Avenue	West, adjacent	1930s-1960s, commercial, automobile service, gasoline, the operation may have had moderate chemical/oil use and moderate potential for release, down gradient from site
New York Telephone Company 64th Street	West, adjacent	1970s-late 1980s, commercial, garage, the operation may have had moderate chemical/ oil use and moderate potential for release, down gradient from site
Bay Ridge Lexus Subaru of Bay Ridge 8th Avenue	West, adjacent	Late 1980s-present, manufacturing, the operation may have had moderate chemical/oil use and moderate potential for release, down gradient from site
Silent Hoist Winch & Crane Company 63rd Street	North, adjacent	1930s-late 1990s, motor truck winch manufacturing, the operation may have had moderate chemical/oil use and moderate potential for release, side gradient from site

PRPs that abut the Bay Ridge Holder Station B site were identified and are shown below.

Name and Location	Direction and Distance From Site	Facility Operations
Unknown 8th Avenue	Northwest, adjacent	1987-present, automobile repair, the operation may have had moderate

Name and Location	Direction and Distance From Site	Facility Operations
		chemical/oil use and moderate potential for release, down gradient from site
Amoco Corporation Leveland Oil Company 8th Avenue	Northwest, adjacent	1930s-present, gasoline service station, the operation may have had moderate chemical/ oil use and moderate potential for release, down gradient from site
Sunoco Company 8th Avenue	Northwest, adjacent	1930s-present, gasoline service station, the operation may have had moderate chemical/ oil use and moderate potential for release, side gradient from site
Glass Manufacturing Laboratories Inc. 65th Street	Northeast, adjacent	1960s-late 1990s, glass manufacturing, the operation may have had moderate chemical/oil use and moderate potential for release, side gradient from site
Zee-Jay Realty Company 8th Avenue	Northeast, adjacent	Mid 1980s-late 1990s, commercial, auto sales, the operation may have had moderate to low chemical/ oil use and minimal potential for release, side gradient from site
Unknown 65th Street	Northeast, adjacent	1940s-mid 1980s, manufacturing, the operation may have had moderate chemical/ oil use and moderate potential for release, side gradient from site
Unknown 65th Street	Northeast, adjacent	Mid 1980s-late 1990s, commercial/auto sales, the operation may have had moderate to low chemical/oil use and minimal potential for release, side gradient from site

If you have any questions, please contact me or David Terry at (860) 368-5300.

Sincerely,

Melissa J. Felter

Melissa Felter
Project Manager

MF/amm
c: David Terry, GEI

H:\WPROC\Project\KEYSPAN\RECORDS SEARCH-5 Sites 070920\Bay Ridge Holder Stations A & B\Records Search\Bay Ridge Records Search.doc

LEGEND:

HISTORIC GAS HOLDER LOCATION

0 200 400

SCALE, FEET

RECORDS SEARCH REPORT
BAY RIDGE FORMER HOLDER STATIONS A AND B
BROOKLYN, NEW YORK

KEYSPAN CORPORATION

GEI Consultants

Project 070920-1000

BAY RIDGE FORMER HOLDER STATIONS A AND B

April 2007 Figure 1

I:\GEI\KEYSPAN\5 SITES RECORDS SEARCH\ BAY RIDGE AND JAMAICA SITES.dwg \Apr 05, 2007

Appendix A

Representative Sanborn Fire Insurance Maps

59TH ST.

5707

60TH ST.

40

5714

61ST ST.

31

8TH AV.

5721

9TH AV.

62ND ST.

39

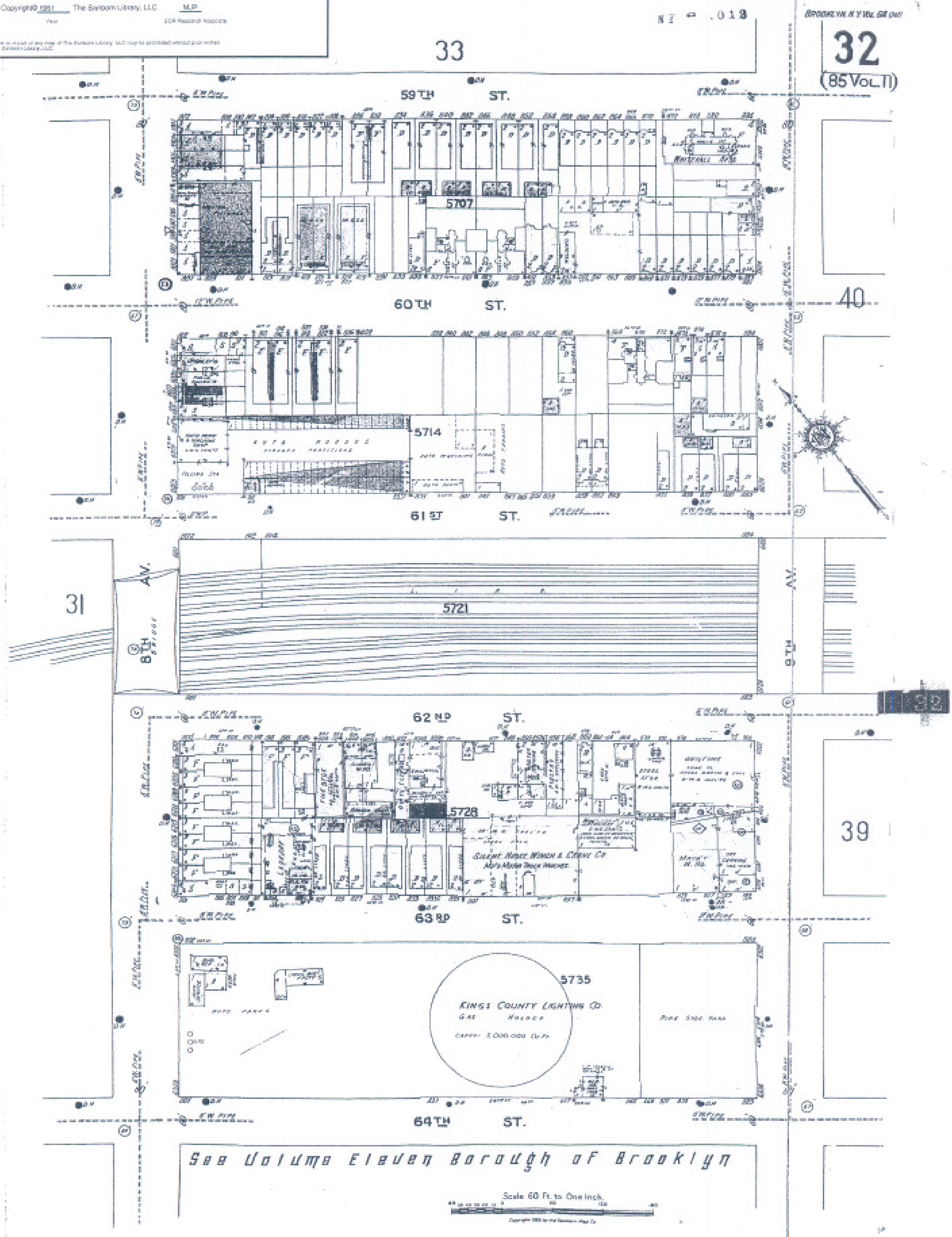
63RD ST.

5735

64TH ST.

See Volume Eleven Borough of Brooklyn

Scale 50 Ft. to One Inch.



33

59TH ST.

5707

60TH ST.

40

5714

61ST ST.

31

8TH AV.

5721

9TH AV.

62ND ST.

5728

39

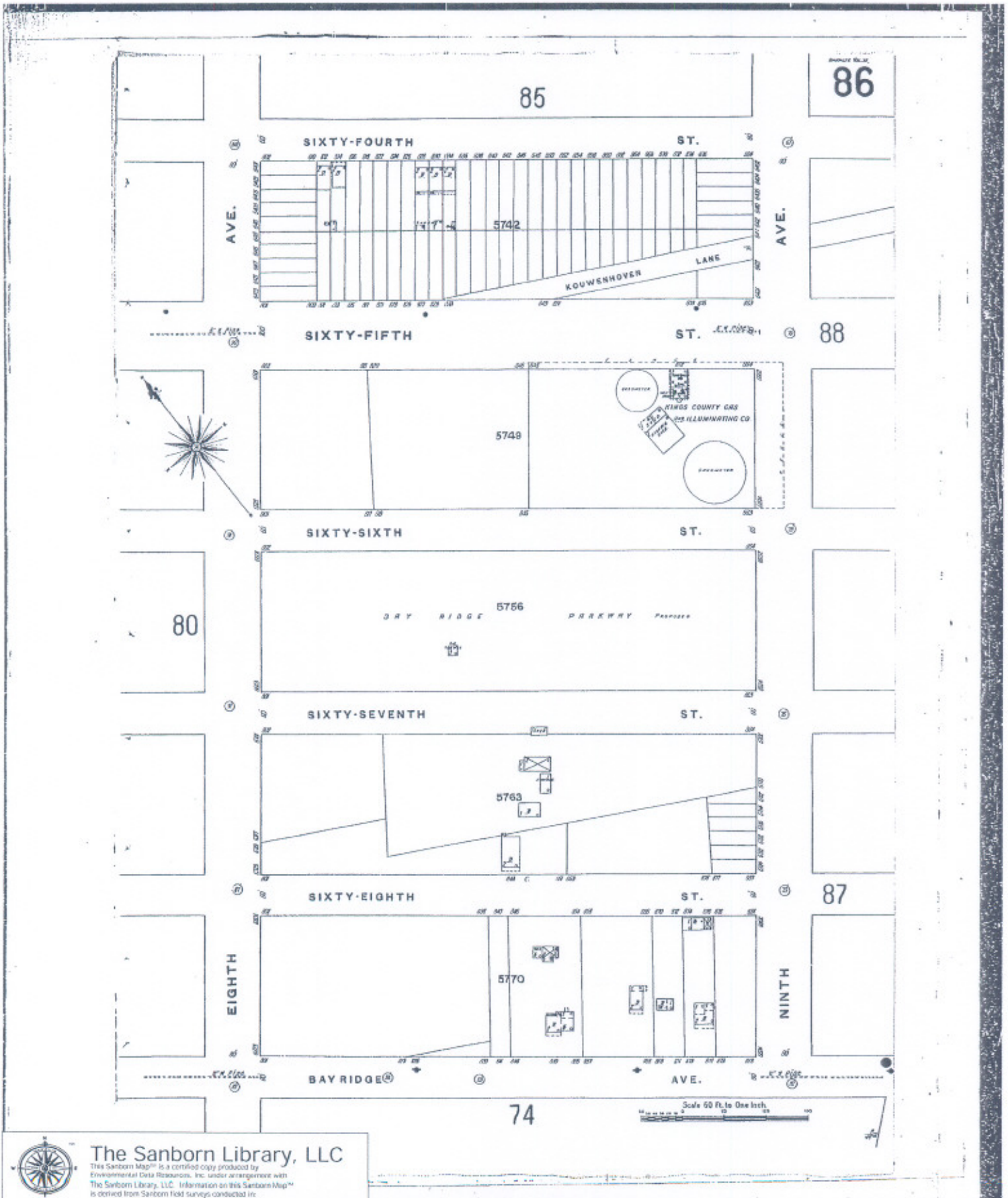
63RD ST.

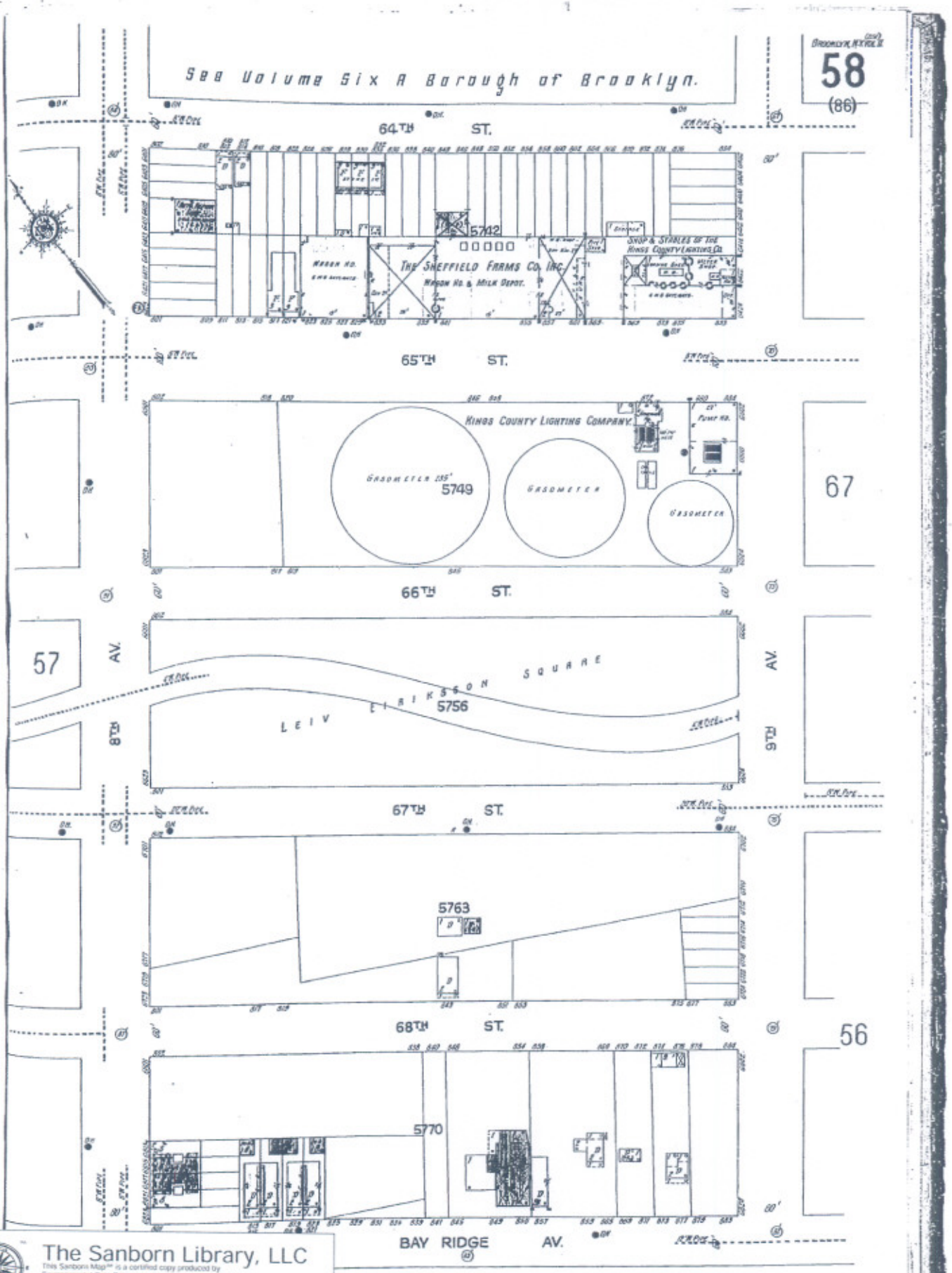
5735

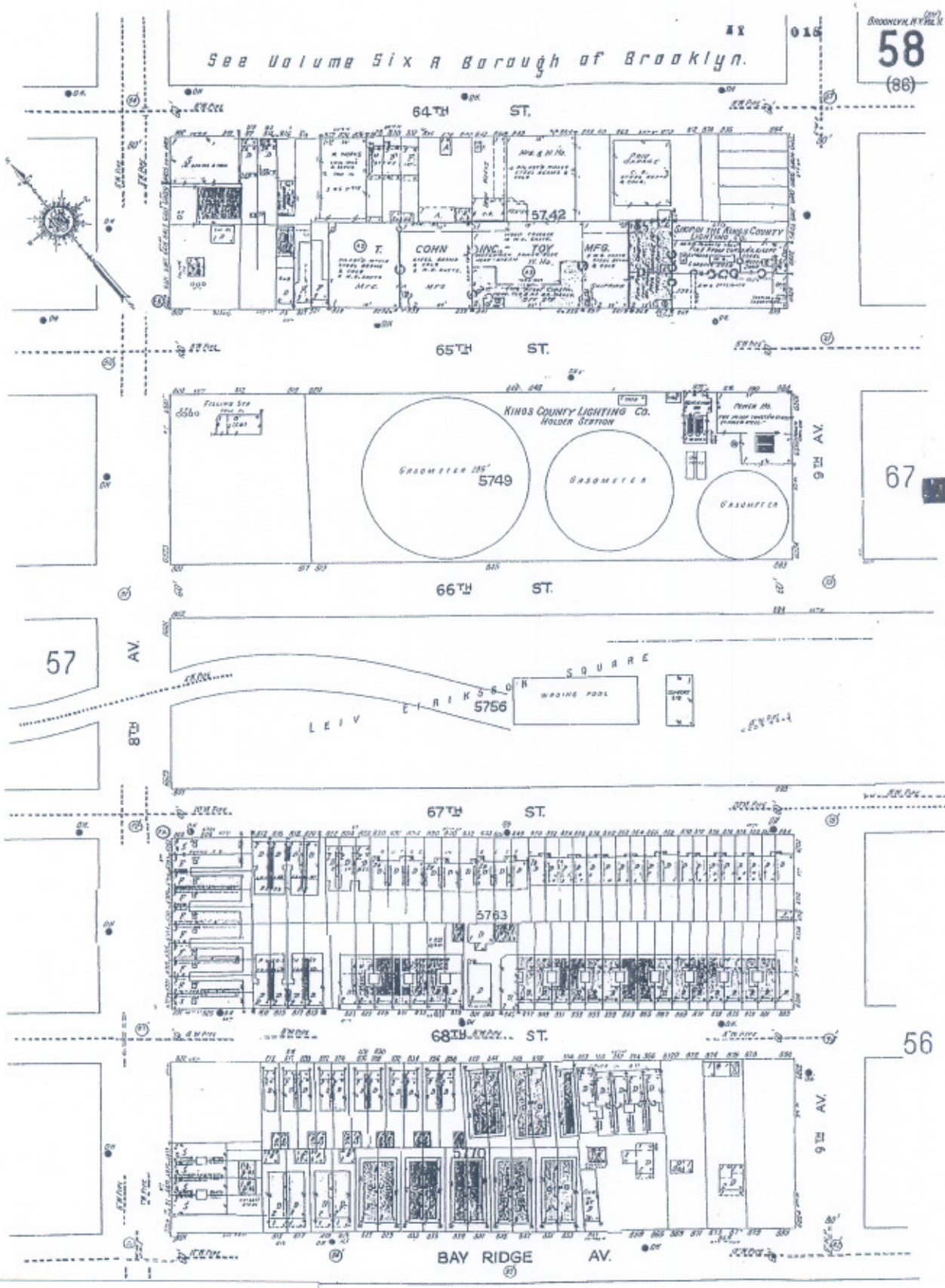
64TH ST.

See Volume Eleven Borough of Brooklyn

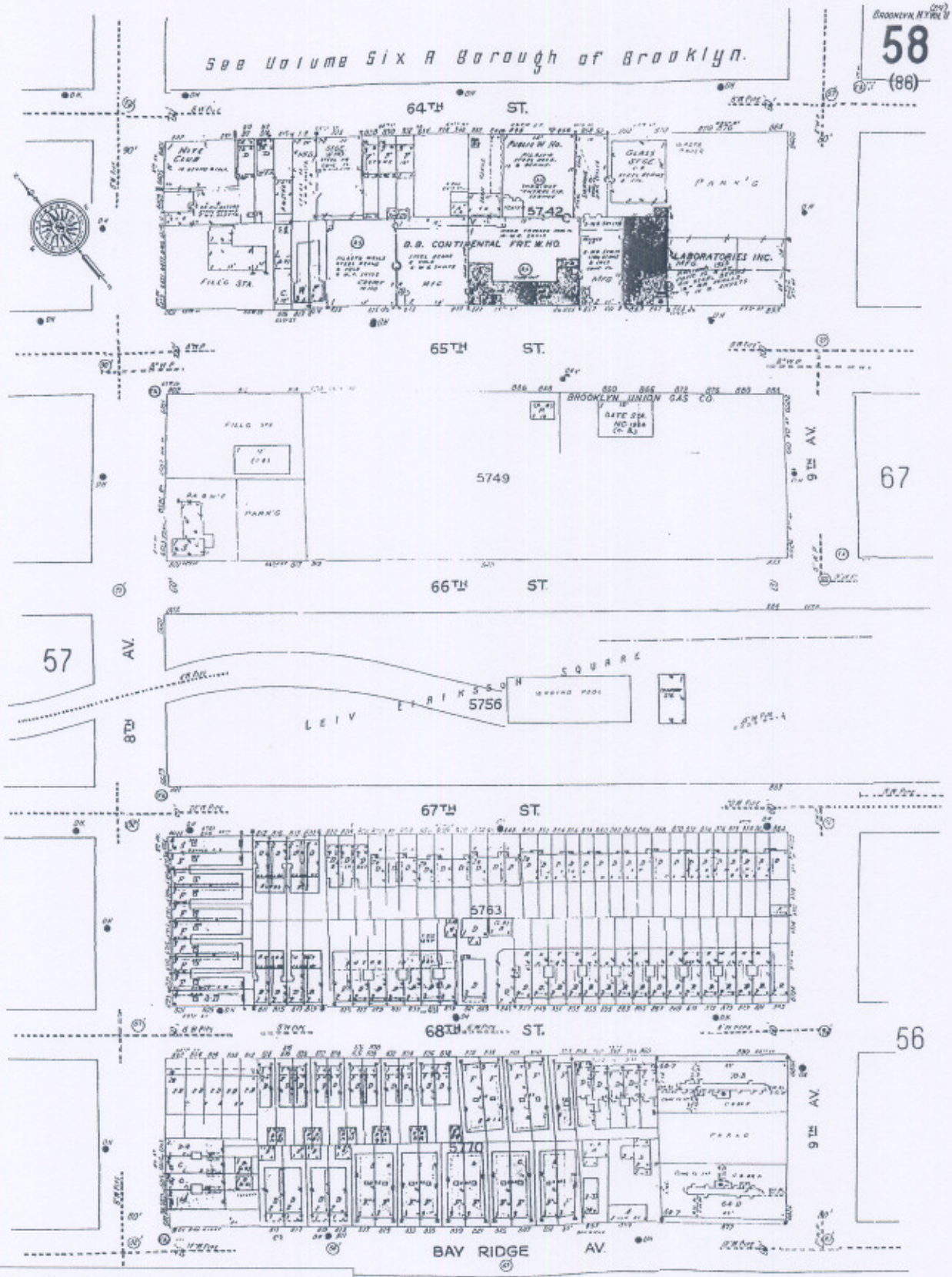
Scale 60 Ft. to One Inch.



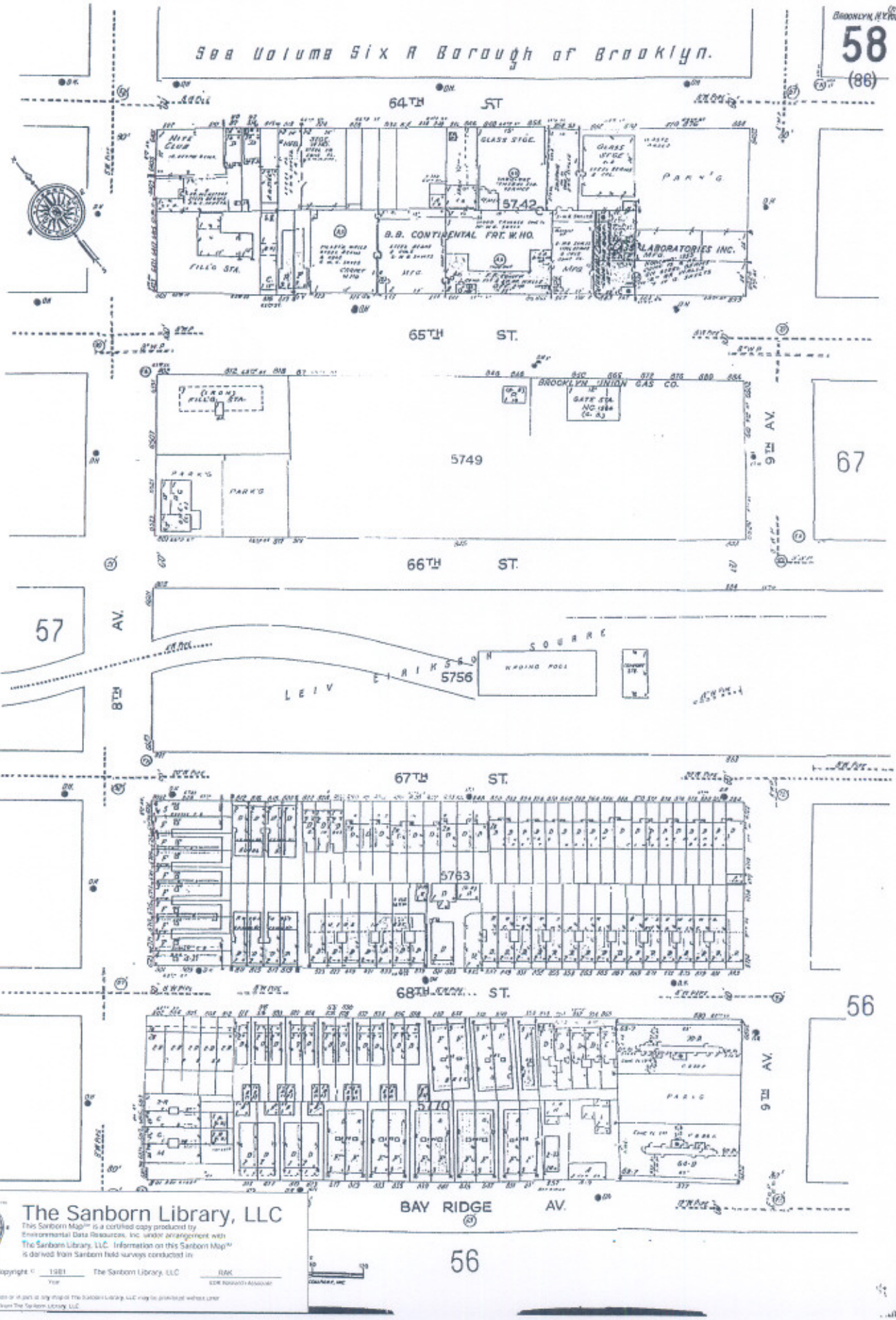


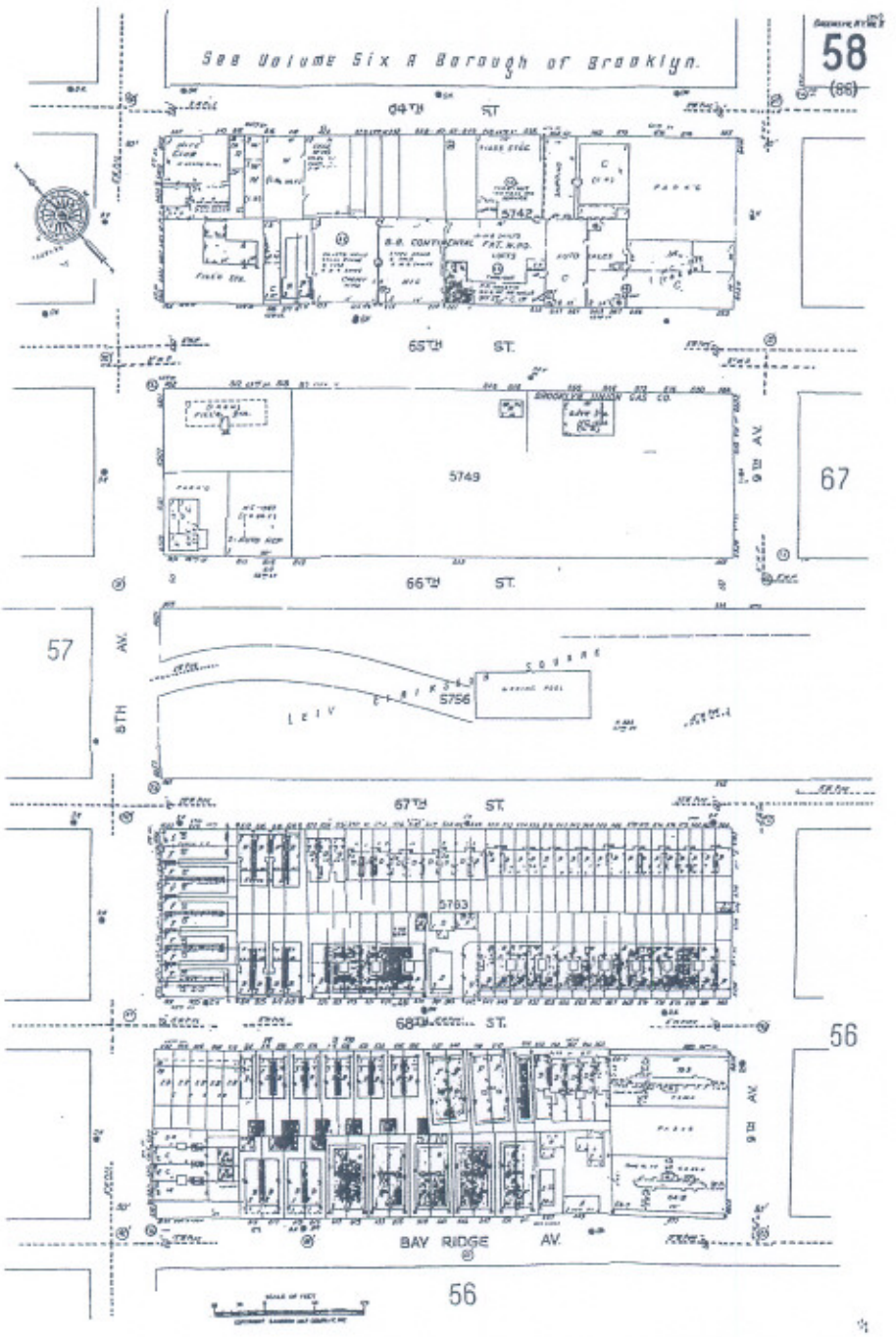


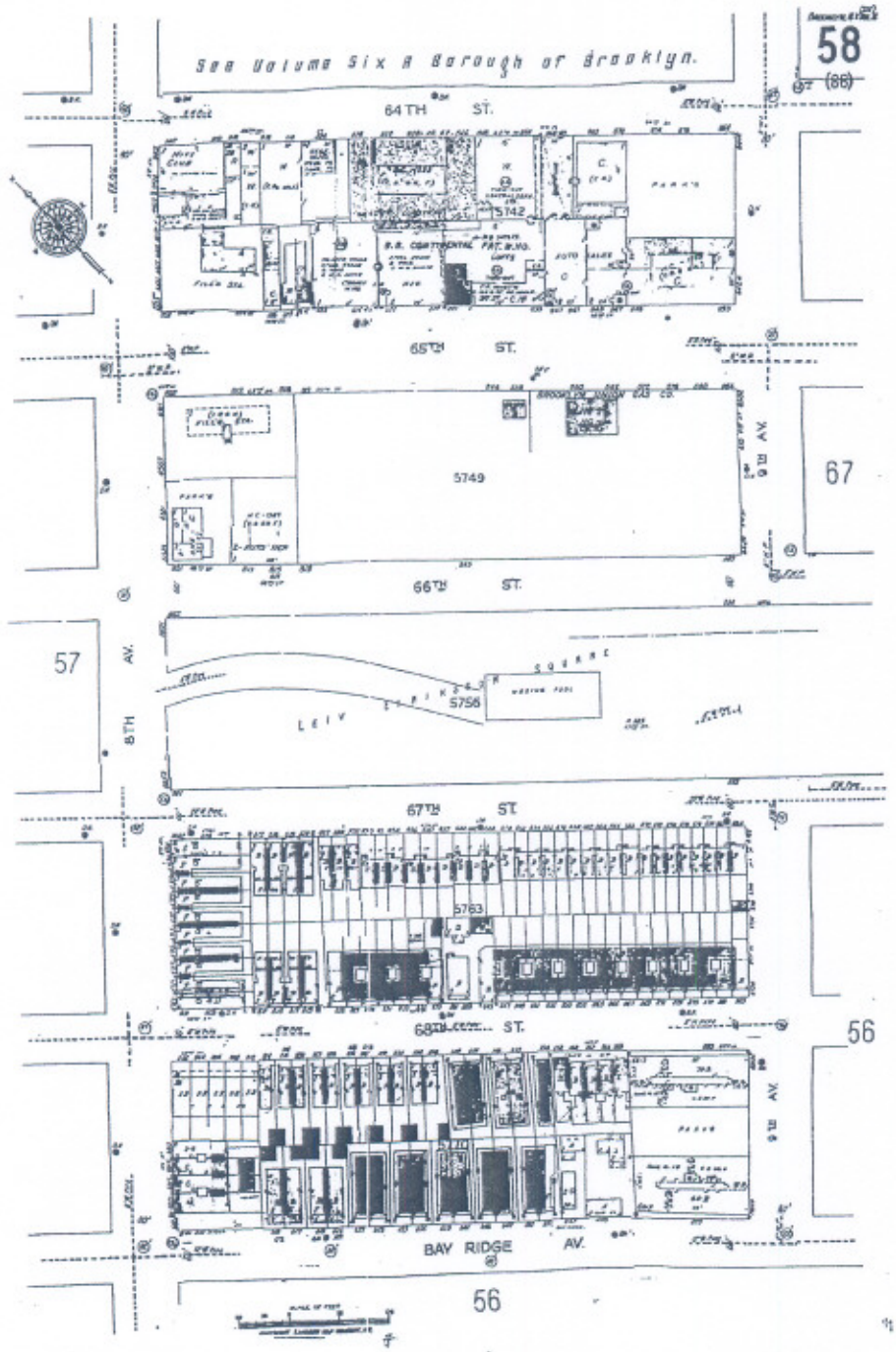
Scale 60 ft. to One Inch

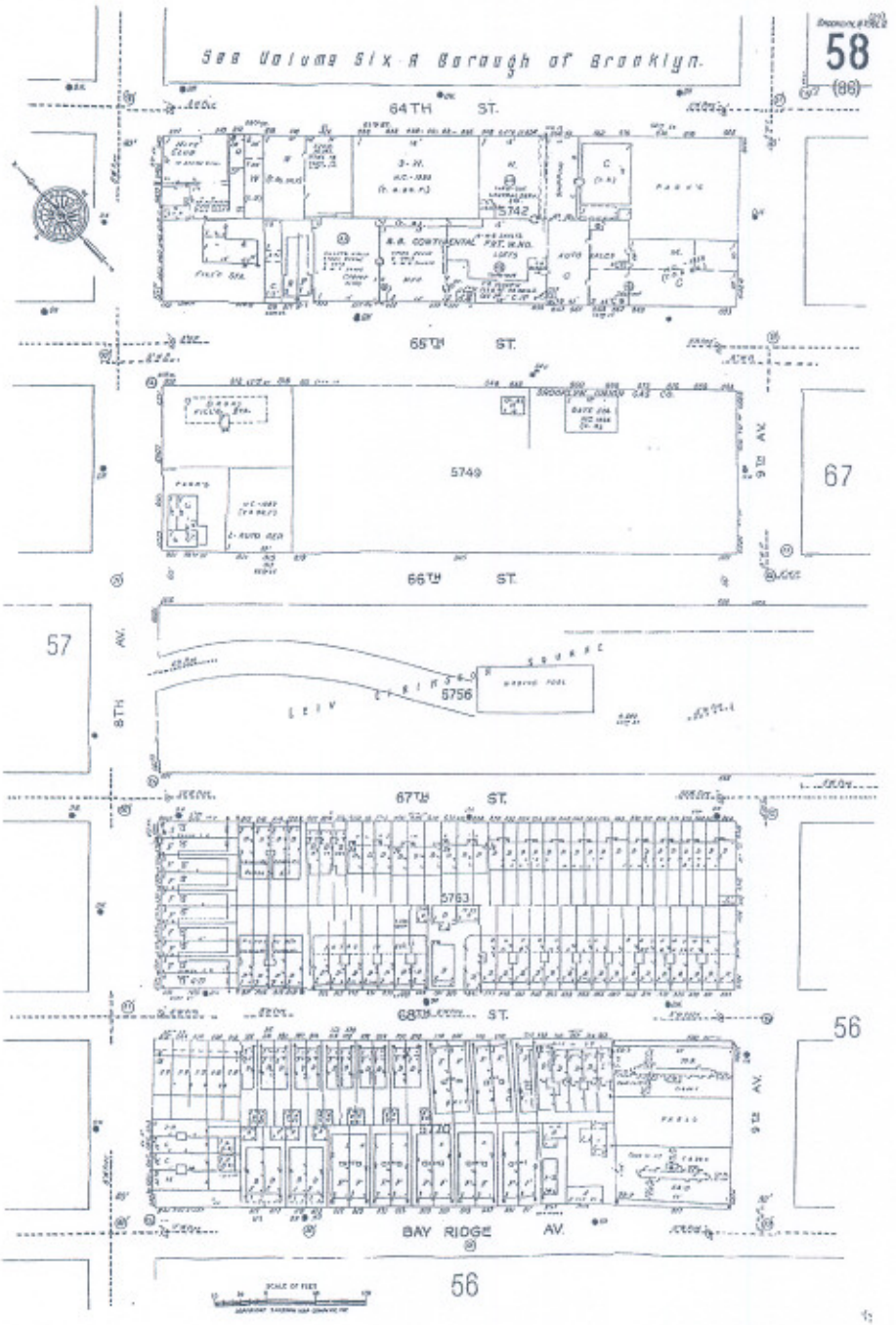


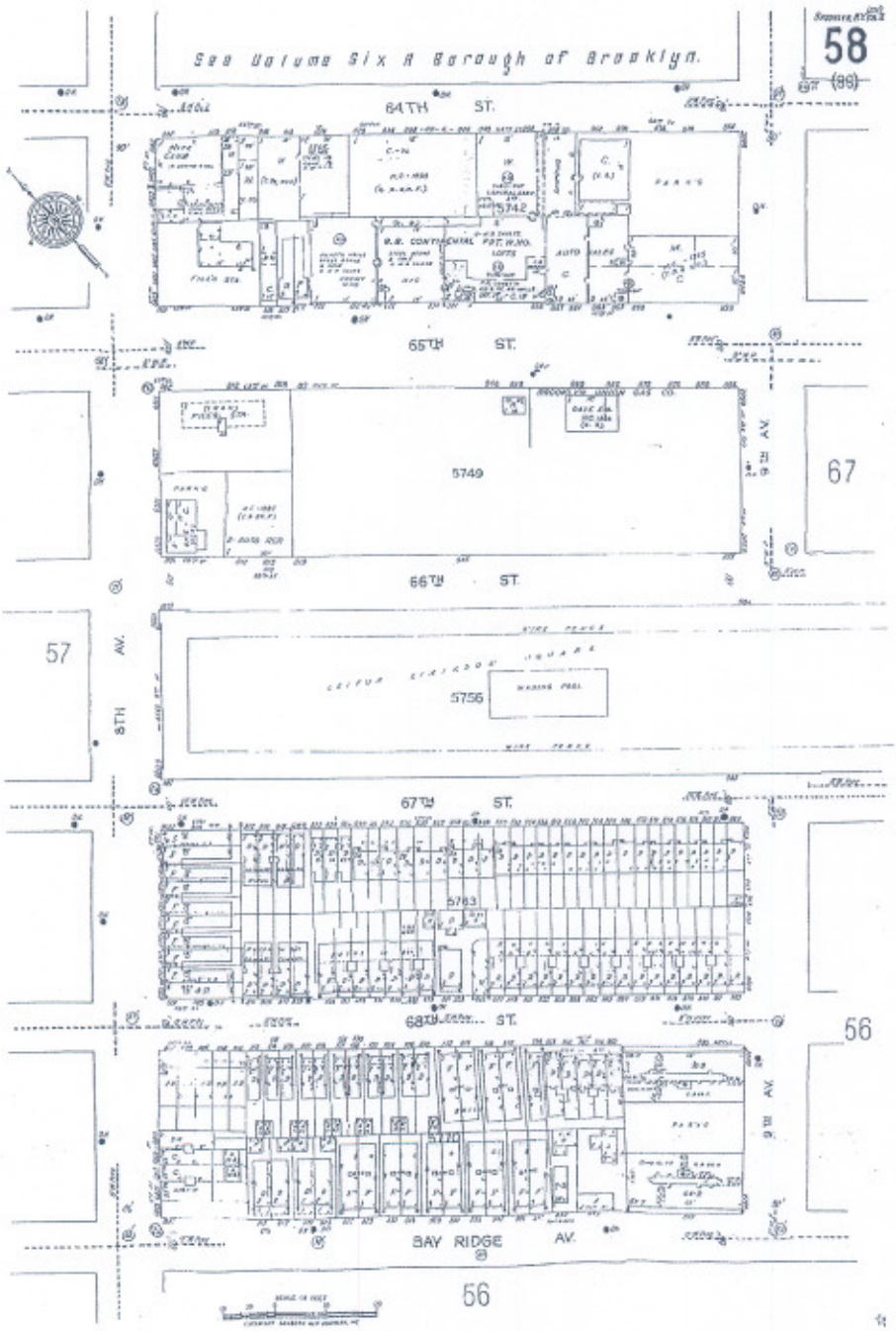
See Volume Six A Borough of Brooklyn.











Appendix B

Representative Site Photographs

Photograph taken on April 2, 2007 from 64th Street of the parking lot (Holder Station A) looking southeast towards the Vincent D. Grippo School and 9th Avenue.

Photograph taken on April 2, 2007 on 63rd Street of the parking lot (Holder Station B) looking northwest towards the Lexus service entrance and 8th Avenue.

Photograph taken on April 2, 2007 of the northwestern portion of Holder Station B from 65th Street.

Photograph taken on April 2, 2007 of the southeastern portion of Holder Station B from 9th Avenue.

Environmental Site Assessment Report

Bay Ridge Little League Baseball Fields

Brooklyn
New York

Prepared for **KeySpan Corporation**
Brooklyn, New York

Prepared by ***VHB*/Vanasse Hangen Brustlin, Inc.**
Environmental Risk Management
Middletown, Connecticut

May 2000

DRAFT

Privileged and Confidential
Prepared at the Request of and to
Provide Technical Advise to Legal Counsel

Table of Contents

Appendix List

Tables

Figures

1 Introduction

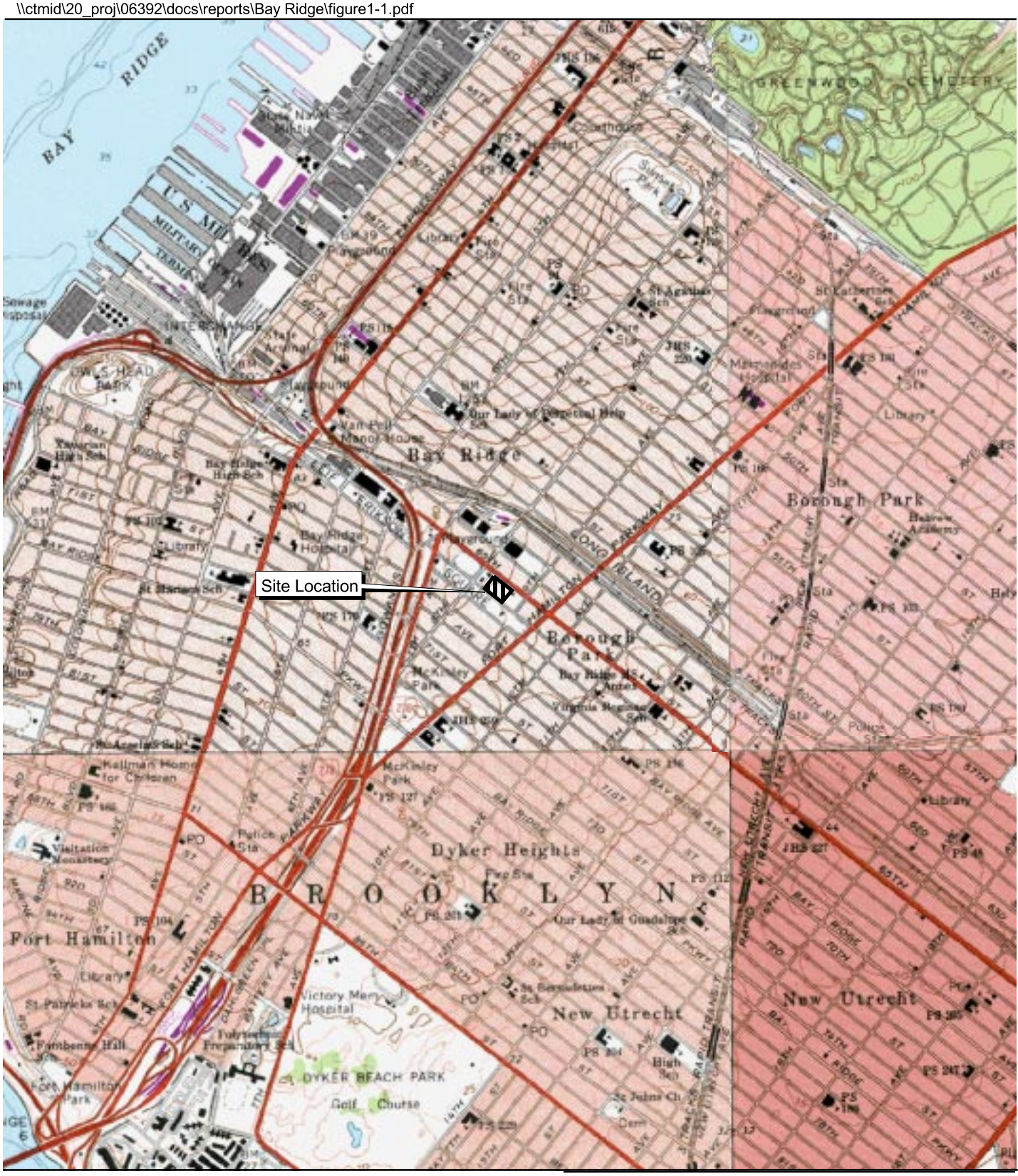
1.1 Objectives

In January 2000, KeySpan Energy Corp. contracted Vanasse Hangen Brustlin, Inc. (VHB) to assess the environmental conditions at the Bay Ridge Little League Baseball Fields in Brooklyn, NY. These fields were built atop the location of two former gas holders used in the distribution of manufactured and natural gas. After two site visits, VHB prepared a Work Plan letter dated February 23, 2000. The performance of environmental field work resulted in the collection of samples of various environmental media, which were submitted for laboratory chemical analysis. These data together with observational data made during field activities provided the basis for an analysis of conditions at the baseball fields and their suitability for use in the 2000 Season of league play.

1.2 Site Location and Description

The Bay Ridge Little League Baseball Fields are located in the Bay Ridge section of Brooklyn, New York. The site formerly housed gas holders for the storage of manufactured and natural gas. The site is bounded by 65th Street to the northeast and 66th Street to the southwest, and lies between 8th Avenue to the northwest and 9th Avenue to the southeast (see Figure 1-1). Immediately adjacent to the northwest side of the site are commercial buildings, including a gasoline service station. Adjacent to the southeast side of the site is a KeySpan gate station. The Baseball fields are now in use by Parkside Little League for children's baseball, football, and related activities. The site has two fields (see Figure 1-2). The larger of the two fields contains one baseball diamond with a sand infield and grass outfield. The condition of the grass was sparse at the time of the investigation, with large areas in center and right field containing no grass. The smaller of the two fields contains two small baseball diamonds with sand infields and grass around the borders of the infields. A concession building and storage trailer are also located near the entrance of the site. Both fields are completely enclosed by chain-link fence topped by coiled razor wire.

\\ctmid\20_proj\06392\docs\reports\Bay Ridge\figure1-1.pdf



BASE MAP SOURCE:

U.S.G.S. QUADRANGLE MAPS
THE NARROWS, NY - 1981
JERSEY CITY, NY - 1981
CONEY ISLAND, NY - 1979
BROOKLYN, NY - 1979

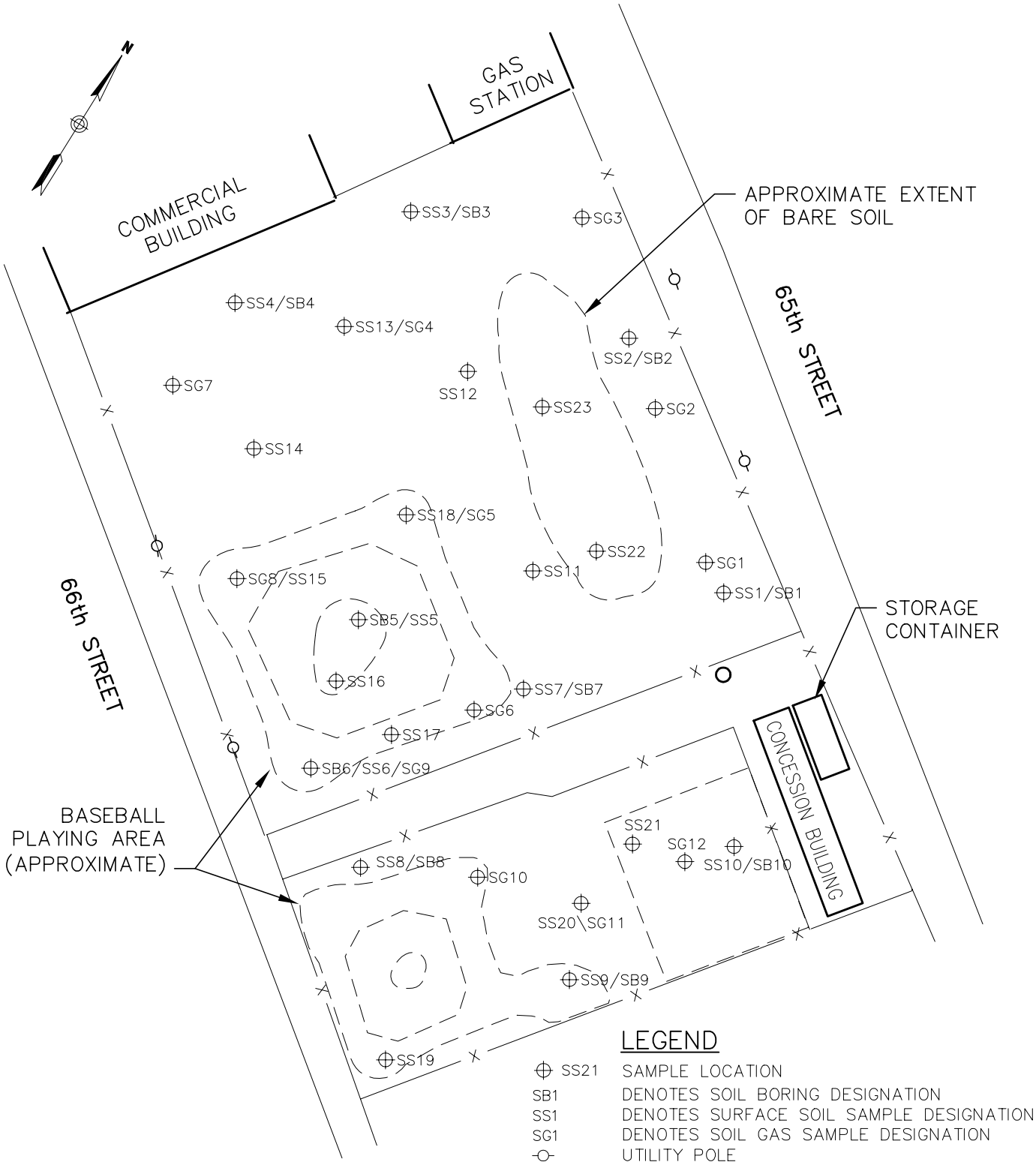
N

0 0.25 0.5 0.75 1 Miles

Vanasse Hangen Brustlin, Inc.

Figure 1-1
Site Location Map
Bay Ridge Former Gas Holder Site
Brooklyn, New York

\\ctmiddat\checkin\06392\cad\ev\planset\bayridge\bayridge-smp.dwg



60 0 60 120

SCALE IN FEET

Vanasse Hangen Brustlin, Inc.

Figure 1
Bay Ridge Former Gas Holder Site
Site Plan and
Sample Location Map
Brooklyn, New York

Prior to construction of the baseball fields, the gas holders were decommissioned and demolished and removed to grade. The site was then filled and graded to the current elevation. The site is nearly level with a gentle downward slope trending northwest to southeast. The general topographic relief in the area is greater than that of the site and slopes down from 8th Avenue to 9th Avenue. Therefore, retaining walls are present along both the northwest and southeast sides of the site. To the northwest, the grade elevation surrounding the commercial buildings is approximately 3 feet higher than the site. To the southeast, the grade elevation of the site is approximately 3 feet higher that of the current Brooklyn Union Gas Company BUG) natural gas distribution gate station.

1.3 Existing Environmental Conditions

VHB used Environmental Data Resources, Inc. (EDR) to gather existing historical and current information pertaining to the site. Pertinent information is in Appendix A of this report. The information includes a search of the following:

- Available environmental records, including local, state, federal, and EDR proprietary databases;
- Historical topographic maps;
- Off-site receptors, including residential population, public, and environmental receptors;
- National Environmental Policy Act (NEPA) checklist items including natural areas, historic places, flood plains, wetlands, and FCC antennae/towers.
- Historical Sanborn fire insurance maps; and
- Historical aerial photographs;

Table 1-1 summarizes the database search information provided by EDR. Included are sites mapped within ¼-mile of the target property (65th Street and 9th Avenue). Several additional unmapped sites (primarily LUST sites) are listed in the EDR report (see Appendix A) but are not included here because their precise location is unclear. The site itself was not listed in any of the searched databases.

The following data were also provided in the EDR report (refer to Appendix A for complete information):

- The site is not within Federal Emergency Management Agency (FEMA) 100- or 500-year flood zones.
- The nearest wetlands included in the 1994 National Wetlands Inventory database were located approximately 1.5 miles northeast and south of the site. Because these wetlands are not downgradient of the site with respect to groundwater flow, and storm sewers locally divert surface water runoff, no site-related impacts to the wetlands are anticipated.
- No federal- or state-listed natural or wildlife areas identified.

™ The nearest historic district (Sunset Park) is located approximately ½ mile to the north and is of architectural significance.
™ One FCC communication tower is located within ¼ mile north of the site.

Census data indicates that over 378,000 people live within 2 miles of the site. One medical center, four hospitals, five nursing homes, and 171 schools were also identified within a 2-mile radius. No day care centers or federal lands were identified.

Table 1-1 Environmental Database Search Summary

Database	Description	# of Sites w/n ¼-mile	Site Description
NPL	USEPA National Priorities List (Superfund sites) – includes delisted sites	0	
CERCLIS	USEPA Comprehensive Environmental Response, Compensation, and Liability Information System database (includes sites requiring no further response action)	1	BUG Bay Ridge Gate Station
RCRIS – LQG[A]	USEPA Resource Conservation and Recovery Act database of large quantity generators[A]	5	MTA Storage Wire & Metal Corp. Collision/Auto Body shops (2) Cleaners
RCRIS – SQG	USEPA Resource Conservation and Recovery Act database of small quantity generators	13	Several service stations, collision shops, cleaners, etc.
LUST - Sites of higher elevation	NYSDEC Spills Information Database of Leaking Underground Storage Tank Incident Reports	9	Several service stations, etc.
LUST – Sites of lower elevation		0	
UST - Sites of higher elevation	NYSDEC Petroleum Bulk Storage Database of Underground Storage Tanks	14	Several service stations, etc.
UST – Sites of lower elevation		0	
CBS UST/AST	NYSDEC Chemical Bulk Storage database of underground and above ground storage tanks	0	
MOSF UST/AST	NYSDEC Major Oil Storage Facility database of underground and above ground storage tanks	0	
HSWDS	NYSDEC Hazardous Substance Waste Disposal Site Inventory (includes delisted sites)	1	BUG Bay Ridge Gate Station
Consent	USEPA Superfund (CERCLA) Consent Decrees	0	
ROD	National Technical Information Service Federal Records of Decision	0	
VCP	NYSDEC Voluntary Cleanup Program database	0	
Coal Gas	Proprietary EDR database of former MGP sites	0	
Mines	Mine Safety and Health Administration Mines Master Index File	0	

Source: Environmental Data Resources, Inc., February 2000.

[A] Large quantity generators are defined as those facilities that generate in excess of 1,000 kg of hazardous waste per month or over 1 kg of acutely hazardous waste per month.

1.4 Site History

A series of Sanborn fire insurance maps from 1905 to1995 were reviewed. The following summarizes information pertaining to the site and immediate vicinity acquired from these maps:

1905 Two gas holders (80- and 90-foot diameters) and two other structures including a storage shed owned by Kings County Gas and Illuminating Company were present southeast of the site in the area of the current KeySpan gate station. Residential property lots existed across 65th Street and a proposed highway in noted across 66th Street from the site.

1926 Three gas holders (100-, 140-, and 180-foot diameters), oil tanks, and several other structures owned by Kings County Lighting Company existed at the site and at the current location of the gate station. The largest diameter gas holder is labeled 235 feet (tall). Across 65th Street at the corner of 9th Avenue are the shop and stables of the Kings County Lighting Co. A portion of the former residential lots across 65th Street from the site house Sheffield Farms Company wagon house and milk depot. The property across 66th Street is identified as "Leiv Eiriksson Square."

1950 Ownership and site layout are essentially the same as in 1926 with the addition of one small structure (shed). However, a gasoline filling station was present at the corner of 65th Street and 8th Avenue. In addition, the property across 65th Street formerly owned by Sheffield Farms is identified as T. Cohn, Inc. (toy manufacturing).

1977, 1981, 1992 – 1995 Each of these maps are similar. All gas holders and other related structures have been removed from the site. The Brooklyn Union Gas Company gate station building is present in its current location on all maps and additional commercial development is present along 8th Avenue and across 65th Street including a second filling station, auto repair shop, a glass manufacturer, and freight company.

A review of historical aerial photos revealed the following:

- One large gas holder and several smaller structures existed in 1966;
- By 1975, the gas holder had been removed, the site re-graded, and only one structure (gate station) existed on the site; and
- The baseball diamond on the large playing field was in place in 1984.

1.5 Previous Site Investigations

Brooklyn Union Gas Company retained Roux Associates, Inc. of Halesite, NY, in March 1985 to collect soil samples at two former gas holder sites in Bay Ridge,

including the site of the current investigation. The objective was to "…assess soil conditions…to determine if tar residues were present beneath the surface" (Roux Associates 1985). Thirty subsurface soil samples were collected from 14 borings drilled at the site. Samples were collected with split spoons and a truck-mounted rotary drill rig. Four borings were drilled in the outfield of the large playing field and one was drilled between the two playing fields. The remainder of the borings were drilled in the vicinity of the gate station.

Roux Associates described five basic lithologies of native sediments identified as glacial ice-contact and outwash deposits. The dominant unit consisted of dense, red-brown, silty fine sand of low permeability (till). Overlying the native soil was fill of various type and thickness. The fill was reportedly thickest along 9th Avenue and generally thinned toward 8th Avenue and consisted primarily of sand with cobbles, coal, slag, and cinder. Concrete was also encountered at two locations on the large playing field. Above the concrete, the soil was dark gray and perched water was present.

Although samples were retained for laboratory analysis, the Roux Associates *Subsurface Investigation* report does not include the results of these analyses.

2

Field Activity Summary

Field activities for this ESA were performed at the site on March 13 through 15, 2000 under the supervision of a VHB hydrogeologist and site safety officer. The proposed investigation as described in VHB's Work Plan letter dated February 23, 2000 included the collection of surface soil, subsurface soil, and soil gas samples to characterize the site and provide data for health threat analysis. Photographs of site activities are provided in Appendix B.

Sample collection, packaging, shipping, and chain-of-custody procedures for this investigation were consistent with those described in VHB's Generic Quality Assurance/Quality Control (QA/QC) Plan for KeySpan Energy Former MGP Sites.

2.1 Surface Soil Sampling

VHB initially proposed the collection of 21 surface soil samples from discrete locations on the two playing fields. During the field investigation, these 21 locations and two additional locations in an area devoid of grass in the outfield of the large playing field were sampled. A total of 23 field samples and three duplicates were collected. A summary of these samples and the analyses performed is provided in Table 2-1. The location of each sample is depicted on Figure 1-2.

Table 2-1
Surface Soil Sample Collection Summary

Sample ID	Date Collected	Description	Analyses									Field Quality Control Samples
			VOCs	SVOCs	PCBs	Pesticides	RCRA Metals	TAL Metals	Cyanide	TOC	Grain Size	
SS-1	3/13/00	Dark brown sandy loam beneath sod in right field of large playing field	✓	✓			✓		✓	✓	✓	
SS-2	3/13/00	Dark brown sandy loam in area of sparse grass in right center field of large playing field	✓	✓			✓		✓	✓	✓	
SS-3	3/13/00	Dark brown sandy loam beneath sod in left center field of large playing field	✓	✓			✓		✓	✓	✓	
SS-4	3/13/00	Dark brown sandy loam beneath sod in left field of large playing field	✓	✓			✓		✓	✓	✓	

Sample ID	Date Collected	Description	Analyses									Field Quality Control Samples
			VOCs	SVOCs	PCBs	Pesticides	RCRA Metals	TAL Metals	Cyanide	TOC	Grain Size	
SS-5	3/13/00	Orange-brown "infield" sand, rear of pitcher's mound on large playing field	✓	✓			✓		✓	✓	✓	
SS-6	3/13/00	Orange-brown "infield" sand, near home plate of large playing field	✓	✓	✓	✓		✓	✓	✓	✓	Field duplicate SS-6 DUP
SS-7	3/13/00	Dark brown sandy loam beneath sod behind first base of large playing field	✓	✓			✓		✓	✓	✓	
SS-8	3/13/00	Orange-brown "infield" sand, in left field of small playing field	✓	✓	✓	✓		✓	✓	✓	✓	
SS-9	3/13/00	Orange-brown "infield" sand near dugout area of small playing field	✓	✓	✓	✓		✓	✓	✓	✓	
SS-10	3/13/00	Orange-brown "infield" sand at north end of small playing field	✓	✓			✓		✓	✓	✓	
SS-11	3/13/00	Dark brown sandy loam beneath sod in shallow right field of large playing field	✓	✓			✓		✓	✓	✓	Field duplicate SS-11 DUP
SS-12	3/13/00	Dark brown sandy loam beneath sod in center field of large playing field	✓	✓			✓		✓	✓	✓	
SS-13	3/13/00	Dark brown sandy loam beneath sod in shallow left field of large playing field	✓	✓			✓		✓	✓	✓	
SS-14	3/13/00	Dark brown sandy loam beneath sod in left field of large playing field	✓	✓			✓		✓	✓	✓	
SS-15	3/13/00	Orange-brown "infield" sand, near third base of large playing field	✓	✓			✓		✓	✓	✓	
SS-16	3/14/00	Orange-brown "infield" sand, front of pitcher's mound on large playing field	✓	✓			✓		✓	✓	✓	
SS-17	3/13/00	Orange-brown "infield" sand, between homeplate and first base of large playing field	✓	✓			✓		✓	✓	✓	
SS-18	3/14/00	Orange-brown "infield" sand, near second base of large playing field	✓	✓			✓		✓	✓	✓	
SS-19	3/14/00	Orange-brown "infield" sand, near homeplate of small playing field	✓	✓			✓		✓	✓	✓	Field duplicate SS-19 DUP
SS-20	3/14/00	Dark brown sandy loam beneath sod near center of small playing field	✓	✓			✓		✓	✓	✓	
SS-21	3/14/00	Orange-brown "infield" sand near center of small playing field	✓	✓			✓		✓	✓	✓	
SS-22	3/14/00	Dark brown sandy loam in area with no grass in right field of large playing field	✓	✓	✓	✓		✓	✓	✓	✓	
SS-23	3/14/00	Dark brown sandy loam in area with no grass in center field of large playing field	✓	✓			✓		✓	✓	✓	

Key:

Cyanide = Method 9010B total cyanide
Grain Size = Method ASTM D1596-99
PCBs = Method 8081 polychlorinated biphenyls
Pesticides = Method 8081
RCRA Metals = Method 6010B arsenic, barium, cadmium, chromium, lead, selenium, and silver and Method 7471 mercury.
SVOCs = Method 8270C semivolatile organic compounds
TAL Metals = Method 6010B/7471 Target Analyte List metals
TOC = total organic carbon (Lloyd Kahn method)
VOCs = Method 8260B volatile organic compounds

Surface soil samples were collected from 0 - 2 inches using stainless-steel spoons. Disposable latex gloves were worn and discarded for each sample location. Grass, roots, and gravel were removed as applicable before placing the samples into appropriate laboratory jars. The samples were then immediately labeled with the sample identification, date, time, and analysis and placed into coolers with ice. The samples were shipped via overnight delivery to Severn Trent Laboratories (STL) in Amherst, NY for analysis. Sample portions for total organic carbon (TOC) analysis were shipped from the Amherst location to STL Envirotech in Edison, New Jersey and portions for grain size analysis were shipped to STL in Burlington, Vermont. Stainless-steel spoons were decontaminated between sample locations as follows:

- Washing with a laboratory-grade detergent solution;
- Potable water rinse;
- 1:10 nitric acid rinse;
- Potable water rinse;
- Methanol rinse; and
- A final rinse with laboratory deionized water.

Analytical results for the surface soil samples are summarized in Section 3.1. A summary of the analytical data validation and quality control sample results is discussed in Section 3.4.

2.2 Subsurface Soil Sampling

VHB initially proposed the collection of up to two subsurface soil samples from each of ten boreholes drilled on the two playing fields. The selection of samples for laboratory analysis was based on visual inspection and air monitoring results (organic vapors and hydrogen cyanide). Sample collection was biased toward intervals exhibiting visual changes in coloration, obvious odors, or air monitoring dectections, which may represent changes in soil chemical composition. In the absence of these obvious signs, a single analytical sample was retained from each soil boring. An effort also was made to sample a representative variety of soil types across the site.

In general, the field screening protocols indicated that the majority of the subsurface soil was of similar composition with little or no obvious color, odor, or air monitoring instrument responses. Therefore, 14 field samples and one duplicate sample were collected from the ten drilled boreholes. Analytical samples were identified with the borehole location number (*i.e.*, SB-1 through SB-10) and an "A" or "B" suffix. "A" designates samples collected from depths less than 10 feet below ground surface (BGS) and "B" designates samples collected from depths of 10 feet or greater. A summary of these samples and the analyses performed is provided in Table 2-2. The location of each borehole is depicted on Figure 1-2.

Prior to initiation of intrusive activities, an underground utility search was requested from the One Call Reporting Line. No utilities existed within the area of investigation with the exception of a site sprinkler system. Because the exact location of the water supply lines was unknown, the top 1 foot of each borehole location was dug by hand to avoid damage to the sprinkler system.

Borehole drilling commenced by advancing 2¼- or 4¼-inch inside diameter (ID) hollow-stem augers to a maximum depth of 20 feet BGS. Continuous split-spoon samples were then collected from 1 foot BGS to total depth (18.3 to 20 feet BGS). Split spoons were driven ahead of the lead auger in 2-foot increments in accordance with ASTM D1586-99. VHB's subcontractor, Aquifer Drilling and Testing, Inc., New Hyde Park, NY performed the drilling. Split-spoon samples were logged by a VHB hydrogeologist and were screened for organic vapors with a Photovac Model 2020 photo-ionization detector (PID) and for hydrogen cyanide (HCN) and hydrogen sulfide (H_2S) with a Dräger MiniWarn meter. Borehole logs are provided in Appendix C.

The borehole logs demonstrate that no PID or HCN readings were observed except at two locations: SB-6 (4.0 - 4.5 feet BGS) and SB-9 (3 to 5 feet BGS). Soil from the 4.0- to 4.5-foot interval of SB-6 was gravelly sand, stained black, and emitted a strong naphtha odor. The maximum organic vapor reading was acquired off the split spoon immediately after opening. HCN was not measurable at the same time. Approximately 5 minutes after placing the soil in laboratory containers, the saved cyanide laboratory sample portion was opened and the headspace within the jar monitored. This measurement produced a reading of 0.8 parts per million (ppm).

Soil from the 3- to 5-foot interval of SB-9 interval consisted of dark brown silty sand with numerous fragments of a black cinder-like material. When the split spoon was first opened, the maximum organic vapor reading was 59 ppm and the Dräger instrument read 0.3 ppm of HCN. Approximately 10 minutes later, testing of the headspace of the laboratory sample portion for cyanide yielded a HCN reading of 4.3 ppm. Surprisingly, laboratory analysis indicated no detectable concentration of total cyanide (see Section 3.2).

No H_2S readings were noted in any of the split-spoon samples. The Dräger MiniWarn exhibits cross-sensitivity between HCN and H_2S (i.e., in the presence of H_2S, the HCN detector responds with a false reading at a level 10 times the actual concentration of H_2S) and has a lower detection limit for HCN (Dräger 1998). As discussed in Section 3.2, a low concentration of carbon disulfide in a sample collected from SB-6 and the lack of total cyanide in samples collected from SB-9 suggest that the Dräger instrument may have responded positively for HCN in the presence of a non-detectable concentration of H_2S.

Table 2-2
Subsurface Soil Sample Collection Summary

Boring Number	Sample ID	Date Collected	Sample Depth (feet BGS)	PID Reading (ppm)	Description	Analyses								Field Quality Control Samples
						VOCs	SVOCs	PCBs	Pesticides	RCRA Metals	TAL Metals	Cyanide	TOC	
SB-1	SB-1B	3/13/00	17 – 18.5	0	Variegated colors but primarily light brown, dry, well-sorted, fine-to medium-grained sand	✓	✓			✓		✓		
SB-2	SB-2A	3/13/00	5.0 – 9.0	0	Wet, medium-brown, silty sand and grayish brown sandy silt; stained dark gray at approximately 6 to 7 feet	✓	✓			✓		✓	✓	
	SB-2B	3/13/00	12 – 14	0	Wet, grayish brown, silty sand with slight naphtha/fuel-like odor	✓	✓			✓		✓	✓	
SB-3	SB-3A	3/13/00	3.0 – 7.0	0	Moist, orange-brown, well-sorted, fine-grained sand with silt	✓	✓			✓		✓	✓	
SB-4	SB-4A	3/14/00	5.0 – 7.0	0	Dry. light brown to tan, well-sorted, fine-grained sand	✓	✓			✓		✓	✓	
SB-5	SB-5A	3/14/00	5.7 – 6.0	0	Wet gravelly sand, stained gray, with slight naphtha/fuel-like odor	✓	✓			✓		✓	✓	
SB-6	SB-6A	3/14/00	4.0 – 4.5	90	Dry gravelly sand, stained black, with very strong naphtha odor; HCN = 0.8 ppm in soil headspace	✓	✓	✓	✓		✓	✓		
	SB-6B	3/14/00	11.0 – 11.5 + 13.0 – 13.7 + 15.0 - 15.5	0	Dry, multicolored (but primarily brown), gravelly sand grading downward to sand	✓	✓			✓		✓	✓	
SB-7	SB-7B	3/14/00	10 – 12	0	Dry, well-compacted, reddish brown, sandy silt (till)	✓	✓			✓		✓	✓	
SB-8	SB-8A	3/15/00	4.0 – 6.0	0	Dry, light brown, well-sorted, fine-grained sand with some brick, concrete, and glass	✓	✓	✓	✓		✓	✓	✓	
	SB-8B	3/15/00	15 – 16 + 17 – 18	0	Wet, reddish brown, well-sorted silt with very fine-grained sand and dry, well-compacted, reddish brown, sandy silt with gravel (till).	✓	✓			✓		✓	✓	Field duplicate SB-8BD
SB-9	SB-9A	3/15/00	3.0 – 5.0	59	Dry, dark brown, silty sand with gravel and debris (brick, cinder-like material; HCN = 4.3 ppm in soil headspace	✓	✓			✓		✓	✓	
	SB-9B	3/15/00	15 – 16	0	Wet, gray, gravelly sand with brick	✓	✓			✓		✓		
SB-10	SB-10A	3/15/00	5.0 – 6.3	0	Dry, orange- to reddish brown, sandy silt with gravel; trace cinder-like debris	✓	✓			✓		✓	✓	

Key: BGS = Below ground surface
HCN = hydrogen cyanide
ppm = parts per million
See Table 2-1 for key to analyses

For protection of worker and community health and safety, the same instruments used to screen the split-spoon samples were used to monitor the work area and downwind of the work area during borehole drilling. In addition, MIE Model PDM-3 random aerosol monitors were used to monitor for dust up- and downwind of each drilling site. No readings above background were noted within or downwind of the work area.

Subsurface soil samples were collected as composite samples from one or more successive split spoons in order to provide the laboratory with sufficient sample volume for analysis. In some instances, analyses were prioritized or eliminated due to very limited sample volumes (see Table 2-2). As seen in Table 2-2, two samples (SB-6A and SB-8A) were subjected to analyses not performed on the remaining samples (polychlorinated biphenyls [PCBs], pesticides, and additional metals). SB-6A was selected for the additional analyses due to the nature of the fill material encountered, the PID and HCN readings observed, and its proximity to home plate, around which site activities are focused. SB-8A was selected due to its proximity to SB-6A, thereby aiding in horizontal delineation if these analytes were detected.

Subsurface soil samples were collected from the split spoons using stainless-steel spoons. Disposable latex gloves were worn and discarded for each sample location. The samples were then labeled with the sample identification, date, time, and analysis and placed into coolers with ice. The samples were shipped via overnight delivery to STL in Amherst, NY for analysis. Sample portions for TOC analysis were shipped from the Amherst location to STL Envirotech in Edison, NJ. Stainless-steel spoons were decontaminated between sample locations as discussed in Section 2.1. Split spoons were decontaminated between each use by washing with a laboratory-grade detergent solution and rinsing with potable water. Augers were steam cleaned between uses.

Analytical results for the subsurface soil samples are summarized in Section 3.2. A summary of the analytical data validation and quality control sample results is discussed in Section 3.4.

2.3 Soil Gas Sampling

Twelve soil gas samples were collected from discrete locations on the two playing fields on March 14 and 15, 2000 (see Figure 1-2). Each location was sampled for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs). The soil gas probe was installed into a 1-inch diameter by 2- to 3-foot deep pilot hole. Pilot holes were excavated with a stainless-steel hand auger to refusal or a maximum depth of 3 feet BGS. The auger was decontaminated between use as described in Section 2.1.

Soil gas probes consisted of 1-inch ID by 3-foot long, schedule 40 polyvinyl chloride (PVC) pipe. The bottom of the probe was plugged with a threaded end cap. The bottom 1-foot of the probe was machine slotted (0.010-inch slots). The top of the probe was plugged with a threaded cap containing a ¼-inch diameter hole. Soil gas samples were collected through Teflon® tubing inserted through the top cap to near the bottom of the soil gas probe.

For SVOC samples, a Gilian high flow air-sampling pump (Model HFS 113A) was used. A particulate filter cassette with a 0.45-micrometer (µm) filter was installed in line between the soil gas probe and the collection medium, an Orbo® sorbent tube. SG-1 and SG-2, which are located in the outfield of the large playing field, were sampled at a flow rate of 4 liters per minute (lpm) for 30 minutes. The remaining locations were unable to sustain a flow rate of 4 lpm; therefore, SG-3 through SG-12 were sampled at a flow rate of 2.5 lpm for 48 minutes. As a result, 120 liters (L), or 0.12 cubic meters (m^3), of filtered air were collected for SVOC analysis at all locations. Upon completion, the sorbent tubes were capped at both ends, labeled with the appropriate information, and placed in a tube holder.

Upon completion of SVOC sampling, additional soil gas was collected for VOC analysis. These sample aliquots were collected in 1-L Tedlar® bags with stainless steel fittings using a positive pressure air-sampling pump (BIOS AirPro 4000). The Teflon® tubing from the soil gas probe was connected to the pump, which was, in turn, connected to the fitting on the Tedlar® bag. Samples were collected at 0.75 lpm. Upon completion, the tubing was disconnected, the valve was closed, the sample was labeled with the appropriate information, and the bags were placed into a cooler.

Soil gas samples were delivered directly by VHB to STL in Westfield, MA for analysis. Upon arrival at the laboratory, it was noted that the Tedlar® bag for sample SG-1 had deflated due to a faulty valve. Therefore, this sample could not be analyzed for VOCs. The remaining 11 samples were analyzed for VOCs according to EPA Method 8260B. The sorbent tubes from all 12 samples were analyzed for SVOCs according to NIOSH Method 5515. Analytical results for the soil gas samples are summarized in Section 3.3.

3

Analytical Summary

Positive analytical results for the media sampled at the Bay Ridge Little League Baseball Fields are described below. Data validation reports for all analyses are in Appendix E. Complete analytical results, including compounds analyzed for but not detected, and analytical quantitation limits are in Appendix F.

3.1 Surface Soil

Table 3-1 presents the positive analytical results for all 23 surface soil samples. No VOCs were detected with the exception of very low concentrations of methylene chloride in several samples. This common laboratory contaminant also was detected in associated method blanks and a trip blank sample. Therefore, it is considered as not detected in the field samples.

Generally low levels of SVOCs (specifically polycyclic aromatic hydrocarbons or PAHs) were detected. PAHs were present at 12 of 23 locations with totals ranging from 22 µg/kg to 6,760 µg/kg where detected. No PAHs were detected in the surface soil samples collected from the small playing field, with the exception of very low levels of benzo(b)fluoranthene (*ca*. 22 µg/kg) in SS-9 and chrysene (*ca*. 17 µg/kg) and fluoranthene (*ca*. 34 µg/kg) in SS-10. In the large playing field, no PAHs were detected on the infield playing surfaces. PAH detections were confined to the outfield along 65th Street and adjacent to the commercial/ automotive buildings to the northwest. Similar concentrations of total PAHs were detected in areas both covered with or devoid of grass at the time of sampling. The only non-PAH SVOCs detected were the ubiquitous phthalate plasticizers. Bis(2-ethylhexyl)phthalate was detected in all but four samples while butyl benzyl phthalate, di-n butyl phthalate, and di-n-octyl phthalate were each detected at low concentrations in one sample each. Bis(2-ethylhexyl)phthalate was detected at concentrations ranging from 140 – 3,300 µg/kg where present. All values were of the same order of magnitude with the exception of the 3,300 µg/kg detected in SS-2. This compound is a common laboratory contaminant and often seen in the environment because it is generally present in the protective gloves and other rubber-based products used during sampling and analysis. This, coupled with its presence in at least a portion of the analytical method blanks, suggests that bis(2-ethylhexyl)phthalate is not site related.

Privileged and Confidential
Prepared at the Request of and to
Provide Technical Advice to Legal Counsel

Key:

B = Analyte detected both in sample and associated laboratory blank
DUP = Field duplicate sample
J = Estimated value
ND = Not detected
µg/kg = micrograms per kilogram (parts per billion)
mg/kg = milligrams per kilogram (parts per million)

TABLE 3-1
Positive Analytical Results Summary for Surface Soil
Bay Ridge Former Gas Holder Site

Client Sample ID:	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-6 DUP	SS-7	SS-8	SS-9	SS-10	SS-11	SS-11 DUP
Date Sampled:	**3/13/2000**	**3/13/2000**	**3/13/2000**	**3/13/2000**	**3/13/2000**	**3/13/2000**	**3/13/2000**	**3/13/2000**	**3/13/2000**	**3/13/2000**	**3/13/2000**	**3/13/2000**	**3/13/2000**
Method 8270 - TCL Semivolatile Organic Compounds (µg/kg)													
Anthracene	92 J	33 J	50 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	210 J
Benzo(a)anthracene	530	270 J	550	290 J	ND	ND	ND	ND	ND	ND	ND	ND	640 J
Benzo(a)pyrene	540	280 J	680	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	660	370 J	1,000	ND	ND	ND	ND	ND	ND	22 J	ND	430 J	830 J
Benzo(ghi)perylene	310 J	190 J	360 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	300 J
Benzo(k)fluoranthene	360 J	200 J	410 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	360 J
Bis(2-ethylhexyl) phthalate	540	3,300	550	270 J	160 J	740	190 J	320 J	ND	260 J	140 J	600 J	530 J
Butyl benzyl phthalate	ND	ND	140 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	560	280 J	660	310 J	ND	ND	ND	ND	ND	ND	17 J	ND	640 J
Di-n-butyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	38 J	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND	53 J	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	1,100	520	930	580	ND	ND	ND	ND	ND	ND	34 J	380 J	1,300
Indeno(1,2,3-cd)pyrene	290 J	170 J	370 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	280 J
Phenanthrene	690	250 J	280 J	310 J	ND	ND	ND	ND	ND	ND	ND	ND	1,100
Pyrene	960	430	760	510	ND	ND	ND	ND	ND	ND	ND	ND	1,100
Total PAHs	*6,092*	*2,993*	*6,050*	*2,000*	*0*	*0*	*0*	*0*	*0*	*22*	*51*	*810*	*6,760*
Method 8260 - TCL Volatile Organic Compounds (µg/kg)													
Methylene chloride	ND	ND	ND	ND	ND	1 J	1 J	2 BJ	ND	3 BJ	ND	ND	ND
Method 8081 - TCL Pesticides and PCBs (µg/kg)													
4,4'-DDD	- -	- -	- -	- -	- -	2 J	2 J	- -	2 J	2 J	- -	- -	- -
4,4'-DDE	- -	- -	- -	- -	- -	ND	ND	- -	ND	ND	- -	- -	- -
4,4'-DDT	- -	- -	- -	- -	- -	2 J	2 J	- -	2 J	2 J	- -	- -	- -
delta-BHC	- -	- -	- -	- -	- -	ND	ND	- -	2 J	2 J	- -	- -	- -
Metals (mg/kg)													
Aluminum - Total	- -	- -	- -	- -	- -	2,850	2,870	- -	2,470	2,490	- -	- -	- -
Antimony - Total	- -	- -	- -	- -	- -	ND	ND	- -	ND	0.68 J	- -	- -	- -
Arsenic - Total	5.4	5.3	9.0	6.7	2.7	2.6	2.3	1.9	3.3	3.6	5.0	4.4	4.2
Barium - Total	55.6 J	51.7 J	61.6 J	55.2 J	11.9 J	13 J	12.5 J	11.6 J	11.8 J	11.5 J	12.3 J	57.3 J	55.4 J
Beryllium - Total	- -	- -	- -	- -	- -	0.3 B	0.32 J	- -	0.28 J	0.27 J	- -	- -	- -
Cadmium - Total	ND	0.12 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Calcium - Total	- -	- -	- -	- -	- -	2,240	886	- -	400 J	561	- -	- -	- -
Chromium - Total	18.9 J	17.3 J	20.8 J	18.8 J	6.7 J	6.1 J	6.0 J	5.1 J	6.9 J	8.7 J	12.9 J	17.9 J	17.3 J
Cobalt - Total	- -	- -	- -	- -	- -	2.6 J	3.2 J	- -	2.7 J	2.6 J	- -	- -	- -
Copper - Total	- -	- -	- -	- -	- -	5.4	5.7	- -	5.4	5.3	- -	- -	- -
Iron - Total	- -	- -	- -	- -	- -	6,700	6,650	- -	8,180	8,750	- -	- -	- -
Lead - Total	145 J	123 J	110 J	122 J	7.2 J	5.4 J	4.3 J	6.6 J	5.2 J	4.8 J	6.0 J	134 J	126 J
Magnesium - Total	- -	- -	- -	- -	- -	855	583	- -	383 J	429 J	- -	- -	- -
Manganese - Total	- -	- -	- -	- -	- -	87.9	94.7	- -	85.5	82.6	- -	- -	- -
Mercury - Total	0.1	0.13	0.14	0.13	ND	ND	ND	ND	ND	ND	ND	0.25	0.26
Nickel - Total	- -	- -	- -	- -	- -	3.0 J	3.0 J	- -	3.6 J	2.9 J	- -	- -	- -
Potassium - Total	- -	- -	- -	- -	- -	421 J	420 J	- -	377 J	343 J	- -	- -	- -
Selenium - Total	1.2	1.5	ND	1.3	ND	ND	ND	ND	ND	0.77	0.71	1.6	0.87
Silver - Total	ND	ND	0.21 J	0.26 J	ND	ND	ND	ND	0.18 J	ND	ND	ND	ND
Sodium - Total	- -	- -	- -	- -	- -	463 J	450 J	- -	505 J	510 J	- -	- -	- -
Thallium - Total	- -	- -	- -	- -	- -	0.77 J	ND	- -	ND	ND	- -	- -	- -
Vanadium - Total	- -	- -	- -	- -	- -	11.1	11.4	- -	13.6	14.7	- -	- -	- -
Zinc - Total	- -	- -	- -	- -	- -	52.1	33.6	- -	24.9	86.4	- -	- -	- -
Wet Chemistry (mg/kg)													
Cyanide - Total	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	34,600	33,300	23,300	28,400	2,150	3,440	2,790	5,520	2,510	2,680	1,580	41,200	30,700

Key:

B = Analyte detected both in sample and associated laboratory blank
DUP = Field duplicate sample
J = Estimated value
ND = Not detected
µg/kg = micrograms per kilogram (parts per billion)
mg/kg = milligrams per kilogram (parts per million)

TABLE 3-1
Positive Analytical Results Summary for Surface Soil
Bay Ridge Former Gas Holder Site

Client Sample ID:	SS-12	SS-13	SS-14	SS-15	SS-16	SS-17	SS-18	SS-19	SS-19 DUP	SS-20	SS-21	SS-22	SS-23
Date Sampled:	**3/13/2000**	**3/13/2000**	**3/13/2000**	**3/13/2000**	**3/14/2000**	**3/13/2000**	**3/14/2000**	**3/14/2000**	**3/14/2000**	**3/14/2000**	**3/14/2000**	**3/14/2000**	**3/14/2000**
Method 8270 - TCL Semivolatile Organic Compounds (µg/kg)													
Anthracene	ND	ND	88 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	330	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	230 J	ND
Benzo(b)fluoranthene	310 J	250 J	530 J	ND	ND	ND	ND	ND	ND	ND	ND	450	360
Benzo(ghi)perylene	ND	ND	190 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	260 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	320 J	200 J	250 BJ	ND	180 BJ	ND	200 BJ	360 B	390 B	ND	180 BJ	520 B	460 B
Butyl benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	310 J	200 J
Di-n-butyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	1,000	ND	ND	ND	ND	ND	ND	ND	ND	700	400
Indeno(1,2,3-cd)pyrene	ND	ND	180 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	820 J	ND	ND	ND	ND	ND	ND	ND	ND	380	ND
Pyrene	ND	ND	830	ND	ND	ND	ND	ND	ND	ND	ND	540	330
Total PAHs	*310*	*250*	*3,898*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2,940*	*1,290*
Method 8260 - TCL Volatile Organic Compounds (µg/kg)													
Methylene chloride	ND	ND	ND	ND	1 J	1 BJ	2 J	2 J	1 J	1 J	1 J	1 J	1 J
Method 8081 - TCL Pesticides and PCBs (µg/kg)													
4,4'-DDD	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	12 J	- -
4,4'-DDE	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	18	- -
4,4'-DDT	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	22	- -
delta-BHC	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	10	- -
Metals (mg/kg)													
Aluminum - Total	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	7,520	- -
Antimony - Total	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	ND	- -
Arsenic - Total	4.1	7.9	4.8	3.2	2.8	3.1	2.7	1.7	2.0	3.5	3.0	5.0	3.8
Barium - Total	40.9 J	69.5 J	59.6 J	11.5 J	13.4 J	12.7 J	8.3 J	6.9 J	9.6 J	14.4 J	13.6 J	29 J	36.7 J
Beryllium - Total	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.32 J	- -
Cadmium - Total	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2 J
Calcium - Total	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	4,380	- -
Chromium - Total	14 J	20 J	16.9 J	6.9 J	6.9 J	8.3 J	6.7 J	4.2 J	5.1 J	8.6 J	8.2 J	12.2 J	12 J
Cobalt - Total	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	2.9 J	- -
Copper - Total	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	14.9	- -
Iron - Total	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	9,720	- -
Lead - Total	70.2 J	97.1 J	123 J	5.2 J	4.1 J	4.7 J	5.8 J	3.1 J	3.8 J	4.3 J	6.1 J	53.4 J	97.1 J
Magnesium - Total	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	1,670	- -
Manganese - Total	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	105	- -
Mercury - Total	0.12	0.13	0.12	ND	ND	ND	ND	ND	ND	ND	ND	0.08	0.06
Nickel - Total	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	6.9	- -
Potassium - Total	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	549 J	- -
Selenium - Total	ND	ND	ND	ND	ND	ND	ND	ND	0.87	ND	ND	1.3	ND
Silver - Total	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sodium - Total	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	407 J	- -
Thallium - Total	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	ND	- -
Vanadium - Total	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	17.7	- -
Zinc - Total	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	45.6	- -
Wet Chemistry (mg/kg)													
Cyanide - Total	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	45,200	27,900	28,500	3,050	980	1,390	7,430	3,120	3,620	628	902	17,200	20,600

Four surface soil sample locations were tested for PCBs and pesticides (SS-6 and duplicate, SS-8, SS-9, and SS-22). Low concentrations of the pesticides 4,4'-DDD, -DDE, -DDT, and/or δ -BHC were detected in each of the four samples with totals ranging from 4 to 62 µg/kg. Maximum concentrations of each compound were present in SS-22 collected from the bare area in the outfield of the large playing field. No PCBs were detected in any of the samples analyzed.

The same four locations tested for PCBs and pesticides were analyzed for the full TAL metals list. The remaining samples were analyzed for eight RCRA metals (see Table 3-1). All 23 metals tested for were detected in at least one sample. In general, maximum and median values of the metals detected were very similar in samples collected from outfield grass areas and infield sand areas. However, slightly higher median values were detected in the samples collected from grass areas for all metals except antimony, sodium, and thallium. Of the eight RCRA metals, arsenic, barium, chromium, and lead were each detected in all of the samples analyzed. Mercury was the next most commonly detected metal, present at low concentrations in 11 samples collected from grass areas. Mercury was not detected in any of the infield sand samples. The remaining RCRA metals (cadmium, selenium, and silver) were detected infrequently, but were more common in the grass-area samples than in infield sand samples.

Total cyanide and TOC analyses were performed on all of the surface soil samples collected. No total cyanide was detected. TOC concentrations ranged from 628 – 45,200 mg/kg with median values an order of magnitude greater in the samples collected from the outfield/grass areas than those collected from the infield playing areas.

Grain size analysis was performed on all surface soil samples. Grain size distribution curves are provided in Appendix D. In all cases, maximum grain sizes were between 4.75 and 19 mm (coarse sand to fine gravel). The amount of fines (<0.75 mm) in all samples ranged from 15 to 46 percent. Based on field observations of the samples, including their generally low plasticity and cohesiveness, the majority of the fine material is expected to be silt. Therefore, based on the Unified Soil Classification System (ASTM D 2487-98), all of the surface soil samples would be classified as silty sand (SM).

3.2 Subsurface Environment

Groundwater was not studied as part of this investigation. The water table is expected to exist at a depth of approximately 65 feet with regional groundwater flow reportedly to the west toward Upper New York Bay (Roux Associates 1985). An EDR GeoCheck Database search revealed no known sites within a 2-mile radius with a known groundwater flow direction (see Appendix A). However, based on the

general topography of the vicinity and the site's proximity to New York Bay, flow direction is expected to be to the southwest or west. No federal- or state-listed water wells were identified within 2 miles of the site; however, one public water supply well was identified ¾-mile east of the site. No hydrogeologic data for this well (Boro Park Bungalows) was identified by EDR.

Perched groundwater was encountered during this investigation in five soil borings. In SB-1, SB-2, SB-5, and SB-8, this water was perched above buried concrete. In SB-9, the soil was saturated both above and below a concrete layer and groundwater was perched above the native silty till at approximately 16 feet BGS.

Fill material consisting of concrete, brick, and other demolition debris, as well as non-native silts and sands were present at all borehole locations with the exception of SB-3 and SB-4 along the northwest boundary of the site (see Figure 1-2). Concrete, brick, and/or similar types of demolition debris were encountered in seven of the boreholes (see Borehole Logs, Appendix C). In most instances, this material was encountered at depths of approximately 4.5 to 6.5 feet BGS. At boring locations SB-2 and SB-9, concrete was encountered below 13 feet BGS. It is unclear whether the concrete encountered in the boreholes was demolition debris or part of the former gas holder pads.

As discussed in Section 2.2, 14 subsurface soil samples were retained for analysis from the ten soil borings. Table 3-2 presents a summary of positive analytical results for these samples. Very low concentrations of methylene chloride were detected in several samples. This common laboratory contaminant was also detected in associated method blanks and a trip blank sample and, therefore, is considered as not detected in the field samples. In addition, the presence of acetone in SB-2A and SB-6A is likely due to laboratory contamination since this too is a common lab contaminant and was not detected elsewhere on site. Other VOCs detected in subsurface soil samples include the aromatic hydrocarbons benzene, toluene, ethylbenzene, and xylene isomers (collectively referred to as BTEX), and styrene; as well as a single detection of carbon disulfide. BTEX and/or styrene compounds were detected in seven of the 14 samples analyzed and ranged from 1 µg/kg in SB-8B to approximately 228,000 µg/kg in SB-6A. The maximum concentration detected in SB-6A is three orders of magnitude higher than the concentrations detected in the remaining samples. This same location also contained a low concentration of carbon disulfide (see Table 3-2).

PAHs were detected in ten of 14 samples at concentrations ranging from 15 to approximately 181,000 µg/kg where present. In general, the detection of PAHs was more prevalent in the shallow samples (detected in seven out of eight samples collected at depths of less than 10 feet BGS). However, the maximum concentration was detected in SB-9B at a depth of 15 to 16 feet BGS. The maximum concentration of an individual PAH was naphthalene, detected in sample SB-6A at 36,000 µg/kg. A strong naphtha odor was encountered while drilling at this location.

Dibenzofuran, which is related to PAHs in structure, was detected in two samples at depths below 10 feet (SB-2B and SB-9B). The only other SVOCs detected included phthalates. However, bis(2-ethylhexyl)phthalate is considered not present in the field samples as it was detected in all analytical method blanks associated with the field samples in which it was detected. Di-n-octyl phthalate was detected in only one subsurface soil sample (SB-3A).

Two subsurface soil samples (SB-6A and SB-8A) were analyzed for PCBs and pesticides. No PCBs were detected. Both samples contained low concentrations of three or four pesticides with total concentrations of an estimated 45 µg/kg or less (see Table 3-2).

The same two samples analyzed for PCBs and pesticides were also analyzed for the full TAL metals list. The remaining 12 samples were analyzed for eight RCRA metals. Of these eight metals, only silver was not detected. Arsenic, barium, chromium, and lead were detected in all 14 samples. In most cases maximum and median concentrations for individual metals were higher in the "A" samples (those collected at depths less than 10 feet) than in the "B" samples (those collected at depths of 10 feet and greater). The only exceptions were mercury and selenium. The maximum and median concentrations of mercury were greater in the "B" samples due to the detection of 14.9 mg/kg in SB-9B. Mercury was detected in five other subsurface samples at concentrations below 1.4 mg/kg. Selenium concentrations ranged from non-detect to 1.5 mg/kg with a slightly higher median value in the "B" samples.

All 14 subsurface soil samples were analyzed for total cyanide, which was detected in four samples collected from three borehole locations. Concentrations ranged from 13.5 to 19.2 mg/kg, where detected (see Table 3-2). Free cyanide (CN^-), HCN, and other cyanide-containing chemicals were minor by-products evolved during the gas manufacturing process, especially in plants that used coal carbonization. Consequently, cyanide-containing compounds can be found at former MGP sites (Theis *et al*., 1994). They typically occur as complexes with transitional metals (such as nickel, cadmium, copper, and zinc) or in iron-cyanide complexes like ferric ferrocyanide (FFC, also called Prussian Blue, and Berlin Blue) (Aronstein *et al*., 1994, Meeussen *et al*., 1995). Iron cyanide complexes generally represent the largest portion of these mixtures because iron oxide was often used to scrub the product gas stream. Theis *et al.* (1994) reported that complexed iron cyanide accounted for 97% of the total cyanide in soil samples from two MGP sites. FFC has a characteristic blue color, which is often visible in soils at former MGP sites. No blue material was observed in the split-spoon samples collected at the site. Furthermore, this site was never used for the manufacture of gas.

KEY:

A = Field duplicate sample
B = Analyte detected both in sample and associated laboratory blank
BGS = Below ground surface
J = Estimated value
ND = Not detected
µg/kg = micrograms per kilogram (parts per billion)
mg/kg = milligrams per kilogram (parts per million)

TABLE 3-2
Positive Analytical Results Summary for Subsurface Soil
Bay Ridge Former Gas Holder Site

Sample ID:	SB-1B	SB-2A	SB-2B	SB-3A	SB-4A	SB-5A	SB-6A	SB-6B	SB-7B	SB-8A	SB-8B	SB-8BD[A]	SB-9A	SB-9B	SB-10A
Sample Depth (feet BGS):	17 - 18.5'	5 - 9'	12 - 14'	3 - 7'	5 - 7'	5.7 - 6'	4 - 4.5'	11 - 15.5'	10 - 12'	4 - 6'	15 - 18'	15 - 18'	3 - 5'	15 - 16'	5 - 6.3'
Date Sampled:	3/13/2000	3/13/2000	3/13/2000	3/13/2000	3/14/2000	3/14/2000	3/14/2000	3/14/2000	3/14/2000	3/15/2000	3/15/2000	3/15/2000	3/15/2000	3/15/2000	3/15/2000
Method 8270 - TCL Semivolatile Organic Compounds (µg/kg)															
2-Methylnaphthalene	ND	1,200	1,200	ND	ND	ND	12,000	ND	ND	ND	ND	ND	ND	1,700	ND
Acenaphthene	ND	ND	78 J	ND	ND	ND	420	ND	ND	ND	ND	ND	ND	4,700	ND
Acenaphthylene	ND	ND	74 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,100	ND
Anthracene	ND	160 J	97 J	ND	ND	ND	ND	ND	ND	440	ND	ND	ND	8,800	ND
Benzo(a)anthracene	ND	ND	220 J	34 J	ND	ND	ND	ND	ND	1,600	ND	ND	1,500	14,000	470
Benzo(a)pyrene	ND	ND	240 J	ND	ND	ND	ND	ND	ND	1,100	ND	ND	1,300	11,000	320 J
Benzo(b)fluoranthene	ND	420 J	280 J	49 J	ND	ND	ND	ND	ND	1,300	ND	ND	2,000	14,000	420
Benzo(ghi)perylene	ND	ND	190 J	13 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,300	150 J
Benzo(k)fluoranthene	ND	190 J	180 J	20 J	ND	ND	ND	ND	ND	780	ND	ND	670	4,200	130 J
Bis(2-ethylhexyl) phthalate	450 B	ND	210 BJ	290 BJ	130 BJ	ND	ND	ND	ND	ND	150 BJ	100 BJ	ND	ND	ND
Chrysene	ND	ND	240 J	36 J	ND	ND	ND	ND	ND	1,400	ND	ND	1,300	14,000	470
Di-n-octyl phthalate	ND	ND	ND	120 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	41 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	750	ND
Dibenzofuran	ND	ND	45 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,800	ND
Fluoranthene	ND	980	490	65 J	ND	ND	470	ND	ND	2,800	ND	ND	2,800	31,000	1,100
Fluorene	ND	ND	150 J	ND	ND	ND	860	ND	ND	ND	ND	ND	ND	5,400	ND
Indeno(1,2,3-cd)pyrene	ND	ND	180 J	13 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,200	130 J
Naphthalene	ND	2,600	2,300	ND	ND	880	36,000 D	ND	ND	ND	ND	ND	ND	2,600	ND
Phenanthrene	15 J	1,000	540	41 J	ND	1,000	1,700	ND	ND	1,600	ND	ND	1,500	28,000	460
Pyrene	ND	820	440	52 J	ND	400	650	ND	ND	2,700	ND	ND	2,800	35,000	940
Total PAHs	*15*	*7,370*	*6,940*	*323*	*0*	*2,280*	*52,100*	*0*	*0*	*13,720*	*0*	*0*	*13,610*	*180,750*	*4,590*
Method 8260 - TCL Volatile Organic Compounds (µg/kg)															
Acetone	ND	27	ND	ND	ND	ND	70	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	16	ND	ND	11	470	ND	ND	ND	ND	ND	2 J	14	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	98	ND	ND	24	78,000 D	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	2 J	1 BJ	1 J	4 J	6	1 J	1 J	2 J	2 J	1 J	2 J	2 J	2 J
Styrene	ND	ND	10	ND	ND	21	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	4 J	ND	ND	23	10,000 D	ND	ND	5	1 J	1 J	4 J	13	ND
Total Xylenes	ND	ND	150	ND	ND	44	140,000 D	ND	ND	ND	ND	ND	ND	3 J	ND
Total BETX	*0*	*0*	*268*	*0*	*0*	*102*	*228,470*	*0*	*0*	*5*	*1*	*1*	*6*	*30*	*0*

Privileged and Confidential
Prepared at the Request of and to
Provide Technical Advice to Legal Counsel

KEY:

A = Field duplicate sample
B = Analyte detected both in sample and associated laboratory blank
BGS = Below ground surface
J = Estimated value
ND = Not detected
µg/kg = micrograms per kilogram (parts per billion)
mg/kg = milligrams per kilogram (parts per million)

TABLE 3-2
Positive Analytical Results Summary for Subsurface Soil
Bay Ridge Former Gas Holder Site

Sample ID:	SB-1B	SB-2A	SB-2B	SB-3A	SB-4A	SB-5A	SB-6A	SB-6B	SB-7B	SB-8A	SB-8B	SB-8BD[A]	SB-9A	SB-9B	SB-10A
Sample Depth (feet BGS):	17 - 18.5'	5 - 9'	12 - 14'	3 - 7'	5 - 7'	5.7 - 6'	4 - 4.5'	11 - 15.5'	10 - 12'	4 - 6'	15 - 18'	15 - 18'	3 - 5'	15 - 16'	5 - 6.3'
Date Sampled:	3/13/2000	3/13/2000	3/13/2000	3/13/2000	3/14/2000	3/14/2000	3/14/2000	3/14/2000	3/14/2000	3/15/2000	3/15/2000	3/15/2000	3/15/2000	3/15/2000	3/15/2000
Method 8081 - TCL Pesticides and PCBs (µg/kg)															
4,4'-DDD	- -	- -	- -	- -	- -	- -	10 J	- -	- -	11 J	- -	- -	- -	- -	- -
4,4'-DDE	- -	- -	- -	- -	- -	- -	9.3 J	- -	- -	ND	- -	- -	- -	- -	- -
Dieldrin	- -	- -	- -	- -	- -	- -	10 J	- -	- -	11 J	- -	- -	- -	- -	- -
gamma-BHC (Lindane)	- -	- -	- -	- -	- -	- -	10	- -	- -	ND	- -	- -	- -	- -	- -
Methoxychlor	- -	- -	- -	- -	- -	- -	ND	- -	- -	23 J	- -	- -	- -	- -	- -
Metals (mg/kg)															
Aluminum - Total	- -	- -	- -	- -	- -	- -	7040	- -	- -	4,710	- -	- -	-	- -	- -
Arsenic - Total	2.4	5.0	4.3	3.0	1.2	4.2	16.3	2.0	2.3	2.7 J	1.7	2.2	5.8 J	5.4 J	4.0 J
Barium - Total	23.1	90.6	71.3	20 J	23.3 J	70 J	171 J	35.5 J	37 J	37.5 J	29.8	32.4 J	56.6 J	94.1 J	29.1 J
Beryllium - Total	- -	- -	- -	- -	- -	- -	0.69	- -	- -	0.3 J	- -	- -	-	- -	- -
Cadmium - Total	ND	1.1	0.88	ND	ND	ND	1.9	ND	ND	ND	ND	ND	0.7	ND	ND
Calcium - Total	- -	- -	- -	- -	- -	- -	4,160	- -	- -	1,950	- -	- -	-	- -	- -
Chromium - Total	17.7	271	286	11.8	14.6 J	71.7 J	751 J	9.6 J	11 J	17.4	10	9.4	14.1	16.6	13.9
Cobalt - Total	- -	- -	- -	- -	- -	- -	11.4	- -	- -	5.3 J	- -	- -	-	- -	- -
Copper - Total	- -	- -	- -	- -	- -	- -	93.1	- -	- -	13.7	- -	- -	-	- -	- -
Iron - Total	- -	- -	- -	- -	- -	- -	33,000	- -	- -	8,910	- -	- -	-	- -	- -
Lead - Total	3.8	721	870	20	4.5 J	316 J	1,440 J	5.1 J	5.8 J	189 J	5.9	4.7 J	206 J	284 J	22.2 J
Magnesium - Total	- -	- -	- -	- -	- -	- -	4,300	- -	- -	1,620 J	- -	- -	-	- -	- -
Manganese - Total	- -	- -	- -	- -	- -	- -	375	- -	- -	196 J	- -	- -	-	- -	- -
Mercury - Total	ND	0.13	0.09	ND	ND	ND	0.08	ND	ND	1.4	ND	ND	0.08	14.9	ND
Nickel - Total	- -	- -	- -	- -	- -	- -	21.7	- -	- -	15	- -	- -	-	- -	- -
Potassium - Total	- -	- -	- -	- -	- -	- -	1,410	- -	- -	733	- -	- -	-	- -	- -
Selenium - Total	0.57	1.5	0.93	0.67	0.69	ND	0.78	ND	ND	ND	ND	ND	0.64	ND	ND
Sodium - Total	- -	- -	- -	- -	- -	- -	640 J	- -	- -	660 J	- -	- -	-	- -	- -
Vanadium - Total	- -	- -	- -	- -	- -	- -	144	- -	- -	14.5	- -	- -	-	- -	- -
Zinc - Total	- -	- -	- -	- -	- -	- -	647	- -	- -	66.5	- -	- -	-	- -	- -
Wet Chemistry (mg/kg)															
Cyanide - Total	ND	13.5	15.5	ND	ND	16.2	19.2	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	- -	5,200	6,860	1,050	ND	- -	- -	235	ND	5,730	ND	ND	10300	- -	2,100

Ten samples and one duplicate were tested for TOC (limited split-spoon recovery prevented the remaining samples from being tested). TOC was detected in six samples at concentrations ranging from 1,050 – 10,300 mg/kg with similar median values in the "A" and "B" samples.

Because sample depths varied from borehole to borehole, it is not possible to delineate the horizontal extent of the detected analytes. However, comparing sample descriptions to analytical results indicates that fill samples generally contained higher concentrations of most analytes compared to native soil samples. For example, two of six native soil samples contained PAHs at 15 and 323 µg/kg. In comparison, all eight fill samples contained PAHs at concentrations ranging from 4,590 to 181,000 µg/kg. No BTEX or total cyanide were detected in native soil samples; whereas, six of eight fill material samples contained BTEX with total concentrations ranging from approximately 6 to 228,000 µg/kg and four of eight fill samples contained total cyanide with concentrations ranging from 13.5 to 19.2 mg/kg. In addition, the median value of lead concentrations was approximately two orders of magnitude higher in the fill samples (300 mg/kg) than in the native soil samples (5.5 mg/kg).

The vertical extent of detected analytes can not be determined based on the one or two samples collected from each borehole. However, a comparison of shallow and deep samples in the three boreholes from which both sample types were collected (SB-2, SB-8, and SB-9) shows little difference in analyte concentrations between samples. Metal and VOC results were generally consistent between samples, but PAH concentrations did not correlate with depth.

It should be noted that generally only one sample was collected from each boring because of the lack of visual, olfactory, monitoring, or other obvious differences in chemical composition. The majority of split-spoon samples retrieved from the site appeared as normal background, based on visual observations and air monitoring results. The combination of these observations made during drilling, lack of air monitoring results, and comparison of analytical results of fill and native soil samples suggests that detected chemicals in subsurface soils is limited to areas of common fill material, and are generally low in magnitude.

3.3 Soil Gas

Soil gas samples were collected from 12 locations at the site as described in Section 2.3. Eleven of the samples were analyzed for VOCs (all locations except SG-1) and all 12 samples were analyzed for SVOCs. No VOCs or SVOCs were detected in any of the samples indicating that interstitial migration of vapors is not occurring at detectable levels and is therefore not considered further in the site assessment.

3.4 Quality Assurance/Quality Control (QA/QC) Results

This section summarizes the QA/QC procedures used and results for the samples collected and analyzed at the site in March 2000. All procedures were consistent with the 1995 edition of the NYSDEC Analytical Services Protocol (ASP). Analytical methods used were from *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846)* (USEPA 1996a). Analytical data have been reviewed for compliance with precision, accuracy, representativeness, completeness, and comparability parameters based on the NYSDEC ASP and USEPA Region II guidelines. A complete data validation report for all appropriate portions of the analytical data is in Appendix E.

QA/QC concerns that may affect data usability are presented below, along with appropriate data qualifiers and discussion of potential impacts. Results and quantitation limits are considered to be estimated when flagged "J" or "UJ," respectively. Any "J" qualifier not explicitly discussed below or in the data validation report indicates that the detected concentration is below the analytical quantitation limit but above the method detection limit.

3.4.1 Field Quality Control Samples

Field Blanks

Field QC samples are used to check the cleanliness and effectiveness of field handling methods. These samples are analyzed in the laboratory as regular samples, the purpose being to assess the sampling and transport procedures as possible sources of sample contamination and to document overall sampling and analytical precision. Field QC samples collected during the investigation included the following:

- Trip blanks, collected at the rate on one per day and analyzed for VOCs, were used to assess the overall level of contamination except that which is due to ambient field conditions, especially during sample transport and storage; and
- Equipment (rinsate) blanks, which are used to assess the effectiveness of decontamination procedures used for non-dedicated sampling equipment. One rinsate blank (RB-1), consisting of laboratory deionized water poured through a decontaminated split-spoon sampler, was analyzed for the full suite of analyses (with the exception of grain size). This sample was considered representative of the sampling devices and decontamination procedures employed at the site.

Analytical results for the trip blanks and rinsate blank are in the appropriate laboratory reports in Appendix F. Two of the three trip blanks contained an estimated 1.4 micrograms per liter (µg/L) of methylene chloride. The third trip blank contained no VOCs. No organic compounds were detected in the rinsate blank with the exception of an estimated 3 µg/L of bis(2-ethylhexyl) phthalate. Inorganic

analytes detected in the rinsate blank included and estimated 74.2 µg/L of calcium and an estimated 1.6 µg/L of zinc. In addition, 7.2 µg/L of TOC was detected. The detection of these analytes in the field blanks does not affect field sample data usability; however, where these analytes were present in associated field samples, the results were qualified if appropriate (see Data Validation Report, Appendix E).

Field Duplicates

Field duplicates, collected at the rate of one per ten field samples, were used to assess the consistency and precision of the overall sampling and analytical system. In particular, duplicate samples are useful in assessing the homogeneity/heterogeneity of the material sampled. Field duplicate samples were collected at three surface and one subsurface soil sample location (SS-6, SS-11, SS-19, and SB-8B).

Field duplicate sample results are provided in Tables 3-1 and 3-2 alongside the appropriate field sample result. Variations between original and duplicate sample results are not indicative of laboratory precision. Rather variation arises from the heterogeneity associated with the media sampled. Since duplicate samples are valid field samples, the higher concentration of each analyte detected was used in a conservative manner in the above discussion and for the following threat analysis.

3.4.2 Laboratory Quality Control Samples

The purpose of laboratory QC samples is to assess the accuracy and precision of the analytical methods and to identify potential sample contamination from laboratory procedures such as digestion and extraction. Laboratory QC samples consisted of the following:

- One method blank per analytical batch;
- One matrix spike/matrix spike duplicate (MS/MSD) set per batch or 20 samples; whichever is greater;
- One laboratory control sample per batch;
- Surrogate standards added to each sample before purging or extraction for organics; and
- Internal standards added to each sample before instrumental analysis by gas chromatography/mass spectrometer (GC/MS).

Method Blanks

Discussion of these results will be included in Volume 2, an addendum to this report, delivered at a later date.

MS/MSDs and Laboratory Spikes

Discussion of these results will be included in Volume 2, an addendum to this report, delivered at a later date.

Laboratory Control Samples

Discussion of these results will be included in Volume 2, an addendum to this report, delivered at a later date.

Surrogate and Internal Standards

Discussion of these results will be included in Volume 2, an addendum to this report, delivered at a later date.

4

Threat Analysis

The purpose of this threat analysis is to evaluate the analytical chemical results from the field investigation performed at the Bay Ridge Little League field to determine if there are any environmentally-related health risks associated with recreational activities at the site. In order to achieve that purpose, the following sections identify the potential pathways of human exposure, qualify the exposure that could occur, and determine if there is a potential for human health risks. The potential for adverse health effects to occur was evaluated by comparing chemical concentrations in site media with generally accepted background and health-based concentrations as well as "virtually-safe" concentrations that were calculated based on site-specific exposure parameters.

4.1 Site Context

A detailed description of the site is provided in Section 1.2. As discussed in Section 1.3, the site is located in a densely populated area (>378,000 people, one medical center, four hospitals, five nursing homes, and 171 schools within a 2-mile radius). The site is also located in an environmentally compromised area. Within ½ mile of the site, there are 15 businesses with leaking underground storage tanks. Eighteen RCRA sites, four of which are considered to be large quantity generators, are located within a ¼ mile radius of the site (see Appendix A).

The site is currently used by the Parkside Little League for games and practice. Given the type of activities of Little League ballplayers (*e.g.*, sliding into bases, fielding ground balls, etc.) and the fact that the infield is sand, it can reasonably be assumed that ballplayers could be exposed to chemicals in surface soil via ingestion, dermal contact and inhalation of particulates. Additionally, coaches, game spectators, and site trespassers may also be exposed to chemicals in site surface soils via these exposure routes. However, because the Little League ballplayer is the most likely exposed person, it is this exposure that is addressed in this analysis. Based on the condition of the outfield grasses (*i.e.*, bare soil is exposed in places) it is assumed that football games are occasionally played in the outfield area of the large playing field. Therefore, a site trespasser is assumed to be an

individual playing football or using the site for other recreational purposes. Table 4-1 presents the conceptual risk system model and exposure pathway matrix for the potential routes of exposure under these likely scenarios.

Table 4-1
Exposure Pathway Matrix

Bay Ridge Former Gas Holder Site

Medium/Pathway	Exposure Scenario		
	Little League Ballplayer	Coach/Game Spectator	Site Trespasser[1]
Surface Soil			
Ingestion	√	√	√
Dermal Contact	√	√	√
Inhalation of particulates	√	√	√
Subsurface Soil			
Ingestion	⊘	⊘	⊘
Dermal Contact	⊘	⊘	⊘
Inhalation of particulates	⊘	⊘	⊘

[1] Included in this category are occasional users of the ballfield.

√ = Indicates a potentially complete exposure pathway.

⊘ = Indicates incomplete exposure pathway.

A discussion of the analytical data for each medium sampled at the site (surface soil, subsurface soil, and soil gas) is provided in Section 3 of this report. Summaries of these results for surface and subsurface soil samples, including frequency of detections and the minimum and maximum detected concentrations, are presented in Tables 4-2 and 4-3. No analytes were detected in the soil gas samples.

4.2 Imminent Health Threat Evaluation

During field activities at the Baseball fields, ambient air in the breathing zones of field personnel was tested for the presence of organic vapors using a PID. No organic vapors were detected above background.

Concern, however, was raised due to an apparent detection of hydrogen cyanide gas (HCN) through the use of a Dräger MiniWarn device during field activities on March 14, 2000. The Dräger MiniWarn device is a real-time air-monitoring device that screens for the presence of HCN, among other gases, in field samples. During the field investigation, subsurface soil from two out of 86 split spoons indicated the presence of HCN on the Dräger MiniWarn meter.

Table 4-2
Summary of Surface Soil Data
Bay Ridge Former Gas Holder Site

Compound	Frequency of Detection	Minimum Concentration	Maximum Concentration
Semi-Volatile Organic Compounds (µg/kg)			
Anthracene	5/23	33	210[1]
Benzo(a)anthracene	6/23	270	640[1]
Benzo(a)pyrene	4/23	230	680
Benzo(b)fluoranthene	10/23	22	1,000
Benzo(ghi)perylene	5/23	190	360
Benzo(k)fluoranthene	5/23	200	410
Bis(2-ethylhexyl) phthalate	19/23	140	3,300
Butyl benzyl phthalate	1/23	--	140
Chrysene	8/23	17	660
Di-n-butyl phthalate	1/23	--	38
Di-n-octyl phthalate	1/23	--	53[2]
Fluoranthene	9/23	34	1,300[3]
Indeno(1,2,3-cd)pyrene	5/23	170	370
Phenanthrene	7/23	250	1,100[1]
Pyrene	8/23	330	1,100[1]
Metals - Total (mg/kg)			
Aluminum	4/4	2,470	7,520
Antimony	1/4	--	0.68
Arsenic	23/23	1.7[4]	9.0
Barium	23/23	6.9[4]	69.5
Beryllium	4/4	0.27	0.32
Cadmium	2/23	0.12	0.2
Calcium	4/4	400	4,380
Chromium	23/23	4.2[4]	20.8
Cobalt	4/4	2.6	3.2[3]
Copper	4/4	5.3	14.9
Iron	4/4	6,650[4]	9,720
Lead	23/23	3.1[4]	145
Magnesium	4/4	383	1,670
Manganese	4/4	82.6	105
Mercury	10/23	0.06	0.26[3]
Nickel	4/4	2.9	6.9
Potassium	4/4	343	549
Selenium	8/23	0.71	1.6[3]
Silver	3/23	0.18	0.26
Sodium	4/4	407	510
Thallium	1/4	--	0.77[2]
Vanadium	4/4	11.1[4]	17.7
Zinc	4/4	24.9	86.4
Pesticides (µg/kg)			
4,4'-DDD	4/4	2.2	12
4,4'-DDE	1/4	--	18
4,4'-DDT	4/4	1.8	22
delta-BHC	3/4	2.2	9.8

Note: Only those compounds that were positively detected in at least one sample are listed above.
[1]Detected in duplicate but not in associated sample.
[2]Detected in sample but not in associated duplicate.
[3]Maximum of concentrations detected in duplicate samples.
[4]Minimum of concentrations detected in duplicate samples.

Table 4-3
Summary of Subsurface Soil Data
Bay Ridge Former Gas Holder Site

Compound	Frequency of Detection	Minimum Concentration	Maximum Concentration
Volatile Organic Compounds (µg/kg)			
Acetone	2/14	27	70
Benzene	5/14	2	470
Carbon disulfide	1/14	--	10
Ethylbenzene	3/14	24	78,000
Styrene	2/14	10	21
Toluene	7/14	1	10,000
Xylenes, total	4/14	3	140,000
Semi-Volatile Organic Compounds (µg/kg)			
2-Methylnaphthalene	4/14	1,200	12,000
Acenaphthene	3/14	78	4,700
Acenaphthylene	2/14	74	1,100
Anthracene	4/14	97	8,800
Benzo(a)anthracene	6/14	34	14,000
Benzo(a)pyrene	5/14	240	11,000
Benzo(b)fluoranthene	7/14	49	14,000
Benzo(ghi)perylene	4/14	13	2,300
Benzo(k)fluoranthene	7/14	20	4,200
Chrysene	6/14	36	14,000
Dibenzo(ah)anthracene	2/14	41	750
Dibenzofuran	2/14	45	1,800
Di-n-octyl phthalate	1/14	--	120
Fluoranthene	8/14	65	31,000
Fluorene	3/14	150	5,400
Indeno(1,2,3-cd)pyrene	4/14	13	2,200
Naphthalene	5/14	880	36,000
Phenanthrene	10/14	15	28,000
Pyrene	9/14	52	35,000
Metals - Total (mg/kg)			
Aluminum	2/2	4,710	7,040
Arsenic	14/14	1.2	16.3
Barium	14/14	20	171
Beryllium	2/2	0.3	0.69
Cadmium	4/14	0.7	1.9
Calcium	2/2	1,950	4,160
Chromium	14/14	9.6	751
Cobalt	2/2	5.3	11.4
Copper	2/2	13.7	93.1
Iron	2/2	8,910	33,000
Lead	14/14	3.8	1,440
Magnesium	2/2	1,620	4,300
Manganese	2/2	196	375
Mercury	6/14	0.08	14.9
Nickel	2/2	15	21.7
Potassium	2/2	733	1,410
Selenium	7/14	0.57	1.5
Sodium	2/2	640	660
Vanadium	2/2	14.5	144
Zinc	2/2	66.5	647
Total Cyanide (mg/kg)	4/14	13.5	19.2
Pesticides (µg/kg)			
4,4'-DDD	2/2	10	11
4,4'-DDE	1/2	--	9.3
Dieldrin	2/2	10	11
gamma-BHC (Lindane)	1/2	--	10
Methoxychlor	1/2	--	23

Note: Only those compounds that were positively detected in at least one sample are listed above.
Note: Methylene chloride and bis(2-ethylhexyl) phthalate were detected in both the field samples and the associated blanks and are, therefore, considered non-detect and are not presented here.

At soil boring location SB-6, near home plate of the large playing field, a HCN reading of 0.8 parts per million (ppm) (or 0.88 mg/m^3) and a maximum organic vapor reading of 90 ppm above background were detected in the headspace of a sample retrieved from the 4.0- to 4.5-foot depth interval. The 0.8 ppm HCN reading was obtained approximately five minutes after placing a soil sample from SB-6 in laboratory containers and measuring the headspace concentration within the jar. The maximum organic vapor reading was acquired off the split spoon immediately after opening. HCN was not detected when the split spoon was first opened. The soil from this interval was gravelly sand, black in color, and emitted a strong naphtha odor. Laboratory analysis indicated the presence of only 19.2 mg/kg of total cyanide in the soil sample.

A second location of possible HCN occurrence was boring SB-9 (along the southeast border of the small playing field). The 3.0- to 5.0-foot interval consisted of dark brown silty sand with numerous fragments of a black cinder-like material. When the split spoon was first opened, the maximum organic vapor reading was 59 ppm and the Dräger instrument read 0.3 ppm of HCN. Approximately 10 minutes later, testing of the headspace of the laboratory sample for cyanide yielded a HCN reading of 4.3 ppm. However, laboratory analysis indicated no detectable concentration of total cyanide in this soil sample.

Three other subsurface soil samples from the site (specifically, the 5- to 9-foot and 12- to 14-foot depth intervals of SB-2, and the 5.7 - 6.0 foot depth interval of SB-5A) tested positive for total cyanide at low concentration (less than 19 ppm).

The Dräger MiniWarn uses replaceable electrochemical sensors to read chemical compound concentrations in ambient air. However, the limitations of air-monitoring devices such as these include cross-sensitivity to other gases. In particular, H_2S interferes with HCN determination. For example, in the presence of H_2S, the HCN sensor will indicate concentrations of HCN 10 times that of the concentration of H_2S present, *even in the complete absence of HCN*. Given that the lower detection limit of the H_2S sensor is 1 ppm, the non-detectable presence of H_2S in the range less than 1 ppm could masquerade as a low, but detectable, concentration of HCN. Other gases known to interfere with the HCN sensor include chlorine, ethene, carbon dioxide, carbon monoxide, sulfur dioxide, and hydrogen (Dräger 1998). Therefore, the results of such air-monitoring devices are "screening level" at best, especially in situations where no or only low levels of HCN are expected.

As mentioned in Section 3.2, ferric ferrocyanide (FFC), also called Prussian Blue, may be detectable in soils at former gas manufacturing locations. However, this site only had gas holders and no gas manufacturing was ever performed. Therefore, FFC would not be expected here, and in fact, VHB never visually observed such material. Nevertheless, as discussed in Section 3.2, some total cyanide was detected in several soil samples. Though it is generally accepted that most detectable cyanide at gas-related facilities is in the complexed and stable form, concern persists about the

presence of free cyanide or HCN (Robinson 1986 and MADEP 1995). In a study of soil containing cyanide waste from MGP sites, the iron cyanide complexes comprise over 97% of the detectable total cyanide (Theis *et al.* 1994). In a study by Gould *et al.* (1989, and cited by Shifrin *et al.* 1995) free cyanide in soil samples were observed to be less than 0.1%. The stability of FFC has been established and because free cyanide is not expected to form, the remaining risk, if any, from cyanide would likely be due to exposure to hydrogen cyanide that may volatilize from the soil.

Shifrin *et al.* (1995) considered this matter of exposure to HCN volatilizing from soil. They estimated the concentration of HCN above a 10 x 10-meter area with a soil concentration of 5 ppm. The resulting ambient air concentration estimate was 0.077 mg/m^3. This estimate assumes that all of the HCN enters the gas phase and that there is constant generation of HCN from the soil. This estimated ambient air concentration is less than the 0.11-0.99 mg/m^3 concentration observed to produce no effects in sensitive exposed persons (Shifrin cites USEPA 1992). The LC_{50} in humans is 3,800 mg/m^3. From this analysis, Shifrin *et al.* concluded that volatilization of HCN from former MGP sites is **not** a route of significant human exposure.

To focus this conclusion upon the concerns at Bay Ridge, a Little League ballplayer's exposure to HCN at the fields was assessed using the "headspace" results made in the field. The highest detectable level was 4.3 ppm or 5 mg/m^3. First, the observed headspace concentration was converted to a potential ambient air concentration that a Little League player might encounter in their breathing zone while at the field. This was done by approximating the volume of the breathing zone of a child compared to the headspace volume. Using the ratio of the two volumes yields a factor by which the headspace HCN concentration is relative to volatilization of HCN from the soil into a child's breathing zone.

Headspace analysis involved placing soil into a 4-ounce (volume) jar (approximately 2-inches in diameter by 2-inches in height). The sample typically fills approximately half of the jar, thus a conservative estimate of the headspace volume is 2 ounce or 3.6 in^3. A child's breathing zone is estimated as a cylinder with dimensions of 24-inch diameter by 60-inch height, or approximately 27,143-in^3 [$(12\ in)^2 \times \pi \times 60\ in$]. Theoretically volatilizing HCN from the soil "headspace" into the breathing zone causes a dilution of 7,540 (27,143 $in^3 \div 3.6\ in^3$). Thus, the breathing zone HCN concentration is estimated as 0.0007 mg/m^3 (5 $mg/m^3 \div 7{,}540$).

The total *theoretical* HCN exposure dose that a child could experience if they play their entire Little League career at this field was then estimated. For this estimate, it was assumed that the baseball player is an 8-12 year-old boy playing at the site three times per week for 5 years. The season runs from April through September, or 78 days each year and the games and practices at the field last on average 2.5 hours. The exposure dose is 0.00002 mg of HCN per kg of body weight per day. This is based on the following assumptions:

- An inhalation rate of 1.74 m^3/hour (moderate activity, EPA 1997).
- A body weight of 34 kg (8-12 year old male, EPA 1997).
- An averaging time of 1,825 days (365 days/year x 5 years).
- The estimated HCN exposure point concentration calculated above (0.0007 mg/m^3).

EPA's policy (followed by NYSDEC and NYSDOH) for making decisions about what is and what is not an acceptable exposure on the basis of potential health hazards uses a "safe" dose (the Reference Dose [RfD]) as a threshold (EPA 1990). The threshold exposure dose for HCN that is free of health effects in children is 0.00086 mg/kg/day (EPA 2000). Exposures less than the RfD are not associated with health risks.

To compare the estimated HCN exposure dose and the RfD for HCN, one is divided by the other resulting in a Hazard Quotient (HQ):

Estimated Exposure ÷ HCN RfD = HQ

0.00002 mg/kg/day ÷ 0.00086 mg/kg/day = 0.02

Because the Hazard Quotient is substantially less than unity (1.0), it is concluded that a theoretical exposure to HCN at the concentrations apparently detected at this site would **not** pose a health threat.

From this analysis, VHB concludes that there are no imminent health threats at these Baseball fields. This conclusion is based on three lines of evidence:

- The results of the soil gas survey (no detectable levels of volatile or semi-volatile organic compounds).
- The measurements made by air monitoring equipment utilized during field activities (no detects above background in ambient air) as discussed in Section 2.
- The results of the quantitative assessment of theoretical exposure to HCN.

4.3 Chronic Health Threat Evaluation

4.3.1 Surface Soils

As discussed previously, 23 locations were sampled including areas of high use (the bases, home plate, and the pitcher's mound) and several areas of the outfield. PAHs, phthalate esters, metals and pesticides were detected in these surface soil samples. Additional VOCs and PAHs were detected in the subsurface soil; however, given the nature of activities at the site, exposure to subsurface soil is deemed improbable so only concentrations detected in surface soils are discussed here. Maximum concentrations of chemicals detected in the surface soil were compared to urban background values, derived by VHB from various literature sources, and USEPA

Region III risk-based concentrations (RBCs), health-based values which are generally accepted in the regulatory community for screening purposes (see Table 4-4).

VHB calculated the arithmetic average of urban background concentrations for selected metals and PAHs using the following references:

- United States Geological Survey (USGS) average soil concentrations for the eastern United States;
- Massachusetts Department of Environmental Protection (MADEP) urban soil concentrations;
- Soil concentrations as reported by the USEPA for properties near a northern Kentucky airport;
- Urban soil background concentrations for the eastern U.S. cities of Boston, MA, Providence, RI, and Springfield, MA, as reported by Bradley et al. (1994);
- Native soil concentrations as reported by Dragun (1988);
- Background soil concentrations as described in the Agency for Toxic Substances and Disease Registry (ATSDR) toxicological profiles for each analyte; and
- Urban soil concentrations as reported by Illinois EPA.

The Region III RBCs are calculated using EPA standard default exposure parameters for residential and industrial exposure scenarios. These RBCs are calculated assuming chronic lifetime exposure to soil via ingestion. The RBCs for residential exposure to soil were used as a comparison to the surface soil concentrations detected at the site. The calculated RBCs are much lower, *i.e.*, health protective than the concentrations that would result in chronic health effects under the Little League exposure scenario. This is because the residential exposure parameters are more conservative (*i.e.*, assume a greater intensity, duration, and frequency of exposure) than the exposure parameters for the Little Leaguer. For example, the RBC calculations assume an exposure frequency of 350 days/year whereas the exposure frequency for the Little Leaguer is just 78 days/year. Consequently, if the concentrations in the surface soil at the Bay Ridge Baseball Fields do not exceed the Region III RBCs, it can be concluded that the detected chemicals do **not** pose a health threat those using the Baseball fields.

As shown in Table 4-4, only selenium was detected at concentrations exceeding its background value of 0.78 mg/kg. The maximum concentration of selenium was 1.6 mg/kg, which is approximately two orders of magnitude below the Region III RBC of 390 mg/kg for residential exposure to soil. We conclude, therefore, that exposure to selenium at the site would not pose a health threat to the Little League ballplayer.

Two carcinogenic PAHs (benzo(a)pyrene and benzo(b)fluoranthene) and arsenic were detected at concentrations above the Region III RBCs (see Table 4-4). Benzo(a)pyrene was higher in four samples (SS-1, SS-2, SS-3, and SS-22), while benzo(b)fluoranthene was higher in only one sample (SS-3). PAHs are formed during the incomplete burning of fossil fuel, garbage or any organic matter; consequently PAHs are ubiquitous, especially in urban environments. The

Table 4-4
Comparison of Surface Soil Maximum Concentrations to Benchmark Values
Bay Ridge Former Gas Holder Site

Compound	Background Value[1]	Frequency of Exceedance of Background	Sample Numbers for Concentrations Exceeding Background	Region III Value for Residential Exposure to Soil[2]	Frequency of Exceedance of Region III Value	Sample Numbers for Concentrations Exceeding Region III Value
Semi-Volatile Organic Compounds (µg/kg)						
Anthracene	510	0/23	--	23,000,000	0/23	--
Benzo(a)anthracene	10,500	0/23	--	870	0/23	--
Benzo(a)pyrene	2,200	0/23	--	87	4/23	SS-1, SS-2, SS-3, SS-22
Benzo(b)fluoranthene	13,500	0/23	--	870	1/23	SS-3
Benzo(ghi)perylene	8,320	0/23	--	NA	--	--
Benzo(k)fluoranthene	4,730	0/23	--	8,700	0/23	--
Butyl benzyl phthalate	NA	--	--	16,000,000	0/23	--
Chrysene	820	0/23	--	87,000	0/23	--
Di-n-butyl phthalate	NA	--	--	7,800,000	0/23	--
Di-n-octyl phthalate	NA	--	--	1,600,000	0/23	--
Fluoranthene	29,000	0/23	--	3,100,000	0/23	--
Indeno(1,2,3-cd)pyrene	11,800	0/23	--	870	0/23	--
Phenanthrene	1,510	0/23	--	NA	--	--
Pyrene	25,900	0/23	--	2,300,000	0/23	--
Metals - Total (mg/kg)						
Aluminum	NA	--	--	78,000	0/4	--
Antimony	NA	--	--	31	0/4	--
Arsenic, carcinogenic	10.5	0/23	--	0.43	23/23	All samples
Arsenic, noncarcinogenic	10.5	0/23	--	23.5	0/23	--
Barium	543	0/23	--	5,500	0/23	--
Beryllium	6.80	0/4	--	160	0/4	--
Cadmium	3.66	0/23	--	78	0/23	--
Calcium	NA	--	--	NA	--	--
Chromium	247	0/23	--	230	0/23	--
Cobalt	NA	--	--	4,700	0/4	--
Copper	80.6	0/4	--	3,100	0/4	--
Iron	NA	--	--	23,000	0/4	--
Lead	370	0/23	--	NA	--	--
Magnesium	15,140	0/4	--	NA	--	--
Manganese	1,854	0/4	--	11,000	0/4	--
Mercury	0.42	0/23	--	7.8	0/23	--
Nickel	155	0/4	--	1,600	0/4	--
Potassium	NA	--	--	NA	--	--
Selenium	0.78	6/23	SS-1, SS-2, SS-4, SS-11, SS-11dup, SS-19dup, SS-22	390	0/23	--
Silver	NA	--	--	390	0/23	--
Sodium	NA	--	--	NA	--	--
Thallium	NA	--	--	5.5	0/4	--
Vanadium	122	0/4	--	550	0/4	--
Zinc	239	0/4	--	23,000	0/4	--
Pesticides (µg/kg)						
4,4'-DDD	NA	--	--	2,700	0/4	--
4,4'-DDE	NA	--	--	1,900	0/4	--
4,4'-DDT	NA	--	--	1,900	0/4	--
delta-BHC	NA	--	--	NA	--	--

[1]Background values calculated as the arithmetic mean of the following data: USGS average soil concentrations for the eastern United States; MADEP urban soil concentrations; soil concentrations as reported by the USEPA for properties near a northern Kentucky airport; urban soil background concentrations for the eastern U.S. cities of Boston, MA, Providence, RI and Springfield, MA; the ATSDR's toxicological native soil concentrations as reported by Dragun 1988; background soil concentrations as described in profiles for each analyte; and urban soil concentrations as reported by Illinois EPA.

[2]USEPA Region III Risk-Based Concentrations, October 1999. Region III value for chromium is for Cr VI; value for mercury is methylmercury.

concentrations of benzo(a)pyrene and benzo(b)fluoranthene were well below the soil background concentrations as reported in the literature.

The residential soil RBC of 0.43 mg/kg for arsenic was exceeded in all 23 surface soil samples. However, the calculated background concentration of 10.5 mg/kg was not exceeded by any sample. Furthermore, according to NYSDEC, concentrations of arsenic in uncontaminated soils range nationally from 0.1 to 45 ppm and from 3 to 12 ppm in New York State (NYSDEC 1988). The maximum arsenic concentration in surface soils, 9.0 mg/kg, is well within these national and state ranges for uncontaminated soils. Therefore, VHB concludes that the concentrations of arsenic in surface soils reflect normal conditions.

Given that three chemicals, benzo(a)pyrene, benzo(b)fluoranthene, and arsenic, were present in surface soil at concentrations exceeding the Region III Risk-Based Concentrations (RBCs), calculations were performed to determine the surface soil concentration that would be associated with what EPA terms "an acceptable level of risk." This calculation is performed using a process that may be thought of as a risk assessment "in reverse." Rather than calculating potential cancer risks and potential non-cancer hazards from the reported site concentrations of chemicals in soil, cancer risk and non-cancer hazard levels preferred by the regulatory agencies are used to calculate safe soil concentrations. These safe soil concentrations were calculated only for the human population with the most likely exposure to chemicals in surface soil, the Little League ballplayer. The concentrations were calculated based on the combined or total exposure (intake) to soil via ingestion, dermal contact and inhalation of particulates as presented in the equations in Table 4-5. The risk-based concentrations presented in Table 4-5 reflect EPA's acceptable risk range of 1E-04 to1E-06 as the target risks. The hazard-based concentrations presented in the table reflect a target hazard of unity, or 1.0.

Results of the calculations for determining safe soil concentrations based on carcinogenic risk indicate that the maximum concentration of benzo(a)pyrene detected on site, 680 µg/kg, is slightly higher than the 1E-06 risk concentration but well below the 1E-05 and 1E-04 target risk concentrations of 6,000 µg/kg and 60,000 µg/kg, respectively. The maximum concentration of benzo(b)fluoranthene, 1,000 µg/kg, is approximately six times lower than the calculated 1E-06 target risk concentration. Though the maximum detected concentration of arsenic, 9.0 mg/kg, is approximately three times greater than the safe soil concentration calculated for the 1E-06 risk level, it is approximately three and a half times lower than the safe soil concentration calculated for the 1E-05 risk level.

Concentrations of benzo(a)pyrene and benzo(b)fluoranthene were orders of magnitude below the hazard-based concentration calculated using a target hazard of 1. A hazard-based concentration was not determined for arsenic because arsenic concentrations did not exceed the Region III RBC for noncarcinogenic effects.

Table 4-5

Comparison of Site-Specific Risk-Based Concentrations for Chemicals in Surface Soil to Surface Soil Maximum Concentrations[1]
Little League Ballplayer
Bay Ridge Former Gas Holder Site

Compound	Relative Absorption Factors (unitless)			Cancer Slope Factors $(mg/kg/day)^{-1}$			Reference Doses (mg/kg/day)	
	Ingestion	Dermal	Inhalation	Ingestion	Dermal	Inhalation	Ingestion	Dermal
Semi-Volatile Organic Compounds								
Benzo(a)pyrene	1/0.91	0.2/0.18	1	7.30E+00	1.50E+01	3.10E+00	3.00E-02	2.00E-02
Benzo(b)fluoranthene	1/0.91	0.2/0.18	1	7.30E-01	1.50E+00	NA	3.00E-02	2.00E-02
Metals - Total								
Arsenic	1	0.03	1	1.50E+00	1.60E+00	1.50E+01	NA	NA

Compound	Risk-Based Concentration[2] 1E-06 Level	Risk-Based Concentration[2] 1E-05 Level	Risk-Based Concentration[2] 1E-04 Level	Hazard-Based Concentration[3]
Semi-Volatile Organic Compounds		(µg/kg)		
Benzo(a)pyrene	600	6,000	60,000	11,000,000
Benzo(b)fluoranthene	6,000	60,000	600,000	11,000,000
Metals - Total		(mg/kg)		
Arsenic	3.2	32	320	NA

Key:
NA: Not applicable. Maximum detected concentration for arsenic did not exceed Region III RBC, therefore, a hazard-based concentration was not calculated.
[1]Only those chemicals which were detected in surface soils at concentrations exceeding the Region III RBC for residential exposure to soil are included in this tabl
[2]Calculated based on total target risks of 1E-06, 1E-05 and 1E-04
[3]Calculated based on total target hazard of 1.0

Exposure Parameters and Equations Used to Calculate Site-Specific Risk-Based Concentrations:
Carcinogenic effects:

Parameter	Value	Source
Body weight (BW)	34 kg	EPA 1997
Averaging time, noncarcinogens (AT_{nc})	1,825 days	EPA 1989
Averaging time, carcinogens (AT_c)	25,550 days	EPA 1989
Conversion factor (CF)	1E-06 kg/mg	
Exposure frequency (EF)	78 days/year	Site-specific assumption based on knowledge of typical Little League activity
Exposure duration (ED)	5 years	Site-specific assumption based on knowledge of typical Little League activity
Soil ingestion rate (SIR)	400 mg/day	EPA 1997
Skin surface area (SA)	3,408 cm^2	EPA 1997, value represents 24% of total body surface area (head and arms)
Adherence factor (AF)	0.08 mg/cm^2	EPA 1998
Inhalation rate (IR)	1.74 m^3/hour	EPA 1997
Particulate concentration (PC)	0.06 mg/m^3	MADEP 1996
Respirable fraction (RF)	0.5	EPA 1984
Exposure time (ET)	2.5 hours/day	Site-specific assumption based on knowledge of typical Little League activity
Relative absorption factor (RAF)	Chemical specific	MADEP 1992
Carcinogenic slope factor (CSF)	Chemical specific	EPA 2000
Reference dose (RfD)	Chemical specific	EPA 2000

Formula for calculating acceptable risk-based concentration for Little Leaguer exposure:

$$C_{soil} = \frac{\text{Total Risk} * BW * AT}{CF * EF * ED * [(SIR * RAF_o * CSF_o) + (RAF_d * SA * AF * CSF_d) + (IR * RAF_i * PC * RF * ET * CSF_i)]}$$

Formula for calculating acceptable hazard-based concentration for Little Leaguer exposure:

$$C_{soil} = \frac{\text{Total Hazard} * BW * AT}{CF * EF * ED * [(\{SIR * RAF_o\}/RfD_o) + (\{RAF_d * SA * AF\}/RfD_d) + (\{RAF_i * IR * PC * RF * ET\}/RfD_i)]}$$

VHB concludes that there are no chronic health threats due to any detected chemicals in surface soil at these Baseball fields. This conclusion is based on three lines of evidence:

- A comparison of the surface soil concentrations at the Bay Ridge site to urban soil background concentrations.
- A comparison to Region III RBCs.
- Evaluation of site-specific safe soil concentrations.

Because toxicity values to quantitatively assess risks and hazards associated with exposure to lead are not available, non-cancer hazards for lead are typically evaluated using the EPA's Integrated Exposure Uptake Biokinetic (IEUBK) model. The model estimates the blood lead concentrations in children expected to result from exposure to soil and other media (air, drinking water, diet, dust and paint).

EPA recommends a benchmark of either 95% of a child resident population having blood lead concentrations below 10 micrograms/deciliter (µg/dL) or a 95% probability of an individual child having a blood lead concentration below 10 µg/dL. This benchmark corresponds to a lead concentration in soil of approximately 400 mg/kg. Surface soil lead concentrations at the site were all below the 400-mg/kg benchmark. Therefore, it is concluded that exposure to any lead in surface soils would not result in adverse health effects for children playing at these fields.

4.3.2 Subsurface Soils

Concentrations of chemicals detected in subsurface soils also were compared to urban soil background and to Region III RBCs (see Table 4-6). However, concentrations in the subsurface soil were not compared to Region III RBCs for residential exposure but to values for industrial exposure to soil. This is because it can reasonably be assumed that any exposure to the subsurface would only occur via construction activity. Thus, the industrial exposure scenario uses occupational exposure parameters more appropriate to this type of activity. Though some chemicals, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and arsenic were present in a limited number of samples at concentrations exceeding both the urban background value and the Region III RBC for industrial exposure to soil, it is not expected that contact with these soils would occur under current site conditions. However, should a large-scale construction or excavation project be undertaken, exposure under this scenario should be evaluated.

Table 4-6
Comparison of Subsurface Soil Maximum Concentrations to Benchmark Values
Bay Ridge Former Gas Holder Site

Compound	Background Value[1]	Frequency of Exceedance of Background	Sample Numbers for Concentrations Exceeding Background	Region III Value for Industrial Exposure to Soil[3]	Frequency of Exceedance of Region III Value	Sample Numbers for Concentrations Exceeding Region III Value
Volatile Organic Compounds (µg/kg)						
Acetone	NA	--	--	200,000,000	0/14	--
Benzene	NA	--	--	200,000	0/14	--
Carbon disulfide	NA	--	--	200,000,000	0/14	--
Ethylbenzene	NA	--	--	200,000,000	0/14	--
Styrene	NA	--	--	410,000,000	0/14	--
Toluene	NA	--	--	410,000,000	0/14	--
Xylenes, total	NA	--	--	4,100,000,000	0/14	--
Semi-Volatile Organic Compounds (µg/kg)						
2-Methylnaphthalene	500	4/14	SB-2A, SB-2B, SB-6A, SB-9B	41,000,000	0/14	--
Acenaphthene	260	2/14	SB-6A, SB-9B	120,000,000	0/14	--
Acenaphthylene	250	1/14	SB-9B	NA	--	--
Anthracene	510	1/14	SB-9B	610,000,000	0/14	--
Benzo(a)anthracene	10,500	1/14	SB-9B	7,800	1/14	SB-9B
Benzo(a)pyrene	2,200	1/14	SB-9B	780	3/14	SB-8A, SB-9A, SB-9B
Benzo(b)fluoranthene	13,500	1/14	SB-9B	7,800	1/14	SB-9B
Benzo(ghi)perylene	8,320	0/14	--	NA	--	--
Benzo(k)fluoranthene	4,730	0/14	--	78,000	0/14	--
Chrysene	820	3/14	SB-8A, SB-9A, SB-9B	780,000	0/14	--
Dibenzo(ah)anthracene	250	1/14	SB-9B	780	0/14	--
Dibenzofuran	NA	--	--	8,200,000	0/14	--
Di-n-octyl phthalate	NA	--	--	41,000,000	0/14	--
Fluoranthene	29,000	1/14	SB-9B	82,000,000	0/14	--
Fluorene	500	2/14	SB-6A, SB-9B	82,000,000	0/14	--
Indeno(1,2,3-cd)pyrene	11,800	0/14	--	7,800	0/14	--
Naphthalene	260	5/14	SB-2A, SB-2B, SB-5A, SB-6A, SB-9B	41,000,000	0/14	--
Phenanthrene	1,510	3/14	SB-6A, SB-8A, SB-9B	NA	--	--
Pyrene	25,900	1/14	SB-9B	61,000,000	0/14	--

Table 4-6 (*continued*)

Comparison of Subsurface Soil Maximum Concentrations to Benchmark Values
Bay Ridge Former Gas Holder Site

Compound	Background Value[1]	Frequency of Exceedance of Background	Sample Numbers for Concentrations Exceeding Background	Region III Value for Industrial Exposure to Soil[3]	Frequency of Exceedance of Region III Value	Sample Numbers for Concentrations Exceeding Region III Value
Metals - Total (mg/kg)						
Aluminum	NA	--	--	2,000,000	0/2	--
Arsenic, carcinogenic	10.5	1/14	SB-6A	3.8	7/14	SB-2A, SB-2B, SB-5A, SB-6A, SB-9A, SB-9B, SB-10A
Arsenic, noncarcinogenic	10.5	1/14	SB-6A	610	0/14	--
Barium	543	0/14	--	140,000	0/14	--
Beryllium	6.80	0/2	--	4,100	0/2	--
Cadmium	3.66	0/14	--	2,000	0/14	--
Calcium	NA	--	--	NA	--	--
Chromium	247	3/14	SB-2A, SB-2B, SB-6A	6,100	0/14	--
Cobalt	NA	--	--	120,000	0/2	--
Copper	80.6	1/2	SB-6A	82,000	0/2	--
Iron	NA	--	--	610,000	0/2	--
Lead	370	3/14	SB-2A, SB-2B, SB-6A	NA	--	--
Magnesium	15,140	0/2	--	NA	--	--
Manganese	1,854	0/2	--	290,000	0/2	--
Mercury	0.42	2/14	SB-8A, SB-9B	200	0/14	--
Nickel	155	0/2	--	41,000	0/2	--
Potassium	NA	--	--	NA	--	--
Selenium	0.78	2/14	SB-2A, SB-2B	10,000	0/14	--
Sodium	NA	--	--	NA	--	--
Vanadium	122	1/2	SB-6A	14,000	0/2	--
Zinc	239	1/2	SB-6A	610,000	0/2	--

Table 4-6 (*continued*)

Comparison of Subsurface Soil Maximum Concentrations to Benchmark Values
Bay Ridge Former Gas Holder Site

Compound	Background Value[1]	Frequency of Exceedance of Background	Sample Numbers for Concentrations Exceeding Background	Region III Value for Industrial Exposure to Soil[3]	Frequency of Exceedance of Region III Value	Sample Numbers for Concentrations Exceeding Region III Value
Total Cyanide (mg/kg)	NA	--	--	41000	0/14	--
Pesticides (µg/kg)						
4,4'-DDD	NA	--	--	24,000	0/2	--
4,4'-DDE	NA	--	--	17,000	0/2	--
Dieldrin	NA	--	--	360	0/2	--
gamma-BHC (Lindane)	NA	--	--	4,400	0/2	--
Methoxylchlor	NA	--	--	10,000,000	0/2	--

[1]Background values calculated as the arithmetic mean of the following data: USGS average soil concentrations for the eastern United States; MADEP urban soil concentrations; soil concentrations as reported by the USEPA for properties near a northern Kentucky airport; urban soil background concentrations for the eastern U.S. cities of Boston, MA, Providence, RI and Springfield, MA; the ATSDR's toxicological native soil concentrations as reported by Dragun 1988; background soil concentrations as described in profiles for each analyte; and urban soil concentrations as reported by Illinois EPA.

[2]USEPA Region III Risk-Based Concentrations, October 1999. Region III value for chromium is for Cr VI; value for mercury is methylmercury.

4.4 Findings

Using the foregoing threat analysis, VHB finds the following:

1. The available information, including the cross-sensitivity of the Dräger MiniWarn to other gases and the inconsistency between readings on the MiniWarn and laboratory results for total cyanide in the surface soil, indicates that HCN may have been erroneously detected on the Dräger MiniWarn. H_2S and several other gases interfere with this particular HCN determination. Additionally, the highest reading for HCN on the Dräger MiniWarn, 4.3 ppm, was associated with a non-detect result for surface soil for the same sampling point. Therefore, due to the uncertainty surrounding the detection of the HCN and the perception of risk associated with the term "cyanide," a prudent course of action would be to target those areas where the Dräger MiniWarn indicated the possible presence of HCN and excavate the soils in the area. This would not involve excavation of a large area of soil and would be the most cost-effective approach to dealing with this perception issue.

1. During field activities at the site, field personnel monitored for organic vapors in the workers' breathing zones. There were no detections above background levels of organic compounds at the site. Therefore, exposure to ambient air at the site does not pose a health threat.

3. Volatile organic compounds and semi-volatile organic compounds were not detected in any soil gas samples collected on site. Thus, it can be concluded that off-gassing of vapors from field soils do not pose a health threat to ballplayers or any other person that may recreate at the Bay Ridge fields.

4. The majority of the chemicals detected in the surface soils at the Bay Ridge fields were detected at concentrations below background and/or the extremely health-protective levels for residential exposure to soil. For the few chemicals that did exceed these levels, a site-specific safe soil concentration was derived. Results of the comparison between the maximum detected concentrations and the safe soil concentrations indicate that **none** of these chemicals are present at the fields at concentrations that would pose any health threat to ballplayers or any other person that may recreate at the Bay Ridge fields.

5

Soil Removal

Based on the foregoing findings and analysis, KeySpan decided to perform soil removal activities at two discrete locations on the large ball field.

The purpose of the soil removal was the removal of trace concentrations of total cyanide fixed in subsurface soils. As discussed in Section 4, the total cyanide concentrations in subsurface soils at the site do not pose a threat to human health and/or the environment. Furthermore, no specific NYSDEC Recommended Soil Cleanup Objective exists for cyanide. Rather, Technical and Administrative Guidance Memorandum (TAGM) 4046 states, "*Some forms of cyanide are complex and very stable while other forms are pH dependent and hence are very unstable. Site-specific form(s) of cyanide should be taken into consideration when establishing soil cleanup objective*" (NYSDEC 1994). As discussed in Section 3, iron cyanide complexes generally represent the largest portion of total cyanide found at sites associated with manufactured gas. Iron cyanide complexes are relatively immobile under most soil conditions and resistant to chemical degradation. Empirical evidence of this is the occurrence of cyanide complexes present at high concentrations in soil at other former MGP sites many decades after cessation of operations. Studies have indicated that the critical factors influencing decomposition of iron cyanide complexes are pH and light. The concentration of total cyanide in soil was not found to influence the amount of mobilized cyanide under most conditions. Only under alkaline pH is cyanide mobility influenced by total cyanide concentrations (Meeusen et al. 1992). In a study of MGP purifier wastes with a natural pH of 2 to 5, only very small amounts of cyanide compounds were leached from the waste, indicating the stable, non-dissociable nature of iron-cyanide compounds (Theis et al. 1994). While not directly measured, soils in the Bay Ridge area are expected to have a pH in the range of 5 to 7. In this acidic to neutral environment, iron-cyanide complexes will remain stable. As a result, it is reasonable to assume that cleanup objectives for total cyanide would be set at a level significantly above the method detection limit (MDL). Where present, total cyanide was detected in subsurface soil samples at the site at concentrations less than 20 times the MDL (1 mg/kg). Regardless of these facts, KeySpan performed this removal operation to mitigate any perceived threat associated with the presence of total cyanide in soils at the baseball fields.

5.1 Soil Removal Activities

Soil removal activities were performed April 13 and 14, 2000. KeySpan provided on-site project management, air monitoring, and soil sampling. Miller Environmental (Miller) performed soil removal, off-site disposal, and backfilling. VHB provided on-site technical support. KeySpan performed site restoration activities with other contractors.

KeySpan initiated work with the delineation of the soil removal areas. The two areas from which soil was to be removed included the area around home plate characterized by soil boring SB-6, and the area of the pitcher's mound characterized by SB-5 (see Figure 5-1). The area at home plate was established on the ground surface as a 7-foot diameter circle with a depth of 5-feet BGS. The pitcher's mound area was established on the ground surface as a rectangle 5-feet wide (east/west) by 8-feet long (north/south).

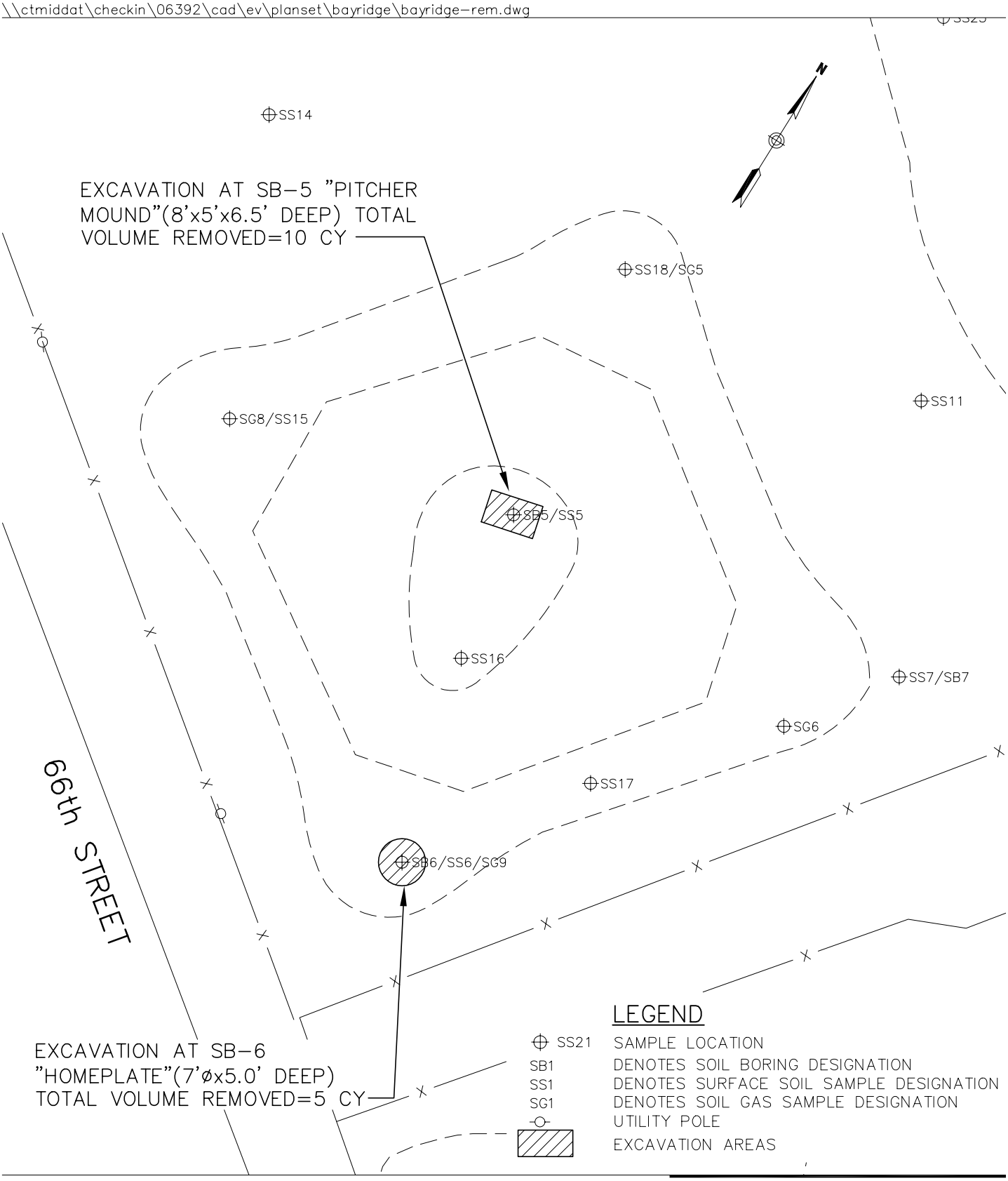
KeySpan's on-site representative conducted real-time air monitoring during all excavation activities for VOCs using a PID and for HCN using a Dräger MiniWarn meter (refer to Photo 15, Appendix B).

5.1.1 Excavation at SB-6, Home plate

Soil removal commenced at home plate at 0900 hours on April 13, 2000. Miller started soil removal work by removing the top 1-foot of clean soil by hand. Clean topsoil was staged adjacent to the excavation on plastic (refer to Photo 16, Appendix B). Miller began soil removal for off-site disposal from the 1- to 5-foot depth interval using a vacuum truck. Workers loosened the soil by hand using shovels and picks, and soil was removed by vacuum and discharged to a lined roll-off located on 66th street (refer to Photos 17 to 19, Appendix B).

Initially, the soil encountered consisted of sand, gravel, and clay. Debris (large rocks, wood, brick, steel) was encountered at approximately 2 feet BGS, which slowed the excavation work. Voids in the subsurface were also found due to the large size of the debris (refer to Photo 20, Appendix B). The largest void encountered extended to 7 feet BGS. The voids contained some perched water, and organic vapors were detected at 20 to 30 ppm. No HCN was detected. The vacuum method of soil removal was ultimately discontinued at 1400 hours due to the presence of clay, rock, and debris that caused frequent clogging of the system.

Excavation resumed with the use of a backhoe. The backhoe and operator were provided by KeySpan Operations. The backhoe staged the soils adjacent to the excavation on plastic pending off-site disposal (refer to Photos 21 and 22, Appendix B). Soils removed from the excavation were screened for organic vapors and HCN (refer to Photo 23, Appendix B). Structural steel was encountered during backhoe excavation. Soils adjacent to the steel contained organic vapors up to 100 ppm.



Vanasse Hangen Brustlin, Inc.

Figure 5-1
Bay Ridge Former Gas Holder Site
Soil Removal Areas
Brooklyn, New York

Excavation at SB-6 was completed at a depth of 5-feet BGS at 1500 hours on April 13, 2000. Approximately 5 cubic yards of soil were removed from this area and disposed off-site.

5.1.2 Excavation at SB-5, Pitcher's Mound

Soil removal commenced at the pitcher's mound at 1500 hours on April 13, 2000. Miller started soil removal work by excavating the top 1 foot of clean soil by hand. Fresh sod adjacent to the pitcher's mound was rolled back to prevent damage during excavation. Clean topsoil was staged with the topsoil removed from home plate. Excavation of soils for off-site disposal was performed using a backhoe (refer to Photos 24 and 25, Appendix B). Soils encountered during the excavation were uniform sands with some clay lenses. Very little debris (small pieces of wood) was encountered. Soils removed from the excavation were screened for organic vapors and HCN and none were detected. Some perched water was encountered at the bottom of the excavation. The water was free of any sheen or discoloration, and exhibited no organic vapor or HCN readings when the headspace was screened. Excavation at the pitcher's mound area was completed at a depth of 6.5-feet BGS at 1530 hours on April 13, 2000 (refer to Photo 26, Appendix B). Approximately 10 cubic yards of soil were removed from this area and disposed off-site.

5.2 Post Excavation Sampling

A representative from KeySpan Laboratory Services conducted post excavation sampling. Sampling conducted at SB-6 was as follows:

- One sample was collected from the bottom of the void encountered (7 feet BGS);
- One sample was collected at the bottom of the excavation at 5 feet BGS; and
- Two sidewall samples were collected from the southeast and southwest sides of the excavation at approximately 3 feet BGS.

Post excavation sampling conducted at SB-5 consisted of one composite sample from the bottom and sidewalls of the excavation.

Samples were analyzed for total cyanide by KeySpan using their Greenpoint Analytical Services Center. KeySpan provided analytical results to VHB on April 14, 2000. Analytical results are summarized in Table 5-1.

Table 5-1
Post Excavation Sample Summary

Sample ID	Location	Total Cyanide (mg/kg)	Comments
# 1	SB-6, 5 feet BGS	14.09	Bottom of general excavation
# 2	SB-6, 7 feet BGS	7.49	From void, very wet
# 3	SB-6, 3 feet BGS	0.50	Southeast sidewall
# 4	SB-6, 3 feet BGS	1.00	Southwest sidewall
# 5	SB-5	2.70	Bottom and sidewall composite

Source: KeySpan Energy Corporation, April 2000.

5.3 Site Restoration

Miller brought clean fill to the site on April 14, 2000 at 1045 hours. The fill material consisted of moist, dark, loamy topsoil (refer to Photo 27, Appendix B). KeySpan screened the fill for organic vapors and HCN prior to the commencement of backfilling. No readings were observed. KeySpan Operations provided a jumping jack to compact the fill in the excavation. At 1145 hours, KeySpan suspended the backfilling operation, as the backfill was not compacting properly. The material was too wet, and it contained too much organic material to be considered suitable fill. KeySpan identified a source of approximately 10 cubic yards of sandy fill at the adjacent gate station operations yard. At 1215 hours, KeySpan screened this sandy fill stockpile for organic vapors and HCN at ten discrete locations. No readings were observed. Backfill operations were completed on April 14, 2000. Another KeySpan contractor subsequently performed site restoration.

5.4 Conclusions

The removal operation conducted by KeySpan at the Bay Ridge site must be considered relative to the level of threat to human health and the environment posed by the presence of total cyanide in subsurface soils. The concentrations of total cyanide initially detected in subsurface soil samples did not pose a human health or environmental threat. Additionally, sufficient data necessary to accurately delineate both the vertical and horizontal extent of cyanide did not exist. Therefore, given the limited analytical data, KeySpan performed a "surgical" removal at two discrete locations where total cyanide was detected. The result was the removal of 15 cubic yards of soil containing trace amounts of total cyanide. The removal and off-site disposal of soil resulted in no change from a human health or environmental risk standpoint, because there was no threat associated with the chemicals at the outset of this work.

Based on the results of the post-excavation sampling, total cyanide is still present in subsurface soils between 4 and 7 feet BGS near home plate and at the pitcher's mound on the large playing field. The shallow extent is estimated to be 4 feet BGS because the two post-excavation samples collected from 3 feet BGS exhibited reduced total cyanide concentrations (1 and 0.5 mg/kg). The maximum depth of total cyanide is not defined because the post-excavation sample collected at approximately 7 feet BGS contained 7.5 mg/kg. Although this represents a reduction from the 19.2 mg/kg detected in subsurface soil sample SB-6A (4.0 to 4.5 feet BGS), definition of a lower limit of detectable total cyanide would be difficult based on existing data. This is because of the highly variable nature of the fill material and debris would lend itself to heterogeneous preferential pathways due to voids, debris, and perched water.

In the SB-6 (home plate) area, the average total cyanide concentration of sample SB-6A and the four post-excavation samples was 8.5 mg/kg. In the SB-5 (pitcher's mound) area, the average total cyanide concentration of sample SB-5A and the composite post-excavation sample was 9.5 mg/kg. Using these average concentrations for the entire volume of soil removed, the mass of cyanide removed from the site can be calculated as follows:

$$M_{CN} = C_{CN} \times V_{soil} \times \rho_w \times 10^6$$

Where:

M_{CN} = mass of cyanide in kg

C_{CN} = average total cyanide concentration in mg/kg

V_{soil} = volume of soil removed in cubic meters (m^3)

ρ_w = range of average wet densities for silty sand and gravel (1,460 – 2,510 kg/m^3 [Holtz and Kovacs 1981])

The result of this calculation is that a total of 0.15 – 0.26 kg, or 0.33 – 0.58 pounds, of total cyanide were removed from both areas.

6

Recommendations

Based on the threat analysis and existing environmental conditions of the Baseball fields, none of the analytes detected in the surface or subsurface soil samples collected at the Bay Ridge site pose a risk to human health or the environment. As a result, no action is required.

The "surgical removal" performed to mitigate the perceived threat associated with total cyanide detected in two of the subsurface soil samples was successful in that 15 cubic yards of total cyanide-containing soil was removed from the site.

Recommendations for future action include only the implementation of institutional controls to limit future access to the subsurface. Any intrusive activities performed in the future should be conducted by KeySpan or its duly authorized representative(s) in accordance with all applicable Occupational Safety and Health Administration (OSHA) regulations (29 CFR 1910). Information contained in this report regarding the location of analytes of concern in the subsurface may be used to guide or limit areas of future intrusive activities.

7
References

Agency for Toxic Substances and Disease Registry (ATSDR), 1999, ATSDR's *Toxicological Profiles* on CD-ROM, CRCnetBASE.

American Society for Testing and Materials (ASTM), 1998, *Standard Test Method for Classification of Soils for Engineering Purposes (Unified Soil Classification System)*, Designation D2487-98.

ASTM, 1999, *Standard Test Method for Penetration Test and Split-Barrel Sampling of Soils*, Designation D1586-99.

Aronstein BN, Lawal RA, and Maka A., 1994, Chemical degradation of cyanides by Fenton's reagent in aqueous and soil-containing systems, *Environ. Toxicol. Chem.* 13:1719-1726.

Bradley, L.J.N. et al., 1994, Background Levels of Polycyclic Aromatic Hydrocarbons and Selected Metals in New England Urban Soils, *Journal of Soil Contamination*.

Dräger Sicherheitstechnik GmbH, 1998, DrägerSensor® XS EC HCN – 68 09 150, Data Sheet, 2nd Edition, Revalstraße 1, D-23560 Lübeck, Germany.

Dragun, James, 1988, *The Soil Chemistry of Hazardous Materials*.

Holtz, Robert D. and William D. Kovacs, 1981, *An Introduction to Geotechnical Engineering*, Prentice-Hall, Inc., Englewood Cliffs, New Jersey.

Illinois Environmental Protection Agency (IEPA), August 1994, *A Summary of Selected Background Conditions for Inorganics in Soil*, IEPA/ENV/94-161.

Meeussen JCL, Keizer MG, and de Haan FAM., 1992, Chemical stability and decomposition rate of iron cyanide complexes in soil solutions, *Environ. Sci. Technol.* 26, 511-516.

Massachusetts Department of Environmental Protection (MADEP), 1992, User's Guide, *Risk Assessment ShortForm, Residential Scenario*, Policy #WSC/ORS-142-92.

MADEP, 1995, *Guidance for Disposal Site Risk Characterization in Support of the MCP*, Interim Final Policy. Bureau of Waste Site Cleanup and Office of Research and Standards, BWSC/ORS-95-141.

MADEP, 1996, *Human Exposures at Industrial/Commercial Properties*, Draft Commercial/Industrial ShortForm Exposure Scenarios, MADEP BWSC Northeast Regional Office.

MADEP, 1997, *Proposed Changes: Supplement to the Guidance for Disposal Site Risk Characterization*.

McIntosh, A, 1992, Trace Metals in Freshwater Sediments: A Review of the Literature and an Assessment of Research Needs. In: *Metal Ecotoxicology Concepts & Applications*. Edited by M.C. Newman and A.W. McIntosh, Lewis Publishers, Inc. Chelsea, MI.

New York State Department of Environmental Conservation (NYSDEC), 1994, *Technical and Administrative Guidance Memorandum # 4046*, *Determination of Soil Cleanup Objectives and Cleanup Levels*, Division of Environmental Remediation, Albany, New York.

NYSDEC, 1988, Biothreat Site Ranking Model User's Manual, Appendix B, prepared by EA Science and Technology for Division of Hazardous Waste Remediation, Albany, New York.

Robinson, R., 1986, Cleaning up Toxics, *Civil Engineering*, 56(2):46-49 (February).

Roux Associates, Inc., 1985, *Subsurface Investigation, 63rd and 65th Street Sites*, prepared for Brooklyn Union Gas Company, Bay Ridge, Brooklyn.

Shifrin, NS, Beck BD, Gauthier, TD, Chapnick, SD, Goodman G., 1996, Chemistry, Toxicology, and human health risk of cyanide compounds in soils at former manufactured gas plant sites, *Reg Toxicol. Pharmacol.* 23:106-116.

Theis TL, Young TC, Huang M, Knutsen KC., 1994, Leachate characteristics and composition of cyanide-bearing wastes from manufactured gas plants, *Environ Sci Technol* 28:99-106.

United States Environmental Protection Agency (USEPA), 2000a, *Integrated Risk Information System on-line database*, http://www.epa.gov/ngispgm3/iris/index.html; INTERNET

USEPA, 2000b, Region III Risk-Based Concentration Tables, http://www.epa.gov/reg3hwmd/risk/riskmenu.htm; INTERNET

USEPA, 1998, *Risk Assessment Guidance for Superfund*, Volume I: Human Health Evaluation Manual, Supplemental Guidance, Dermal Risk Assessment, Interim Guidance, NCEA-W-0364, Office of Emergency and Remedial Response, Washington, DC.

USEPA, 1997, *Exposure Factors Handbook*, Office of Research and Development, Washington, D.C., EPA/600/P-95//002Fa.

USEPA, 1996a, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846), Third Edition, Update III.* Washington, D.C.

USEPA, 1996b, *Analysis of Soil and House Dust for Polycyclic Aromatic Hydrocarbons* (Analysis of soil samples collected near the Northern Kentucky Airport).

USEPA, 1994, *Guidance Manual for the Integrated Exposure Uptake Biokinetic Model for Lead in Children*, Office of Solid Waste and Emergency Response, Washington, DC, OSWER No. 9285.7-15-1, EPA/540/R-93/081.

USEPA, 1992, *Dermal Exposure Assessment: Principles and Applications*, EPA/600/8-91/011B.

USEPA, 1990, *National Contingency Plan*.

USEPA, 1989, *Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Part A)*, Interim Final, Office of Emergency and Remedial Response, EPA/540/1-89/002.

USEPA, 1984, *Risk Analysis for TCDD-Contaminated Soil* EPA/600/8-84-031.

Appendix A

Environmental Data Resources, Inc. Data

Note: This section of Appendix A contains portions of the EDR-Radius Map with GeoCheck® environmental database search. Included are the following:

- Executive Summary
- GeoCheck® Hydrogeological map and data summary
- Overview and Detail Map
- Map Findings Summary for sites within 1/8-mile radius
- Orphan Site Summary for nearby non-mappable sites

Additional Map Findings for sites 1/8-1/2 mile from target property are available upon request.

The EDR-Radius Map
with GeoCheck®

65th Street Station
65 Street/9 Avenue
Brooklyn, NY 11220

Inquiry Number: 462181.9s

February 11, 2000

Environmental Data Resources, Inc.
an edr company

***The* Source For Environmental Risk Management Data**

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-97. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY ADDRESS

65 STREET/9 AVENUE
BROOKLYN, NY 11220

TARGET PROPERTY COORDINATES

Latitude (North):	40.631000 - 40° 37' 51.6''
Longitude (West):	74.011400 - 74° 0' 41.0''
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	583607.6
UTM Y (Meters):	4498054.5

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property: 2440074-F1 JERSEY CITY, NJ NY
Source: USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

SURROUNDING SITES: DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-97 search radius around the target property for the following Databases:

FEDERAL ASTM STANDARD

NPL: National Priority List
Delisted NPL: NPL Deletions
CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
CORRACTS: Corrective Action Report
RCRIS-TSD: Resource Conservation and Recovery Information System
ERNS: Emergency Response Notification System

STATE ASTM STANDARD

SHWS: State Haz. Waste
SWF/LF: Facility Register
CBS UST: Chemical Bulk Storage (CBS) Database
MOSF UST: Major Oil Storage Facilities Database

FEDERAL ASTM SUPPLEMENTAL

CONSENT: Superfund (CERCLA) Consent Decrees
ROD: ROD
FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS: Hazardous Materials Information Reporting System
MLTS: Material Licensing Tracking System

EXECUTIVE SUMMARY

MINES: Mines Master Index File
NPL Lien: NPL Liens
PADS: PCB Activity Database System
RAATS: RCRA Administrative Action Tracking System
TRIS: Toxic Chemical Release Inventory System
TSCA: Toxic Substances Control Act

STATE OR LOCAL ASTM SUPPLEMENTAL

AST: Petroleum Bulk Storage (AST)
CBS AST: Chemical Bulk Storage (CBS) Database
MOSF AST: Major Oil Storage Facilities Database
NY Spills: NY Spills
VCP: Voluntary Cleanup Agreement

EDR PROPRIETARY DATABASES

Coal Gas: Former Manufactured gas (Coal Gas) Sites.

SURROUNDING SITES: DATABASES WITH MAPPED SITES

Unmapped (orphan) sites are not considered in the foregoing analysis.

Elevations have been determined from the USGS 1 degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. EDR's definition of a site with an elevation equal to the target property includes a tolerance of +/- 10 feet. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property (by more than 10 feet). Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

FEDERAL ASTM STANDARD

CERCLIS-NFRAP: As of February 1995. CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund Action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

A review of the CERC-NFRAP list, as provided by EDR, and dated 08/26/1999 has revealed that there is 1 CERC-NFRAP site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
BROOKLYN UNION GAS - BAY RIDGE	***820-884 65TH ST***	***0 - 1/8 NW***	***B5***	***11***

EXECUTIVE SUMMARY

RCRIS: The Resource Conservation and Recovery Act database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA.

A review of the RCRIS-LQG list, as provided by EDR, and dated 09/01/1999 has revealed that there are 5 RCRIS-LQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
MTA NYCT - FORT HAMILTON STORA	*66TH ST & FORT HAMILTON*	*0 - 1/8 SE*	*7*	*13*
AYWON WIRE & METAL CORP	*745 64TH ST*	*1/8 - 1/4 NNW*	*38*	*96*
FINAL TOUCH COLLISION	*738 65TH ST*	*1/8 - 1/4 NW*	*J39*	*97*
ADVANCED AUTO BODY DBA NIC-WAY	*925 61ST ST*	*1/8 - 1/4 NE*	*42*	*98*

Lower Elevation	Address	Dist / Dir	Map ID	Page
PRIDE FRENCH CLEANERS	*6900 FOTT HAMILTON PKWY*	*1/8 - 1/4 SSW*	*34*	*94*

RCRIS: The Resource Conservation and Recovery Act database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA.

A review of the RCRIS-SQG list, as provided by EDR, and dated 09/01/1999 has revealed that there are 13 RCRIS-SQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
BROOKLYN UNION GAS	*9TH AVE & 65TH ST*	*0 - 1/8 E*	*1*	*9*
NEW YORK ENVIRONMENTAL CONTRAC	*6401 9TH AVE*	*0 - 1/8 NE*	*A2*	*9*
AUGUST RECYCLING INC	*6401 9TH AVE*	*0 - 1/8 NE*	*A3*	*9*
BROOKLYN UNION GAS - BAY RIDGE	*820-884 65TH ST*	*0 - 1/8 NW*	*B5*	*11*
MOBIL OIL CORP SS #D2H	*6423 FT HAMILTON PKWY*	*0 - 1/8 E*	*C9*	*25*
SHELL SERVICE STATION	*6414 FORT HAMILTON PKWY*	*0 - 1/8 E*	*C14*	*56*
LEVELAND OIL CO	*802 65TH ST*	*1/8 - 1/4 NW*	*B15*	*57*
GETTY PETROLEUM CORP 00223	*6418 8TH AVE*	*1/8 - 1/4 NNW*	*E24*	*84*
ASPEN FORD	*874 62ND ST*	*1/8 - 1/4 NNE*	*H33*	*94*
SUBARU OF BAYRIDGE	*6301 8TH AVE*	*1/8 - 1/4 N*	*I35*	*95*
SUPERIOR AUTO COLLISION INC	*761 65TH ST*	*1/8 - 1/4 NW*	*J37*	*96*
FINAL TOUCH COLLISION	*732 65TH ST*	*1/8 - 1/4 NW*	*J41*	*98*

Lower Elevation	Address	Dist / Dir	Map ID	Page
LOUIES DRY CLEANERS	*68-01 FT HAMILTON PKWY*	*1/8 - 1/4 S*	*26*	*85*

STATE ASTM STANDARD

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Conservation's Spills Information Database.

A review of the LUST list, as provided by EDR, and dated 10/01/1999 has revealed that there are 15 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
6401 9TH AVE/NATIONL CART	6401 9TH AVE	0 - 1/8 NE	A4	10

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
805 65TH ST/BKLYN/S	805 65TH STREET	0 - 1/8 NW	B10	25
805 65TH ST/BKLYN/SUNOCO	805 65TH STREET	0 - 1/8 NW	B11	26
APARTMENT BLDG	880 68TH ST	1/8 - 1/4 SW	D18	78
65TH & 8TH AVE	65TH / 8TH AVE	1/8 - 1/4 NW	B20	80
SHELL GAS STATION	6414 FORT HAMILTON PARK	1/8 - 1/4 E	C22	82
6418 8TH AVE.	***6418 8TH AVE***	***1/8 - 1/4 NNW***	***E23***	***82***
APARTMENT BLDG	877 69TH ST	1/8 - 1/4 SW	D31	92
881 61ST STREET	881 61ST STREET -PVT HO	1/8 - 1/4 NE	H40	97
SHELL/65TH ST & 7TH AVE	65TH STREET / 7TH AVE	1/4 - 1/2 NW	K43	99
6418 7TH AVE/BKLYN/SHELL	6418 7TH AVE	1/4 - 1/2 NW	K44	99
605 65TH ST/EXXON	***605 65TH ST***	***1/4 - 1/2 NW***	***L45***	***100***
EXXON CO USA 37977	***605 65TH ST***	***1/4 - 1/2 NW***	***L46***	***101***
1105 60TH STREET	1105 60TH STREET	1/4 - 1/2 E	47	103

Lower Elevation	Address	Dist / Dir	Map ID	Page
929 75TH ST.	929 75TH ST.	1/4 - 1/2 SSW	48	105

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Conservation's Petroleum Bulk Storage (PBS) Database

A review of the UST list, as provided by EDR, and dated 10/01/1999 has revealed that there are 14 UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
MOBIL S/S #17-D2H	6423 FORT HAMILTON PARK	0 - 1/8 E	C8	13
SUNOCO # 0007-1332	***805 65TH ST***	***0 - 1/8 NW***	***B12***	***27***
J & G HAMILTON CORPORATION	6414 FORT HAMILTON PKWY	0 - 1/8 E	C13	43
AMOCO SERVICE STATION 549	802 65TH ST	1/8 - 1/4 NW	B16	57
AMOCO CORPORATION	802 65TH ST	1/8 - 1/4 NW	B17	67
877/880 OWNERS CORP.	880 68TH ST	1/8 - 1/4 SW	D19	79
813 64TH ST	813 64TH ST	1/8 - 1/4 NNW	E21	81
969 64TH ST PROJECT	969 64TH ST	1/8 - 1/4 E	C25	84
SILENT HOIST & CRANE CO INC	841-877 63RD ST	1/8 - 1/4 N	F27	85
KINGS COUNTY CARB&IGN CO, INC	6324 FORT HAMILTON PKWY	1/8 - 1/4 E	G28	86
KINGS CNTY CARBUR GETTY 98346	6324 FORT HAMILTON PKWY	1/8 - 1/4 E	G29	90
A MARCHISELLO	813 63RD ST	1/8 - 1/4 N	F30	91
877/880 OWNERS CORP.	877 69TH ST	1/8 - 1/4 SW	D32	93
6301 8TH AVE	6301 8TH AVE	1/8 - 1/4 N	I36	95

STATE OR LOCAL ASTM SUPPLEMENTAL

HSWDS: The Hazardous Substance Waste Disposal Site Inventory includes any known or suspected hazardous substance waste disposal sites. Also included are sites delisted from the Registry of Inactive Hazardous Waste Disposal Sites and non-registry sites which the U.S. EPA Preliminary Assessment (PA) reports or Site Investigation (SI) reports were prepared.

A review of the HSWDS list, as provided by EDR, and dated 05/17/1999 has revealed that there is 1 HSWDS site within approximately 0.5 miles of the target property.

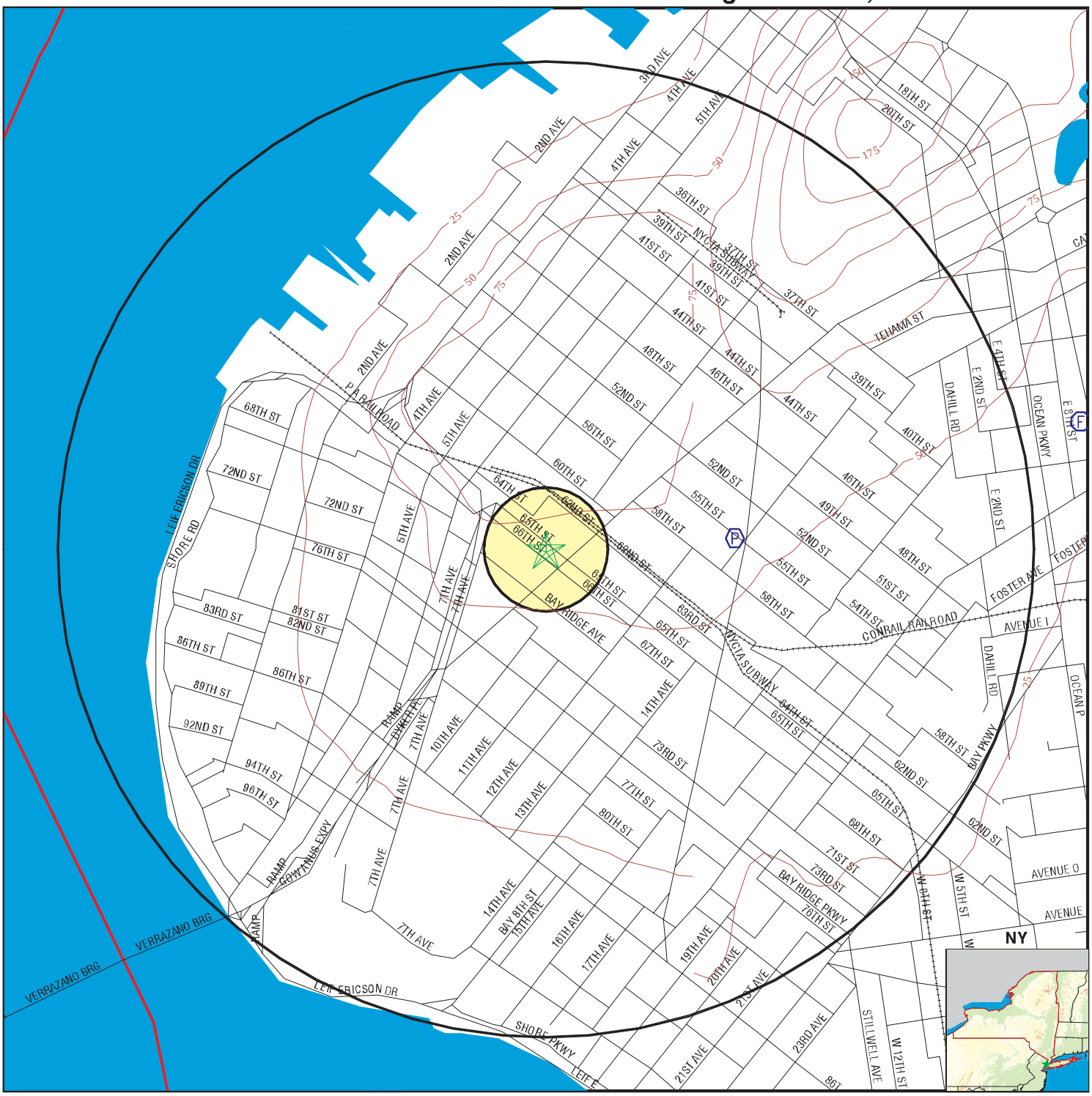
Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
BUG, BAY RIDGE GATE STATION	820-884 65TH ST	0 - 1/8 NW	B6	11

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
BROOKLYN BOROUGH GAS WORKS, CONEY	SHWS
NYCDOS @ 52ND ST BROOKLYN	SWF/LF
JUMBO RECYCLING, INC.	SWF/LF
CHAMBERS PAPER FIBERS	SWF/LF
126TH STREET/FELIX STREET	LUST
ROADWAY	LUST
1402 8TH AVE/ARMORY	LUST
6418 8TH AVE/GETTY	LUST
118 8TH AVENUE	LUST
2110 BOLTON STREET	LUST
BQE @ 56TH ST EXIT	LUST
722 COURT ST	LUST, NY Spills
3806 FORT HAMILTON P'WAY	LUST
ARMY RESERVE CENTER	LUST, NY Spills
90 2ND OF SEVENTH AVE	LUST
REDHOOK SERVICE STATION	LUST
RED HOOK TERMINAL	LUST, NY Spills
2801 KNAPP STREET. / BROO	LUST
MARINE HWY BR.- BEAR RT.	LUST
AMOCO SERVICE STATION	LUST
REAR 1439 66TH STREET	LUST
44-21 9TH ST/NY TEL	LUST
447 60TH STREET	LUST
547 81ST STREET	LUST
STAPLETON ANCHORAGE	LUST, NY Spills
NYCDOT BIN 2231249	RCRIS-SQG, FINDS
TILLARY STREET AND	NY Spills
1565 62 STREET	NY Spills
GORTHALS SUB STATION	NY Spills
EAST RIVER -GRAND STREET	NY Spills
RUSSEL STREET	NY Spills

TOPOGRAPHIC MAP - 462181.9s - Vanasse Hangen Brustlin, Inc.



- Major Roads
- Contour Lines
- Waterways
- Earthquake epicenter, Richter 5 or greater
- (F) Closest Federal Well in quadrant
- [S] Closest State Well in quadrant
- (P) Closest Public Water Supply Well

0 1/2 1 2 Miles

(HD) Closest Hydrogeological Data

N

TARGET PROPERTY:	65th Street Station	CUSTOMER:	Vanasse Hangen Brustlin, Inc.
ADDRESS:	65 Street/9 Avenue	CONTACT:	Kurt Frantzen
CITY/STATE/ZIP:	Brooklyn NY 11220	INQUIRY #:	462181.9s
LAT/LONG:	40.6310 / 74.0114	DATE:	February 11, 2000 10:48 am

GEOCHECK VERSION 2.1
SUMMARY

TARGET PROPERTY COORDINATES

Latitude (North):	40.631001 - 40° 37' 51.6''
Longitude (West):	74.011398 - 74° 0' 41.0''
Universal Transverse Mercator:	Zone 18
UTM X (Meters):	583607.6
UTM Y (Meters):	4498054.5

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property:	2440074-F1 JERSEY CITY, NJ NY

GEOLOGIC AGE IDENTIFICATION†

Geologic Code:	uK
Era:	Mesozoic
System:	Cretaceous
Series:	Upper Cretaceous

ROCK STRATIGRAPHIC UNIT†

Category:	Stratified Sequence

GROUNDWATER FLOW INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, including well data collected on nearby properties, regional groundwater flow information (from deep aquifers), or surface topography.‡

AQUIFLOW™** Search Radius: 2.000 Miles. The following table shows sites where groundwater flow and depth information was reported. Additional AQUIFLOW™ site information may be available in the GeoCheck® section at the end of this report.

MAP ID	DISTANCE FROM TP	DIRECTION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported			

General Topographic Gradient at Target Property: General South
General Hydrogeologic Gradient at Target Property: No hydrogeologic data available.

† Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).
‡ U.S. EPA Ground Water Handbook, Vol I: Ground Water and Contamination, Office of Research and development EPA/625/6-90/016a,C hapter 4, page 78, September 1990.
** EDR AQUIFLOW™ information System of hydrogeologically determined groundwater flow directions at specific locations. See the date pages at the end of this report for a complete description.

GEOCHECK VERSION 2.1
SUMMARY

Site-Specific Hydrogeological Data*:
Search Radius: 2.0 miles
Status: Not found

FEDERAL DATABASE WELL INFORMATION

WELL QUADRANT	DISTANCE FROM TP	LITHOLOGY	DEPTH TO WATER TABLE
Eastern	>2 Miles	Sand	47 ft.

STATE DATABASE WELL INFORMATION

WELL QUADRANT	DISTANCE FROM TP

NO WELLS FOUND

PUBLIC WATER SUPPLY SYSTEM INFORMATION

Searched by Nearest PWS.
NOTE: PWS System location is not always the same as well location.

PWS Name: BORO PARK BUNGALOWS
FRASER ROAD
KIAMESHA LAKE, NY 12751
Location Relative to TP: 1/2 - 1 Mile East
PWS currently has or has had major violation(s) or enforcement: No

AREA RADON INFORMATION

EPA Radon Zone for KINGS County: 3

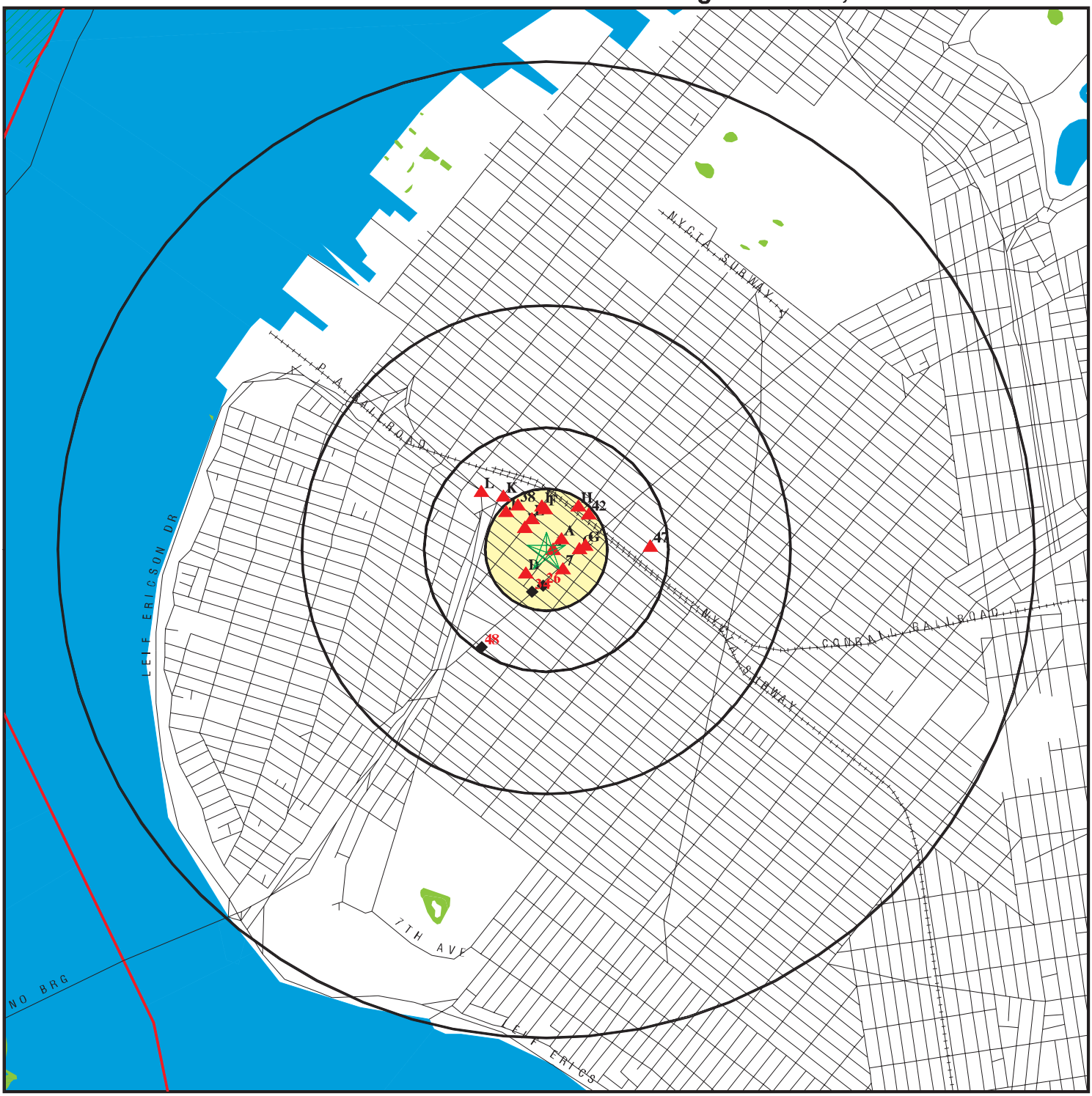
Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

KINGS COUNTY, NY

Number of sites tested: 51

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area	0.750 pCi/L	100%	0%	0%
Basement	1.370 pCi/L	88%	10%	2%

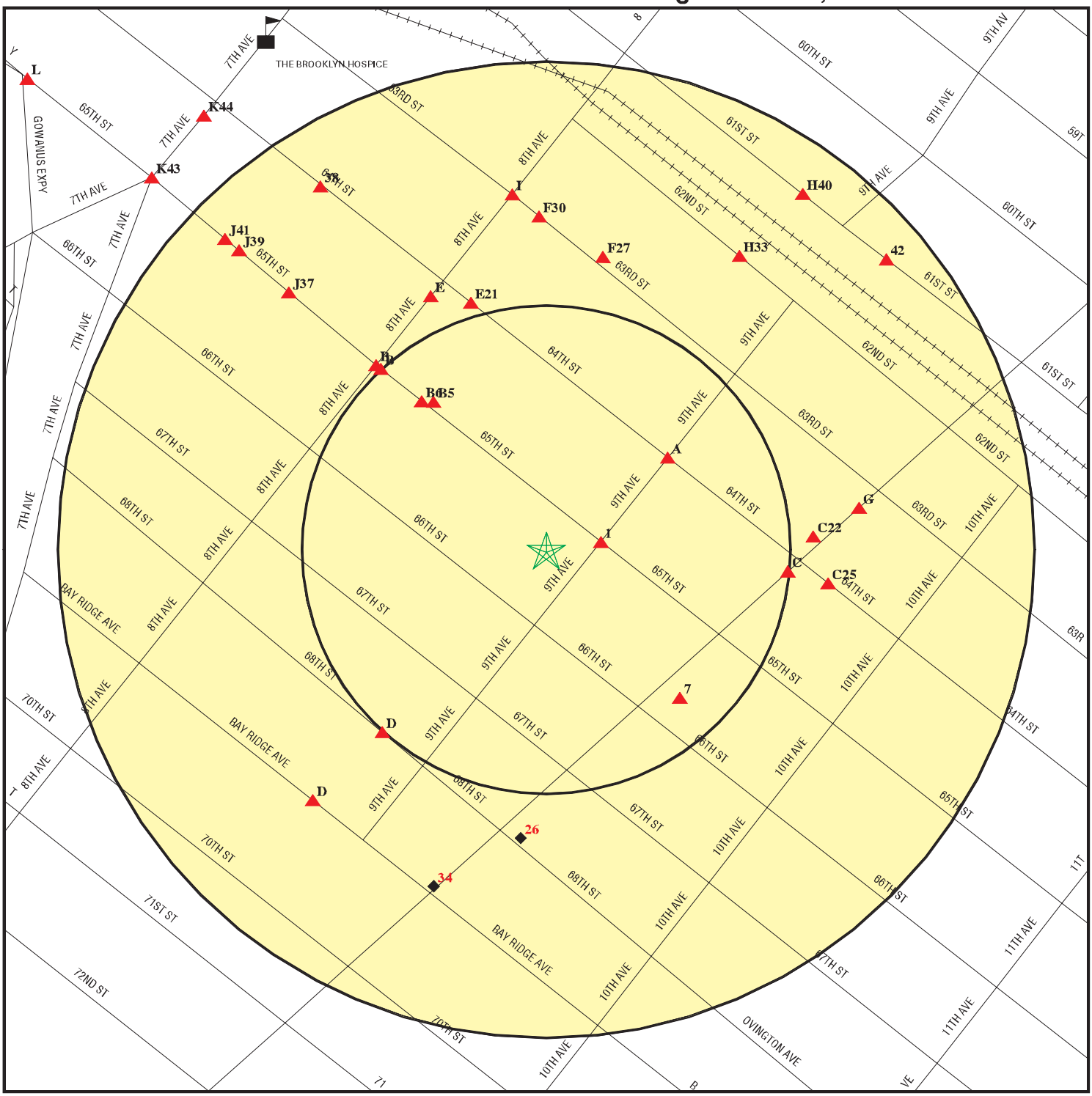
OVERVIEW MAP - 462181.9s - Vanasse Hangen Brustlin, Inc.



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites (if requested)
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Wetlands per National Wetlands Inventory (1994)

TARGET PROPERTY:	65th Street Station	CUSTOMER:	Vanasse Hangen Brustlin, Inc.
ADDRESS:	65 Street/9 Avenue	CONTACT:	Kurt Frantzen
CITY/STATE/ZIP:	Brooklyn NY 11220	INQUIRY #:	462181.9s
LAT/LONG:	40.6310 / 74.0114	DATE:	February 11, 2000 10:47 am

DETAIL MAP - 462181.9s - Vanasse Hangen Brustlin, Inc.



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Coal Gasification Sites (if requested)

Sensitive Receptors

National Priority List Sites

Landfill Sites

Power transmission lines

Oil & Gas pipelines

0 1/16 1/8 1/4 Miles

TARGET PROPERTY:	65th Street Station	CUSTOMER:	Vanasse Hangen Brustlin, Inc.
ADDRESS:	65 Street/9 Avenue	CONTACT:	Kurt Frantzen
CITY/STATE/ZIP:	Brooklyn NY 11220	INQUIRY #:	462181.9s
LAT/LONG:	40.6310 / 74.0114	DATE:	February 11, 2000 10:48 am

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	1	0	NR	NR	NR	1
CORRACTS		1.000	0	0	0	0	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	1	4	NR	NR	NR	5
RCRIS Sm. Quan. Gen.		0.250	6	7	NR	NR	NR	13
ERNS		TP	NR	NR	NR	NR	NR	0
STATE ASTM STANDARD								
State Haz. Waste		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	3	6	6	NR	NR	15
UST		0.250	3	11	NR	NR	NR	14
CBS UST		0.250	0	0	NR	NR	NR	0
MOSF UST		0.500	0	0	0	NR	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
HSWDS		0.500	1	0	0	NR	NR	1
AST		TP	NR	NR	NR	NR	NR	0
CBS AST		0.250	0	0	NR	NR	NR	0
MOSF AST		0.500	0	0	0	NR	NR	0
NY Spills		TP	NR	NR	NR	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
EDR PROPRIETARY DATABASES								
Coal Gas		1.000	0	0	0	0	NR	0
AQUIFLOW - see EDR GeoCheck Summary								

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

1
East
< 1/8
150
Higher

BROOKLYN UNION GAS
9TH AVE & 65TH ST
BROOKLYN, NY 11220

RCRIS-SQG
FINDS

1001119612
NYR000029017

RCRIS:
Owner: BROOKLYN UNION GAS
(718) 703-3088
Contact: AGNES ANTONIAN
(718) 403-2331
Record Date: 09/09/1996
Classification: Small Quantity Generator
Used Oil Recyc: No
Violation Status: No violations found

A2
NE
< 1/8
413
Higher

NEW YORK ENVIRONMENTAL CONTRACTORS INC
6401 9TH AVE
BROOKLYN, NY 11220

RCRIS-SQG
FINDS

1000136905
NYD986875581

RCRIS:
Owner: Not reported
Contact: HCONTFIRST HCONTLAST
(212) 555-1212
Record Date: 08/08/1988
Classification: Not reported
Used Oil Recyc: No
Violation Status: No violations found

A3
NE
< 1/8
413
Higher

AUGUST RECYCLING INC
6401 9TH AVE
BROOKLYN, NY 11220

RCRIS-SQG
FINDS

1000427934
NYD184118230

AUGUST RECYCLING INC (Continued) **1000427934**

RCRIS:
Owner: Not reported
Contact: HCONTFIRST HCONTLAST
(212) 555-1212
Record Date: 08/08/1988
Classification: Not reported
Used Oil Recyc: No
Violation Status: No violations found

A4 **6401 9TH AVE/NATIONL CART** **LUST** **S100177309**
NE **6401 9TH AVE** **N/A**
< 1/8 **BKLYN, NY**
413
Higher

LUST:

Spill Number:	9103475	Region of Spill:	2
Facility Contact:	Not reported	Facility Tele:	Not reported
Investigator:	FINGER	SWIS:	61
Caller Name:	ERIC SCHAPER	Caller Agency:	HYGENETICS
Caller Phone:	(212) 983-8510	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
Spiller Contact:	Not reported	Spiller Phone:	(718) 485-3500

Spiller: NATIONAL CARTING
Spiller Address: 6401 9TH AVE
BKLYN
Spill Class: Known release with minimal potential for fire or hazard. DEC Response.
Willing Responsible Party. Corrective action taken.
Spill Closed Dt: / /

Spill Cause:	Tank Failure	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Other Commercial/Industrial
Spill Notifier:	Other	PBS Number:	Not reported
Spill Date:	06/27/91 15:00	Reported to Dept:	06/28/91 10:17

Cleanup Ceased: / /
Last Inspection: / /
Cleanup Meets Standard: False
Recommended Penalty: No Penalty
Spiller Cleanup Date: / /
Enforcement Date: / /
Investigation Complete: / /
UST Involvement: True
Spill Record Last Update: 08/09/95
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 06/28/91
Date Region Sent Summary to Central Office: / /
DEC Remarks: Not reported
Spill Cause: TAKING TEST BORINGS, FOUND 2 OF 3 BORINGS CONTAMINATION OF DIESEL DE
EPEST BORING 25 FT NO GROUNDWATER AT 25 FT MAY REMOVE 2-550'S

B5
NW
< 1/8
503
Higher

BROOKLYN UNION GAS - BAY RIDGE
820-884 65TH ST
BROOKLYN, NY 11220

RCRIS-SQG **1000981106**
FINDS **NYD980532204**
CERC-NFRAP

CERCLIS-NFRAP Classification Data:
Site Incident Category: Not reported
Federal Facility: Not a Federal Facility
Ownership Status: Other
NPL Status: Not on the NPL
Site Description: SINCE 1/81, THE LIQUID CONDENSATE IN BKLYN UNION GAS CO. PIPELINES HAS BEEN KNOWN TO BE CONTAMINATED WITH PCBS. IF THE PCB CONCENTRATION IS MORE THAN 50 PPM, THE BATCH IS CONSIDERED HAZARDOUS, TRANSFERRED TO DRUMS, AND SHIPPED OUT TO AN EPA
SINCE 1/81, THE LIQUID CONDENSATE IN BKLYN UNION GAS CO. PIPELINES HAS BEEN KNOWN TO BE CONTAMINATED WITH PCBS. IF THE PCB CONCENTRATION IS MORE THAN 50 PPM, THE BATCH IS CONSIDERED HAZARDOUS, TRANSFERRED TO DRUMS, AND SHIPPED OUT TO AN EPA

CERCLIS-NFRAP Assessment History:
Assessment: DISCOVERY
Completed: 19810601
Assessment: PRELIMINARY ASSESSMENT
Completed: 19860924

RCRIS:
Owner: BROOKLYN UNION GAS CO
(718) 403-3052
Contact: LAWRENCE LIEBS
(718) 403-3052
Record Date: 12/06/1994
Classification: Small Quantity Generator
Used Oil Recyc: No
Violation Status: No violations found

NY MANIFEST
Additional detail is available in NY MANIFEST. Please contact your EDR Account Executive for more information.

B6
NW
< 1/8
524
Higher

BUG, BAY RIDGE GATE STATION
820-884 65TH ST
BROOKLYN, NY 11220

HSWDS **S103836813**
N/A

NY HSWDS:
Facility ID: Not reported
EPA ID: NYD980532204
Facility Status: Unknown
Owner Type: Publ Utily
Owner: Brooklyn Union Gas Co.
Owner Address: 195 Montague Street
Brooklyn
Owner Phone: (718)403-3053
Operator Type: Unknown
Operator: Unknown
Operator Address: Unknown
Operator Phone: Unknown
Registry: Not on NYS Registry of Inactive Haz Waste Disposal Sites
Registry Site ID: Unknown
RCRA Permitted: Unknown
Site Code: 2A
Mailing: Not reported
Quadrange: Unknown
Lat/Long: 40 38 00 N / 74 00 45 W
Acres: 0.00
Operator Date: 1981
Close Date: Unknown
Completed: PA
Active: Unknown

BUG, BAY RIDGE GATE STATION (Continued) **S103836813**

Region: 2 Inventory: False
NEFRAP: Not reported
Volatile Organic Compounds Disposed: No
Semi Volatile Organic Compounds Disposed: No
PCB's Disposed: Unknown
Pesticides Disposed: No
Metals Disposed: No
Asbestos Disposed: No
Analytical Info Exists for Air: Not reported
Analytical Info Exists for Ground: None
Analytical Info Exists for Surface: Not reported
Analytical Info Exists for Sediments: Not reported
Analytical Info Exists for Surface Soil: Not reported
Analytical Info Exists for Substance: Not reported
Analytical Info Exists for Waste: Not reported
Analytical Info Exists for Leachate: Not reported
Analytical Info Exists for EP Toxicity: Not reported
Analytical Info Exists for TCLP: Not reported
Site Poses Threat to Environment/Public Health: E
Internal Ranking of Site: 0
Surface Water Contamination: Unknown
Surface Water Body Class: Unknown
Groundwater Contamination: Unknown
Groundwater Classification: Unknown
Drinking Water Contamination: Unknown
Drinking Water Supply is Active: Unknown
Any Known Fish or Wildlife: Unknown
Hazardous Exposure: Unknown
Site Has Controlled Acess: Unknown
Ambient Air Contamination: Unknown
Direct Contact: Unknown
EPA Hazardous Ranking System Score: Unknown
Agencies: CERCLA 103C NYSDEC USEPA
Air: Not reported
Building: Not reported
Site Description: THE SITE IS A GATE STATION THAT HOUSES PRESSURE-REGULATING EQUIPMENT TO CONTROL THE PRESSURE AND FLOW OF NATURAL GAS ENTERING BUG'S DISTRIBUTION SYSTEM. THIS EQUIPMENT IS DESIGNED AND OPERATED IN ACCORDANCE WITH 49 CFR PART 192, AND 6 NYCRR PART 255. LIQUID CONDENSATE IS REMOVED BY A GAS SCRUBBER AND COLLECTED IN THE BODY OF THE SCRUBBER IN A SMALL, ABOVE GROUND RECEIVING VESSEL. ALL RECOVERED LIQUIDS ARE COLLECTED AND DISPOSED IN ACCORDANCE WITH REGULATORY REQUIREMENTS. THE SITE IS A GATE STATION THAT HOUSES PRESSURE-REGULATING EQUIPMENT TO CONTROL THE FLOW OF NATURAL GAS THROUGHOUT BUG'S DISTRIBUTION SYSTEM. LIQUID CONDENSATE IS REMOVED BY A GAS SCRUBBER AND COLLECTED IN A 1000-GALLON UNDERGROUND TANK. THE LIQUID CONDENSATE HAS BEENKNOWN TO BE CONTAMINATED WITH PCB'S.
Drink: Not reported
Eptox: Not reported
Fish: Not reported
Ground: Not reported
Hazardous Threat: SUSPECTED PCB'S
Leachate: Not reported
Preparer: JULIA SLACK ENGINEERING AIDE NYSDEC MAY 27, 1994
Reason: MINIMAL PROBABILITY OF SIGNIFICANT THREAT
Sediment: Not reported
Soil: Not reported

BUG, BAY RIDGE GATE STATION (Continued) **S103836813**

Surface: Not reported
Status: Not reported
Surface Soil: Not reported
Surface: Not reported
TCLP: Not reported
Waste: Not reported

7
SE
< 1/8
539
Higher

MTA NYCT - FORT HAMILTON STORAGE
66TH ST & FORT HAMILTON
BROOKLYN, NY 11220

FINDS **1001215571**
RCRIS-LQG **NYR000047290**

RCRIS:
Owner: MTA NEW YORK CITY TRANSIT
(718) 243-4581

Contact: HOWARD MATZA
(718) 243-4581

Record Date: 11/28/1997

Classification: Large Quantity Generator

BIENNIAL REPORTS:
Last Biennial Reporting Year: 1997

Waste	Quantity (Lbs)
D008	7600.00

Used Oil Recyc: No

Violation Status: No violations found

C8
East
< 1/8
641
Higher

MOBIL S/S #17-D2H
6423 FORT HAMILTON PARKWAY
BKLYN, NY 11219

UST **U001838915**
N/A

PBS UST:

PBS Number:	2-157554	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-5216
Operator:	A.P. GHAI		
Emergency Contact:	ENVIRONMENTAL HELP DESK, (800) 662-4567		
Total Tanks:	7		
Owner:	MOBIL OIL CORP 3225 GALLOWS RD., 6W307 FAIRFAX, VA 22037 (703) 849-6252		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Mobil Oil Company		
Mailing Address:	MOBIL OIL CORP C/O NDE ENVIRONMNETAL P. O. BOX 142667 AUSTIN, TX 78714 (800) 800-4633 ATTN: EMILY MILLER		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		

MOBIL S/S #17-D2H (Continued) **U001838915**

Tank Location:	UNDERGROUND		
Tank ID:	001	Install Date:	12/71
Product Stored:	LEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Submersible
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	22000	Renewal Date:	19970812
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990323
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-157554	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-5216
Operator:	A.P. GHAI		
Emergency Contact:	ENVIRONMENTAL HELP DESK, (800) 662-4567		
Total Tanks:	7		
Owner:	MOBIL OIL CORP 3225 GALLOWS RD., 6W307 FAIRFAX, VA 22037 (703) 849-6252		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Mobil Oil Company		
Mailing Address:	MOBIL OIL CORP C/O NDE ENVIRONMNETAL P. O. BOX 142667 AUSTIN, TX 78714 (800) 800-4633 ATTN: EMILY MILLER		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	002	Install Date:	12/71
Product Stored:	LEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		

MOBIL S/S #17-D2H (Continued) **U001838915**

Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Submersible
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	22000	Renewal Date:	19970812
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990323
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-157554	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-5216
Operator:	A.P. GHAI		
Emergency Contact:	ENVIRONMENTAL HELP DESK, (800) 662-4567		
Total Tanks:	7		
Owner:	MOBIL OIL CORP 3225 GALLOWS RD., 6W307 FAIRFAX, VA 22037 (703) 849-6252		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Mobil Oil Company		
Mailing Address:	MOBIL OIL CORP C/O NDE ENVIRONMNETAL P. O. BOX 142667 AUSTIN, TX 78714 (800) 800-4633 ATTN: EMILY MILLER		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	003	Install Date:	12/71
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Submersible
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	22000	Renewal Date:	19970812
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing

MOBIL S/S #17-D2H (Continued) **U001838915**

Certification Flag:	False	Certification Date:	19990323
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-157554	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-5216
Operator:	A.P. GHAI		
Emergency Contact:	ENVIRONMENTAL HELP DESK, (800) 662-4567		
Total Tanks:	7		
Owner:	MOBIL OIL CORP 3225 GALLOWS RD., 6W307 FAIRFAX, VA 22037 (703) 849-6252		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Mobil Oil Company		
Mailing Address:	MOBIL OIL CORP C/O NDE ENVIRONMNETAL P. O. BOX 142667 AUSTIN, TX 78714 (800) 800-4633 ATTN: EMILY MILLER		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	004	Install Date:	12/71
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Submersible
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	22000	Renewal Date:	19970812
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990323
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-157554	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-5216

MOBIL S/S #17-D2H (Continued) **U001838915**

Operator:	A.P. GHAI		
Emergency Contact:	ENVIRONMENTAL HELP DESK, (800) 662-4567		
Total Tanks:	7		
Owner:	MOBIL OIL CORP 3225 GALLOWS RD., 6W307 FAIRFAX, VA 22037 (703) 849-6252		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Mobil Oil Company		
Mailing Address:	MOBIL OIL CORP C/O NDE ENVIRONMNETAL P. O. BOX 142667 AUSTIN, TX 78714 (800) 800-4633 ATTN: EMILY MILLER		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	005	Install Date:	12/71
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Submersible
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	22000	Renewal Date:	19970812
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990323
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-157554	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-5216
Operator:	A.P. GHAI		
Emergency Contact:	ENVIRONMENTAL HELP DESK, (800) 662-4567		
Total Tanks:	7		
Owner:	MOBIL OIL CORP 3225 GALLOWS RD., 6W307 FAIRFAX, VA 22037 (703) 849-6252		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Mobil Oil Company		
Mailing Address:	MOBIL OIL CORP C/O NDE ENVIRONMNETAL		

MOBIL S/S #17-D2H (Continued) **U001838915**

P. O. BOX 142667
AUSTIN, TX 78714
(800) 800-4633
ATTN: EMILY MILLER

Facility Status: 1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.
Capacity (gals): 550
Tank Location: UNDERGROUND
Tank ID: 006 Install Date: 12/71
Product Stored: NOS 1,2, OR 4 FUEL OIL Tank Type: Steel/carbon steel
Tank Internal: Not reported Pipe Internal: Not reported
Pipe Location: Not reported Pipe Type: GALVANIZED STEEL
Tank External: Not reported
Tank Status: Closed Before April 1, 1991
Tank Error Status: Minor Data Missing
Pipe External: Not reported
Second Containment: NONE
Leak Detection: NONE
Overfill Prot: Not reported Dispenser: Gravity
Date Tested: Not reported Next Test Date: Not reported
Date Closed: 00/00 Test Method: Not reported
Deleted: False Updated: False
Dead Letter: False Owner Screen: No data missing
FAMT: Fiscal amount for registration fee is correct
Total Capacity: 22000 Renewal Date: 19970812
Tank Screen: Minor data missing Federal ID: Not reported
Renew Flag: Renwal has not been printed Facility Screen: No data missing
Certification Flag: False Certification Date: 19990323
Old PBS Number: Not reported Expiration Date: 20021029
Inspected Date: Not reported Inspector: Not reported
Inspection Result: Not reported
Lat/long: Not reported
Facility Type: RETAIL GASOLINE SALES

PBS Number: 2-157554 CBS Number: Not reported
SPDES Number: Not reported
SWIS ID: 6101 Telephone: (718) 745-5216
Operator: A.P. GHAI
Emergency Contact: ENVIRONMENTAL HELP DESK, (800) 662-4567
Total Tanks: 7
Owner: MOBIL OIL CORP
3225 GALLOWS RD., 6W307
FAIRFAX, VA 22037
(703) 849-6252
Owner Type: Corporate/Commercial Owner Mark: First Owner
Owner Subtype: Mobil Oil Company
Mailing Address: MOBIL OIL CORP C/O NDE ENVIRONMNETAL
P. O. BOX 142667
AUSTIN, TX 78714
(800) 800-4633
ATTN: EMILY MILLER
Facility Status: 1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.
Capacity (gals): 550
Tank Location: UNDERGROUND
Tank ID: 007 Install Date: 12/71
Product Stored: OTHER Tank Type: Steel/carbon steel

MOBIL S/S #17-D2H (Continued) **U001838915**

Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Gravity
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	22000	Renewal Date:	19970812
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990323
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-157554	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-5216
Operator:	A.P. GHAI		
Emergency Contact:	ENVIRONMENTAL HELP DESK, (800) 662-4567		
Total Tanks:	7		
Owner:	MOBIL OIL CORP 3225 GALLOWS RD., 6W307 FAIRFAX, VA 22037 (703) 849-6252		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Mobil Oil Company		
Mailing Address:	MOBIL OIL CORP C/O NDE ENVIRONMNETAL P. O. BOX 142667 AUSTIN, TX 78714 (800) 800-4633 ATTN: EMILY MILLER		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	100	Install Date:	11/88
Product Stored:	UNLEADED GASOLINE	Tank Type:	Fiberglass reinforced plastic [FRP]
Tank Internal:	FIBERGLASS LINER [FRP]	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE/FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/IMPRESSED CURRENT		
Second Containment:	NONE/DOUBLED-WALLED TANK		
Leak Detection:	NONE/INTERSTITIAL MONITORING		
Overfill Prot:	Catch Basin	Dispenser:	Submersible
Date Tested:	09/90	Next Test Date:	N.T.R

MOBIL S/S #17-D2H (Continued) **U001838915**

Date Closed:	Not reported	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	22000	Renewal Date:	19970812
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990323
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-157554	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-5216
Operator:	A.P. GHAI		
Emergency Contact:	ENVIRONMENTAL HELP DESK, (800) 662-4567		
Total Tanks:	7		
Owner:	MOBIL OIL CORP 3225 GALLOWS RD., 6W307 FAIRFAX, VA 22037 (703) 849-6252		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Mobil Oil Company		
Mailing Address:	MOBIL OIL CORP C/O NDE ENVIRONMNETAL P. O. BOX 142667 AUSTIN, TX 78714 (800) 800-4633 ATTN: EMILY MILLER		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	200	Install Date:	11/88
Product Stored:	UNLEADED GASOLINE	Tank Type:	Fiberglass reinforced plastic [FRP]
Tank Internal:	FIBERGLASS LINER [FRP]	Pipe Internal:	Not reported
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	Minor Data Missing		
Pipe External:	IMPRESSED CURRENT		
Second Containment:	DOUBLED-WALLED TANK		
Leak Detection:	INTERSTITIAL MONITORING		
Overfill Prot:	Catch Basin	Dispenser:	Submersible
Date Tested:	09/90	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	22000	Renewal Date:	19970812
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990323
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported

MOBIL S/S #17-D2H (Continued) **U001838915**

Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-157554	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-5216
Operator:	A.P. GHAI		
Emergency Contact:	ENVIRONMENTAL HELP DESK, (800) 662-4567		
Total Tanks:	7		
Owner:	MOBIL OIL CORP 3225 GALLOWS RD., 6W307 FAIRFAX, VA 22037 (703) 849-6252		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Mobil Oil Company		
Mailing Address:	MOBIL OIL CORP C/O NDE ENVIRONMNETAL P. O. BOX 142667 AUSTIN, TX 78714 (800) 800-4633 ATTN: EMILY MILLER		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	300	Install Date:	11/88
Product Stored:	UNLEADED GASOLINE	Tank Type:	Fiberglass reinforced plastic [FRP]
Tank Internal:	FIBERGLASS LINER [FRP]	Pipe Internal:	Not reported
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	Minor Data Missing		
Pipe External:	IMPRESSED CURRENT		
Second Containment:	DOUBLED-WALLED TANK		
Leak Detection:	INTERSTITIAL MONITORING		
Overfill Prot:	Catch Basin	Dispenser:	Submersible
Date Tested:	09/90	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	22000	Renewal Date:	19970812
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990323
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-157554	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-5216
Operator:	A.P. GHAI		
Emergency Contact:	ENVIRONMENTAL HELP DESK, (800) 662-4567		
Total Tanks:	7		

MOBIL S/S #17-D2H (Continued) **U001838915**

Owner:	MOBIL OIL CORP 3225 GALLOWS RD., 6W307 FAIRFAX, VA 22037 (703) 849-6252		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Mobil Oil Company		
Mailing Address:	MOBIL OIL CORP C/O NDE ENVIRONMNETAL P. O. BOX 142667 AUSTIN, TX 78714 (800) 800-4633 ATTN: EMILY MILLER		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	400	Install Date:	11/88
Product Stored:	UNLEADED GASOLINE	Tank Type:	Fiberglass reinforced plastic [FRP]
Tank Internal:	FIBERGLASS LINER [FRP]	Pipe Internal:	Not reported
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	Minor Data Missing		
Pipe External:	IMPRESSED CURRENT		
Second Containment:	DOUBLED-WALLED TANK		
Leak Detection:	INTERSTITIAL MONITORING		
Overfill Prot:	Catch Basin	Dispenser:	Submersible
Date Tested:	09/90	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	22000	Renewal Date:	19970812
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990323
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-157554	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-5216
Operator:	A.P. GHAI		
Emergency Contact:	ENVIRONMENTAL HELP DESK, (800) 662-4567		
Total Tanks:	7		
Owner:	MOBIL OIL CORP 3225 GALLOWS RD., 6W307 FAIRFAX, VA 22037 (703) 849-6252		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Mobil Oil Company		
Mailing Address:	MOBIL OIL CORP C/O NDE ENVIRONMNETAL P. O. BOX 142667 AUSTIN, TX 78714 (800) 800-4633		

MOBIL S/S #17-D2H (Continued) **U001838915**

ATTN: EMILY MILLER
Facility Status: 1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.
Capacity (gals): 4000
Tank Location: UNDERGROUND
Tank ID: 500 Install Date: 11/88
Product Stored: UNLEADED GASOLINE Tank Type: Fiberglass reinforced plastic [FRP]
Tank Internal: FIBERGLASS LINER [FRP] Pipe Internal: Not reported
Pipe Location: Underground Pipe Type: GALVANIZED STEEL
Tank External: FIBERGLASS
Tank Status: In Service
Tank Error Status: Minor Data Missing
Pipe External: IMPRESSED CURRENT
Second Containment: DOUBLED-WALLED TANK
Leak Detection: INTERSTITIAL MONITORING
Overfill Prot: Catch Basin Dispenser: Submersible
Date Tested: 09/90 Next Test Date: N.T.R
Date Closed: Not reported Test Method: Not reported
Deleted: False Updated: True
Dead Letter: False Owner Screen: No data missing
FAMT: Fiscal amount for registration fee is correct
Total Capacity: 22000 Renewal Date: 19970812
Tank Screen: Minor data missing Federal ID: Not reported
Renew Flag: Renwal has not been printed Facility Screen: No data missing
Certification Flag: False Certification Date: 19990323
Old PBS Number: Not reported Expiration Date: 20021029
Inspected Date: Not reported Inspector: Not reported
Inspection Result: Not reported
Lat/long: Not reported
Facility Type: RETAIL GASOLINE SALES

PBS Number: 2-157554 CBS Number: Not reported
SPDES Number: Not reported
SWIS ID: 6101 Telephone: (718) 745-5216
Operator: A.P. GHAI
Emergency Contact: ENVIRONMENTAL HELP DESK, (800) 662-4567
Total Tanks: 7
Owner: MOBIL OIL CORP
3225 GALLOWS RD., 6W307
FAIRFAX, VA 22037
(703) 849-6252
Owner Type: Corporate/Commercial Owner Mark: First Owner
Owner Subtype: Mobil Oil Company
Mailing Address: MOBIL OIL CORP C/O NDE ENVIRONMNETAL
P. O. BOX 142667
AUSTIN, TX 78714
(800) 800-4633
ATTN: EMILY MILLER
Facility Status: 1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.
Capacity (gals): 1000
Tank Location: UNDERGROUND
Tank ID: 600 Install Date: 11/88
Product Stored: NOS 1,2, OR 4 FUEL OIL Tank Type: Fiberglass reinforced plastic [FRP]
Tank Internal: FIBERGLASS LINER [FRP] Pipe Internal: Not reported
Pipe Location: Underground Pipe Type: GALVANIZED STEEL
Tank External: FIBERGLASS

MOBIL S/S #17-D2H (Continued) **U001838915**

Tank Status:	In Service		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	DOUBLED-WALLED TANK		
Leak Detection:	INTERSTITIAL MONITORING		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	09/90	Next Test Date:	N.T.R
Date Closed:	08/96	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	22000	Renewal Date:	19970812
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990323
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-157554	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-5216
Operator:	A.P. GHAI		
Emergency Contact:	ENVIRONMENTAL HELP DESK, (800) 662-4567		
Total Tanks:	7		
Owner:	MOBIL OIL CORP 3225 GALLOWS RD., 6W307 FAIRFAX, VA 22037 (703) 849-6252		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Mobil Oil Company		
Mailing Address:	MOBIL OIL CORP C/O NDE ENVIRONMNETAL P. O. BOX 142667 AUSTIN, TX 78714 (800) 800-4633 ATTN: EMILY MILLER		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	1000		
Tank Location:	UNDERGROUND		
Tank ID:	700	Install Date:	11/88
Product Stored:	USED OIL	Tank Type:	Fiberglass reinforced plastic [FRP]
Tank Internal:	FIBERGLASS LINER [FRP]	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	Not reported
Tank External:	NONE/FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE/DOUBLED-WALLED TANK		
Leak Detection:	NONE/INTERSTITIAL MONITORING		
Overfill Prot:	Not reported	Dispenser:	Not reported
Date Tested:	Not reported	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing

MOBIL S/S #17-D2H (Continued) **U001838915**

FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	22000	Renewal Date:	19970812
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990323
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		

C9 **MOBIL OIL CORP SS #D2H** **RCRIS-SQG** **1000553827**
East **6423 FT HAMILTON PKWY** **FINDS** **NYD986962611**
< 1/8 **BROOKLYN, NY 11219**
641
Higher

RCRIS:

Owner: MOBIL OIL CORP
(703) 849-3330

Contact: ROSEANN FAVARO
(703) 849-3330

Record Date: 04/10/1991

Classification: Small Quantity Generator

Used Oil Recyc: No

Violation Status: No violations found

FINDS:

Other Pertinent Environmental Activity Identified at Site:
AIRS Facility System (AIRS/AFS)

B10 **805 65TH ST/BKLYN/S** **LUST** **S100145344**
NW **805 65TH STREET** **N/A**
< 1/8 **NEW YORK CITY, NY**
648
Higher

LUST:

Spill Number:	8808780	Region of Spill:	2
Facility Contact:	Not reported	Facility Tele:	Not reported
Investigator:	SULLIVAN	SWIS:	61
Caller Name:	BOB MENNIGKE	Caller Agency:	GASOLINE INSTALLATIONS
Caller Phone:	(718) 647-7443	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
Spiller Contact:	Not reported	Spiller Phone:	(718) 745-8385
Spiller:	SUNOCO		
Spiller Address:	805 65TH STREET BROOKLYN, NY		
Spill Class:	Known release that creates potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.		
Spill Closed Dt:	09/08/92		
Spill Cause:	Tank Test Failure	Resource Affected:	Groundwater
Water Affected:	Not reported	Spill Source:	Gas Station
Spill Notifier:	Tank Tester	PBS Number:	2-339512

805 65TH ST/BKLYN/S (Continued) **S100145344**

Spill Date: 02/08/89 17:05 Reported to Dept: 02/08/89 17:55
Cleanup Ceased: 09/08/92
Last Inspection: / /
Cleanup Meets Standard: True
Recommended Penalty: No Penalty
Spiller Cleanup Date: / /
Enforcement Date: / /
Investigation Complete: / /
UST Involvement: True
Spill Record Last Update: 11/29/93
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 02/09/89
Date Region Sent Summary to Central Office: / /
DEC Remarks: Not reported
Spill Cause: (5) 550 GALLON TANKS FAILED PETRO TITE AT .073GPH, WILL EXCAVATE, IS OLATE & RETEST.

B11 **805 65TH ST/BKLYN/SUNOCO** **LUST** **S100145348**
NW **805 65TH STREET** **N/A**
< 1/8 **NEW YORK CITY, NY**
648
Higher

LUST:
Spill Number: 8808866 Region of Spill: 2
Facility Contact: Not reported Facility Tele: Not reported
Investigator: SULLIVAN SWIS: 61
Caller Name: BOB MENNIGKE Caller Agency: GASOLINE INSTALLATIONS
Caller Phone: (718) 647-7443 Caller Extension: Not reported
Notifier Name: Not reported Notifier Agency: Not reported
Notifier Phone: Not reported Notifier Extension: Not reported
Spiller Contact: Not reported Spiller Phone: Not reported
Spiller: SUNOCO AA
Spiller Address: 805 65TH STREET
BROOKLYN, NY
Spill Class: Known release that creates potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Spill Closed Dt: 09/08/92
Spill Cause: Tank Test Failure Resource Affected: Groundwater
Water Affected: Not reported Spill Source: Gas Station
Spill Notifier: Tank Tester PBS Number: 2-339512
Spill Date: 02/13/89 15:30 Reported to Dept: 02/13/89 17:45
Cleanup Ceased: 09/08/92
Last Inspection: / /
Cleanup Meets Standard: True
Recommended Penalty: No Penalty
Spiller Cleanup Date: / /
Enforcement Date: / /
Investigation Complete: / /
UST Involvement: True
Spill Record Last Update: 11/29/93
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 02/14/89
Date Region Sent Summary to Central Office: / /
DEC Remarks: Not reported
Spill Cause: TANK FAILED WITH A LEAK RATE OF -.094GPH, WILL EXCAVATE & RETEST.

B12
NW
< 1/8
648
Higher

SUNOCO # 0007-1332
805 65TH ST
BROOKLYN, NY 11220

UST
AST

U003200542
N/A

PBS UST:

PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337 ATTN: COMPLIANCE COORDINATOR		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	001	Install Date:	07/57
Product Stored:	LEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	02/89	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	PETRO-TITE
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		

PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		

SUNOCO # 0007-1332 (Continued) **U003200542**

Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337 ATTN: COMPLIANCE COORDINATOR		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	002	Install Date:	07/57
Product Stored:	LEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	02/89	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	PETRO-TITE
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY		

SUNOCO # 0007-1332 (Continued) **U003200542**

1801 MARKET STREET
20/10 PC
PHILADELPHIA, PA 19103
(215) 977-6337
ATTN: COMPLIANCE COORDINATOR

Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	003	Install Date:	07/57
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337 ATTN: COMPLIANCE COORDINATOR		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		

SUNOCO # 0007-1332 (Continued) **U003200542**

Tank ID:	004	Install Date:	07/57
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337 ATTN: COMPLIANCE COORDINATOR		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	005	Install Date:	07/57
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		

SUNOCO # 0007-1332 (Continued) **U003200542**

Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337 ATTN: COMPLIANCE COORDINATOR		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	006	Install Date:	07/57
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported

SUNOCO # 0007-1332 (Continued) **U003200542**

Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337 ATTN: COMPLIANCE COORDINATOR		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	007	Install Date:	07/57
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-339512	CBS Number:	Not reported

SUNOCO # 0007-1332 (Continued) **U003200542**

SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337 ATTN: COMPLIANCE COORDINATOR		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	008	Install Date:	07/57
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	03/89	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	PETRO-TITE
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		

SUNOCO # 0007-1332 (Continued) **U003200542**

Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337 ATTN: COMPLIANCE COORDINATOR		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	009	Install Date:	07/57
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	03/89	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	PETRO-TITE
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337 ATTN: COMPLIANCE COORDINATOR		

SUNOCO # 0007-1332 (Continued) **U003200542**

Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	010	Install Date:	07/57
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	03/89	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	PETRO-TITE
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337 ATTN: COMPLIANCE COORDINATOR		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	011	Install Date:	07/57
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		

SUNOCO # 0007-1332 (Continued) **U003200542**

Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	03/89	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	PETRO-TITE
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337 ATTN: COMPLIANCE COORDINATOR		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	012	Install Date:	07/57
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	03/89	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	PETRO-TITE
Deleted:	False	Updated:	False

SUNOCO # 0007-1332 (Continued) **U003200542**

Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337 ATTN: COMPLIANCE COORDINATOR		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	013	Install Date:	07/57
Product Stored:	NOS 1,2, OR 4 FUEL OIL	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		

SUNOCO # 0007-1332 (Continued) **U003200542**

Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337 ATTN: COMPLIANCE COORDINATOR		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	113	Install Date:	07/89
Product Stored:	UNLEADED GASOLINE	Tank Type:	Fiberglass reinforced plastic [FRP]
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	FIBERGLASS [FRP]
Tank External:	NONE/FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/FIBERGLASS		
Second Containment:	NONE/DOUBLED-WALLED TANK		
Leak Detection:	INTERSTITIAL MONITORING/OTHER		
Overfill Prot:	Float Vent Valve, Catch Basin	Dispenser:	Submersible
Date Tested:	08/97	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	USTest 2000
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		

SUNOCO # 0007-1332 (Continued) **U003200542**

Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337 ATTN: COMPLIANCE COORDINATOR		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	114	Install Date:	07/89
Product Stored:	UNLEADED GASOLINE	Tank Type:	Fiberglass reinforced plastic [FRP]
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	FIBERGLASS [FRP]
Tank External:	NONE/FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/FIBERGLASS		
Second Containment:	NONE/DOUBLED-WALLED TANK		
Leak Detection:	INTERSTITIAL MONITORING/OTHER		
Overfill Prot:	Float Vent Valve, Catch Basin	Dispenser:	Submersible
Date Tested:	08/97	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	USTest 2000
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC		

SUNOCO # 0007-1332 (Continued) **U003200542**

PHILADELPHIA, PA 19103
(215) 977-6337
ATTN: COMPLIANCE COORDINATOR

Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	115	Install Date:	07/89
Product Stored:	UNLEADED GASOLINE	Tank Type:	Fiberglass reinforced plastic [FRP]
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	FIBERGLASS [FRP]
Tank External:	NONE/FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/FIBERGLASS		
Second Containment:	NONE/DOUBLED-WALLED TANK		
Leak Detection:	INTERSTITIAL MONITORING/OTHER		
Overfill Prot:	Float Vent Valve, Catch Basin	Dispenser:	Submersible
Date Tested:	08/97	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	USTest 2000
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337 ATTN: COMPLIANCE COORDINATOR		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	1000		
Tank Location:	UNDERGROUND		
Tank ID:	116	Install Date:	07/89
Product Stored:	NOS 1,2, OR 4 FUEL OIL	Tank Type:	Fiberglass reinforced plastic [FRP]

SUNOCO # 0007-1332 (Continued) **U003200542**

Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE/FIBERGLASS		
Tank Status:	Tank Converted To Non-Regulated Use		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/SACRIFICIAL ANODE		
Second Containment:	NONE/DOUBLED-WALLED TANK		
Leak Detection:	INTERSTITIAL MONITORING/OTHER		
Overfill Prot:	Float Vent Valve, Catch Basin	Dispenser:	Gravity
Date Tested:	12/96	Next Test Date:	Not reported
Date Closed:	08/96	Test Method:	USTest 2000
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 748-5157
Operator:	SENG LIM		
Emergency Contact:	GEO PATTERSON, (800) 786-9494		
Total Tanks:	5		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103 (215) 977-6337 ATTN: COMPLIANCE COORDINATOR		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	1000		
Tank Location:	UNDERGROUND		
Tank ID:	117	Install Date:	07/89
Product Stored:	USED OIL (fuel)	Tank Type:	Fiberglass reinforced plastic [FRP]
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE/FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/SACRIFICIAL ANODE		
Second Containment:	NONE/DOUBLED-WALLED TANK		
Leak Detection:	INTERSTITIAL MONITORING/OTHER		
Overfill Prot:	Float Vent Valve, Catch Basin	Dispenser:	Gravity

SUNOCO # 0007-1332 (Continued) **U003200542**

Date Tested:	11/97	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	USTest 2000
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	13250	Renewal Date:	19970902
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980116
Old PBS Number:	Not reported	Expiration Date:	20021116
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		

PBS AST:

PBS Number:	2-339512	CBS Number:	Not reported
SPDES Number:	Not reported	SWIS Code:	6101
Federal ID:	Not reported	Previous PBS#:	Not reported
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Facility Type:	RETAIL GASOLINE SALES		
Owner Type:	Corporate/Commercial		
Owner Sub Type:	Not reported		
Owner:	SUNOCO COMPANY 1801 MARKET STREET 20/10 PC PHILADELPHIA, PA 19103		
Owner Phone:	(215) 977-6337		
Facility Phone:	(718) 748-5157		
Operator:	SENG LIM		
Emergency Name:	GEO PATTERSON		
Emergency Phone:	(800) 786-9494		
Total Tanks:	5		
Total Capacity:	13250		
Tank ID:	118		
Tank Status:	In Service		
Capacity (Gal):	250		
Tank Error Status:	No data missing		
Tank Location:	ABOVEGROUND		
Product Stored:	LUBE OIL		
Tank Type:	Steel/carbon steel		
Install Date:	07/94		
Tank Internal:	NONE		
Tank External:	NONE/NONE		
Tank Containment:	NONE/NONE		
Pipe Type:	GALVANIZED STEEL		
Pipe Location:	Aboveground		
Pipe Internal:	NONE		
Pipe External:	NONE/NONE		
Leak Detection:	NONE/NONE		
Overfill Protection:	None		
Dispenser Method:	Gravity		
Date Tested:	Not reported	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	Not reported
Updated:	True	Deleted:	False
Date Inspected:	Not reported	Inspector:	Not reported
Result of Inspection:	Not reported		
Mailing Name:	SUNOCO COMPANY		

SUNOCO # 0007-1332 (Continued) **U003200542**

Mailing Address: 1801 MARKET STREET
20/10 PC
PHILADELPHIA, PA 19103
Mailing Contact: COMPLIANCE COORDINATOR
Mailing Telephone: (215) 977-6337
Owner Mark: First Owner
Expiration Date: 11/16/02
Certification Flag: False
Certification Date: 01/16/98
Renew Flag: False
Renew Date: 09/02/97
Lat/Long: Not reported
Dead Letter: False
Facility Screen: No data missing
Owner Screen: No data missing
Tank Screen: No data missing
Fiscal Amount for Registration Fee is Correct: True

C13 **J & G HAMILTON CORPORATION** **UST** **U003127164**
East **6414 FORT HAMILTON PKWY** **N/A**
< 1/8 **BROOKLYN, NY 11219**
656
Higher

PBS UST:
PBS Number: 2-190985
CBS Number: Not reported
SPDES Number: Not reported
SWIS ID: 6101
Telephone: (718) 745-8782
Operator: MICHAEL KOUTSOUVANOS
Emergency Contact: CHEM TREC, (800) 424-9300
Total Tanks: 4
Owner: MOTIVA ENTERPRISES, LLC.
1100 LOUISIANA ST., SUITE 200
HOUSTON, TX 77002
(713) 277-8000
Owner Type: Corporate/Commercial
Owner Mark: Second Owner
Owner Subtype: Not reported
Mailing Address: MOTIVA ENTERPRISES, LLC.
3 EDGEWATER DR., SUITE 202
NORWOOD, MA 02062
(781) 551-5409
ATTN: JENNIFER VARNERIN
Facility Status: 1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.
Capacity (gals): 4000
Tank Location: UNDERGROUND
Tank ID: 001
Install Date: 12/71
Product Stored: UNLEADED GASOLINE
Tank Type: Steel/carbon steel
Tank Internal: EPOXY LINER
Pipe Internal: OTHER
Pipe Location: Underground
Pipe Type: OTHER
Tank External: NONE/PAINTED/ASPHALT COATING
Tank Status: In Service
Tank Error Status: No Missing Data
Pipe External: NONE/JACKETED
Second Containment: NONE/NONE
Leak Detection: NONE/NONE
Overfill Prot: Automatic Shut-Off, Catch Basin
Dispenser: Submersible
Date Tested: 09/96
Next Test Date: 09/01
Date Closed: Not reported
Test Method: TANKOLOGY [VACUTECT]
Deleted: False
Updated: True
Dead Letter: False
Owner Screen: No data missing
FAMT: Fiscal amount for registration fee is correct

J & G HAMILTON CORPORATION (Continued) **U003127164**

Total Capacity:	12550	Renewal Date:	19930503
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990430
Old PBS Number:	Not reported	Expiration Date:	20040426
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-190985	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8782
Operator:	MICHAEL KOUTSOUVANOS		
Emergency Contact:	CHEM TREC, (800) 424-9300		
Total Tanks:	4		
Owner:	MOTIVA ENTERPRISES, LLC. 1100 LOUISIANA ST., SUITE 200 HOUSTON, TX 77002 (713) 277-8000		
Owner Type:	Corporate/Commercial	Owner Mark:	Second Owner
Owner Subtype:	Not reported		
Mailing Address:	MOTIVA ENTERPRISES, LLC. 3 EDGEWATER DR., SUITE 202 NORWOOD, MA 02062 (781) 551-5409 ATTN: JENNIFER VARNERIN		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	002	Install Date:	12/71
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	EPOXY LINER	Pipe Internal:	OTHER
Pipe Location:	Underground	Pipe Type:	OTHER
Tank External:	NONE/PAINTED/ASPHALT COATING		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/JACKETED		
Second Containment:	NONE/NONE		
Leak Detection:	NONE/NONE		
Overfill Prot:	Automatic Shut-Off, Catch Basin	Dispenser:	Submersible
Date Tested:	09/96	Next Test Date:	09/01
Date Closed:	Not reported	Test Method:	TANKOLOGY [VACUTECT]
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	12550	Renewal Date:	19930503
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990430
Old PBS Number:	Not reported	Expiration Date:	20040426
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		

J & G HAMILTON CORPORATION (Continued) **U003127164**

PBS Number:	2-190985	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8782
Operator:	MICHAEL KOUTSOUVANOS		
Emergency Contact:	CHEM TREC, (800) 424-9300		
Total Tanks:	4		
Owner:	MOTIVA ENTERPRISES, LLC. 1100 LOUISIANA ST., SUITE 200 HOUSTON, TX 77002 (713) 277-8000		
Owner Type:	Corporate/Commercial	Owner Mark:	Second Owner
Owner Subtype:	Not reported		
Mailing Address:	MOTIVA ENTERPRISES, LLC. 3 EDGEWATER DR., SUITE 202 NORWOOD, MA 02062 (781) 551-5409 ATTN: JENNIFER VARNERIN		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	003	Install Date:	12/71
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	OTHER
Pipe Location:	Underground	Pipe Type:	OTHER
Tank External:	PAINTED/ASPHALT COATING/SACRIFICIAL ANODE		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/JACKETED		
Second Containment:	NONE/NONE		
Leak Detection:	NONE/NONE		
Overfill Prot:	Automatic Shut-Off, Catch Basin	Dispenser:	Submersible
Date Tested:	09/96	Next Test Date:	09/01
Date Closed:	Not reported	Test Method:	TANKOLOGY [VACUTECT]
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	12550	Renewal Date:	19930503
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990430
Old PBS Number:	Not reported	Expiration Date:	20040426
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		

PBS Number:	2-190985	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8782
Operator:	MICHAEL KOUTSOUVANOS		
Emergency Contact:	CHEM TREC, (800) 424-9300		
Total Tanks:	4		
Owner:	MOTIVA ENTERPRISES, LLC. 1100 LOUISIANA ST., SUITE 200 HOUSTON, TX 77002		

J & G HAMILTON CORPORATION (Continued) **U003127164**

(713) 277-8000

Owner Type:	Corporate/Commercial	Owner Mark:	Second Owner
Owner Subtype:	Not reported		
Mailing Address:	MOTIVA ENTERPRISES, LLC. 3 EDGEWATER DR., SUITE 202 NORWOOD, MA 02062 (781) 551-5409 ATTN: JENNIFER VARNERIN		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	004	Install Date:	12/38
Product Stored:	OTHER	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Float Vent Valve, Catch Basin	Dispenser:	Gravity
Date Tested:	Not reported	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	12550	Renewal Date:	19930503
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990430
Old PBS Number:	Not reported	Expiration Date:	20040426
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-190985	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8782
Operator:	MICHAEL KOUTSOUVANOS		
Emergency Contact:	CHEM TREC, (800) 424-9300		
Total Tanks:	4		
Owner:	MOTIVA ENTERPRISES, LLC. 1100 LOUISIANA ST., SUITE 200 HOUSTON, TX 77002 (713) 277-8000		
Owner Type:	Corporate/Commercial	Owner Mark:	Second Owner
Owner Subtype:	Not reported		
Mailing Address:	MOTIVA ENTERPRISES, LLC. 3 EDGEWATER DR., SUITE 202 NORWOOD, MA 02062 (781) 551-5409 ATTN: JENNIFER VARNERIN		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		

J & G HAMILTON CORPORATION (Continued) **U003127164**

Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	005	Install Date:	00/00
Product Stored:	OTHER	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE		
Tank Status:	Closed-Removed		
Tank Error Status:	No Missing Data		
Pipe External:	NONE		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	None	Dispenser:	Gravity
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	07/96	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	12550	Renewal Date:	19930503
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990430
Old PBS Number:	Not reported	Expiration Date:	20040426
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-190985	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8782
Operator:	MICHAEL KOUTSOUVANOS		
Emergency Contact:	CHEM TREC, (800) 424-9300		
Total Tanks:	4		
Owner:	MOTIVA ENTERPRISES, LLC. 1100 LOUISIANA ST., SUITE 200 HOUSTON, TX 77002 (713) 277-8000		
Owner Type:	Corporate/Commercial	Owner Mark:	Second Owner
Owner Subtype:	Not reported		
Mailing Address:	MOTIVA ENTERPRISES, LLC. 3 EDGEWATER DR., SUITE 202 NORWOOD, MA 02062 (781) 551-5409 ATTN: JENNIFER VARNERIN		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	006	Install Date:	00/00
Product Stored:	OTHER	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE		
Tank Status:	Closed-Removed		
Tank Error Status:	No Missing Data		
Pipe External:	NONE		

J & G HAMILTON CORPORATION (Continued) **U003127164**

Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	None	Dispenser:	Gravity
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	07/96	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	12550	Renewal Date:	19930503
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990430
Old PBS Number:	Not reported	Expiration Date:	20040426
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-190985	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8782
Operator:	MICHAEL KOUTSOUVANOS		
Emergency Contact:	CHEM TREC, (800) 424-9300		
Total Tanks:	4		
Owner:	MOTIVA ENTERPRISES, LLC. 1100 LOUISIANA ST., SUITE 200 HOUSTON, TX 77002 (713) 277-8000		
Owner Type:	Corporate/Commercial	Owner Mark:	Second Owner
Owner Subtype:	Not reported		
Mailing Address:	MOTIVA ENTERPRISES, LLC. 3 EDGEWATER DR., SUITE 202 NORWOOD, MA 02062 (781) 551-5409 ATTN: JENNIFER VARNERIN		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	007	Install Date:	00/00
Product Stored:	OTHER	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE		
Tank Status:	Closed-Removed		
Tank Error Status:	No Missing Data		
Pipe External:	NONE		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	None	Dispenser:	Gravity
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	07/96	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	12550	Renewal Date:	19930503
Tank Screen:	No data missing	Federal ID:	Not reported

J & G HAMILTON CORPORATION (Continued) **U003127164**

Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990430
Old PBS Number:	Not reported	Expiration Date:	20040426
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-190985	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8782
Operator:	MICHAEL KOUTSOUVANOS		
Emergency Contact:	CHEM TREC, (800) 424-9300		
Total Tanks:	4		
Owner:	MOTIVA ENTERPRISES, LLC. 1100 LOUISIANA ST., SUITE 200 HOUSTON, TX 77002 (713) 277-8000		
Owner Type:	Corporate/Commercial	Owner Mark:	Second Owner
Owner Subtype:	Not reported		
Mailing Address:	MOTIVA ENTERPRISES, LLC. 3 EDGEWATER DR., SUITE 202 NORWOOD, MA 02062 (781) 551-5409 ATTN: JENNIFER VARNERIN		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	008	Install Date:	00/00
Product Stored:	OTHER	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE		
Tank Status:	Closed-Removed		
Tank Error Status:	No Missing Data		
Pipe External:	NONE		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	None	Dispenser:	Gravity
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	07/96	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	12550	Renewal Date:	19930503
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990430
Old PBS Number:	Not reported	Expiration Date:	20040426
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-190985	CBS Number:	Not reported
SPDES Number:	Not reported		

J & G HAMILTON CORPORATION (Continued) **U003127164**

SWIS ID:	6101	Telephone:	(718) 745-8782
Operator:	MICHAEL KOUTSOUVANOS		
Emergency Contact:	CHEM TREC, (800) 424-9300		
Total Tanks:	4		
Owner:	MOTIVA ENTERPRISES, LLC. 1100 LOUISIANA ST., SUITE 200 HOUSTON, TX 77002 (713) 277-8000		
Owner Type:	Corporate/Commercial	Owner Mark:	Second Owner
Owner Subtype:	Not reported		
Mailing Address:	MOTIVA ENTERPRISES, LLC. 3 EDGEWATER DR., SUITE 202 NORWOOD, MA 02062 (781) 551-5409 ATTN: JENNIFER VARNERIN		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	009	Install Date:	00/00
Product Stored:	OTHER	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE		
Tank Status:	Closed-Removed		
Tank Error Status:	No Missing Data		
Pipe External:	NONE		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	None	Dispenser:	Gravity
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	07/96	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	12550	Renewal Date:	19930503
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990430
Old PBS Number:	Not reported	Expiration Date:	20040426
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-190985	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8782
Operator:	MICHAEL KOUTSOUVANOS		
Emergency Contact:	CHEM TREC, (800) 424-9300		
Total Tanks:	4		
Owner:	MOTIVA ENTERPRISES, LLC. 1100 LOUISIANA ST., SUITE 200 HOUSTON, TX 77002 (713) 277-8000		
Owner Type:	Corporate/Commercial	Owner Mark:	Second Owner
Owner Subtype:	Not reported		

J & G HAMILTON CORPORATION (Continued) **U003127164**

Mailing Address:	MOTIVA ENTERPRISES, LLC. 3 EDGEWATER DR., SUITE 202 NORWOOD, MA 02062 (781) 551-5409 ATTN: JENNIFER VARNERIN		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	010	Install Date:	00/00
Product Stored:	OTHER	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE		
Tank Status:	Closed-Removed		
Tank Error Status:	No Missing Data		
Pipe External:	NONE		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	None	Dispenser:	Gravity
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	07/96	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	12550	Renewal Date:	19930503
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990430
Old PBS Number:	Not reported	Expiration Date:	20040426
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-190985	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8782
Operator:	MICHAEL KOUTSOUVANOS		
Emergency Contact:	CHEM TREC, (800) 424-9300		
Total Tanks:	4		
Owner:	MOTIVA ENTERPRISES, LLC. 1100 LOUISIANA ST., SUITE 200 HOUSTON, TX 77002 (713) 277-8000		
Owner Type:	Corporate/Commercial	Owner Mark:	Second Owner
Owner Subtype:	Not reported		
Mailing Address:	MOTIVA ENTERPRISES, LLC. 3 EDGEWATER DR., SUITE 202 NORWOOD, MA 02062 (781) 551-5409 ATTN: JENNIFER VARNERIN		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	011	Install Date:	00/00

J & G HAMILTON CORPORATION (Continued) **U003127164**

Product Stored:	OTHER	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE		
Tank Status:	Closed-Removed		
Tank Error Status:	No Missing Data		
Pipe External:	NONE		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	None	Dispenser:	Gravity
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	07/96	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	12550	Renewal Date:	19930503
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990430
Old PBS Number:	Not reported	Expiration Date:	20040426
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-190985	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8782
Operator:	MICHAEL KOUTSOUVANOS		
Emergency Contact:	CHEM TREC, (800) 424-9300		
Total Tanks:	4		
Owner:	MOTIVA ENTERPRISES, LLC. 1100 LOUISIANA ST., SUITE 200 HOUSTON, TX 77002 (713) 277-8000		
Owner Type:	Corporate/Commercial	Owner Mark:	Second Owner
Owner Subtype:	Not reported		
Mailing Address:	MOTIVA ENTERPRISES, LLC. 3 EDGEWATER DR., SUITE 202 NORWOOD, MA 02062 (781) 551-5409 ATTN: JENNIFER VARNERIN		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	012	Install Date:	00/00
Product Stored:	OTHER	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE		
Tank Status:	Closed-Removed		
Tank Error Status:	No Missing Data		
Pipe External:	NONE		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	None	Dispenser:	Gravity

J & G HAMILTON CORPORATION (Continued) **U003127164**

Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	07/96	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	12550	Renewal Date:	19930503
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990430
Old PBS Number:	Not reported	Expiration Date:	20040426
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-190985	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8782
Operator:	MICHAEL KOUTSOUVANOS		
Emergency Contact:	CHEM TREC, (800) 424-9300		
Total Tanks:	4		
Owner:	MOTIVA ENTERPRISES, LLC. 1100 LOUISIANA ST., SUITE 200 HOUSTON, TX 77002 (713) 277-8000		
Owner Type:	Corporate/Commercial	Owner Mark:	Second Owner
Owner Subtype:	Not reported		
Mailing Address:	MOTIVA ENTERPRISES, LLC. 3 EDGEWATER DR., SUITE 202 NORWOOD, MA 02062 (781) 551-5409 ATTN: JENNIFER VARNERIN		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	013	Install Date:	00/00
Product Stored:	OTHER	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE		
Tank Status:	Closed-Removed		
Tank Error Status:	No Missing Data		
Pipe External:	NONE		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	None	Dispenser:	Gravity
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	07/96	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	12550	Renewal Date:	19930503
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990430
Old PBS Number:	Not reported	Expiration Date:	20040426

J & G HAMILTON CORPORATION (Continued) **U003127164**

Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-190985	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8782
Operator:	MICHAEL KOUTSOUVANOS		
Emergency Contact:	CHEM TREC, (800) 424-9300		
Total Tanks:	4		
Owner:	MOTIVA ENTERPRISES, LLC. 1100 LOUISIANA ST., SUITE 200 HOUSTON, TX 77002 (713) 277-8000		
Owner Type:	Corporate/Commercial	Owner Mark:	Second Owner
Owner Subtype:	Not reported		
Mailing Address:	MOTIVA ENTERPRISES, LLC. 3 EDGEWATER DR., SUITE 202 NORWOOD, MA 02062 (781) 551-5409 ATTN: JENNIFER VARNERIN		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	014	Install Date:	00/00
Product Stored:	OTHER	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE		
Tank Status:	Closed-Removed		
Tank Error Status:	No Missing Data		
Pipe External:	NONE		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	None	Dispenser:	Gravity
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	07/96	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	12550	Renewal Date:	19930503
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990430
Old PBS Number:	Not reported	Expiration Date:	20040426
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-190985	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8782
Operator:	MICHAEL KOUTSOUVANOS		
Emergency Contact:	CHEM TREC, (800) 424-9300		

J & G HAMILTON CORPORATION (Continued) **U003127164**

Total Tanks:	4		
Owner:	MOTIVA ENTERPRISES, LLC. 1100 LOUISIANA ST., SUITE 200 HOUSTON, TX 77002 (713) 277-8000		
Owner Type:	Corporate/Commercial	Owner Mark:	Second Owner
Owner Subtype:	Not reported		
Mailing Address:	MOTIVA ENTERPRISES, LLC. 3 EDGEWATER DR., SUITE 202 NORWOOD, MA 02062 (781) 551-5409 ATTN: JENNIFER VARNERIN		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	015	Install Date:	00/00
Product Stored:	OTHER	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE		
Tank Status:	Closed-Removed		
Tank Error Status:	No Missing Data		
Pipe External:	NONE		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	None	Dispenser:	Gravity
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	07/96	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	12550	Renewal Date:	19930503
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990430
Old PBS Number:	Not reported	Expiration Date:	20040426
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-190985	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8782
Operator:	MICHAEL KOUTSOUVANOS		
Emergency Contact:	CHEM TREC, (800) 424-9300		
Total Tanks:	4		
Owner:	MOTIVA ENTERPRISES, LLC. 1100 LOUISIANA ST., SUITE 200 HOUSTON, TX 77002 (713) 277-8000		
Owner Type:	Corporate/Commercial	Owner Mark:	Second Owner
Owner Subtype:	Not reported		
Mailing Address:	MOTIVA ENTERPRISES, LLC. 3 EDGEWATER DR., SUITE 202 NORWOOD, MA 02062		

J & G HAMILTON CORPORATION (Continued) **U003127164**

(781) 551-5409
ATTN: JENNIFER VARNERIN

Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	016	Install Date:	00/00
Product Stored:	OTHER	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE		
Tank Status:	Closed-Removed		
Tank Error Status:	No Missing Data		
Pipe External:	NONE		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	None	Dispenser:	Gravity
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	07/96	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	12550	Renewal Date:	19930503
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990430
Old PBS Number:	Not reported	Expiration Date:	20040426
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		

C14 **SHELL SERVICE STATION** **RCRIS-SQG 1001119358**
East **6414 FORT HAMILTON PKWY** **FINDS NYR000026450**
< 1/8 **BROOKLYN, NY 11219**
656
Higher

RCRIS:

Owner: SHELL OIL CO
(516) 365-2489

Contact: BROOKS PERLEE
(516) 365-2489

Record Date: 08/01/1996

Classification: Small Quantity Generator

Used Oil Recyc: No

Violation Status: No violations found

NY MANIFEST
Additional detail is available in NY MANIFEST. Please contact your EDR Account Executive for more information.

SHELL SERVICE STATION (Continued) **1001119358**

FINDS:
Other Pertinent Environmental Activity Identified at Site:
AIRS Facility System (AIRS/AFS)

B15
NW
1/8-1/4
662
Higher

LEVELAND OIL CO
802 65TH ST
BROOKLYN, NY 11220

RCRIS-SQG
FINDS

1000556239
NYD986987980

RCRIS:
Owner: AMOCO OIL CO
(203) 865-1910
Contact: JACK ELSE
(718) 748-8383
Record Date: 12/13/1991
Classification: Small Quantity Generator
Used Oil Recyc: No
Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
AIRS Facility System (AIRS/AFS)

B16
NW
1/8-1/4
662
Higher

AMOCO SERVICE STATION 549
802 65TH ST
BROOKLYN, NY 11220

UST

U003644465
N/A

PBS UST:

PBS Number:	2-337676	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8759
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (516) 239-5607		
Total Tanks:	0		
Owner:	AMOCO OIL COMPANY 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO OIL COMPANY MORRIS CORPORATE CENTER 1. BLDG.C. 300 INTERPLACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	3 - Administratively closed (reasons include business is closed and/or mail is undeliverable, and staff cannot check if tanks were removed; or a duplicate registration was generated).		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	001	Install Date:	12/71

AMOCO SERVICE STATION 549 (Continued) **U003644465**

Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE/NONE		
Tank Status:	Undefined		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/NONE		
Second Containment:	NONE/NONE		
Leak Detection:	NONE/IN-TANK SYSTEM		
Overfill Prot:	None	Dispenser:	Suction
Date Tested:	10/97	Next Test Date:	10/02
Date Closed:	01/99	Test Method:	USTest 2000
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	19970812
Tank Screen:	0	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19971120
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-337676	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8759
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (516) 239-5607		
Total Tanks:	0		
Owner:	AMOCO OIL COMPANY 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO OIL COMPANY MORRIS CORPORATE CENTER 1. BLDG.C. 300 INTERPLACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	3 - Administratively closed (reasons include business is closed and/or mail is undeliverable, and staff cannot check if tanks were removed; or a duplicate registration was generated).		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	002	Install Date:	12/71
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE/NONE		
Tank Status:	Undefined		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/NONE		
Second Containment:	NONE/NONE		

AMOCO SERVICE STATION 549 (Continued) **U003644465**

Leak Detection:	NONE/IN-TANK SYSTEM		
Overfill Prot:	None	Dispenser:	Suction
Date Tested:	10/97	Next Test Date:	10/02
Date Closed:	01/99	Test Method:	USTest 2000
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	19970812
Tank Screen:	0	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19971120
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-337676	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8759
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (516) 239-5607		
Total Tanks:	0		
Owner:	AMOCO OIL COMPANY 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO OIL COMPANY MORRIS CORPORATE CENTER 1. BLDG.C. 300 INTERPLACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	3 - Administratively closed (reasons include business is closed and/or mail is undeliverable, and staff cannot check if tanks were removed; or a duplicate registration was generated).		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	003	Install Date:	12/71
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE/NONE		
Tank Status:	Undefined		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/NONE		
Second Containment:	NONE/NONE		
Leak Detection:	NONE/IN-TANK SYSTEM		
Overfill Prot:	None	Dispenser:	Suction
Date Tested:	10/97	Next Test Date:	10/02
Date Closed:	01/99	Test Method:	USTest 2000
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	19970812

AMOCO SERVICE STATION 549 (Continued) **U003644465**

Tank Screen:	0	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19971120
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-337676	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8759
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (516) 239-5607		
Total Tanks:	0		
Owner:	AMOCO OIL COMPANY 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO OIL COMPANY MORRIS CORPORATE CENTER 1. BLDG.C. 300 INTERPLACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	3 - Administratively closed (reasons include business is closed and/or mail is undeliverable, and staff cannot check if tanks were removed; or a duplicate registration was generated).		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	004	Install Date:	12/78
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE/NONE		
Tank Status:	Undefined		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/NONE		
Second Containment:	NONE/NONE		
Leak Detection:	NONE/IN-TANK SYSTEM		
Overfill Prot:	None	Dispenser:	Suction
Date Tested:	10/97	Next Test Date:	10/02
Date Closed:	01/99	Test Method:	USTest 2000
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	19970812
Tank Screen:	0	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19971120
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		

AMOCO SERVICE STATION 549 (Continued) **U003644465**

PBS Number:	2-337676	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8759
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (516) 239-5607		
Total Tanks:	0		
Owner:	AMOCO OIL COMPANY 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO OIL COMPANY MORRIS CORPORATE CENTER 1. BLDG.C. 300 INTERPLACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	3 - Administratively closed (reasons include business is closed and/or mail is undeliverable, and staff cannot check if tanks were removed; or a duplicate registration was generated).		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	005	Install Date:	00/00
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	Not reported
Tank External:	Not reported		
Tank Status:	Closed-Removed		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Not reported
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	11/98	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	19970812
Tank Screen:	0	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19971120
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		

PBS Number:	2-337676	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8759
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (516) 239-5607		
Total Tanks:	0		
Owner:	AMOCO OIL COMPANY		

AMOCO SERVICE STATION 549 (Continued) **U003644465**

300 INTERPACE PARKWAY
PARSIPPANY, NJ 07054
(973) 331-7000

Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO OIL COMPANY MORRIS CORPORATE CENTER 1. BLDG.C. 300 INTERPLACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	3 - Administratively closed (reasons include business is closed and/or mail is undeliverable, and staff cannot check if tanks were removed; or a duplicate registration was generated).		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	006	Install Date:	00/00
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	Not reported
Tank External:	Not reported		
Tank Status:	Closed-Removed		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Not reported
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	11/98	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	19970812
Tank Screen:	0	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19971120
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-337676	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8759
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (516) 239-5607		
Total Tanks:	0		
Owner:	AMOCO OIL COMPANY 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO OIL COMPANY MORRIS CORPORATE CENTER 1. BLDG.C. 300 INTERPLACE PARKWAY		

AMOCO SERVICE STATION 549 (Continued) **U003644465**

PARSIPPANY, NJ 07054
(973) 331-7000
ATTN: RAE ADAMS

Facility Status:	3 - Administratively closed (reasons include business is closed and/or mail is undeliverable, and staff cannot check if tanks were removed; or a duplicate registration was generated).		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	007	Install Date:	00/00
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	Not reported
Tank External:	Not reported		
Tank Status:	Closed-Removed		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Not reported
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	11/98	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	19970812
Tank Screen:	0	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19971120
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-337676	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8759
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (516) 239-5607		
Total Tanks:	0		
Owner:	AMOCO OIL COMPANY 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO OIL COMPANY MORRIS CORPORATE CENTER 1. BLDG.C. 300 INTERPLACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	3 - Administratively closed (reasons include business is closed and/or mail is undeliverable, and staff cannot check if tanks were removed; or a duplicate registration was generated).		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		

AMOCO SERVICE STATION 549 (Continued) **U003644465**

Tank ID:	008	Install Date:	00/00
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	Not reported
Tank External:	Not reported		
Tank Status:	Closed-Removed		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Not reported
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	11/98	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	19970812
Tank Screen:	0	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19971120
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-337676	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8759
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (516) 239-5607		
Total Tanks:	0		
Owner:	AMOCO OIL COMPANY 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO OIL COMPANY MORRIS CORPORATE CENTER 1. BLDG.C. 300 INTERPLACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	3 - Administratively closed (reasons include business is closed and/or mail is undeliverable, and staff cannot check if tanks were removed; or a duplicate registration was generated).		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	009	Install Date:	00/00
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	Not reported
Tank External:	Not reported		
Tank Status:	Closed-Removed		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		

AMOCO SERVICE STATION 549 (Continued) **U003644465**

Second Containment:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Not reported
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	11/98	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	19970812
Tank Screen:	0	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19971120
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-337676	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8759
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (516) 239-5607		
Total Tanks:	0		
Owner:	AMOCO OIL COMPANY 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO OIL COMPANY MORRIS CORPORATE CENTER 1. BLDG.C. 300 INTERPLACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	3 - Administratively closed (reasons include business is closed and/or mail is undeliverable, and staff cannot check if tanks were removed; or a duplicate registration was generated).		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	010	Install Date:	00/00
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	Not reported
Tank External:	Not reported		
Tank Status:	Closed-Removed		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Not reported
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	11/98	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		

AMOCO SERVICE STATION 549 (Continued) **U003644465**

Total Capacity:	0	Renewal Date:	19970812
Tank Screen:	0	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19971120
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-337676	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8759
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (516) 239-5607		
Total Tanks:	0		
Owner:	AMOCO OIL COMPANY 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO OIL COMPANY MORRIS CORPORATE CENTER 1. BLDG.C. 300 INTERPLACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	3 - Administratively closed (reasons include business is closed and/or mail is undeliverable, and staff cannot check if tanks were removed; or a duplicate registration was generated).		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	011	Install Date:	00/00
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	Not reported
Tank External:	Not reported		
Tank Status:	Closed-Removed		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Not reported
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	11/98	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	19970812
Tank Screen:	0	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19971120
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		

AMOCO SERVICE STATION 549 (Continued) **U003644465**

Facility Type:	RETAIL GASOLINE SALES		
PBS Number:	2-337676	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 745-8759
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (516) 239-5607		
Total Tanks:	0		
Owner:	AMOCO OIL COMPANY 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO OIL COMPANY MORRIS CORPORATE CENTER 1. BLDG.C. 300 INTERPLACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	3 - Administratively closed (reasons include business is closed and/or mail is undeliverable, and staff cannot check if tanks were removed; or a duplicate registration was generated).		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	012	Install Date:	00/00
Product Stored:	USED OIL (fuel)	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	Not reported
Tank External:	Not reported		
Tank Status:	Closed-Removed		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Not reported
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	11/98	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	19970812
Tank Screen:	0	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19971120
Old PBS Number:	Not reported	Expiration Date:	20021029
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	RETAIL GASOLINE SALES		

B17 **AMOCO CORPORATION** **UST** **U003644557**
NW **802 65TH ST** **N/A**
1/8-1/4 **BROOKLYN, NY 11220**
662
Higher

PBS UST:

PBS Number:	2-603664	CBS Number:	Not reported

AMOCO CORPORATION (Continued) **U003644557**

SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 336-1300
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (800) 892-6626		
Total Tanks:	12		
Owner:	AMOCO 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO CORPORATION MORRIS CORPORATE CENTER 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	001	Install Date:	12/71
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE/NONE		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/NONE		
Second Containment:	NONE/NONE		
Leak Detection:	NONE/IN-TANK SYSTEM		
Overfill Prot:	None	Dispenser:	Suction
Date Tested:	10/97	Next Test Date:	10/02
Date Closed:	Not reported	Test Method:	USTest 2000
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	61500	Renewal Date:	Not reported
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19990730
Old PBS Number:	Not reported	Expiration Date:	20030922
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		

PBS Number:	2-603664	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 336-1300
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (800) 892-6626		
Total Tanks:	12		
Owner:	AMOCO 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		

AMOCO CORPORATION (Continued) **U003644557**

Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO CORPORATION MORRIS CORPORATE CENTER 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	002	Install Date:	12/71
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE/NONE		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/NONE		
Second Containment:	NONE/NONE		
Leak Detection:	NONE/IN-TANK SYSTEM		
Overfill Prot:	None	Dispenser:	Suction
Date Tested:	10/97	Next Test Date:	10/02
Date Closed:	Not reported	Test Method:	USTest 2000
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	61500	Renewal Date:	Not reported
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19990730
Old PBS Number:	Not reported	Expiration Date:	20030922
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		
PBS Number:	2-603664	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 336-1300
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (800) 892-6626		
Total Tanks:	12		
Owner:	AMOCO 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO CORPORATION MORRIS CORPORATE CENTER 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		

AMOCO CORPORATION (Continued) **U003644557**

Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	003	Install Date:	12/71
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE/NONE		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/NONE		
Second Containment:	NONE/NONE		
Leak Detection:	NONE/IN-TANK SYSTEM		
Overfill Prot:	None	Dispenser:	Suction
Date Tested:	10/97	Next Test Date:	10/02
Date Closed:	Not reported	Test Method:	USTest 2000
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	61500	Renewal Date:	Not reported
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19990730
Old PBS Number:	Not reported	Expiration Date:	20030922
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		
PBS Number:	2-603664	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 336-1300
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (800) 892-6626		
Total Tanks:	12		
Owner:	AMOCO 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO CORPORATION MORRIS CORPORATE CENTER 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	004	Install Date:	12/71
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	NONE	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	NONE/NONE		

AMOCO CORPORATION (Continued) **U003644557**

Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/NONE		
Second Containment:	NONE/NONE		
Leak Detection:	NONE/IN-TANK SYSTEM		
Overfill Prot:	None	Dispenser:	Suction
Date Tested:	10/97	Next Test Date:	10/02
Date Closed:	Not reported	Test Method:	USTest 2000
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	61500	Renewal Date:	Not reported
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19990730
Old PBS Number:	Not reported	Expiration Date:	20030922
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		
PBS Number:	2-603664	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 336-1300
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (800) 892-6626		
Total Tanks:	12		
Owner:	AMOCO 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO CORPORATION MORRIS CORPORATE CENTER 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	10000		
Tank Location:	UNDERGROUND		
Tank ID:	005	Install Date:	11/98
Product Stored:	UNLEADED GASOLINE	Tank Type:	Fiberglass reinforced plastic [FRP]
Tank Internal:	FIBERGLASS LINER [FRP]	Pipe Internal:	FIBERGLASS LINER [FRP]
Pipe Location:	Underground	Pipe Type:	FIBERGLASS [FRP]
Tank External:	NONE/FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/FIBERGLASS		
Second Containment:	NONE/DOUBLED-WALLED TANK		
Leak Detection:	IN-TANK SYSTEM/INTERSTITIAL MONITORING		
Overfill Prot:	Catch Basin, High Level Alarm	Dispenser:	Submersible
Date Tested:	Not reported	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	Not reported
Deleted:	False	Updated:	True

AMOCO CORPORATION (Continued) **U003644557**

Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	61500	Renewal Date:	Not reported
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19990730
Old PBS Number:	Not reported	Expiration Date:	20030922
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		
PBS Number:	2-603664	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 336-1300
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (800) 892-6626		
Total Tanks:	12		
Owner:	AMOCO 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO CORPORATION MORRIS CORPORATE CENTER 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	10000		
Tank Location:	UNDERGROUND		
Tank ID:	006	Install Date:	11/98
Product Stored:	UNLEADED GASOLINE	Tank Type:	Fiberglass reinforced plastic [FRP]
Tank Internal:	FIBERGLASS LINER [FRP]	Pipe Internal:	FIBERGLASS LINER [FRP]
Pipe Location:	Underground	Pipe Type:	FIBERGLASS [FRP]
Tank External:	NONE/FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/FIBERGLASS		
Second Containment:	NONE/DOUBLED-WALLED TANK		
Leak Detection:	IN-TANK SYSTEM/INTERSTITIAL MONITORING		
Overfill Prot:	Catch Basin, High Level Alarm	Dispenser:	Submersible
Date Tested:	Not reported	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	61500	Renewal Date:	Not reported
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19990730
Old PBS Number:	Not reported	Expiration Date:	20030922
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		

AMOCO CORPORATION (Continued) **U003644557**

Lat/long:	Not reported		
Facility Type:	Not reported		
PBS Number:	2-603664	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 336-1300
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (800) 892-6626		
Total Tanks:	12		
Owner:	AMOCO 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO CORPORATION MORRIS CORPORATE CENTER 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	10000		
Tank Location:	UNDERGROUND		
Tank ID:	007	Install Date:	11/98
Product Stored:	UNLEADED GASOLINE	Tank Type:	Fiberglass reinforced plastic [FRP]
Tank Internal:	FIBERGLASS LINER [FRP]	Pipe Internal:	FIBERGLASS LINER [FRP]
Pipe Location:	Underground	Pipe Type:	FIBERGLASS [FRP]
Tank External:	NONE/FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/FIBERGLASS		
Second Containment:	NONE/DOUBLED-WALLED TANK		
Leak Detection:	IN-TANK SYSTEM/INTERSTITIAL MONITORING		
Overfill Prot:	Catch Basin, High Level Alarm	Dispenser:	Submersible
Date Tested:	Not reported	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	61500	Renewal Date:	Not reported
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19990730
Old PBS Number:	Not reported	Expiration Date:	20030922
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		
PBS Number:	2-603664	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 336-1300
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (800) 892-6626		
Total Tanks:	12		

AMOCO CORPORATION (Continued) **U003644557**

Owner:	AMOCO 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO CORPORATION MORRIS CORPORATE CENTER 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	10000		
Tank Location:	UNDERGROUND		
Tank ID:	008	Install Date:	11/98
Product Stored:	UNLEADED GASOLINE	Tank Type:	Fiberglass reinforced plastic [FRP]
Tank Internal:	FIBERGLASS LINER [FRP]	Pipe Internal:	FIBERGLASS LINER [FRP]
Pipe Location:	Underground	Pipe Type:	FIBERGLASS [FRP]
Tank External:	NONE/FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/FIBERGLASS		
Second Containment:	NONE/DOUBLED-WALLED TANK		
Leak Detection:	IN-TANK SYSTEM/INTERSTITIAL MONITORING		
Overfill Prot:	Catch Basin, High Level Alarm	Dispenser:	Submersible
Date Tested:	Not reported	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	61500	Renewal Date:	Not reported
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19990730
Old PBS Number:	Not reported	Expiration Date:	20030922
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		
PBS Number:	2-603664	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 336-1300
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (800) 892-6626		
Total Tanks:	12		
Owner:	AMOCO 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO CORPORATION MORRIS CORPORATE CENTER 300 INTERPACE PARKWAY		

AMOCO CORPORATION (Continued) **U003644557**

PARSIPPANY, NJ 07054
(973) 331-7000
ATTN: RAE ADAMS

Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	1000		
Tank Location:	UNDERGROUND		
Tank ID:	009	Install Date:	11/98
Product Stored:	LUBE OIL	Tank Type:	Fiberglass reinforced plastic [FRP]
Tank Internal:	FIBERGLASS LINER [FRP]	Pipe Internal:	FIBERGLASS LINER [FRP]
Pipe Location:	Underground	Pipe Type:	FIBERGLASS [FRP]
Tank External:	NONE/FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/FIBERGLASS		
Second Containment:	NONE/DOUBLED-WALLED TANK		
Leak Detection:	IN-TANK SYSTEM/INTERSTITIAL MONITORING		
Overfill Prot:	Catch Basin, High Level Alarm	Dispenser:	Submersible
Date Tested:	Not reported	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	61500	Renewal Date:	Not reported
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19990730
Old PBS Number:	Not reported	Expiration Date:	20030922
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		
PBS Number:	2-603664	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 336-1300
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (800) 892-6626		
Total Tanks:	12		
Owner:	AMOCO 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO CORPORATION MORRIS CORPORATE CENTER 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	1000		
Tank Location:	UNDERGROUND		
Tank ID:	010	Install Date:	11/98
Product Stored:	LUBE OIL	Tank Type:	Fiberglass reinforced plastic [FRP]

AMOCO CORPORATION (Continued) **U003644557**

Tank Internal:	FIBERGLASS LINER [FRP]	Pipe Internal:	FIBERGLASS LINER [FRP]
Pipe Location:	Underground	Pipe Type:	FIBERGLASS [FRP]
Tank External:	NONE/FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/FIBERGLASS		
Second Containment:	NONE/DOUBLED-WALLED TANK		
Leak Detection:	IN-TANK SYSTEM/INTERSTITIAL MONITORING		
Overfill Prot:	Catch Basin, High Level Alarm	Dispenser:	Submersible
Date Tested:	Not reported	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	61500	Renewal Date:	Not reported
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19990730
Old PBS Number:	Not reported	Expiration Date:	20030922
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		
PBS Number:	2-603664	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 336-1300
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (800) 892-6626		
Total Tanks:	12		
Owner:	AMOCO 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO CORPORATION MORRIS CORPORATE CENTER 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	1000		
Tank Location:	UNDERGROUND		
Tank ID:	011	Install Date:	11/98
Product Stored:	LUBE OIL	Tank Type:	Fiberglass reinforced plastic [FRP]
Tank Internal:	FIBERGLASS LINER [FRP]	Pipe Internal:	FIBERGLASS LINER [FRP]
Pipe Location:	Underground	Pipe Type:	FIBERGLASS [FRP]
Tank External:	NONE/FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/FIBERGLASS		
Second Containment:	NONE/DOUBLED-WALLED TANK		
Leak Detection:	IN-TANK SYSTEM/INTERSTITIAL MONITORING		
Overfill Prot:	Catch Basin, High Level Alarm	Dispenser:	Submersible

AMOCO CORPORATION (Continued) **U003644557**

Date Tested:	Not reported	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	61500	Renewal Date:	Not reported
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19990730
Old PBS Number:	Not reported	Expiration Date:	20030922
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		
PBS Number:	2-603664	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 336-1300
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (800) 892-6626		
Total Tanks:	12		
Owner:	AMOCO 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO CORPORATION MORRIS CORPORATE CENTER 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	2500		
Tank Location:	UNDERGROUND		
Tank ID:	012	Install Date:	11/98
Product Stored:	OTHER	Tank Type:	Equivalent technology
Tank Internal:	FIBERGLASS LINER [FRP]	Pipe Internal:	FIBERGLASS LINER [FRP]
Pipe Location:	Underground	Pipe Type:	FIBERGLASS [FRP]
Tank External:	NONE/FIBERGLASS		
Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/FIBERGLASS		
Second Containment:	NONE/DOUBLED-WALLED TANK		
Leak Detection:	IN-TANK SYSTEM/INTERSTITIAL MONITORING		
Overfill Prot:	Catch Basin, High Level Alarm	Dispenser:	Submersible
Date Tested:	Not reported	Next Test Date:	N.T.R
Date Closed:	Not reported	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	61500	Renewal Date:	Not reported
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19990730

AMOCO CORPORATION (Continued) **U003644557**

Old PBS Number:	Not reported	Expiration Date:	20030922
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		
PBS Number:	2-603664	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 336-1300
Operator:	YAAKOV WICZYK		
Emergency Contact:	AMOCO OIL CO, (800) 892-6626		
Total Tanks:	12		
Owner:	AMOCO 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	AMOCO CORPORATION MORRIS CORPORATE CENTER 300 INTERPACE PARKWAY PARSIPPANY, NJ 07054 (973) 331-7000 ATTN: RAE ADAMS		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	017	Install Date:	00/00
Product Stored:	USED OIL	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	Not reported
Tank External:	Not reported		
Tank Status:	Closed-Removed		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Not reported
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	12/98	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	61500	Renewal Date:	Not reported
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19990730
Old PBS Number:	Not reported	Expiration Date:	20030922
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		

D18 **APARTMENT BLDG** **LUST** **S103558033**
SW **880 68TH ST** **N/A**
1/8-1/4 **BROOKLYN, NY**
662
Higher

APARTMENT BLDG (Continued) **S103558033**

LUST:

Spill Number:	9808962	Region of Spill:	2
Facility Contact:	WEINER REALTY	Facility Tele:	(212) 730-8900
Investigator:	TOMASELLO	SWIS:	61
Caller Name:	JAMES LEDDY	Caller Agency:	PRO TEST
Caller Phone:	(516) 321-4670	Caller Extension:	Not reported
Notifier Name:	ALBERTO LOPEZ	Notifier Agency:	PROTEST ENTERPRISES
Notifier Phone:	(516) 321-4670	Notifier Extension:	Not reported
Spiller Contact:	WEINER REALTY	Spiller Phone:	(212) 730-8900
Spiller:	APARTMENT BLDG		
Spiller Address:	880 68TH ST BROOKLYN, NY		
Spill Class:	Known release that creates potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.		
Spill Closed Dt:	/ /		
Spill Cause:	Tank Test Failure	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Other Non Commercial/Industrial
Spill Notifier:	Tank Tester	PBS Number:	Not reported
Spill Date:	10/19/98 11:00	Reported to Dept:	10/19/98 13:36
Cleanup Ceased:	/ /		
Last Inspection:	/ /		

Cleanup Meets Standard:	False
Recommended Penalty:	No Penalty
Spiller Cleanup Date:	/ /
Enforcement Date:	/ /
Investigation Complete:	/ /
UST Involvement:	False
Spill Record Last Update:	10/22/98
Is Updated:	False
Corrective Action Plan Submitted:	/ /
Date Spill Entered In Computer Data File:	10/19/98
Date Region Sent Summary to Central Office:	/ /
DEC Remarks:	Not reported
Spill Cause:	Not reported

D19 **877/880 OWNERS CORP.** **UST** **U000416838**
SW **880 68TH ST** **N/A**
1/8-1/4 **BROOKLYN, NY 11220**
662
Higher

PBS UST:

PBS Number:	2-160504	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 833-3733
Operator:	IRENE MOUKELLES		
Emergency Contact:	EDDIE BAJROVIC, (212) 564-2111		
Total Tanks:	0		
Owner:	877/880 OWNERS CORP 1 PENN PLAZA NEW YORK, NY 10036 (212) 564-2111		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	WEINER REALTORS 1 PENN PLAZA, SUITE 4000 NEW YORK, NY 10019 (212) 564-2111		

877/880 OWNERS CORP. (Continued) **U000416838**

ATTN: EDDIE BAJROVIC

Facility Status:	2 - Unregulated by PBS (the total capacity is less than 1,101 gallons) and Subpart 360-14.		
Capacity (gals):	5000		
Tank Location:	UNDERGROUND		
Tank ID:	001	Install Date:	00/00
Product Stored:	NOS 1,2, OR 4 FUEL OIL	Tank Type:	Steel/carbon steel
Tank Internal:	EPOXY LINER	Pipe Internal:	NONE
Pipe Location:	Underground	Pipe Type:	STEEL/IRON
Tank External:	NONE/NONE		
Tank Status:	Closed-Removed		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/NONE		
Second Containment:	NONE/NONE		
Leak Detection:	NONE/NONE		
Overfill Prot:	Vent Whistle	Dispenser:	Suction
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	03/99	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	19970604
Tank Screen:	0	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990406
Old PBS Number:	Not reported	Expiration Date:	20020618
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	APARTMENT BUILDING		

B20 **65TH & 8TH AVE** **LUST** **S100494743**
NW **65TH / 8TH AVE** **N/A**
1/8-1/4 **BROOKLYN, NY**
679
Higher

LUST:

Spill Number:	9212718	Region of Spill:	2
Facility Contact:	Not reported	Facility Tele:	Not reported
Investigator:	O'DOWD	SWIS:	61
Caller Name:	CHRIS PEARSON	Caller Agency:	TANKNOLGY
Caller Phone:	(413) 789-2605	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
Spiller Contact:	Not reported	Spiller Phone:	(718) 492-4246
Spiller:	GETTY S/S		
Spiller Address:	65TH & 8TH AVE BROOKLYN		
Spill Class:	Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.		
Spill Closed Dt:	03/27/95		
Spill Cause:	Tank Test Failure	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Gas Station
Spill Notifier:	DEC	PBS Number:	Not reported
Spill Date:	02/10/93 13:00	Reported to Dept:	02/10/93 13:21
Cleanup Ceased:	03/27/95		
Last Inspection:	/ /		
Cleanup Meets Standard:	True		

65TH & 8TH AVE (Continued) **S100494743**

Recommended Penalty: No Penalty
Spiller Cleanup Date: / /
Enforcement Date: / /
Investigation Complete: / /
UST Involvement: True
Spill Record Last Update: 03/27/95
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 02/11/93
Date Region Sent Summary to Central Office: / /
DEC Remarks: 03/27/95: SEE SPILL NUMBER 9209230.
Spill Cause: NYCFD NOTIFIED EIR -NO ACTION YET DETERMINED

E21 NNW 1/8-1/4 699 Higher **813 64TH ST** **UST** **U001835106**
813 64TH ST **N/A**
BKLYN, NY 11220

PBS UST:

PBS Number:	2-269557	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 439-7300
Operator:	CARMELO GIUFFRE		
Emergency Contact:	CARMELO GIUFFRE, (718) 439-7300		
Total Tanks:	0		
Owner:	6301 8TH AVENUE, LLC 6401 6TH AVENUE BROOKLYN, NY 11220 (718) 439-7300		
Owner Type:	Corporate/Commercial	Owner Mark:	Second Owner
Owner Subtype:	Not reported		
Mailing Address:	6301 8TH AVENUE, LLC 6401 6TH AVENUE BROOKLYN, NY 11220 (718) 439-7300 ATTN: CARMELO GIUFFRE		
Facility Status:	2 - Unregulated by PBS (the total capacity is less than 1,101 gallons) and Subpart 360-14.		
Capacity (gals):	5000		
Tank Location:	UNDERGROUND		
Tank ID:	001	Install Date:	00/00
Product Stored:	NOS 1,2, OR 4 FUEL OIL	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	Not reported
Tank External:	Not reported		
Tank Status:	Closed-In Place		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Gravity
Date Tested:	04/98	Next Test Date:	Not reported
Date Closed:	03/99	Test Method:	HORNER
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	19930122
Tank Screen:	0	Federal ID:	Not reported

813 64TH ST (Continued) **U001835106**

Renew Flag:	Renwal has been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980507
Old PBS Number:	Not reported	Expiration Date:	20030416
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	OTHER		

C22 **SHELL GAS STATION** **LUST** **S102233341**
East **6414 FORT HAMILTON PARKWA** **N/A**
1/8-1/4 **BROOKLYN, NY**
723
Higher

LUST:

Spill Number:	9604656	Region of Spill:	2
Facility Contact:	Not reported	Facility Tele:	(718) 745-8782
Investigator:	MULQUEEN	SWIS:	61
Caller Name:	KATHERINE POHLOT	Caller Agency:	ENVIRO TRACK
Caller Phone:	(516) 586-1800	Caller Extension:	Not reported
Notifier Name:	SAME	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
Spiller Contact:	Not reported	Spiller Phone:	(718) 745-8782
Spiller:	SAME		
Spiller Address:	NY 11219		
Spill Class:	Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.		
Spill Closed Dt:	/ /		
Spill Cause:	Tank Failure	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Gas Station
Spill Notifier:	Tank Tester	PBS Number:	Not reported
Spill Date:	07/09/96 11:30	Reported to Dept:	07/09/96 15:20
Cleanup Ceased:	/ /		
Last Inspection:	/ /		
Cleanup Meets Standard:	False		
Recommended Penalty:	No Penalty		
Spiller Cleanup Date:	/ /		
Enforcement Date:	/ /		
Investigation Complete:	/ /		
UST Involvement:	False		
Spill Record Last Update:	08/26/96		
Is Updated:	False		
Corrective Action Plan Submitted:	/ /		
Date Spill Entered In Computer Data File:	07/09/96		
Date Region Sent Summary to Central Office:	/ /		
DEC Remarks:	Not reported		
Spill Cause:	they did a tank retro fit and noticed a leak in the tank tank size 4000 gallon .		

E23 **6418 8TH AVE.** **LUST** **S100494301**
NNW **6418 8TH AVE** **NY Spills** **N/A**
1/8-1/4 **BROOKLYN, NY**
753
Higher

LUST:

Spill Number:	9209230	Region of Spill:	2
Facility Contact:	Not reported	Facility Tele:	Not reported

6418 8TH AVE. (Continued) **S100494301**

Investigator:	O'DOWD	SWIS:	61
Caller Name:	DONA ROOT	Caller Agency:	TANKNOLOGY
Caller Phone:	(800) 666-2605	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
Spiller Contact:	Not reported	Spiller Phone:	Not reported
Spiller:	GETTY		
Spiller Address:	Not reported		
Spill Class:	Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.		
Spill Closed Dt:	/ /		
Spill Cause:	Tank Test Failure	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Gas Station
Spill Notifier:	Tank Tester	PBS Number:	Not reported
Spill Date:	11/09/92 15:10	Reported to Dept:	11/09/92 15:12
Cleanup Ceased:	/ /		
Last Inspection:	/ /		
Cleanup Meets Standard:	False		
Recommended Penalty:	No Penalty		
Spiller Cleanup Date:	/ /		
Enforcement Date:	/ /		
Investigation Complete:	/ /		
UST Involvement:	True		
Spill Record Last Update:	06/16/95		
Is Updated:	False		
Corrective Action Plan Submitted:	/ /		
Date Spill Entered In Computer Data File:	11/10/92		
Date Region Sent Summary to Central Office:	/ /		
DEC Remarks:	Not reported		
Spill Cause:	6 550-FAIL 2 550-FAIL RECOMMENDED EX-ISO AND RETEST		

SPILLS:

Spill Number:	9710958	Region of Spill:	2
Facility Contact:	Not reported	Facility Tele:	Not reported
Investigator:	O'DOWD	SWIS:	61
Caller Name:	BRIAN DEVAUX	Caller Agency:	TYREE ENVIRONMENTAL
Caller Phone:	(516) 249-3150	Caller Extension:	Not reported
Notifier Name:	BRIAN DEVAUX	Notifier Agency:	TYREE ENVIRONMENTAL
Notifier Phone:	(516) 249-3150	Notifier Extension:	Not reported
Spiller Contact:	Not reported	Spiller Phone:	Not reported
Spiller:	GETTY SERVICE STATION 223		
Spiller Address:	6418 8TH AVE BROOKLYN, NY		
Spill Class:	Known release that creates potential for fire or hazard. (Highly Improbable)		
Spill Closed Dt:	Not reported		
Spill Cause:	Unknown	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Gas Station
Spill Notifier:	Other	PBS Number:	Not reported
Spill Date:	12/30/1997 09:00	Reported to Dept:	12/30/1997 09:12
Cleanup Ceased:	Not reported		
Last Inspection:	Not reported		
Cleanup Meets Standard:	False		
Recommended Penalty:	No Penalty		
Spiller Cleanup Date:	Not reported		
Enforcement Date:	Not reported		
Investigation Complete:	Not reported		
UST Involvement:	False		

6418 8TH AVE. (Continued) **S100494301**

Spill Record Last Update: 01/15/1998
Is Updated: False
Corrective Action Plan Submitted: Not reported
Date Spill Entered In Computer Data File: 12/30/1997
Date Region Sent Summary to Central Office: Not reported
Remarks: found during station upgrade
DEC Remarks: Not reported

This is the most recent NY SPILLS record for this site.
The NY SPILLS database contains 1 additional record for this site.
Please contact your EDR Account Executive for more information.

E24 **GETTY PETROLEUM CORP 00223** **RCRIS-SQG** **1001223641**
NNW **6418 8TH AVE** **FINDS** **NYR000048561**
1/8-1/4 **BROOKLYN, NY 11220**
753
Higher

RCRIS:
Owner: GETTY PETROLEUM CORP
(516) 286-2600
Contact: DALE HOLDEN
(516) 286-2600
Record Date: 01/07/1998
Classification: Small Quantity Generator
Used Oil Recyc: No
Violation Status: No violations found

C25 **969 64TH ST PROJECT** **UST** **U000398424**
East **969 64TH ST** **N/A**
1/8-1/4 **BROOKLYN, NY 11219**
767
Higher

PBS UST:
PBS Number: 2-193887 CBS Number: Not reported
SPDES Number: Not reported
SWIS ID: 6101 Telephone: (718) 745-4050
Operator: COLUMBIA UTILITIES HEATING CO
Emergency Contact: STEVE DROGAAIS, (718) 921-3922
Total Tanks: 1
Owner: BESSIE & STEVE DROGARIS
1263 82ND ST
BROOKLYN, NY 11228
(718) 921-3922
Owner Type: Not reported Owner Mark: First Owner
Owner Subtype: Not reported
Mailing Address: STEVE DROGARIS/DRO MANAGEMENT
483 80TH STREET
BROOKLYN, NY 11209
(718) 921-3922
Not Reported
Facility Status: 1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.
Capacity (gals): 1500

969 64TH ST PROJECT (Continued) **U000398424**

Tank Location:	UNDERGROUND		
Tank ID:	001	Install Date:	00/00
Product Stored:	NOS 1,2, OR 4 FUEL OIL	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	STEEL/IRON
Tank External:	Not reported		
Tank Status:	In Service		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Product Level Gauge	Dispenser:	Suction
Date Tested:	04/98	Next Test Date:	04/03
Date Closed:	Not reported	Test Method:	HORNER
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	1500	Renewal Date:	19971201
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19980601
Old PBS Number:	Not reported	Expiration Date:	20030203
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	APARTMENT BUILDING		

---

26 South 1/8-1/4 782 Lower
LOUIES DRY CLEANERS **RCRIS-SQG** **1001197301**
68-01 FT HAMILTON PKWY **FINDS** **NYR000037911**
BROOKLYN, NY 11219

RCRIS:

Owner:	CHRIS PITAOULIS (718) 748-0477
Contact:	CHRIS PITAOULIS (718) 748-0477
Record Date:	04/17/1997
Classification:	Small Quantity Generator
Used Oil Recyc:	No
Violation Status:	No violations found

F27 North 1/8-1/4 807 Higher
SILENT HOIST & CRANE CO INC **UST** **U001832268**
841-877 63RD ST **N/A**
BROOKLYN, NY 11220

PBS UST:

PBS Number:	2-109347	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 238-2525
Operator:	SILENT HOIST & CRANE CO INC		
Emergency Contact:	P WUNSCH, (212) 682-1369		

SILENT HOIST & CRANE CO INC (Continued) **U001832268**

Total Tanks:	0		
Owner:	NINTH AVE EQUITIES CO INC 841 63RD ST BROOKLN, NY 11220 (718) 238-2525		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	NINTH AVE EQUITIES CO INC 841 63RD ST BROOKLN, NY 11220 (718) 238-2525		
	Not Reported		
Facility Status:	2 - Unregulated by PBS (the total capacity is less than 1,101 gallons) and Subpart 360-14.		
Capacity (gals):	1500		
Tank Location:	UNDERGROUND		
Tank ID:	001	Install Date:	00/00
Product Stored:	NOS 1,2, OR 4 FUEL OIL	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Underground	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed-Removed		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Product Level Gauge	Dispenser:	Suction
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	06/93	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	19920130
Tank Screen:	0	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19920324
Old PBS Number:	Not reported	Expiration Date:	19970324
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	OTHER		

G28 **KINGS COUNTY CARB&IGN CO, INC** **UST** **U000411216**
East **6324 FORT HAMILTON PKWY** **N/A**
1/8-1/4 **BKLN, NY 11219**
853
Higher

PBS UST:

PBS Number:	2-479934	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 232-3686
Operator:	FERDINAND GIORDANO		
Emergency Contact:	PETER GIORDANO, (718) 748-2397		
Total Tanks:	0		
Owner:	GIORDANO, FERDINAND 2102 61 ST BKLN, NY 11204 (718) 232-3686		

KINGS COUNTY CARB&IGN CO, INC (Continued) **U000411216**

Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	GIORDANO, FERDINAND 2102 61 ST BKLN, NY 11204 (718) 232-3686 Not Reported		
Facility Status:	2 - Unregulated by PBS (the total capacity is less than 1,101 gallons) and Subpart 360-14.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	001	Install Date:	00/00
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	STEEL/IRON
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	Not reported
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19900329
Old PBS Number:	Not reported	Expiration Date:	19950309
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		
PBS Number:	2-479934	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 232-3686
Operator:	FERDINAND GIORDANO		
Emergency Contact:	PETER GIORDANO, (718) 748-2397		
Total Tanks:	0		
Owner:	GIORDANO, FERDINAND 2102 61 ST BKLN, NY 11204 (718) 232-3686		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	GIORDANO, FERDINAND 2102 61 ST BKLN, NY 11204 (718) 232-3686 Not Reported		
Facility Status:	2 - Unregulated by PBS (the total capacity is less than 1,101 gallons) and Subpart 360-14.		
Capacity (gals):	550		

KINGS COUNTY CARB&IGN CO, INC (Continued) **U000411216**

Tank Location:	UNDERGROUND		
Tank ID:	002	Install Date:	00/00
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	STEEL/IRON
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	Not reported
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19900329
Old PBS Number:	Not reported	Expiration Date:	19950309
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		
PBS Number:	2-479934	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 232-3686
Operator:	FERDINAND GIORDANO		
Emergency Contact:	PETER GIORDANO, (718) 748-2397		
Total Tanks:	0		
Owner:	GIORDANO, FERDINAND 2102 61 ST BKLN, NY 11204 (718) 232-3686		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	GIORDANO, FERDINAND 2102 61 ST BKLN, NY 11204 (718) 232-3686 Not Reported		
Facility Status:	2 - Unregulated by PBS (the total capacity is less than 1,101 gallons) and Subpart 360-14.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	003	Install Date:	00/00
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	STEEL/IRON
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		

KINGS COUNTY CARB&IGN CO, INC (Continued) **U000411216**

Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	Not reported
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19900329
Old PBS Number:	Not reported	Expiration Date:	19950309
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		
PBS Number:	2-479934	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 232-3686
Operator:	FERDINAND GIORDANO		
Emergency Contact:	PETER GIORDANO, (718) 748-2397		
Total Tanks:	0		
Owner:	GIORDANO, FERDINAND 2102 61 ST BKLN, NY 11204 (718) 232-3686		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	GIORDANO, FERDINAND 2102 61 ST BKLN, NY 11204 (718) 232-3686 Not Reported		
Facility Status:	2 - Unregulated by PBS (the total capacity is less than 1,101 gallons) and Subpart 360-14.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	004	Install Date:	00/00
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	STEEL/IRON
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	Not reported
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing

KINGS COUNTY CARB&IGN CO, INC (Continued) **U000411216**

Certification Flag:	False	Certification Date:	19900329
Old PBS Number:	Not reported	Expiration Date:	19950309
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		
PBS Number:	2-479934	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 232-3686
Operator:	FERDINAND GIORDANO		
Emergency Contact:	PETER GIORDANO, (718) 748-2397		
Total Tanks:	0		
Owner:	GIORDANO, FERDINAND 2102 61 ST BKLN, NY 11204 (718) 232-3686		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	GIORDANO, FERDINAND 2102 61 ST BKLN, NY 11204 (718) 232-3686 Not Reported		
Facility Status:	2 - Unregulated by PBS (the total capacity is less than 1,101 gallons) and Subpart 360-14.		
Capacity (gals):	550		
Tank Location:	UNDERGROUND		
Tank ID:	005	Install Date:	00/00
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	STEEL/IRON
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	Not reported
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19900329
Old PBS Number:	Not reported	Expiration Date:	19950309
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		

G29 **KINGS CNTY CARBUR GETTY 98346** **UST** **U001836723**
East **6324 FORT HAMILTON PKWY** **N/A**
1/8-1/4 **BKLYN, NY 11219**
853
Higher

KINGS CNTY CARBUR GETTY 98346 (Continued) **U001836723**

PBS UST:

PBS Number:	2-151262	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 836-6091
Operator:	FRED OR CONNIE		
Emergency Contact:	TOM DICKSON REGION ENG, (718) 729-6500		
Total Tanks:	0		
Owner:	POWER TST RLTY CO LIMITED PTSP 175 SUNNYSIDE BLVD PLAINVIEW, NY 11803 (516) 579-9500		
Owner Type:	Not reported	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	POWER TST RLTY CO LIMITED PTSP 175 SUNNYSIDE BLVD PLAINVIEW, NY 11803 (516) 579-9500 Not Reported		
Facility Status:	2 - Unregulated by PBS (the total capacity is less than 1,101 gallons) and Subpart 360-14.		
Capacity (gals):	4000		
Tank Location:	UNDERGROUND		
Tank ID:	001	Install Date:	09/74
Product Stored:	UNLEADED GASOLINE	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	GALVANIZED STEEL
Tank External:	Not reported		
Tank Status:	Closed Before April 1, 1991		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	VAULT		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	00/00	Test Method:	Not reported
Deleted:	False	Updated:	False
Dead Letter:	False	Owner Screen:	Minor data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	0	Renewal Date:	Not reported
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19870826
Old PBS Number:	Not reported	Expiration Date:	19920826
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		

F30 **A MARCHISELLO** **UST** **U003127963**
North **813 63RD ST** **N/A**
1/8-1/4 **BROOKLYN, NY 11228**
902
Higher

PBS UST:

PBS Number:	2-359327	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 680-8313

A MARCHISELLO (Continued) **U003127963**

Operator:	LEO MARCHISELLO		
Emergency Contact:	LEO MARCHISELLO, (718) 332-8076		
Total Tanks:	1		
Owner:	LEO MARCHISELLO 813-63 ST BROOKLYN, NY 11228 (718) 332-8076		
Owner Type:	Private Resident	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	LEO MARCHISELLO 813-63 ST BROOKLYN, NY 11228 (718) 332-8076 Not Reported		
Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	5000		
Tank Location:	UNDERGROUND		
Tank ID:	001	Install Date:	12/70
Product Stored:	NOS 1,2, OR 4 FUEL OIL	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	STEEL/IRON
Tank External:	Not reported		
Tank Status:	In Service		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	VAULT		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Suction
Date Tested:	07/97	Next Test Date:	07/02
Date Closed:	Not reported	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	5000	Renewal Date:	19970625
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19971103
Old PBS Number:	Not reported	Expiration Date:	20020828
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	MANUFACTURING		

D31 **APARTMENT BLDG** **LUST** **S103558034**
SW **877 69TH ST** **N/A**
1/8-1/4 **BROOKLYN, NY**
925
Same

LUST:

Spill Number:	9808963	Region of Spill:	2
Facility Contact:	WEINER REALTY	Facility Tele:	(212) 730-8900
Investigator:	TOMASELLO	SWIS:	61
Caller Name:	JAMES LEDDY	Caller Agency:	PRO TEST
Caller Phone:	(516) 321-4670	Caller Extension:	Not reported
Notifier Name:	ALBERTO LOPEZ	Notifier Agency:	PROTEST ENTERPRISES
Notifier Phone:	(516) 321-4670	Notifier Extension:	Not reported
Spiller Contact:	WEINER REALTY	Spiller Phone:	(212) 730-8900

APARTMENT BLDG (Continued) **S103558034**

Spiller: APARTMENT BLDG
Spiller Address: 877 69TH ST
BROOKLYN, NY
Spill Class: Known release that creates potential for fire or hazard. DEC Response.
Willing Responsible Party. Corrective action taken.
Spill Closed Dt: / /
Spill Cause: Tank Test Failure
Resource Affected: On Land
Water Affected: Not reported
Spill Source: Other Non Commercial/Industrial
Spill Notifier: Tank Tester
PBS Number: Not reported
Spill Date: 10/19/98 13:00
Reported to Dept: 10/19/98 13:38
Cleanup Ceased: / /
Last Inspection: / /
Cleanup Meets Standard: False
Recommended Penalty: No Penalty
Spiller Cleanup Date: / /
Enforcement Date: / /
Investigation Complete: / /
UST Involvement: False
Spill Record Last Update: 10/22/98
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 10/19/98
Date Region Sent Summary to Central Office: / /
DEC Remarks: Not reported
Spill Cause: Not reported

D32 **877/880 OWNERS CORP.** **UST** **U000398254**
SW **877 69TH ST** **N/A**
1/8-1/4 **BROOKLYN, NY 11220**
925
Same

PBS UST:
PBS Number: 2-189359
CBS Number: Not reported
SPDES Number: Not reported
SWIS ID: 6101
Telephone: (718) 833-3733
Operator: IRENE MOUKELIS
Emergency Contact: EDDIE BAJROVIC, (212) 564-2111
Total Tanks: 1
Owner: 877/880 OWNERS CORP.
1 PENN PLAZA
NEW YORK, NY 10119
(212) 564-2111
Owner Type: Corporate/Commercial
Owner Mark: First Owner
Owner Subtype: Not reported
Mailing Address: WIENER REALTORS
1 PENN PLAZA, SUITE 4000
NEW YORK, NY 10119
(212) 564-2111
ATTN: EDDIE BAJROVIC
Facility Status: 1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.
Capacity (gals): 5000
Tank Location: UNDERGROUND
Tank ID: 001
Install Date: 03/99
Product Stored: NOS 1,2, OR 4 FUEL OIL
Tank Type: Steel/carbon steel
Tank Internal: EPOXY LINER
Pipe Internal: NONE
Pipe Location: Underground
Pipe Type: STEEL/IRON
Tank External: NONE/NONE

877/880 OWNERS CORP. (Continued) **U000398254**

Tank Status:	In Service		
Tank Error Status:	No Missing Data		
Pipe External:	NONE/NONE		
Second Containment:	NONE/NONE		
Leak Detection:	NONE/NONE		
Overfill Prot:	Vent Whistle	Dispenser:	Suction
Date Tested:	Not reported	Next Test Date:	03/09
Date Closed:	Not reported	Test Method:	Not reported
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	5000	Renewal Date:	19970611
Tank Screen:	No data missing	Federal ID:	Not reported
Renew Flag:	Renwal has not been printed	Facility Screen:	No data missing
Certification Flag:	False	Certification Date:	19990406
Old PBS Number:	Not reported	Expiration Date:	20020707
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	APARTMENT BUILDING		

H33 **ASPEN FORD** **RCRIS-SQG** **1000206469**
NNE **874 62ND ST** **FINDS** **NYD982794745**
1/8-1/4 **BROOKLYN, NY 11220**
952
Higher

RCRIS:

Owner:	HRA CORP (212) 555-1212
Contact:	DANIEL WALLACE (718) 680-4300
Record Date:	09/05/1989
Classification:	Small Quantity Generator
Used Oil Recyc:	No
Violation Status:	No violations found

---

34 **PRIDE FRENCH CLEANERS** **FINDS** **1000185530**
SSW **6900 FOTT HAMILTON PKWY** **RCRIS-LQG** **NYD982528754**
1/8-1/4 **BROOKLYN, NY 11228**
959
Lower

PRIDE FRENCH CLEANERS (Continued) **1000185530**

RCRIS:
Owner: PRIDE FRENCH CLEANERS
(212) 555-1212
Contact: KI AHN YOUNG
(718) 745-5500
Record Date: 02/02/1988
Classification: Large Quantity Generator
Used Oil Recyc: No
Violation Status: No violations found

I35 **SUBARU OF BAYRIDGE** **RCRIS-SQG** **1000789522**
North **6301 8TH AVE** **FINDS** **NYD987009834**
1/8-1/4 **BROOKLYN, NY 11220**
966
Higher

RCRIS:
Owner: CARMELO GUIFFRE
(718) 439-3330
Contact: RICCARDO IACONO
(718) 439-3330
Record Date: 07/23/1992
Classification: Small Quantity Generator
Used Oil Recyc: No
Violation Status: No violations found

I36 **6301 8TH AVE** **UST** **U001838589**
North **6301 8TH AVE** **N/A**
1/8-1/4 **BKLYN, NY 11220**
966
Higher

PBS UST:

PBS Number:	2-360635	CBS Number:	Not reported
SPDES Number:	Not reported		
SWIS ID:	6101	Telephone:	(718) 439-7300
Operator:	CARMELO GIUFFRE		
Emergency Contact:	CARMELO GIUFFRE, (718) 439-7300		
Total Tanks:	1		
Owner:	6301 EIGHTH AVENUE LLC 665 65TH STREET BROOKLYN, NY 11220 (718) 439-7300		
Owner Type:	Corporate/Commercial	Owner Mark:	First Owner
Owner Subtype:	Not reported		
Mailing Address:	6301 8TH AVENUE, LLC 6401 6TH AVENUE BROOKLYN, NY 11220 (718) 439-7300 ATTN: CARMELO GIUFFRE		

6301 8TH AVE (Continued) **U001838589**

Facility Status:	1 - Active PBS facility, i.e. total capacity of the PBS tanks is greater than 1,100 gallons, regardless if Subpart 360-14 tanks exist or not at the facility.		
Capacity (gals):	2500		
Tank Location:	UNDERGROUND		
Tank ID:	001	Install Date:	00/00
Product Stored:	NOS 1,2, OR 4 FUEL OIL	Tank Type:	Steel/carbon steel
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	Not reported
Tank External:	Not reported		
Tank Status:	In Service		
Tank Error Status:	Minor Data Missing		
Pipe External:	Not reported		
Second Containment:	NONE		
Leak Detection:	NONE		
Overfill Prot:	Not reported	Dispenser:	Gravity
Date Tested:	04/98	Next Test Date:	04/03
Date Closed:	Not reported	Test Method:	HORNER
Deleted:	False	Updated:	True
Dead Letter:	False	Owner Screen:	No data missing
FAMT:	Fiscal amount for registration fee is correct		
Total Capacity:	2500	Renewal Date:	19971202
Tank Screen:	Minor data missing	Federal ID:	Not reported
Renew Flag:	Renwal has been printed	Facility Screen:	Minor data missing
Certification Flag:	False	Certification Date:	19980612
Old PBS Number:	Not reported	Expiration Date:	20030203
Inspected Date:	Not reported	Inspector:	Not reported
Inspection Result:	Not reported		
Lat/long:	Not reported		
Facility Type:	Not reported		

J37 **SUPERIOR AUTO COLLISION INC** **RCRIS-SQG** **1000215464**
NW **761 65TH ST** **FINDS** **NYD986900470**
1/8-1/4 **BROOKLYN, NY 11220**
984
Higher

RCRIS:

Owner:	MARIO RIZOTTO (212) 555-1212
Contact:	MARIO RIZOTTO (718) 748-1859
Record Date:	05/04/1990
Classification:	Small Quantity Generator
Used Oil Recyc:	No
Violation Status:	No violations found

---

38 **AYWON WIRE & METAL CORP** **FINDS** **1000338090**
NNW **745 64TH ST** **RCRIS-LQG** **NYD002028603**
1/8-1/4 **BROOKLYN, NY 11220**
1157
Higher

AYWON WIRE & METAL CORP (Continued) **1000338090**

RCRIS:
Owner: AYWON WIRE & METAL CORP
(212) 555-1212
Contact: YAGODA ABRAHAM
(718) 238-5000
Record Date: 08/13/1980
Classification: Large Quantity Generator
Used Oil Recyc: No
Violation Status: No violations found

J39 **FINAL TOUCH COLLISION** **FINDS** **1000148425**
NW **738 65TH ST** **RCRIS-LQG** **NYD144129566**
1/8-1/4 **BROOKLYN, NY 11220**
1160
Higher

RCRIS:
Owner: MARIO PARENTI
(212) 555-1212
Contact: MARIO PARENTI
(718) 833-8216
Record Date: 07/25/1988
Classification: Large Quantity Generator
Used Oil Recyc: No
Violation Status: No violations found

H40 **881 61ST STREET** **LUST** **S102672837**
NE **881 61ST STREET -PVT HOME** **N/A**
1/8-1/4 **BROOKLYN, NY**
1186
Higher

LUST:

Spill Number:	9415165	Region of Spill:	2
Facility Contact:	Not reported	Facility Tele:	Not reported
Investigator:	ENGELHARDT	SWIS:	61
Caller Name:	CAROL FREY	Caller Agency:	BAERENKLAU
Caller Phone:	(718) 647-4200	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
Spiller Contact:	Not reported	Spiller Phone:	(718) 647-4200
Spiller:	BAERENKLAU		
Spiller Address:	740 JAMAICA AVENUE BROOKLYN, NEW YORK 11208		
Spill Class:	Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.		
Spill Closed Dt:	/ /		
Spill Cause:	Tank Overfill	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Private Dwelling
Spill Notifier:	Responsible Party	PBS Number:	Not reported
Spill Date:	02/18/95 13:15	Reported to Dept:	02/18/95 13:46

881 61ST STREET (Continued) **S102672837**

Cleanup Ceased: / /
Last Inspection: / /
Cleanup Meets Standard: False
Recommended Penalty: No Penalty
Spiller Cleanup Date: / /
Enforcement Date: / /
Investigation Complete: / /
UST Involvement: False
Spill Record Last Update: / /
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 03/28/95
Date Region Sent Summary to Central Office: / /
DEC Remarks: Not reported
Spill Cause: CUSTOMER OREDERED TOO MUCH FUEL, WHEN DELIVERED IT CAUSED OVERFILL.

J41 **FINAL TOUCH COLLISION** **RCRIS-SQG** **1000148426**
NW **732 65TH ST** **FINDS** **NYD986898625**
1/8-1/4 **BROOKLYN, NY 11220**
1209
Higher

RCRIS:
Owner: MARIO PARENTE
(212) 555-1212

Contact: MARIO PARENTE
(718) 833-8216

Record Date: 04/13/1990

Classification: Small Quantity Generator

Used Oil Recyc: No

Violation Status: No violations found

NY MANIFEST
Additional detail is available in NY MANIFEST. Please contact your EDR Account Executive for more information.

---

42 **ADVANCED AUTO BODY DBA NIC-WAY** **FINDS** **1000151129**
NE **925 61ST ST** **RCRIS-LQG** **NYD986901924**
1/8-1/4 **BROOKLYN, NY 11219**
1210
Higher

RCRIS:
Owner: NICK ROMANO
(212) 555-1212

Contact: PAT FORTINI
(718) 438-9002

Record Date: 05/31/1990

Classification: Large Quantity Generator, Small Quantity Generator

ADVANCED AUTO BODY DBA NIC-WAY (Continued) **1000151129**

Used Oil Recyc: No

Violation Status: No violations found

K43 **SHELL/65TH ST & 7TH AVE** **LUST** **S102671383**
NW **65TH STREET / 7TH AVENUE** **N/A**
1/4-1/2 **NEW YORK CITY, NY**
1466
Higher

LUST:

Spill Number:	8900220	Region of Spill:	2
Facility Contact:	Not reported	Facility Tele:	Not reported
Investigator:	TOMASELLO	SWIS:	61
Caller Name:	VICTOR	Caller Agency:	ISLAND TRANSPORTATION
Caller Phone:	(718) 821-6900	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
Spiller Contact:	Not reported	Spiller Phone:	Not reported
Spiller:	ISLAND TRANSPORTATION		
Spiller Address:	5700 47TH STREET MASPETH, NY		
Spill Class:	Not reported		
Spill Closed Dt:	04/08/89		
Spill Cause:	Tank Overfill	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Gas Station
Spill Notifier:	Responsible Party	PBS Number:	Not reported
Spill Date:	04/07/89 18:30	Reported to Dept:	04/07/89 19:39
Cleanup Ceased:	04/08/89		
Last Inspection:	/ /		

Cleanup Meets Standard: True
Recommended Penalty: No Penalty
Spiller Cleanup Date: / /
Enforcement Date: / /
Investigation Complete: / /
UST Involvement: True
Spill Record Last Update: 10/02/96
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 04/18/89
Date Region Sent Summary to Central Office: / /
DEC Remarks: Not reported
Spill Cause: FIRE DEPT ON SCENE, WASHED GASOLINE DOWN SEWER, RAINING HEAVILY, NO AC TION TAKEN.

K44 **6418 7TH AVE/BKLYN/SHELL** **LUST** **S100167470**
NW **6418 7TH AVE** **N/A**
1/4-1/2 **NEW YORK CITY, NY**
1495
Higher

LUST:

Spill Number:	8707567	Region of Spill:	2
Facility Contact:	Not reported	Facility Tele:	Not reported
Investigator:	Not reported	SWIS:	61
Caller Name:	Not reported	Caller Agency:	Not reported
Caller Phone:	Not reported	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported

6418 7TH AVE/BKLYN/SHELL (Continued) **S100167470**

Notifier Phone: Not reported
Notifier Extension: Not reported
Spiller Contact: Not reported
Spiller Phone: Not reported
Spiller: SHELL OIL
Spiller Address: 6418 7TH AVE
B'KLYN, NY
Spill Class: Known release that creates potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Spill Closed Dt: 11/02/92
Spill Cause: Tank Test Failure
Resource Affected: Groundwater
Water Affected: Not reported
Spill Source: Other Commercial/Industrial
Spill Notifier: Tank Tester
PBS Number: 2-190918
Spill Date: 12/03/87 16:30
Reported to Dept: 12/03/87 16:53
Cleanup Ceased: 11/02/92
Last Inspection: / /
Cleanup Meets Standard: True
Recommended Penalty: No Penalty
Spiller Cleanup Date: / /
Enforcement Date: / /
Investigation Complete: / /
UST Involvement: True
Spill Record Last Update: 06/26/95
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 12/07/87
Date Region Sent Summary to Central Office: / /
DEC Remarks: Not reported
Spill Cause: (2) 4K TANKS FAILED, 1ST HAD A LEAK RATE OF -1.497G/HR 2ND HAD A LEAK RATE OF -1.483G/HR EXCAVATE AND REPAIR.

L45 **605 65TH ST/EXXON** **LUST** **S100493573**
NW **605 65TH ST** **NY Spills** **N/A**
1/4-1/2 **BKLYN, NY**
1895
Higher

LUST:
Spill Number: 9202271
Region of Spill: 2
Facility Contact: Not reported
Facility Tele: Not reported
Investigator: O'DOWD
SWIS: 61
Caller Name: C TARTAGLIA
Caller Agency: EXXON
Caller Phone: (516) 876-4671
Caller Extension: Not reported
Notifier Name: Not reported
Notifier Agency: Not reported
Notifier Phone: Not reported
Notifier Extension: Not reported
Spiller Contact: Not reported
Spiller Phone: Not reported
Spiller: EXXON
Spiller Address: Not reported
Spill Class: Known release that creates a file or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Spill Closed Dt: / /
Spill Cause: Tank Overfill
Resource Affected: On Land
Water Affected: Not reported
Spill Source: Passenger Vehicle
Spill Notifier: Responsible Party
PBS Number: Not reported
Spill Date: 05/22/92 14:00
Reported to Dept: 05/26/92 12:47
Cleanup Ceased: / /
Last Inspection: / /
Cleanup Meets Standard: False
Recommended Penalty: No Penalty
Spiller Cleanup Date: / /
Enforcement Date: / /

605 65TH ST/EXXON (Continued) **S100493573**

Investigation Complete: / /
UST Involvement: False
Spill Record Last Update: 08/09/95
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 05/28/92
Date Region Sent Summary to Central Office: / /
DEC Remarks: Not reported
Spill Cause: CONTAMINATED WATER FROM PREVIOUSLY ABANDONED TANK PUMPED & TRUCKED TO CL EAN HARBORS; CONTAMINATED SOIL STOCKPILED, TESTED & WILL BE DISPOSED.

SPILLS:

Spill Number:	9200613	Region of Spill:	2
Facility Contact:	Not reported	Facility Tele:	Not reported
Investigator:	O'DOWD	SWIS:	61
Caller Name:	LIZ GREY	Caller Agency:	EXXON
Caller Phone:	(800) 992-3647	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
Spiller Contact:	Not reported	Spiller Phone:	Not reported
Spiller:	Not reported		
Spiller Address:	Not reported		
Spill Class:	Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.		
Spill Closed Dt:	04/17/1992		
Spill Cause:	Equipment Failure	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Gas Station
Spill Notifier:	Responsible Party	PBS Number:	Not reported
Spill Date:	04/15/1992 14:50	Reported to Dept:	04/15/1992 15:31
Cleanup Ceased:	04/17/1992		
Last Inspection:	Not reported		
Cleanup Meets Standard:	True		
Recommended Penalty:	No Penalty		
Spiller Cleanup Date:	Not reported		
Enforcement Date:	Not reported		
Investigation Complete:	Not reported		
UST Involvement:	True		
Spill Record Last Update:	04/23/1993		
Is Updated:	False		
Corrective Action Plan Submitted:	Not reported		
Date Spill Entered In Computer Data File:	04/22/1992		
Date Region Sent Summary to Central Office:	Not reported		
Remarks:	Not reported		
DEC Remarks:	Not reported		

This is the most recent NY SPILLS record for this site.
The NY SPILLS database contains 1 additional record for this site.
Please contact your EDR Account Executive for more information.

L46 **EXXON CO USA 37977** **FINDS** **1000553162**
NW **605 65TH ST** **RCRIS-LQG** **NYD986955748**
1/4-1/2 **BROOKLYN, NY 11220** **LUST**
1895 **NY Spills**
Higher

EXXON CO USA 37977 (Continued) **1000553162**

RCRIS:
Owner: CIRCLE SERV STA II CORP
(212) 555-1212
Contact: ALDA S POOL
(713) 656-7709
Record Date: 03/13/1991
Classification: Large Quantity Generator
Used Oil Recyc: No
Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
AIRS Facility System (AIRS/AFS)

LUST:

Spill Number:	9700080	Region of Spill:	2
Facility Contact:	MONIQUE JOHNSON	Facility Tele:	(800) 350-0531
Investigator:	O'DOWD	SWIS:	61
Caller Name:	GERRY KASPER	Caller Agency:	CROMPCO CORP
Caller Phone:	(800) 646-3161	Caller Extension:	Not reported
Notifier Name:	STEVE BROGAN	Notifier Agency:	CROMPCO
Notifier Phone:	(800) 646-3161	Notifier Extension:	Not reported
Spiller Contact:	MONIQUE JOHNSON	Spiller Phone:	(800) 350-0531
Spiller:	EXXON SERVICE STATION		
Spiller Address:	605 65TH ST BROOKLYN, NY		
Spill Class:	Known release that creates potential for fire or hazard. (Highly Improbable)		
Spill Closed Dt:	06/18/97		
Spill Cause:	Tank Test Failure	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Gas Station
Spill Notifier:	Tank Tester	PBS Number:	0-000000
Spill Date:	04/02/97 13:00	Reported to Dept:	04/02/97 13:36

Cleanup Ceased: / /
Last Inspection: / /
Cleanup Meets Standard: False
Recommended Penalty: No Penalty
Spiller Cleanup Date: / /
Enforcement Date: / /
Investigation Complete: / /
UST Involvement: True
Spill Record Last Update: 06/18/97
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 04/02/97
Date Region Sent Summary to Central Office: / /
DEC Remarks: 4/2/97 PRIMARY TANK FAILURE WAS THE RESULT OF A WARNING FROM THE INTERST ITIAL MONITOR AND SUBSEQUENT TANK TEST HAVING BEEN PERFORMED. AT THAT T IME A TEST OF THE SECONDARY TANK PROVED TIGHT TO ENSURE THERE WAS NOT A RELEASE. THE TANK IN QUESTION ISSTORING REG. U/L GASOLINE. TANK FAILU RE WAS DUE TO A CORROSION HOLE FOUND BENEATH THE STRIKER PLATE AT THE BO TTOM OF THE TANK. 4/13/97 REPAIR AND INTERIOR LINING OF 1X4K GAL. DOUBL E WALL BUFFIDE TANK WAS COMPLETED BY WCC TANK TECH. 4/15/97 A UST 2000 T EST WAS SUCCESSFULLY PERFORMED BY CROMPCO. THERE WAS NO ENVIRONMENTAL I

EXXON CO USA 37977 (Continued) **1000553162**

MPACT ATTRIBUTED TO THE FAILURE OF THE PRIMARY TANK, WITH PRODUCT BEING CONTAINED BY THE SECONDARY TANK.

Spill Cause: EXXON WILL HAVE TANK PUMPED OUT-OWENS CORNING TO INVESTIGATE PROBLEM WIT H THE TANK

SPILLS:

Spill Number:	9511582	Region of Spill:	2
Facility Contact:	Not reported	Facility Tele:	(718) 745-8810
Investigator:	TANG	SWIS:	61
Caller Name:	STEVE NELSON	Caller Agency:	EXXON
Caller Phone:	(800) 443-5739	Caller Extension:	Not reported
Notifier Name:	ANDREW BELLAMN CO	Notifier Agency:	Not reported
Notifier Phone:	(516) 234-6669	Notifier Extension:	Not reported
Spiller Contact:	Not reported	Spiller Phone:	(718) 745-8810
Spiller:	EXXON		
Spiller Address:	605 65TH ST BROOKLYN, NY		
Spill Class:	Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.		
Spill Closed Dt:	12/13/1995		
Spill Cause:	Equipment Failure	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Gas Station
Spill Notifier:	Responsible Party	PBS Number:	Not reported
Spill Date:	12/12/1995 16:30	Reported to Dept:	12/13/1995 14:57
Cleanup Ceased:	Not reported		
Last Inspection:	Not reported		
Cleanup Meets Standard:	False		
Recommended Penalty:	No Penalty		
Spiller Cleanup Date:	Not reported		
Enforcement Date:	Not reported		
Investigation Complete:	Not reported		
UST Involvement:	False		
Spill Record Last Update:	01/04/1996		
Is Updated:	False		
Corrective Action Plan Submitted:	Not reported		
Date Spill Entered In Computer Data File:	12/13/1995		
Date Region Sent Summary to Central Office:	Not reported		
Remarks:	filters on pumps were leaking - wet soil under dispensers		
DEC Remarks:	Not reported		

---

47 **1105 60TH STREET** **LUST** **S101174797**
East **1105 60TH STREET** **N/A**
1/4-1/2 **BROOKLYN, NY, NY**
2255
Higher

LUST:

Spill Number:	9403567	Region of Spill:	2
Facility Contact:	Not reported	Facility Tele:	Not reported
Investigator:	ROMMEL	SWIS:	61
Caller Name:	RONALD WILSON	Caller Agency:	NYSDEC
Caller Phone:	(718) 776-6080	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
Spiller Contact:	Not reported	Spiller Phone:	Not reported
Spiller:	GASETERIA SVCE STATION		
Spiller Address:	1105 60TH STREET BROOKLYN, NY		

1105 60TH STREET (Continued) **S101174797**

Spill Class: Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Spill Closed Dt: 02/05/98
Spill Cause: Tank Overfill
Resource Affected: On Land
Water Affected: Not reported
Spill Source: Gas Station
Spill Notifier: DEC
PBS Number: Not reported
Spill Date: 06/14/94 09:00
Reported to Dept: 06/14/94 09:30
Cleanup Ceased: / /
Last Inspection: / /
Cleanup Meets Standard: True
Recommended Penalty: No Penalty
Spiller Cleanup Date: / /
Enforcement Date: / /
Investigation Complete: / /
UST Involvement: True
Spill Record Last Update: 02/05/98
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 07/26/94
Date Region Sent Summary to Central Office: / /
DEC Remarks: Station rebuild 9/97. DEC visual inspection of soils: very clean, sligh t odor. Five excavation soil samples below STARS, the results indicate the presence of toluene in blank - lab contamination. Subsurface soils were clean beneath the leaking suction pump noted (and photograhped) by R. Wilson on 6/14/94. Four 4,000 gallon USTs, up to '98 upgrades, insta lled in same excavation.
Spill Cause: WHILE WITNESSING ONGOING TANK TEST, NOTICE SPILLS 0F STATION. (WILSON)

Spill Number: 9403587
Region of Spill: 2
Facility Contact: Not reported
Facility Tele: Not reported
Investigator: ROMMEL
SWIS: 61
Caller Name: RONALD WILSON
Caller Agency: NYCDEC
Caller Phone: (718) 776-6080
Caller Extension: Not reported
Notifier Name: Not reported
Notifier Agency: Not reported
Notifier Phone: Not reported
Notifier Extension: Not reported
Spiller Contact: Not reported
Spiller Phone: Not reported
Spiller: GASETERIA SVCE STATION
Spiller Address: 1105 60TH STREET
BROOKLYN, NY
Spill Class: Known release that creates potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Spill Closed Dt: / /
Spill Cause: Tank Test Failure
Resource Affected: On Land
Water Affected: Not reported
Spill Source: Gas Station
Spill Notifier: Health Department
PBS Number: Not reported
Spill Date: 06/14/94 11:00
Reported to Dept: 06/14/94 11:00
Cleanup Ceased: / /
Last Inspection: / /
Cleanup Meets Standard: False
Recommended Penalty: No Penalty
Spiller Cleanup Date: / /
Enforcement Date: / /
Investigation Complete: / /
UST Involvement: True
Spill Record Last Update: 11/17/97
Is Updated: False
Corrective Action Plan Submitted: / /

1105 60TH STREET (Continued) **S101174797**

Date Spill Entered In Computer Data File: 07/26/94
Date Region Sent Summary to Central Office: / /
DEC Remarks: Formerly Wilson Spill 9/97 all 550s removed(except for waste oil UST). No significant soil contamination was noted during DEC visual observatio n of side walls and bottom of excavation and sniffing of stock pile. Ne w tanks being put in same hole.
Spill Cause: GROSS LEAK OF SUCTION PUMP, TECHNICIAN REMOVED PUMP AND CAPPED. R. WILSO N (NYSDEC) WITNESSED TEST SPILL (VISUAL LEAK).

---

48 SSW 1/4-1/2 2523 Lower **929 75TH ST.** **LUST** **S100144783**
929 75TH ST. **N/A**
NEW YORK CITY, NY

LUST:

Spill Number:	8705278	Region of Spill:	2
Facility Contact:	Not reported	Facility Tele:	Not reported
Investigator:	BATTISTA	SWIS:	61
Caller Name:	Not reported	Caller Agency:	Not reported
Caller Phone:	Not reported	Caller Extension:	Not reported
Notifier Name:	Not reported	Notifier Agency:	Not reported
Notifier Phone:	Not reported	Notifier Extension:	Not reported
Spiller Contact:	Not reported	Spiller Phone:	(718) 833-1010

Spiller: ST. EPHREM'S CHURCH
Spiller Address: 929 75TH ST.
B'KLYN, NY
Spill Class: Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Spill Closed Dt: 11/19/92

Spill Cause:	Tank Test Failure	Resource Affected:	Groundwater
Water Affected:	Not reported	Spill Source:	Other Non Commercial/Industrial
Spill Notifier:	Tank Tester	PBS Number:	2-359211
Spill Date:	09/23/87 19:00	Reported to Dept:	09/23/87 19:35

Cleanup Ceased: 11/19/92
Last Inspection: / /
Cleanup Meets Standard: False
Recommended Penalty: No Penalty
Spiller Cleanup Date: / /
Enforcement Date: / /
Investigation Complete: / /
UST Involvement: False
Spill Record Last Update: 05/12/94
Is Updated: False
Corrective Action Plan Submitted: / /
Date Spill Entered In Computer Data File: 09/24/87
Date Region Sent Summary to Central Office: / /
DEC Remarks: / / : EXCAVATE, ISOLATE, AND RETEST.
Spill Cause: 5,000 GALLON TANK FAILED- HIGH VOLUME LEAK.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)	Facility ID
BROOKLYN	S100494529	126TH STREET/FELIX STREET	126TH STREET/FELIX STREET		LUST	9210971
BROOKLYN	S103592357	NYCDOS @ 52ND ST BROOKLYN	52ND STREET / NY BAY		SWF/LF	24T01
BROOKLYN	S102662728	ROADWAY	8402 8TH AVE		LUST	9610255
BROOKLYN	S100177757	1402 8TH AVE/ARMORY	1402 8TH AVE/ARMORY		LUST	9110377
BROOKLYN	S100177039	6418 8TH AVE/GETTY	6418 8TH AVE/GETTY		LUST	9105805
BROOKLYN	S101658301	118 8TH AVENUE	118 8TH AVENUE		LUST	9501741
BROOKLYN	1001028802	NYCDOT BIN 2231249	BELT SHORE PKWY OVER BAY RIDGE	11228	RCRIS-SQG, FINDS	
BROOKLYN	S102672033	2110 BOLTON STREET	2110 BOLTON STREET		LUST	9210698
BROOKLYN	S100153391	BQE @ 56TH ST EXIT	BQE @ 56TH ST EXIT		LUST	9107100
BROOKLYN	S104075726	JUMBO RECYCLING, INC.	27 BRIDGE ST # 35		SWF/LF	
BROOKLYN	S103560371	722 COURT ST	722 COURT ST		LUST, NY Spills	9102797
BROOKLYN	S103940067		3806 FORT HAMILTON P'WAY		LUST	9713697
BROOKLYN	S102148895	ARMY RESERVE CENTER	FORT HAMILTON		LUST, NY Spills	9409676
BROOKLYN	S100493476	90 2ND OF SEVENTH AVE	FORT HAMILTON-US ARMY		LUST	9201327
BROOKLYN	S102662892	REDHOOK SERVICE STATION	260 HAMILTON AVE		LUST	9614612
BROOKLYN	S103570854	RED HOOK TERMINAL	HAMILTON AVE		LUST, NY Spills	8908683
BROOKLYN	S100167412	2801 KNAPP STREET. / BROO	2801 KNAPP STREET		LUST	8702054
BROOKLYN	S100782138	MARINE HWY BR.- BEAR RT.	MARINE HWY BR. - BEAR RT.		LUST	9310215
BROOKLYN	S103350609	BROOKLYN BOROUGH GAS WORKS, CONEY	NEPTUNE AVENUE, CONEY ISLAND		SHWS	224026
BROOKLYN	S103557923	AMOCO SERVICE STATION	73-10 NEW UTRECHT AVE		LUST	9806771
BROOKLYN	S104075719	CHAMBERS PAPER FIBERS	139 PLYMOUTH ST		SWF/LF	
BROOKLYN	S102560644	TILLARY STREET AND	PRINCE STREET		NY Spills	9701275
BROOKLYN	S104191601		REAR 1439 66TH STREET		LUST	9905211
BROOKLYN	S103570427	1565 62 STREET	RESIDENTS		NY Spills	9614801
BROOKLYN	S103828537	GORTHALS SUB STATION	RIVER RD +FOREST AVE		NY Spills	9814276
BROOKLYN	S102148906	EAST RIVER -GRAND STREET	EAST RIVER AT GRAND AVE		NY Spills	9409786
BROOKLYN	S103938065	RUSSEL STREET	RUSSELL STREET		NY Spills	9902625
BROOKLYN	S100177516	44-21 9TH ST/NY TEL	44021 9TH ST		LUST	9110490
BROOKLYN	S101658318	447 60TH STREET	447 60TH STREET		LUST	9502069
BROOKLYN	S102672488	547 81ST STREET	547 81ST STREET		LUST	9401304
BROOKLYN	S102141358	STAPLETON ANCHORAGE	NY UPPER BAY		LUST, NY Spills	9107222

GEOCHECK VERSION 2.1 ADDENDUM
FEDERAL DATABASE WELL INFORMATION

Well Closest to Target Property (Eastern Quadrant)

BASIC WELL DATA

Site ID:	403819073581101	Distance from TP:	>2 Miles
Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1935	County:	Kings
Altitude:	40.00 ft.	State:	New York
Well Depth:	145.00 ft.	Topographic Setting:	Flat surface
Depth to Water Table:	47.00 ft.	Prim. Use of Site:	Observation
Date Measured:	06011947	Prim. Use of Water:	Unused

LITHOLOGIC DATA

Geologic Age ID (Era/System/Series):	Cenozoic-Quaternary-Pleistocene
Principal Lithology of Unit:	Sand
Further Description:	COARSE GRAINED

WATER LEVEL VARIABILITY

Not Reported

GEOCHECK VERSION 2.1
PUBLIC WATER SUPPLY SYSTEM INFORMATION

Searched by Nearest PWS.

PWS SUMMARY:

PWS ID:	NY0018391	PWS Status:	Active	Distance from TP:	1/2 - 1 Mile
Date Initiated:	Not Reported	Date Deactivated:	Not Reported	Dir relative to TP:	East
PWS Name:	BORO PARK BUNGALOWS FRASER ROAD KIAMESHA LAKE, NY 12751				
Addressee / Facility:	System Owner/Responsible Party BURGER SANDER C/O SANDER BURGER 1170 53RD STREET BROOKLYN, NY 11219				
Facility Latitude:	40 37 54		Facility Longitude:	073 59 48	
City Served:	THOMPSON (T)				
Treatment Class	Not Reported		Population Served:	Not Reported	

PWS currently has or has had major violation(s) or enforcement: No

EPA Waste Codes Addendum

Code	Description
D008	LEAD

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC).

Date of Government Version: 07/22/99
Date Made Active at EDR: 09/10/99
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 08/05/99
Elapsed ASTM days: 36
Date of Last EDR Contact: 11/08/99

DELISTED NPL: NPL Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 06/24/99
Date Made Active at EDR: 09/10/99
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 08/10/99
Elapsed ASTM days: 31
Date of Last EDR Contact: 11/08/99

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/26/99
Date Made Active at EDR: 11/11/99
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 08/30/99
Elapsed ASTM days: 73
Date of Last EDR Contact: 11/29/99

CERCLIS-NFRAP: No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 08/26/99
Date Made Active at EDR: 11/11/99
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 08/30/99
Elapsed ASTM days: 73
Date of Last EDR Contact: 11/29/99

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/07/99
Date Made Active at EDR: 10/28/99
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 09/13/99
Elapsed ASTM days: 45
Date of Last EDR Contact: 12/13/99

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 09/01/99
Date Made Active at EDR: 11/17/99
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 10/06/99
Elapsed ASTM days: 42
Date of Last EDR Contact: 01/03/00

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 01/06/00
Date Made Active at EDR: 02/08/00
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 01/31/00
Elapsed ASTM days: 8
Date of Last EDR Contact: 11/01/99

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/97
Database Release Frequency: Biennially
Date of Last EDR Contact: 12/20/99
Date of Next Scheduled EDR Contact: 03/20/00

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: Varies
Database Release Frequency: Varies
Date of Last EDR Contact: Varies
Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision
Source: NTIS
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/31/99
Database Release Frequency: Annually
Date of Last EDR Contact: 01/10/00
Date of Next Scheduled EDR Contact: 04/10/00

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/13/99
Database Release Frequency: Quarterly
Date of Last EDR Contact: 01/12/00
Date of Next Scheduled EDR Contact: 04/10/00

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4526
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/30/99
Database Release Frequency: Annually
Date of Last EDR Contact: 10/28/99
Date of Next Scheduled EDR Contact: 01/24/00

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/29/99
Database Release Frequency: Quarterly
Date of Last EDR Contact: 01/10/00
Date of Next Scheduled EDR Contact: 04/10/00

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 08/01/98
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 01/03/00
Date of Next Scheduled EDR Contact: 04/03/00

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 11/24/99
Date of Next Scheduled EDR Contact: 02/21/00

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-260-3936
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/22/97
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 11/09/99
Date of Next Scheduled EDR Contact: 02/14/00

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 12/13/99
Date of Next Scheduled EDR Contact: 03/13/00

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/97
Database Release Frequency: Annually
Date of Last EDR Contact: 12/27/99
Date of Next Scheduled EDR Contact: 03/27/00

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-1444
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/94
Database Release Frequency: Every 4 Years
Date of Last EDR Contact: 01/03/00
Date of Next Scheduled EDR Contact: 04/24/00

STATE OF NEW YORK ASTM STANDARD RECORDS

SHWS: Inactive Hazardous Waste Disposal Sites in New York State
Source: Department of Environmental Conservation
Telephone: 518-457-0747
State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 04/01/99
Date Made Active at EDR: 09/16/99
Database Release Frequency: Annually
Date of Data Arrival at EDR: 07/15/99
Elapsed ASTM days: 63
Date of Last EDR Contact: 11/29/99

LF: Facility Register
Source: Department of Environmental Conservation
Telephone: 518-457-2051
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/27/99
Date Made Active at EDR: 11/05/99
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 09/27/99
Elapsed ASTM days: 39
Date of Last EDR Contact: 11/08/99

LUST: Spills Information Database
Source: Department of Environmental Conservation
Telephone: 518-457-2462
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/01/99
Date Made Active at EDR: 01/04/00
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 11/29/99
Elapsed ASTM days: 36
Date of Last EDR Contact: 11/01/99

UST: Petroleum Bulk Storage (PBS) Database
Source: Department of Environmental Conservation
Telephone: 518-457-4351
Facilities that have petroleum storage capacities in excess of 1,100 gallons and less than 400,000 gallons.

Date of Government Version: 10/01/99
Date Made Active at EDR: 12/21/99
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 11/29/99
Elapsed ASTM days: 22
Date of Last EDR Contact: 11/01/99

CBS UST: Chemical Bulk Storage Database
Source: NYSDEC
Telephone: 518-457-4351
Facilities that store regulated hazardous substances in underground tanks of any size

Date of Government Version: 10/01/99
Date Made Active at EDR: 01/04/00
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 11/29/99
Elapsed ASTM days: 36
Date of Last EDR Contact: 11/01/99

MOSF UST: Major Oil Storage Facilities Database
Source: NYSDEC
Telephone: 518-457-4351
Facilities that may be onshore facilities or vessels, with petroleum storage capacities of 400,000 gallons or greater.

Date of Government Version: 10/01/99
Date Made Active at EDR: 01/04/00
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 11/29/99
Elapsed ASTM days: 36
Date of Last EDR Contact: 11/01/99

STATE OF NEW YORK ASTM SUPPLEMENTAL RECORDS

HSWDS: Hazardous Substance Waste Disposal Site Inventory
Source: Department of Environmental Conservation
Telephone: 518-457-0639
The list includes any known or suspected hazardous substance waste disposal sites. Also included are sites delisted from the Registry of Inactive Hazardous Waste Diposal Sites and non-registry sites which U.S. EPA Preliminary Assessment (PA) reports or Site Investigation (SI) reports were prepared.

Date of Government Version: 05/17/99
Database Release Frequency: Annually
Date of Last EDR Contact: 12/06/99
Date of Next Scheduled EDR Contact: 03/06/00

AST: Petroleum Bulk Storage (AST)
Source: Department of Environmental Conservation
Telephone: 518-457-4351
Registered Aboveground Storage Tanks.

Date of Government Version: 10/01/99
Database Release Frequency: Quarterly
Date of Last EDR Contact: 11/01/99
Date of Next Scheduled EDR Contact: 01/31/00

CBS AST: Chemical Bulk Storage Database
Source: NYSDEC
Telephone: 518-457-4351
Facilities that store regulated hazardous substances in aboveground tanks with capacities of 185 gallons or greater, and/or in underground tanks of any size.

Date of Government Version: 10/01/99
Database Release Frequency: Quarterly
Date of Last EDR Contact: 11/01/99
Date of Next Scheduled EDR Contact: 01/31/00

MOSF AST: Major Oil Storage Facilities Database
Source: NYSDEC
Telephone: 518-457-4351
Facilities that may be onshore facilities or vessels, with petroleum storage capacities of 400,000 gallons or greater.

Date of Government Version: 10/01/99
Database Release Frequency: Quarterly
Date of Last EDR Contact: 11/01/99
Date of Next Scheduled EDR Contact: 01/31/00

SPILLS: Spills Information Database
Source: Department of Environmental Conservation
Telephone: 518-457-2462
Data collected on spills reported to NYSDEC as required by one or more of the following: Article 12 of the Navigation Law, 6 NYCRR Section 613.8 (from PBS regs), or 6 NYCRR Section 595.2 (from CBS regs). It includes spills active as of April 1, 1986, as well as spills occurring since this date.

Date of Government Version: 10/01/99
Database Release Frequency: Quarterly
Date of Last EDR Contact: 11/01/99
Date of Next Scheduled EDR Contact: 01/31/00

VCP: Voluntary Cleanup Agreements
Source: Department of Environmental Conservation
Telephone: 518-457-7894
The voluntary remedial program uses private monies to get contaminated sites r emediated to levels allowing for the sites' productive use. The program covers virtually any kind of site and contamination.

Date of Government Version: 12/21/99
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 12/23/99
Date of Next Scheduled EDR Contact: 03/20/00

LOCAL RECORDS

CORTLAND COUNTY:

Cortland County UST Listing (UST)
Source: Cortland County Health Department
Telephone: 607-753-5035

Date of Government Version: 01/03/00
Database Release Frequency: Quarterly
Date of Last EDR Contact: 12/06/99
Date of Next Scheduled EDR Contact: 03/06/00

Cortland County UST Listing (AST)
Source: Cortland County Health Department
Telephone: 607-753-5035

Date of Government Version: 01/03/00
Database Release Frequency: Quarterly
Date of Last EDR Contact: 12/06/99
Date of Next Scheduled EDR Contact: 03/06/00

NASSAU COUNTY:

Registered Tank Database
Source: Nassau County Health Department
Telephone: 516-571-3314

Date of Government Version: 11/29/99
Database Release Frequency: Quarterly
Date of Last EDR Contact: 11/09/99
Date of Next Scheduled EDR Contact: 02/07/00

Registered Tank Database
Source: Nassau County Health Department
Telephone: 516-571-3314

Date of Government Version: 11/29/99
Database Release Frequency: Quarterly
Date of Last EDR Contact: 11/09/98
Date of Next Scheduled EDR Contact: 02/07/00

ROCKLAND COUNTY:

Petroleum Bulk Storage Database (UST)
Source: Rockland County Health Department
Telephone: 914-364-2605

Date of Government Version: 11/16/99
Database Release Frequency: Quarterly
Date of Last EDR Contact: 01/10/00
Date of Next Scheduled EDR Contact: 04/10/00

Petroleum Bulk Storage Database (AST)
Source: Rockland County Health Department
Telephone: 914-364-2605

Date of Government Version: 11/16/99
Database Release Frequency: Quarterly
Date of Last EDR Contact: 01/10/00
Date of Next Scheduled EDR Contact: 04/10/00

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SUFFOLK COUNTY:

Underground Storage Tank Database (UST)
Source: Suffolk County Department of Health Services
Telephone: 516-854-2521

Date of Government Version: 03/01/99
Database Release Frequency: Annually

Date of Last EDR Contact: 12/06/99
Date of Next Scheduled EDR Contact: 03/06/00

Underground Storage Tank Database (AST)
Source: Suffolk County Department of Health Services
Telephone: 516-854-2521

Date of Government Version: 03/01/99
Database Release Frequency: Annually

Date of Last EDR Contact: 12/06/99
Date of Next Scheduled EDR Contact: 03/06/00

EDR PROPRIETARY DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

HISTORICAL AND OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SWDIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

Area Radon Information: The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones: Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in March 1997 from the U.S. Fish and Wildlife Service.

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Water Dams: National Inventory of Dams
Source: Federal Emergency Management Agency
Telephone: 202-646-2801
National computer database of more than 74,000 dams maintained by the Federal Emergency Management Agency.

New York Public Water Wells
Source: New York Department of Health
Telephone: 518-458-6731

New York Facility and Manifest Data
Source: NYSDEC
Telephone: 518-457-6585
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Note: This section of Appendix A contains portions of the EDR-Offsite Receptor Report. Included are the following:

- Executive Summary
- Census Map
- Census Findings
- Receptor Map

Detailed Map Findings for public receptors listed in Executive Summary are available upon request.

EDR - Offsite Receptor Report

65th Street Station
65 Street/9 Avenue
Brooklyn, NY 11220

Inquiry Number: 462181.3s

February 11, 2000

Environmental Data Resources, Inc.
an edr company

***The* Source For Environmental Risk Management Data**

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

TABLE OF CONTENTS

Thank you for your business
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available records was conducted by Environmental Data Resources, Inc. (EDR). The EDR Offsite Receptor Report provides information which may be used to comply with the Clean Air Act Risk Management Program 112-R. *"The rule requires that you estimate in the RMP residential populations within the circle defined by the endpoint for your worst-case and alternative release scenarios (i.e., the center of the circle is the point of release and the radius is the distance to the endpoint). In addition, you must report in the RMP whether certain types of public receptors and environmental receptors are within the circles."*

The address of the subject property, for which the search was intended, is:

65TH STREET STATION
65 STREET/9 AVENUE
BROOKLYN, NY 11220

Distance Searched: 2.000 miles from subject property

RECEPTOR SUMMARY
An X indicates the presence of the receptor within the search radius.

Residential Population
Estimated population within search radius: 378102 persons.

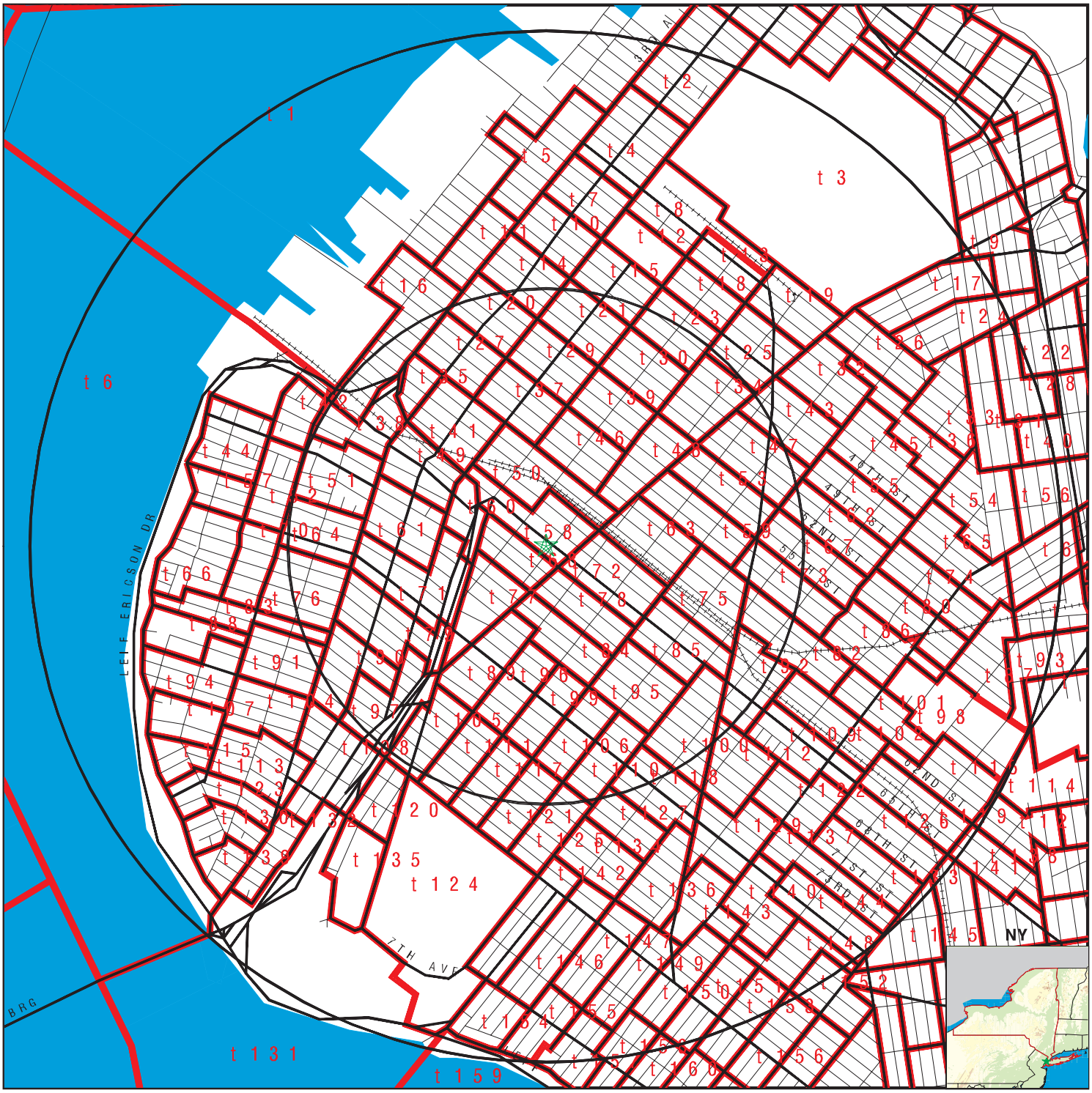
Other Public Receptors

Type	Within Search Radius	Sites Total
Day Care Centers:	☐	
Medical Centers:	☒	1
Nursing Homes:	☒	5
Schools:	☒	171
Hospitals:	☒	4
Arena:	☐	
Prison:	☐	

Environmental Receptors

Type	Within Search Radius	Sites Total
Federal Land:	☐	

CENSUS MAP - 462181.3s



★ Target Property
Roads
Waterways
Census Tracts

0 1/2 1 2 Miles

N

TARGET PROPERTY:	65th Street Station	CUSTOMER:	Vanasse Hangen Brustlin, Inc.
ADDRESS:	65 Street/9 Avenue	CONTACT:	Kurt Frantzen
CITY/STATE/ZIP:	Brooklyn NY 11220	INQUIRY #:	462181.3s
LAT/LONG:	40.6310 / 74.0114	DATE:	February 11, 2000 10:54 am

CENSUS FINDINGS

Map ID	Tract Number	Total Population	Population in Radius	Total Area(sq.mi.)	Area in Radius(sq.mi.)
T1	0018.00	4	1.9	2.60	1.23
T2	0101.00	3252	1867.4	0.12	0.07
T3	0175.00	22	16.1	0.76	0.56
T4	0084.00	2790	2790.0	0.10	0.10
T5	0002.00	1065	1065.0	0.10	0.10
T6	0032.00	2	0.9	2.62	1.20
T7	0082.00	3563	3563.0	0.06	0.06
T8	0088.00	2791	2791.0	0.09	0.09
T9	0500.00	3366	51.8	0.08	0.00
T10	0080.00	3760	3760.0	0.06	0.06
T11	0020.00	1341	1341.0	0.05	0.05
T12	0086.00	0	0.0	0.04	0.04
T13	0090.00	2156	2156.0	0.04	0.04
T14	0078.00	4948	4948.0	0.06	0.06
T15	0096.00	5113	5113.0	0.06	0.06
T16	0022.00	3538	3538.0	0.13	0.13
T17	0498.00	3278	3039.2	0.08	0.07
T18	0092.00	4190	4190.0	0.04	0.04
T19	0110.00	1714	1714.0	0.06	0.06
T20	0076.00	3596	3596.0	0.06	0.06
T21	0098.00	4996	4996.0	0.06	0.06
T22	0494.00	5551	221.7	0.07	0.00
T23	0094.00	4010	4010.0	0.06	0.06
T24	0496.00	3470	2897.0	0.08	0.06
T25	0112.00	5791	5791.0	0.07	0.07
T26	0226.00	1640	1640.0	0.06	0.06
T27	0074.00	4718	4718.0	0.06	0.06
T28	0488.00	3752	2914.3	0.06	0.04
T29	0100.00	4930	4930.0	0.06	0.06
T30	0108.00	3983	3983.0	0.06	0.06
T31	0486.00	2957	2957.0	0.07	0.07
T32	0224.00	3813	3813.0	0.07	0.07
T33	0228.00	2888	2888.0	0.06	0.06
T34	0114.00	4293	4293.0	0.07	0.07
T35	0072.00	1435	1435.0	0.02	0.02
T36	0230.00	3945	3945.0	0.06	0.06
T37	0102.00	3685	3685.0	0.06	0.06
T38	0070.00	2322	2322.0	0.06	0.06
T39	0106.00	4151	4151.0	0.06	0.06
T40	0490.00	5287	1490.1	0.07	0.02
T41	0122.00	4069	4069.0	0.07	0.07
T42	0030.00	1587	1587.0	0.04	0.04
T43	0222.00	3950	3950.0	0.07	0.07
T44	0034.00	2736	2736.0	0.07	0.07
T45	0232.00	5314	5314.0	0.09	0.09
T46	0104.00	4606	4606.0	0.06	0.06
T47	0220.00	4010	4010.0	0.08	0.08
T48	0116.00	3088	3088.0	0.06	0.06
T49	0124.00	1561	1561.0	0.06	0.06
T50	0118.00	1457	1457.0	0.09	0.09
T51	0068.00	4207	4207.0	0.07	0.07
T52	0036.00	3489	3489.0	0.05	0.05
T53	0218.00	3510	3510.0	0.06	0.06
T54	0478.00	3794	3794.0	0.09	0.09
T55	0234.00	4037	4037.0	0.07	0.07
T56	0484.00	4562	2549.4	0.08	0.04
T57	0038.00	1480	1480.0	0.03	0.03
T58	0120.00	996	996.0	0.08	0.08

CENSUS FINDINGS

Map ID	Tract Number	Total Population	Population in Radius	Total Area(sq.mi.)	Area in Radius(sq. mi.)
T59	0216.00	3086	3086.0	0.07	0.07
T60	0128.02	556	556.0	0.03	0.03
T61	0130.00	4195	4195.0	0.07	0.07
T62	0236.00	4281	4281.0	0.06	0.06
T63	0214.00	1445	1445.0	0.07	0.07
T64	0066.00	3483	3483.0	0.06	0.06
T65	0476.00	3293	3293.0	0.08	0.08
T66	0040.00	1428	1428.0	0.09	0.09
T67	0238.00	4085	4085.0	0.07	0.07
T68	0128.01	1487	1487.0	0.04	0.04
T69	0480.00	2670	2018.9	0.06	0.05
T70	0042.00	1040	1040.0	0.05	0.05
T71	0134.00	3449	3449.0	0.10	0.10
T72	0212.00	2959	2959.0	0.07	0.07
T73	0240.00	4071	4071.0	0.07	0.07
T74	0474.00	2835	2835.0	0.07	0.07
T75	0192.00	1787	1787.0	0.07	0.07
T76	0064.00	3072	3072.0	0.08	0.08
T77	0132.00	1802	1802.0	0.06	0.06
T78	0210.00	2811	2811.0	0.06	0.06
T79	0136.00	3634	3634.0	0.08	0.08
T80	0472.00	2597	2597.0	0.07	0.07
T81	0462.01	2181	1075.3	0.05	0.02
T82	0242.00	2465	2465.0	0.07	0.07
T83	0046.00	871	871.0	0.05	0.05
T84	0208.00	2424	2424.0	0.06	0.06
T85	0194.00	2187	2187.0	0.07	0.07
T86	0470.00	2347	2347.0	0.07	0.07
T87	0464.00	1922	1922.0	0.06	0.06
T88	0048.00	328	328.0	0.05	0.05
T89	0206.00	1951	1951.0	0.07	0.07
T90	0138.00	2951	2951.0	0.06	0.06
T91	0062.00	2576	2576.0	0.06	0.06
T92	0250.00	1118	1118.0	0.06	0.06
T93	0462.02	1484	834.8	0.07	0.04
T94	0050.00	2255	2255.0	0.07	0.07
T95	0196.00	3232	3232.0	0.07	0.07
T96	0204.00	1768	1768.0	0.05	0.05
T97	0142.00	2898	2898.0	0.08	0.08
T98	0468.00	1198	1191.0	0.11	0.11
T99	0202.00	1746	1746.0	0.05	0.05
T100	0190.00	3582	3582.0	0.08	0.08
T101	0244.00	2609	2609.0	0.06	0.06
T102	0248.00	2083	2083.0	0.07	0.07
T103	0450.00	1046	73.9	0.09	0.01
T104	0060.00	2562	2562.0	0.06	0.06
T105	0140.00	1857	1857.0	0.06	0.06
T106	0200.00	1806	1806.0	0.05	0.05
T107	0052.01	1753	1753.0	0.05	0.05
T108	0160.00	3326	3326.0	0.10	0.10
T109	0252.00	3719	3719.0	0.07	0.07
T110	0198.00	1699	1699.0	0.05	0.05
T111	0144.00	1004	1004.0	0.05	0.05

CENSUS FINDINGS

Map ID	Tract Number	Total Population	Population in Radius	Total Area(sq.mi.)	Area in Radius(sq. mi.)
T112	0262.00	2034	2034.0	0.06	0.06
T113	0058.00	2991	2991.0	0.07	0.07
T114	0448.00	1305	11.1	0.08	0.00
T115	0052.02	2566	2566.0	0.03	0.03
T116	0246.00	2605	2605.0	0.07	0.07
T117	0146.00	946	946.0	0.05	0.05
T118	0188.00	2213	2213.0	0.07	0.07
T119	0254.00	2875	2875.0	0.07	0.07
T120	0158.00	1180	1180.0	0.04	0.04
T121	0148.00	1224	1224.0	0.05	0.05
T122	0260.00	2766	2766.0	0.06	0.06
T123	0054.00	3093	3093.0	0.05	0.05
T124	0154.00	0	0.0	0.35	0.35
T125	0150.00	1422	1422.0	0.05	0.05
T126	0256.00	2542	2542.0	0.07	0.07
T127	0186.00	1663	1663.0	0.04	0.04
T128	0446.00	1544	68.5	0.05	0.00
T129	0264.00	3760	3760.0	0.07	0.07
T130	0056.01	2494	2494.0	0.04	0.04
T131	0164.00	2188	557.2	1.26	0.32
T132	0162.00	1819	1819.0	0.04	0.04
T133	0258.00	4114	4114.0	0.07	0.07
T134	0184.00	1751	1751.0	0.06	0.06
T135	0156.00	622	622.0	0.07	0.07
T136	0182.00	2476	2476.0	0.06	0.06
T137	0266.00	3110	3110.0	0.06	0.06
T138	0436.00	3788	286.8	0.05	0.00
T139	0056.02	1426	1426.0	0.03	0.03
T140	0274.00	2406	2406.0	0.06	0.06
T141	0432.00	3568	261.5	0.06	0.00
T142	0170.00	2567	2567.0	0.08	0.08
T143	0276.00	2812	2812.0	0.06	0.06
T144	0268.00	3762	3651.4	0.07	0.07
T145	0430.00	2946	266.7	0.06	0.01
T146	0172.00	2507	2507.0	0.08	0.08
T147	0180.00	2408	2408.0	0.07	0.07
T148	0272.00	2909	2804.5	0.05	0.05
T149	0178.00	1992	1992.0	0.06	0.06
T150	0278.00	2423	2423.0	0.06	0.06
T151	0284.00	3509	3330.9	0.06	0.06
T152	0270.00	1962	531.4	0.05	0.01
T153	0288.00	3115	1685.0	0.06	0.03
T154	0168.00	1420	1420.0	0.05	0.05
T155	0174.00	1564	1561.6	0.05	0.05
T156	0290.00	3311	73.3	0.06	0.00
T157	0176.00	1913	1195.7	0.05	0.03
T158	0280.00	1391	727.2	0.05	0.03
T159	0320.00	162	1.2	2.15	0.02
T160	0282.00	2585	169.4	0.05	0.00

RECEPTOR MAP - 462181.3s

- Target Property
- Roads
- Waterways
- Environmental or Public Receptor
- Federal Lands Linear Features
- Federal Lands Area

TARGET PROPERTY:	65th Street Station	CUSTOMER:	Vanasse Hangen Brustlin, Inc.
ADDRESS:	65 Street/9 Avenue	CONTACT:	Kurt Frantzen
CITY/STATE/ZIP:	Brooklyn NY 11220	INQUIRY #:	462181.3s
LAT/LONG:	40.6310 / 74.0114	DATE:	February 11, 2000 10:55 am

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
1 NNW 1/4-1/2 mi 1583 Higher	Name: ID: Site Type:	THE BROOKLYN HOSPICE 3161 Healthcare ctr	MED1000314 MEDCEN
A2 ENE 1/4-1/2 mi 2074 Higher	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 105 BLYTHEBOURNE SCHOOL 362058002396 1031 59TH ST BROOKLYN, NY 11219 56169 718-438-3230 Large Central City Regular Elementary and Secondary Schools Primary KINGS Pre-Kindergarten 05	362058002396 CCD
B3 SSW 1/4-1/2 mi 2080 Lower	Name: ID: Site Type: Latitude: Longitude:	Junior High School 259 954303 school 40.62600 -74.02000	GNS0998647 GNIS_SCH
C4 West 1/4-1/2 mi 2095 Higher	Name: ID: Site Type: Latitude: Longitude:	Public School 170 961424 school 40.63000 -74.02000	GNS1007758 GNIS_SCH
5 South 1/4-1/2 mi 2114 Lower	Name: ID: Site Type:	LEIF ERICKSON DAY SCHOOL 9765 Private sch.	PRV1002667 PRV_SCH
A6 ENE 1/4-1/2 mi 2215 Higher	Name: ID: Site Type: Latitude: Longitude:	Public School 105 961232 school 40.63300 -74.00000	GNS1007567 GNIS_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
D7 SE 1/4-1/2 mi 2250 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	IS 187 362058001348 1171 65TH ST BROOKLYN, NY 11219 56051 718-236-3394 Large Central City Regular Elementary and Secondary Schools Middle KINGS 06 08	362058001348 CCD
C8 West 1/4-1/2 mi 2256 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 170 LEXINGTON SCHOOL 362058002603 7109 6TH AVE BROOKLYN, NY 11209 56226 718-748-0333 Large Central City Regular Elementary and Secondary Schools Primary KINGS Pre-Kindergarten 05	362058002603 CCD
B9 SW 1/4-1/2 mi 2292 Lower	Name: ID: Site Type:	GENESIS SCHOOL 9745 Private sch.	PRV1002663 PRV_SCH
D10 ESE 1/4-1/2 mi 2324 Lower	Name: ID: Site Type: Latitude: Longitude:	Bay Ridge High School Annex 943190 school 40.62800 -74.00000	GNS0984356 GNIS_SCH
D11 SE 1/4-1/2 mi 2482 Lower	Name: ID: Site Type:	REGINA PACIS SCHOOL 9810 Private sch.	PRV1002659 PRV_SCH
12 SE 1/2-1 mi 2676 Lower	Name: ID: Site Type: Latitude: Longitude:	Virginia Reginae School 968573 school 40.62600 -74.00000	GNS1017208 GNIS_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
E13 SSE 1/2-1 mi 2821 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 176 THE OVINGTON SCHOOL 362058002618 1225 69TH ST BROOKLYN, NY 11219 56230 718-236-7755 Large Central City Regular Elementary and Secondary Schools Primary KINGS Pre-Kindergarten 05	362058002618 CCD
F14 NNW 1/2-1 mi 2898 Higher	Name: ID: Site Type: Latitude: Longitude:	Our Lady of Perpetual Help School 959632 school 40.63900 -74.01000	GNS1005554 GNIS_SCH
E15 SE 1/2-1 mi 2931 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 176 961435 school 40.62400 -74.01000	GNS1007769 GNIS_SCH
F16 NNW 1/2-1 mi 3142 Higher	Name: ID: Site Type:	OUR LADY OF PERPETUAL HELP HS 9797 Private sch.	PRV1002590 PRV_SCH
G17 WNW 1/2-1 mi 3270 Lower	Name: ID: Site Type: Latitude: Longitude:	Bay Ridge Hospital 943191 hospital 40.63300 -74.02000	GNS0984357 GNIS_HOSP
18 SSE 1/2-1 mi 3284 Lower	Name: ID: Site Type:	Norwegian Christian Home for the Aged & Health Center 114 Nursing home	NUR1001963 NURHOM
G19 WNW 1/2-1 mi 3376 Lower	Name: ID: Site Type:	LUTHERAN ELEM SCH OF BAY RIDGE 9766 Private sch.	PRV1002622 PRV_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
H20 SW 1/2-1 mi 3384 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 127 MCKINLEY PARK SCHOOL 362058002471 7805 7TH AVE BROOKLYN, NY 11228 56188 718-833-2323 Large Central City Regular Elementary and Secondary Schools Primary KINGS Kindergarten 05	362058002471 CCD
H21 SW 1/2-1 mi 3527 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 127 961304 school 40.62300 -74.02000	GNS1007638 GNIS_SCH
22 East 1/2-1 mi 3537 Higher	Name: ID: Site Type:	YESHIVA OHR HATORAH 9935 Private sch.	PRV1002628 PRV_SCH
23 ENE 1/2-1 mi 3908 Higher	Name: ID: Site Type: Latitude: Longitude:	Public School 160 961398 school 40.63700 -74.00000	GNS1007732 GNIS_SCH
I24 WNW 1/2-1 mi 3968 Lower	Name: ID: Site Type: Latitude: Longitude:	Bay Ridge High School 943189 school 40.63700 -74.02000	GNS0984355 GNIS_SCH
25 West 1/2-1 mi 4096 Lower	Name: ID: Site Type: Latitude: Longitude:	Saint Mariaes School 963842 school 40.63200 -74.03000	GNS1010640 GNIS_SCH
26 ESE 1/2-1 mi 4113 Lower	Name: ID: Site Type:	HEBREW ACADEMY FOR SPEC CHLDRN 9751 Private sch.	PRV1002661 PRV_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
I27 WNW 1/2-1 mi 4198 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	HS OF TELECOMMUNICATIONS 362058001916 350 67TH ST BROOKLYN, NY 11220 56065 718-745-4800 Large Central City Regular Elementary and Secondary Schools High KINGS 09 12	362058001916 CCD
J28 NNW 1/2-1 mi 4281 Higher	Name: ID: Site Type: Latitude: Longitude:	Public School 118 961276 school 40.64100 -74.02000	GNS1007610 GNIS_SCH
29 East 1/2-1 mi 4387 Lower	Name: ID: Site Type:	HEBREW ACADEMY SPECIAL CHLDRN 9752 Private sch.	PRV1002635 PRV_SCH
K30 NE 1/2-1 mi 4402 Higher	Name: ID: Site Type:	BAIS ROCHEL PRE-SCH BORO PK 9696 Private sch.	PRV1002589 PRV_SCH
K31 NE 1/2-1 mi 4408 Higher	Name: ID: Site Type:	MJG Nursing Home Co Inc 107 Nursing home	NUR1001957 NURHOM
J32 NNW 1/2-1 mi 4481 Higher	Name: ID: Site Type: Latitude: Longitude:	Public School 140 961343 school 40.64200 -74.02000	GNS1007677 GNIS_SCH
33 WSW 1/2-1 mi 4515 Lower	Name: ID: Site Type:	OUR SAVIORS LUTHERAN PRE-SCH 9801 Private sch.	PRV1002656 PRV_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
L34 NE 1/2-1 mi 4532 Higher	Name: ID: Site Type: Latitude: Longitude:	Junior High School 220 954294 school 40.64100 -74.00000	GNS0998638 GNIS_SCH
K35 NE 1/2-1 mi 4572 Higher	Name: ID: Site Type: Latitude: Longitude:	Maimonides Hospital 956279 hospital 40.63900 -74.00000	GNS1001220 GNIS_HOSP
L36 NE 1/2-1 mi 4579 Higher	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	IS 220 J. J PERSHING IS 362058002724 4812 9TH AVE BROOKLYN, NY 11220 56270 718-633-8200 Large Central City Regular Elementary and Secondary Schools Middle KINGS 06 08	362058002724 CCD
M37 South 1/2-1 mi 4596 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	IS 201 DYKER HTS IS 362058002682 8010 12TH AVE BROOKLYN, NY 11228 56253 718-833-9363 Large Central City Regular Elementary and Secondary Schools Middle KINGS 06 08	362058002682 CCD
38 North 1/2-1 mi 4627 Higher	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 94 THE LONGFELLOW SCHOOL 362058002359 5010 6TH AVE BROOKLYN, NY 11220 56156 718-330-0335 Large Central City Regular Elementary and Secondary Schools Primary KINGS Pre-Kindergarten 05	362058002359 CCD

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
39 SSW 1/2-1 mi 4638 Lower	Name: ID: Site Type:	REDEEMER ST JOHN S NURSERY 9809 Private sch.	PRV1002685 PRV_SCH
M40 South 1/2-1 mi 4654 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 201 961503 school 40.61800 -74.01000	GNS1007838 GNIS_SCH
M41 South 1/2-1 mi 4654 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 104 961229 school 40.61800 -74.01000	GNS1007563 GNIS_SCH
42 NNW 1/2-1 mi 4669 Higher	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 314 LUIS MUNOZ MARIN SCHOOL 362058004357 330 59TH ST BROOKLYN, NY 11220 56374 718-492-0087 Large Central City Regular Elementary and Secondary Schools Primary KINGS Pre-Kindergarten 05	362058004357 CCD
N43 NNE 1/2-1 mi 4705 Higher	Name: ID: Site Type: Latitude: Longitude:	Saint Agathas School 963240 school 40.64300 -74.00000	GNS1009977 GNIS_SCH
N44 NNE 1/2-1 mi 4751 Higher	Name: ID: Site Type:	ST AGATHA SCHOOL 9825 Private sch.	PRV1002573 PRV_SCH
45 East 1/2-1 mi 4830 Lower	Name: ID: Site Type:	TALMUD TORAH TIFERES BUNIM 9879 Private sch.	PRV1002620 PRV_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
O46 NE 1/2-1 mi 4964 Higher	Name: ID: Site Type:	YESHIVA TOLDOS YOSES 9949 Private sch.	PRV1002582 PRV_SCH
P47 SE 1/2-1 mi 5031 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 112 LEFFERTS PARK SCHOOL 362058002421 7115 15TH AVE BROOKLYN, NY 11228 56174 718-232-0685 Large Central City Regular Elementary and Secondary Schools Primary KINGS Kindergarten 05	362058002421 CCD
Q48 WSW 1/2-1 mi 5070 Lower	Name: ID: Site Type: Latitude: Longitude:	Saint Anselms School 963320 school 40.62500 -74.03000	GNS1010060 GNIS_SCH
Q49 WSW 1/2-1 mi 5096 Lower	Name: ID: Site Type:	ST ANSELM SCHOOL 9829 Private sch.	PRV1002671 PRV_SCH
50 WNW 1/2-1 mi 5136 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 102 961221 school 40.63400 -74.03000	GNS1007555 GNIS_SCH
R51 East 1/2-1 mi 5139 Lower	Name: ID: Site Type:	MESIVTA IMREI YOSEF SPINKA 9775 Private sch.	PRV1002643 PRV_SCH
S52 East 1/2-1 mi 5167 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 103 961225 school 40.63100 -73.99000	GNS1007559 GNIS_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
P53 SSE 1/2-1 mi 5168 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 973514 school 40.61900 -74.00000	GNS1007542 GNIS_SCH
54 ESE 1/2-1 mi 5191 Lower	Name: ID: Site Type:	YESHIVA IMREI YOSEF SPINKA 9919 Private sch.	PRV1002653 PRV_SCH
S55 East 1/2-1 mi 5216 Lower	Name: ID: Site Type:	UNITED TALMUDICAL ACADEMY 9892 Private sch.	PRV1002637 PRV_SCH
O56 NE 1/2-1 mi 5255 Higher	Name: ID: Site Type:	BAIS ISAAC ZVI 9695 Private sch.	PRV1002581 PRV_SCH
T57 SSE 1-2 mi 5359 Lower	Name: ID: Site Type:	OUR LADY OF GUADALUPE SCHOOL 9794 Private sch.	PRV1002691 PRV_SCH
58 NE 1-2 mi 5393 Higher	Name: ID: Site Type:	TOMER DVORA GIRLS SCHOOL 9884 Private sch.	PRV1002576 PRV_SCH
T59 SSE 1-2 mi 5393 Lower	Name: ID: Site Type: Latitude: Longitude:	Our Lady of Guadalupe School 959610 school 40.61800 -74.00000	GNS1005532 GNIS_SCH
R60 East 1-2 mi 5408 Lower	Name: ID: Site Type:	Palm Tree Nursing Home 117 Nursing home	NUR1001961 NURHOM

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
U61 SE 1-2 mi 5436 Lower	Name: ID: Site Type: Latitude: Longitude:	Junior High School 227 954296 school 40.62200 -74.00000	GNS0998640 GNIS_SCH
V62 East 1-2 mi 5474 Lower	Name: ID: Site Type:	YESHIVA YESODE HATORAH ADAS 9958 Private sch.	PRV1002615 PRV_SCH
63 NE 1-2 mi 5488 Higher	Name: ID: Site Type:	MESIVTA V YOEL MOSHEI 9781 Private sch.	PRV1002580 PRV_SCH
V64 East 1-2 mi 5537 Lower	Name: ID: Site Type:	TOMER DVORA GIRLS MESIVTA 9883 Private sch.	PRV1002618 PRV_SCH
U65 SE 1-2 mi 5581 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	IS 227 E. B. SHALLOW IS 362058002735 6500 16TH AVE BROOKLYN, NY 11204 56277 718-256-8218 Large Central City Regular Elementary and Secondary Schools Middle KINGS 06 08	362058002735 CCD
W66 South 1-2 mi 5706 Lower	Name: ID: Site Type:	ST BERNADETTE SCHOOL 9831 Private sch.	PRV1002702 PRV_SCH
V67 East 1-2 mi 5734 Lower	Name: ID: Site Type:	BAIS YAAKOV OF BROOKLYN 9705 Private sch.	PRV1002613 PRV_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
V68 East 1-2 mi 5736 Lower	Name: ID: Site Type:	BNOS ZION OF BOBOV SCHOOL 9730 Private sch.	PRV1002621 PRV_SCH
W69 South 1-2 mi 5826 Lower	Name: ID: Site Type: Latitude: Longitude:	Saint Bernadettes School 963373 school 40.61500 -74.01000	GNS1010115 GNIS_SCH
X70 East 1-2 mi 5846 Lower	Name: ID: Site Type:	YESHIVA CHATZAR HAKODESH 9916 Private sch.	PRV1002624 PRV_SCH
71 ESE 1-2 mi 5942 Lower	Name: ID: Site Type:	YESHIVA TIFERES ELIMELECH BOYS 9947 Private sch.	PRV1002664 PRV_SCH
72 NE 1-2 mi 5954 Higher	Name: ID: Site Type:	BAIS BROCHO D STOLIN KARLIN 9692 Private sch.	PRV1002577 PRV_SCH
Y73 NNE 1-2 mi 6005 Higher	Name: ID: Site Type: Latitude: Longitude:	Public School 169 961416 school 40.64600 -74.00000	GNS1007750 GNIS_SCH
Z74 NE 1-2 mi 6047 Higher	Name: ID: Site Type: Latitude: Longitude:	Public School 131 961317 school 40.64000 -73.99000	GNS1007651 GNIS_SCH
AA75 East 1-2 mi 6083 Lower	Name: ID: Site Type:	MESIVTA M KOR CHAIM FOR BOYS 9776 Private sch.	PRV1002647 PRV_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
Y76 NNE 1-2 mi 6087 Higher	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 169 THE SUNSET PARK SCHOOL 362058002602 4305 7TH AVE BROOKLYN, NY 11232 56225 718-330-9370 Large Central City Regular Elementary and Secondary Schools Primary KINGS Kindergarten 05	362058002602 CCD
AA77 ESE 1-2 mi 6122 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 231 362058004478 5601 16TH AVE BROOKLYN, NY 11204 56384 718-853-1884 Large Central City Special Ed. Schools Other KINGS Ungraded Ungraded	362058004478 CCD
AA78 ESE 1-2 mi 6122 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 180 HOMEWOOD SCHOOL 362058002626 5601 16TH AVE BROOKLYN, NY 11204 56234 718-851-8070 Large Central City Regular Elementary and Secondary Schools Primary KINGS Pre-Kindergarten 05	362058002626 CCD
79 ESE 1-2 mi 6144 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 180 961451 school 40.62700 -73.99000	GNS1007785 GNIS_SCH
80 ENE 1-2 mi 6165 Higher	Name: ID: Site Type:	YESHIVA BOYAN 9913 Private sch.	PRV1002593 PRV_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
X81 East 1-2 mi 6213 Lower	Name: ID: Site Type: Latitude: Longitude:	Hebrew Academy 952502 school 40.63300 -73.99000	GNS0996126 GNIS_SCH
AA82 ESE 1-2 mi 6287 Lower	Name: ID: Site Type:	YESHIVA TORAS CHESED 9953 Private sch.	PRV1002650 PRV_SCH
AB83 SSE 1-2 mi 6298 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 204 VINCE LOMBARDI ES 362058002689 8101 15TH AVE BROOKLYN, NY 11228 56255 718-236-2906 Large Central City Regular Elementary and Secondary Schools Primary KINGS Kindergarten 05	362058002689 CCD
Z84 ENE 1-2 mi 6306 Higher	Name: ID: Site Type:	BAIS YAAKOV ADAS YEREIM 9701 Private sch.	PRV1002583 PRV_SCH
AC85 ENE 1-2 mi 6316 Lower	Name: ID: Site Type:	YESHIVA MINCHAS ELOZAR 9925 Private sch.	PRV1002609 PRV_SCH
AC86 ENE 1-2 mi 6400 Lower	Name: ID: Site Type:	BETH JACOB OF BORO PARK SCHOOL 9716 Private sch.	PRV1002604 PRV_SCH
AD87 SSW 1-2 mi 6413 Lower	Name: ID: Telephone: Address: County:	VICTORY MEMORIAL HOSPITAL 330242 7186301234 9036 7TH AVE BROOKLYN, NY 11228 KINGS	330242 HCFA

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
88 ESE 1-2 mi 6454 Lower	Name: ID: Site Type:	Augustana Lutheran Home 91 Nursing home	NUR1001962 NURHOM
AC89 ENE 1-2 mi 6489 Lower	Name: ID: Site Type:	TIFERES BAIS YAAKOV H S 9882 Private sch.	PRV1002605 PRV_SCH
90 East 1-2 mi 6493 Lower	Name: ID: Site Type:	BNOS YAAKOV EDUCATION CENTER 9725 Private sch.	PRV1002641 PRV_SCH
AE91 North 1-2 mi 6517 Higher	Name: ID: Site Type: Latitude: Longitude:	Public School 1 961211 school 40.64900 -74.01000	GNS1007546 GNIS_SCH
AB92 South 1-2 mi 6552 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 204 961508 school 40.61300 -74.01000	GNS1007843 GNIS_SCH
93 ESE 1-2 mi 6564 Lower	Name: ID: Site Type:	YESHIVA TORAS EMES KAMENITZ 9954 Private sch.	PRV1002660 PRV_SCH
AF94 NE 1-2 mi 6603 Higher	Name: ID: Site Type:	SS CATHARINE-ALEXANDRIA SCHOOL 9816 Private sch.	PRV1002574 PRV_SCH
AE95 North 1-2 mi 6625 Higher	Name: ID: Site Type: Latitude: Longitude:	Public School 2 961492 school 40.64900 -74.01000	GNS1007827 GNIS_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
96 North 1-2 mi 6628 Higher	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 1 BERGEN SCHOOL 362058002041 309 47TH ST BROOKLYN, NY 11220 56093 718-330-9270 Large Central City Regular Elementary and Secondary Schools Primary KINGS Pre-Kindergarten 05	362058002041 CCD
AG97 WSW 1-2 mi 6656 Lower	Name: ID: Site Type:	ADELPHI ACADEMY 9689 Private sch.	PRV1002673 PRV_SCH
AF98 NE 1-2 mi 6656 Higher	Name: ID: Site Type: Latitude: Longitude:	Saint Catherines School 963413 school 40.64300 -73.99000	GNS1010157 GNIS_SCH
AD99 SSW 1-2 mi 6739 Lower	Name: ID: Site Type: Latitude: Longitude:	Victory Memorial Hospital 968535 hospital 40.61500 -74.02000	GNS1017163 GNIS_HOSP
100 ESE 1-2 mi 6739 Lower	Name: ID: Site Type:	GERER MESIVTA BAIS YISROEL 9746 Private sch.	PRV1002675 PRV_SCH
101 SSE 1-2 mi 6772 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	NEW UTRECHT HS 362058002036 1601 80TH ST BROOKLYN, NY 11214 56092 718-232-2500 Large Central City Regular Elementary and Secondary Schools High KINGS 09 12	362058002036 CCD

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
102 SW 1-2 mi 6777 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 104 FORT HAMILTON SCHOOL 362058002391 9115 5TH AVE BROOKLYN, NY 11209 56167 718-836-4630 Large Central City Regular Elementary and Secondary Schools Primary KINGS Kindergarten 08	362058002391 CCD
AH103 ENE 1-2 mi 6784 Lower	Name: ID: Site Type:	YESHIVA MESIVTA BAIS YITZCHAK 9924 Private sch.	PRV1002603 PRV_SCH
104 ENE 1-2 mi 6822 Higher	Name: ID: Site Type:	TALMUD TORAH TIFERES-DAVID 9880 Private sch.	PRV1002595 PRV_SCH
AG105 WSW 1-2 mi 6849 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 185 362058002638 8601 RIDGE BLVD BROOKLYN, NY 11209 56238 718-745-6610 Large Central City Regular Elementary and Secondary Schools Primary KINGS Kindergarten 05	362058002638 CCD
AI106 East 1-2 mi 6866 Lower	Name: ID: Site Type:	BOBOVER YESHIVA BNEI ZION 5-8 9733 Private sch.	PRV1002627 PRV_SCH
AH107 ENE 1-2 mi 6869 Lower	Name: ID: Site Type:	YESHIVA OHR MOLEH 9936 Private sch.	PRV1002598 PRV_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
108 SSW 1-2 mi 6892 Lower	Name: ID: Site Type:	POLYTECHNIC PREP CNTRY DAY SCH 9804 Private sch.	PRV1002707 PRV_SCH
109 WSW 1-2 mi 6908 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 185 961458 school 40.62300 -74.03000	GNS1007793 GNIS_SCH
110 ESE 1-2 mi 6992 Lower	Name: ID: Site Type:	YESHIVA TIFERES D ALEKSANDER 9946 Private sch.	PRV1002684 PRV_SCH
AJ111 ENE 1-2 mi 7048 Lower	Name: ID: Site Type:	TALMUD TOLDOS YAKOV YOSEF 9877 Private sch.	PRV1002597 PRV_SCH
AI112 East 1-2 mi 7115 Lower	Name: ID: Site Type:	MESIVTA EITZ CHAIM OF BOBOV 9774 Private sch.	PRV1002631 PRV_SCH
113 WNW 1-2 mi 7160 Lower	Name: ID: Site Type: Latitude: Longitude:	Xaverian High School 971791 school 40.63700 -74.04000	GNS1019938 GNIS_SCH
AI114 East 1-2 mi 7238 Lower	Name: ID: Site Type:	YESHIVA NOVOMINSK 9927 Private sch.	PRV1002626 PRV_SCH
AJ115 ENE 1-2 mi 7247 Higher	Name: ID: Site Type:	YESHIVA BETH HILLEL D KRASNA 9911 Private sch.	PRV1002596 PRV_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
AJ116 ENE 1-2 mi 7269 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 164 961405 school 40.63700 -73.99000	GNS1007739 GNIS_SCH
117 ESE 1-2 mi 7315 Lower	Name: ID: Site Type:	MESIVTA MEOR HATALMUD 9777 Private sch.	PRV1002677 PRV_SCH
AJ118 ENE 1-2 mi 7352 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 164 362058002587 4211 14TH AVE BROOKLYN, NY 11219 56221 718-854-4100 Large Central City Regular Elementary and Secondary Schools Primary KINGS Pre-Kindergarten 05	362058002587 CCD
AK119 ESE 1-2 mi 7368 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 48 MAPLETON SCHOOL 362058002212 6015 18TH AVE BROOKLYN, NY 11204 56126 718-232-3873 Large Central City Regular Elementary and Secondary Schools Primary KINGS Kindergarten 05	362058002212 CCD
120 WSW 1-2 mi 7372 Lower	Name: ID: Site Type:	VISITATION ACADEMY 9894 Private sch.	PRV1002680 PRV_SCH
AL121 East 1-2 mi 7400 Lower	Name: ID: Site Type:	BETH JACOB HIGH SCHOOL 9715 Private sch.	PRV1002606 PRV_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
AK122 ESE 1-2 mi 7429 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 48 961722 school 40.62100 -73.99000	GNS1008063 GNIS_SCH
123 WNW 1-2 mi 7464 Lower	Name: ID: Site Type:	XAVERIAN HIGH SCHOOL 9896 Private sch.	PRV1002594 PRV_SCH
AL124 ENE 1-2 mi 7570 Lower	Name: ID: Site Type:	TALMUD TORAH IMREI CHAIM SCH 9878 Private sch.	PRV1002601 PRV_SCH
AM125 North 1-2 mi 7683 Higher	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	MS 136 C. O. DEWEY MS 362058002498 4004 4TH AVE BROOKLYN, NY 11232 56196 718-330-9360 Large Central City Regular Elementary and Secondary Schools Middle KINGS 06 08	362058002498 CCD
126 South 1-2 mi 7685 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 229 961546 school 40.61000 -74.01000	GNS1007881 GNIS_SCH
127 South 1-2 mi 7721 Lower	Name: ID: Site Type:	ST FRANCES CABRINI SCHOOL#1 9844 Private sch.	PRV1002718 PRV_SCH
AM128 North 1-2 mi 7794 Lower	Name: ID: Site Type: Latitude: Longitude:	Junior High School 136 954255 school 40.65200 -74.01000	GNS0998599 GNIS_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
129 SSE 1-2 mi 7809 Lower	Name: ID: Site Type:	MACHON BAIS YAAKOV 9767 Private sch.	PRV1002716 PRV_SCH
130 ENE 1-2 mi 7833 Lower	Name: ID: Site Type:	BOBOVER YESHIVA BNEI ZION 9732 Private sch.	PRV1002600 PRV_SCH
131 SSW 1-2 mi 7886 Lower	Name: ID: Site Type: Latitude: Longitude:	Polytechnic Preparatory School 960872 school 40.61200 -74.03000	GNS1007113 GNIS_SCH
132 ESE 1-2 mi 7891 Lower	Name: ID: Site Type:	YESHIVA / MSVTA KARLIN STOLIN 9898 Private sch.	PRV1002668 PRV_SCH
133 West 1-2 mi 7918 Lower	Name: ID: Site Type: Latitude: Longitude:	Fort Hamilton High School 950471 school 40.62700 -74.04000	GNS0993522 GNIS_SCH
AN134 East 1-2 mi 8020 Lower	Name: ID: Site Type: Latitude: Longitude:	Holy Ghost School 953073 school 40.63100 -73.98000	GNS0996832 GNIS_SCH
AN135 East 1-2 mi 8039 Lower	Name: ID: Site Type:	HOLY SPIRIT SCHOOL 9760 Private sch.	PRV1002633 PRV_SCH
AO136 East 1-2 mi 8110 Lower	Name: ID: Site Type:	YESHIVA BAIS MEIR 9909 Private sch.	PRV1002619 PRV_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
137 East 1-2 mi 8112 Lower	Name: ID: Site Type:	YESHIVA YAGDIL TORAH 9955 Private sch.	PRV1002654 PRV_SCH
AO138 East 1-2 mi 8118 Lower	Name: ID: Site Type:	YESHIVA HAMATMONIM SCHOOL 9918 Private sch.	PRV1002610 PRV_SCH
139 West 1-2 mi 8133 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	FORT HAMILTON HS 362058001952 8301 SHORE RD BROOKLYN, NY 11209 56076 718-748-1537 Large Central City Regular Elementary and Secondary Schools High KINGS 09 12	362058001952 CCD
AP140 East 1-2 mi 8209 Lower	Name: ID: Site Type: Latitude: Longitude:	Junior High School 223 954295 school 40.63500 -73.98000	GNS0998639 GNIS_SCH
AQ141 SW 1-2 mi 8296 Lower	Name: ID: Site Type: Latitude: Longitude:	Saint Patricks School 964080 school 40.61400 -74.03000	GNS1010897 GNIS_SCH
142 SSE 1-2 mi 8299 Lower	Name: ID: Site Type:	Holy Family Home 103 Nursing home	NUR1001966 NURHOM

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
AP143 East 1-2 mi 8328 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	IS 223 MONTAUK IS 362058002729 4200 16TH AVE BROOKLYN, NY 11204 56273 718-438-0155 Large Central City Regular Elementary and Secondary Schools Middle KINGS 06 09	362058002729 CCD
AP144 East 1-2 mi 8328 Lower	Name: ID: Site Type:	YESHIVA MACHZIKEI HADAS BELZ 9923 Private sch.	PRV1002607 PRV_SCH
AQ145 SW 1-2 mi 8338 Lower	Name: ID: Site Type:	ST PATRICK SCHOOL 9862 Private sch.	PRV1002705 PRV_SCH
AR146 SSE 1-2 mi 8469 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 186 DR. I. A. GLADSTONE ES 362058002641 7601 19TH AVE BROOKLYN, NY 11214 56239 718-236-7071 Large Central City Regular Elementary and Secondary Schools Primary KINGS Kindergarten 05	362058002641 CCD
AS147 North 1-2 mi 8532 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 371 LILLIAN L. RASHKIS SCHO 362058002827 355 37TH ST BROOKLYN, NY 11232 56352 718-788-7608 Large Central City Special Ed. Schools Other KINGS Ungraded Ungraded	362058002827 CCD

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
AS148 NNE 1-2 mi 8609 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 615 961780 school 40.65400 -74.01000	GNS1008119 GNIS_SCH
AR149 SSE 1-2 mi 8640 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 186 961460 school 40.61100 -74.00000	GNS1007795 GNIS_SCH
AT150 East 1-2 mi 8643 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 192 362058002657 4715 18TH AVE BROOKLYN, NY 11204 56244 718-633-3061 Large Central City Regular Elementary and Secondary Schools Primary KINGS Pre-Kindergarten 05	362058002657 CCD
AT151 East 1-2 mi 8756 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 192 961477 school 40.62900 -73.98000	GNS1007812 GNIS_SCH
AU152 South 1-2 mi 8773 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 163 BATH BEACH SCHOOL 362058002585 1664 BENSON AVE BROOKLYN, NY 11214 56220 718-236-9003 Large Central City Regular Elementary and Secondary Schools Primary KINGS Pre-Kindergarten 05	362058002585 CCD

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
AV153 SE 1-2 mi 8784 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 205 362058002692 6701 20TH AVE BROOKLYN, NY 11204 56256 718-236-2380 Large Central City Regular Elementary and Secondary Schools Primary KINGS Pre-Kindergarten 05	362058002692 CCD
AW154 ESE 1-2 mi 8790 Lower	Name: ID: Site Type: Latitude: Longitude:	Franklin Delano Roosevelt High School 950610 school 40.62100 -73.98000	GNS0993712 GNIS_SCH
155 East 1-2 mi 8822 Lower	Name: ID: Site Type:	YESHIVA-CHASAN SOFER 9899 Private sch.	PRV1002658 PRV_SCH
156 East 1-2 mi 8826 Lower	Name: ID: Site Type:	SHALSHELES BAIS YAAKOV 9822 Private sch.	PRV1002617 PRV_SCH
AU157 South 1-2 mi 8915 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 163 961402 school 40.60700 -74.01000	GNS1007736 GNIS_SCH
AV158 SE 1-2 mi 8953 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 205 961510 school 40.61500 -73.99000	GNS1007845 GNIS_SCH
AV159 SE 1-2 mi 8979 Lower	Name: ID: Site Type:	YESHIVA CHASDEI TORAH 9915 Private sch.	PRV1002703 PRV_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
AW160 ESE 1-2 mi 9006 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	FRANKLIN D. ROOSEVELT HS 362058001947 5800 20TH AVE BROOKLYN, NY 11204 56075 718-256-1346 Large Central City Regular Elementary and Secondary Schools High KINGS 09 12	362058001947 CCD
161 East 1-2 mi 9360 Lower	Name: ID: Site Type:	BAIS YAAKOV OF 18TH AVE SCHOOL 9704 Private sch.	PRV1002638 PRV_SCH
AX162 ESE 1-2 mi 9394 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 121 NELSON A. ROCKEFELLER S 362058002447 5301 20TH AVE BROOKLYN, NY 11204 56182 718-377-8845 Large Central City Regular Elementary and Secondary Schools Primary KINGS Pre-Kindergarten 08	362058002447 CCD
163 ESE 1-2 mi 9410 Lower	Name: ID: Site Type:	BAIS YAAKOV D CHASSIDEI GUR 9702 Private sch.	PRV1002670 PRV_SCH
164 ENE 1-2 mi 9459 Lower	Name: ID: Site Type:	BNOS-BELZ GIRLS SCHOOL 9731 Private sch.	PRV1002587 PRV_SCH
AX165 ESE 1-2 mi 9504 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 121 961290 school 40.62300 -73.98000	GNS1007624 GNIS_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
AY166 SE 1-2 mi 9525 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 247 961571 school 40.61200 -73.99000	GNS1007906 GNIS_SCH
167 SW 1-2 mi 9571 Lower	Name: ID: Site Type: Latitude: Longitude:	Fontbonne Hall School 950365 school 40.61300 -74.04000	GNS0993392 GNIS_SCH
168 SSE 1-2 mi 9615 Lower	Name: ID: Site Type:	MERKAZ BNOS HIGH SCHOOL 9773 Private sch.	PRV1002720 PRV_SCH
AY169 SE 1-2 mi 9644 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 247 362058002761 7000 21ST AVE BROOKLYN, NY 11204 56293 718-236-4205 Large Central City Regular Elementary and Secondary Schools Primary KINGS Kindergarten 05	362058002761 CCD
AZ170 ENE 1-2 mi 9766 Higher	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 230 DORIS L. COHEN SCHOOL 362058002740 1 ALBEMARLE RD BROOKLYN, NY 11218 56280 718-330-9380 Large Central City Regular Elementary and Secondary Schools Primary KINGS Pre-Kindergarten 06	362058002740 CCD
171 SW 1-2 mi 9776 Lower	Name: ID: Site Type:	FONTBONNE HALL ACADEMY 9744 Private sch.	PRV1002712 PRV_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
172 ENE 1-2 mi 9921 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 179 961441 school 40.64000 -73.98000	GNS1007775 GNIS_SCH
AZ173 ENE 1-2 mi 10013 Higher	Name: ID: Site Type: Latitude: Longitude:	Public School 230 961554 school 40.64500 -73.98000	GNS1007889 GNIS_SCH
174 East 1-2 mi 10056 Lower	Name: ID: Site Type:	BETH JACOB GIRLS SCHOOL 9714 Private sch.	PRV1002642 PRV_SCH
BA175 NNE 1-2 mi 10138 Lower	Name: NCES ID: Address: School ID: Telephone: Local Code: School Type: School Level: County: Lowest Grade: Highest Grade:	PS 172 GOWANUS SCHOOL 362058002607 825 4TH AVE BROOKLYN, NY 11232 56228 718-330-9375 Large Central City Regular Elementary and Secondary Schools Primary KINGS Kindergarten 06	362058002607 CCD
BA176 NNE 1-2 mi 10186 Lower	Name: ID: Site Type: Latitude: Longitude:	Public School 172 961427 school 40.65800 -74.00000	GNS1007761 GNIS_SCH
BB177 South 1-2 mi 10226 Lower	Name: ID: Site Type:	ST FINBAR SCHOOL 9842 Private sch.	PRV1002736 PRV_SCH
BB178 South 1-2 mi 10229 Lower	Name: ID: Site Type: Latitude: Longitude:	Saint Finbar School 963477 school 40.60300 -74.00000	GNS1010225 GNIS_SCH

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
179 East 1-2 mi 10417 Lower	Name: ID: Site Type: Latitude: Longitude:	Midwood High School Annex 957168 school 40.63200 -73.97000	GNS1002365 GNIS_SCH
BC180 ESE 1-2 mi 10441 Lower	Name: ID: Site Type:	ST ATHANASIUS SCHOOL 9830 Private sch.	PRV1002700 PRV_SCH
BC181 ESE 1-2 mi 10473 Lower	Name: ID: Site Type:	BISHOP KEARNEY HIGH SCHOOL 9722 Private sch.	PRV1002694 PRV_SCH

RECORDS SEARCHED/DATA CURRENCY TRACKING

CENSUS
Source: U.S. Census Bureau
Telephone: 301-457-4100
1990 U.S. Census data was used to estimate residential population following these EPA guidelines:
"Census data are presented by Census tract. If your circle covers only a portion of the tract, you should develop an estimate for that portion...Determine the population density per square mile (total population of the Census tract divided by the number of square miles in the tract) and apply that density figure to the number of square miles within your circle."

FED_LAND: Federal Lands
Source: USGS
Telephone: 703-648-5094
Federal lands data. Includes data from several Federal land manangement agencies, including Fish and Wildlife Service, Bureau of Land Management, National Park Service, and Forest Service. Includes National Parks, Forests, Monuments; Wildlife Sanctuaries, Preserves, Refuges; Federal Wilderness Areas.
Date of government version: 09/09/97.

HCFA: Provider of Services Listing
Source: The Health Care Financing Administration
Telephone: 410/786-3000
A listing of hospitals with Medicare provider number, produced by The Health Care Financing Administration (HCFA), a federal agency within the U.S. Department of Health and Human Services.
HCFA runs the Medicare and Medicaid programs.
Date of government version: 06/01/98.

CCD: Common Core of Data
Source: National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208-5651
The Common Core of Data (CCD) is the National Center for Education Statistics' primary database on elementary and secondary public education in the United States. CCD is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.
Date of government version: 1995-96.

GNIS: Geographic Names Information System
Source: USGS
Telephone: 703-648-5094
The Geographic Names Information System (GNIS), developed by the USGS in cooperation with the U.S. Board on Geographic Names (BGN), contains information about almost 2 million physical and cultural geographic features in the United States. The GNIS is our Nation's official repository of domestic geographic names information.
Date of government version: 03/01/98.

PRV_SCH: Private Schools
EDR indicates the location of buildings and facilities - private schools - where individuals who are public receptors are likely to be located.

DAYCARE: Daycare Centers
EDR indicates the location of buildings and facilities - daycare centers - where individuals who are public receptors are likely to be located.

MEDCEN: Medical Centers
EDR indicates the location of buildings and facilities - medical centers - where individuals who are public receptors are likely to be located.

NURSING: Nursing Homes
EDR indicates the location of buildings and facilities - nursing homes - where individuals who are public receptors are likely to be located.

ARENA: Arenas
EDR indicates the location of buildings and facilities - arenas - where individuals who are public receptors are likely to be located.

PRISON: Prisons
EDR indicates the location of buildings and facilities - prisons - where individuals who are public receptors are likely to be located.

BOP: Bureau of Prisons Facilities
Source: Federal Bureau of Prisons
List of facilities operated by the Federal Bureau of Prisons.
Date of government version: 07/01/98.

Note: This section of Appendix A contains portions of the EDR NEPA Check Report. Included are the following:

- NEPA Check Report Description
- Map Findings Summary
- Natural Areas Map & Findings
- Historic Places Map & Findings
- Flood Plain Map & Findings
- Wetlands Map Findings
- Wetlands Classification System Description
- FCC Antenna/Towers and AM Radio Map & Findings

EDR NEPACheck™ Report

65th Street Station
65 Street/9 Avenue
Brooklyn, NY 11220

Inquiry Number: 462181.4s

February 11, 2000

Environmental Data Resources, Inc.
an edr company

***The* Source For Environmental Risk Management Data**

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EDR NEPACheck REPORT DESCRIPTION

The National Environmental Policy Act of 1969 (NEPA) requires that Federal agencies include in their decision-making processes appropriate and careful consideration of all environmental effects and actions, analyze potential environmental effects of proposed actions and their alternatives for public understanding and scrutiny, avoid or minimize adverse effects of proposed actions, and restore and enhance environmental quality as much as possible.

The EDR NEPACheck Report provides information which may be used, in conjunction with additional research, to determine whether a proposed site or action will have significant environmental effect.

The report provides maps and data for the following NEPA checklist items for geographic areas which are available in electronic format:

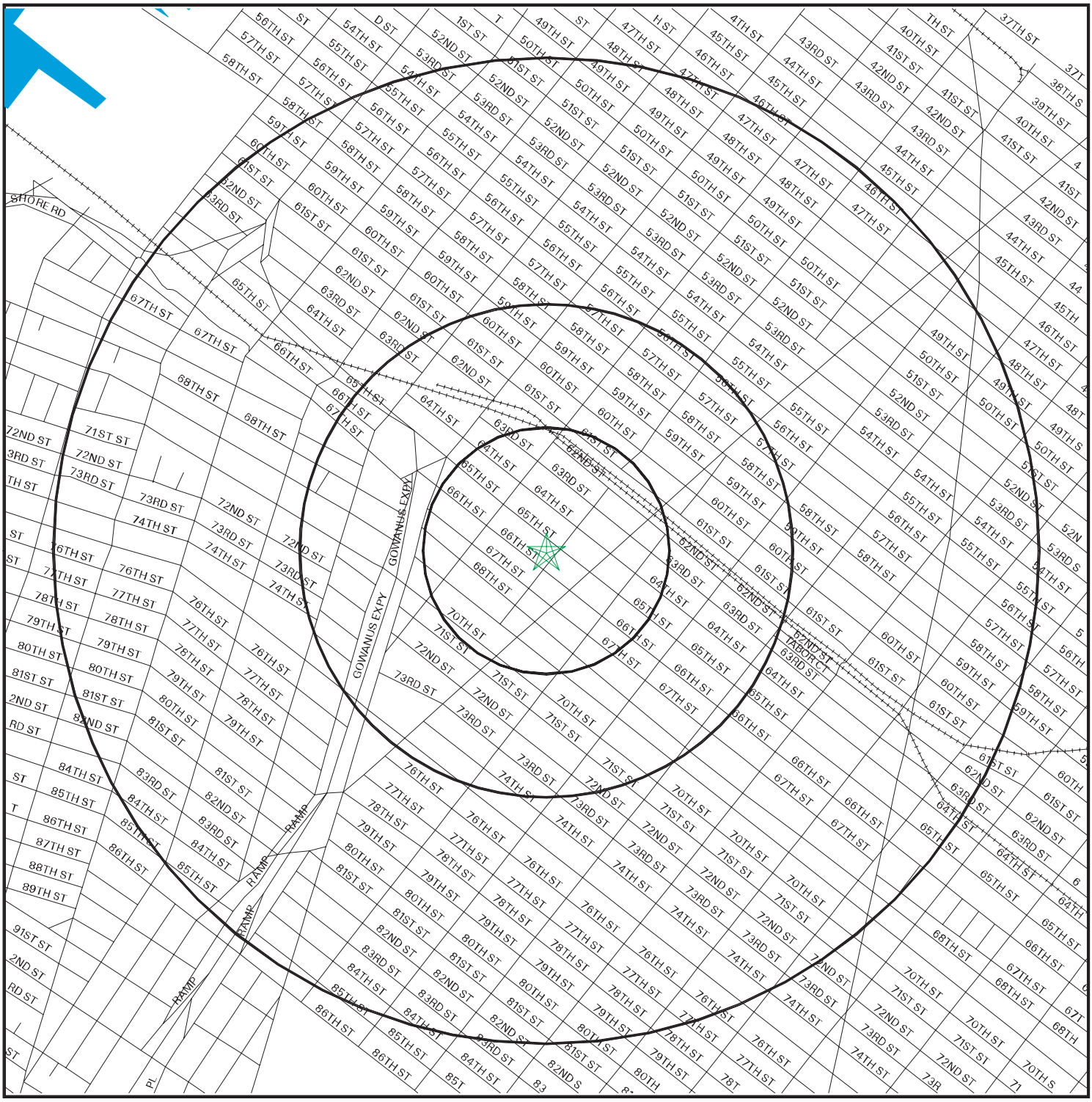
Natural Areas Map	**Regulation**
• Federal Lands Data:	
- Officially designated wilderness areas	47 CFR 1.1307(1)
- Officially designated wildlife preserves, sanctuaries and refuges	47 CFG 1.1307(2)
- Wild and scenic rivers	40 CFR 6.302(e)
- Fish and Wildlife	40 CFR 6.302
• Threatened or Endangered Species, Fish and Wildlife, Critical Habitat Data	47 CFR 1.1307(3); 40 CFR 6.302
Historic Places Map	
• National Register of Historic Places	47 CFR 1.1307(4); 40 CFR 6.302
Flood Plain Map	
• National Food Plain Data	47 CFR 1.1307(6); 40 CFR 6.302
Wetlands Map	
• National Wetlands Inventory Data	47 CFR 1.1307(7); 40 CFR 6.302
FCC Antenna/Towers and AM Radio Towers Map	
• FCC antenna/tower sites and AM Radio Towers	47 CFR 1.1307(8)

Key Contacts and Government Records Searched

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Item within Search Distance	Item within 1/8 mile of Target Property
Federal Lands	1.00	NO	NO
NEPAHIST	1.00	YES	NO
FLOODPLAIN	1.00	NO	NO
NWI	1.00	NO	NO
NJ COASTAL ZONE	20.00	YES	NO
FCC Cellular	1.00	YES	NO
FCC Antenna	1.00	NO	NO
FCC Tower	1.00	NO	NO
FCC AM Tower	1.00	NO	NO

Natural Areas Map



★ Target Property
Roads
Waterways
State Natural/Wildlife Locations
State Natural/Wildlife Linear Features
Federal Natural/Wildlife Features

0 1/4 1/2 1 Miles

N

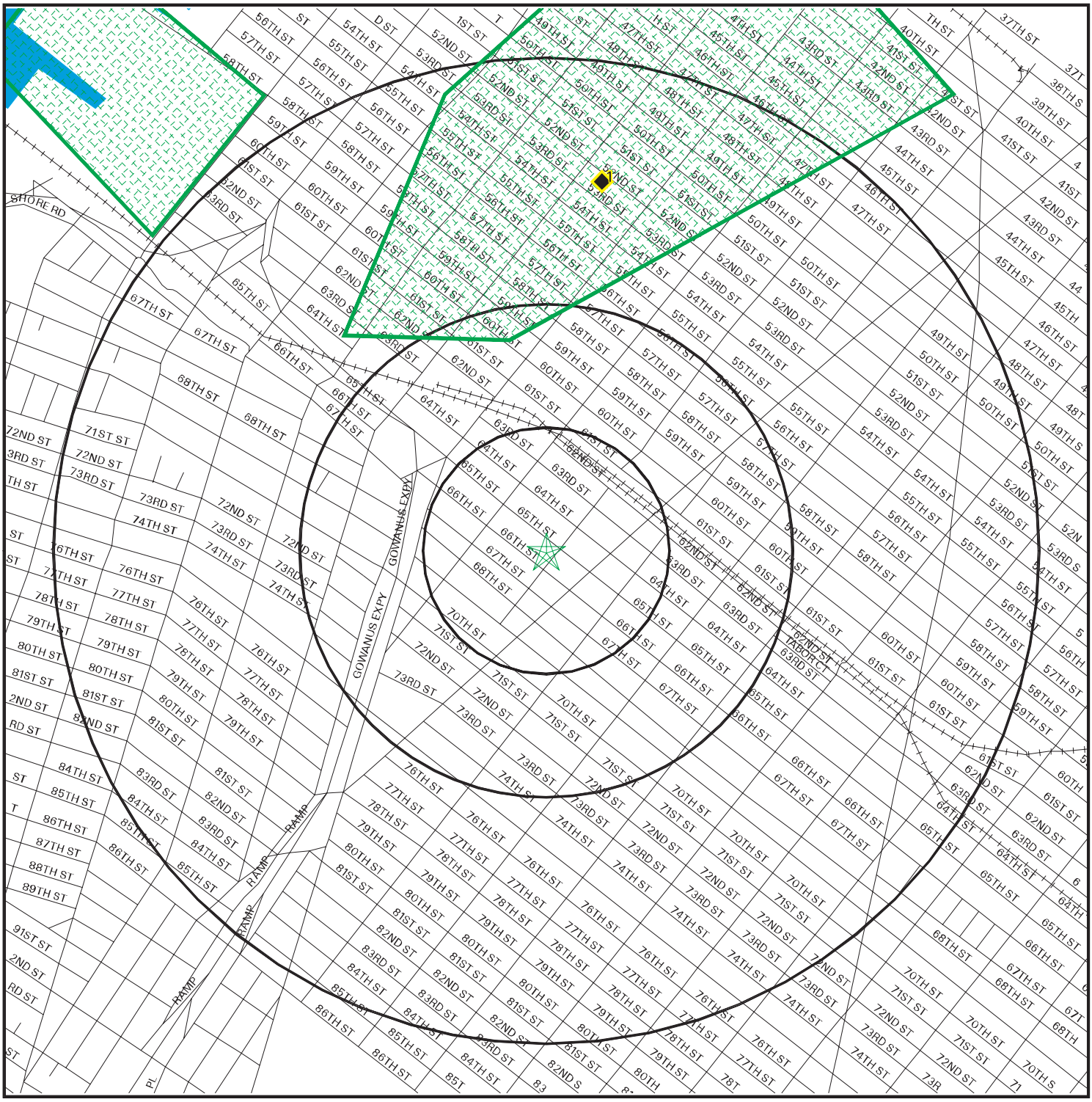
TARGET PROPERTY:	65th Street Station	CUSTOMER:	Vanasse Hangen Brustlin, Inc.
ADDRESS:	65 Street/9 Avenue	CONTACT:	Kurt Frantzen
CITY/STATE/ZIP:	Brooklyn NY 11220	INQUIRY #:	462181.4s
LAT/LONG:	40.6310 / 74.0114	DATE:	February 11, 2000

NATURAL AREAS MAP FINDINGS

Map ID Direction Distance Distance (ft.) Site	EDR ID Database

No Sites Reported.

Historic Places Map



Streets
Waterways
Water
Historic Sites
Historic Areas

0 1/4 1/2 1 Miles

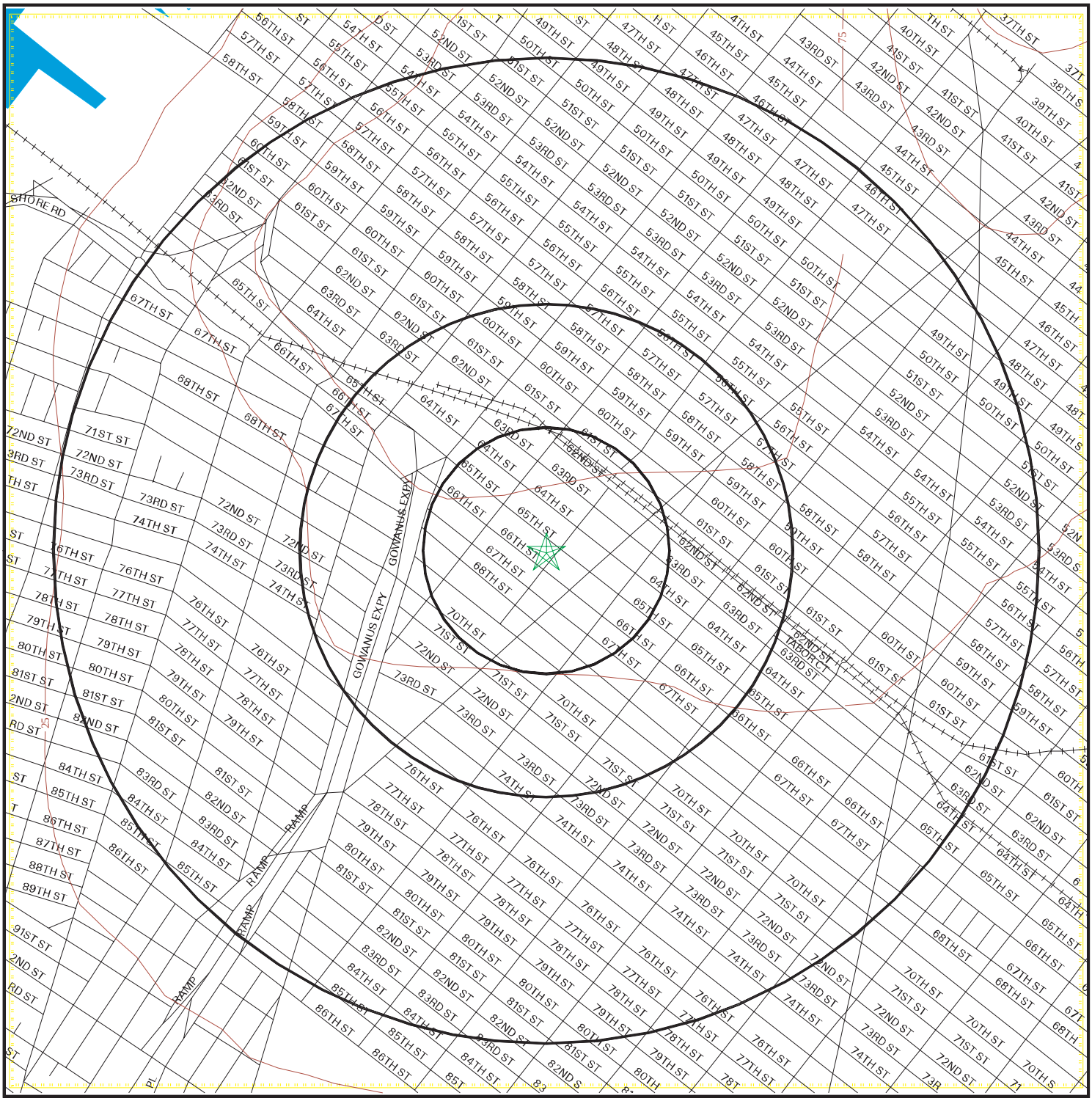
N

TARGET PROPERTY:	65th Street Station	CUSTOMER:	Vanasse Hangen Brustlin, Inc.
ADDRESS:	65 Street/9 Avenue	CONTACT:	Kurt Frantzen
CITY/STATE/ZIP:	Brooklyn NY 11220	INQUIRY #:	462181.4s
LAT/LONG:	40.6310 / 74.0114	DATE:	February 11, 2000

HISTORIC PLACES MAP FINDINGS

Map ID Direction Distance Distance (ft.)			EDR ID Database
1 North 1/2-1 mi 3999	Resource Name: Alternate Name: Resource Address: Resource Type: Location: County: Primary Certification: Certification Date: Number of Buildings: Number of Sites: Number of non-contributing Buildings: Number of non-contributing Objects: Number of non-contributing Sites: Num. of non-contributing Structures: Applicable Criteria: Areas of Significance: Current Function: Building Material:	Sunset Park Historic District Not Reported Roughly bounded by Fourth Ave., Thirty-eighth St., Seventh Ave. and Sixty-fourth St. District Brooklyn, NY Kings, NY Listed in the national register 19880915 Acreage: 2800 3237 Number of Objects: 0 1 Num. of Structures: 0 205 0 0 0 Architecture/Engineering Architecture Domestic, Commerce/trade, Landscape Brick, Sandstone, Limestone, Iron, Ceramic tile	88001464 NEPAHIST

Flood Plain Map



- Major Roads
- Contour Lines
- Waterways
- County Boundary
- Power Lines
- Pipe Lines
- Fault Lines
- Water
- 100-year flood zone
- 500-year flood zone
- Electronic FEMA data available
- Electronic FEMA data not available

0 1/4 1/2 1 Miles

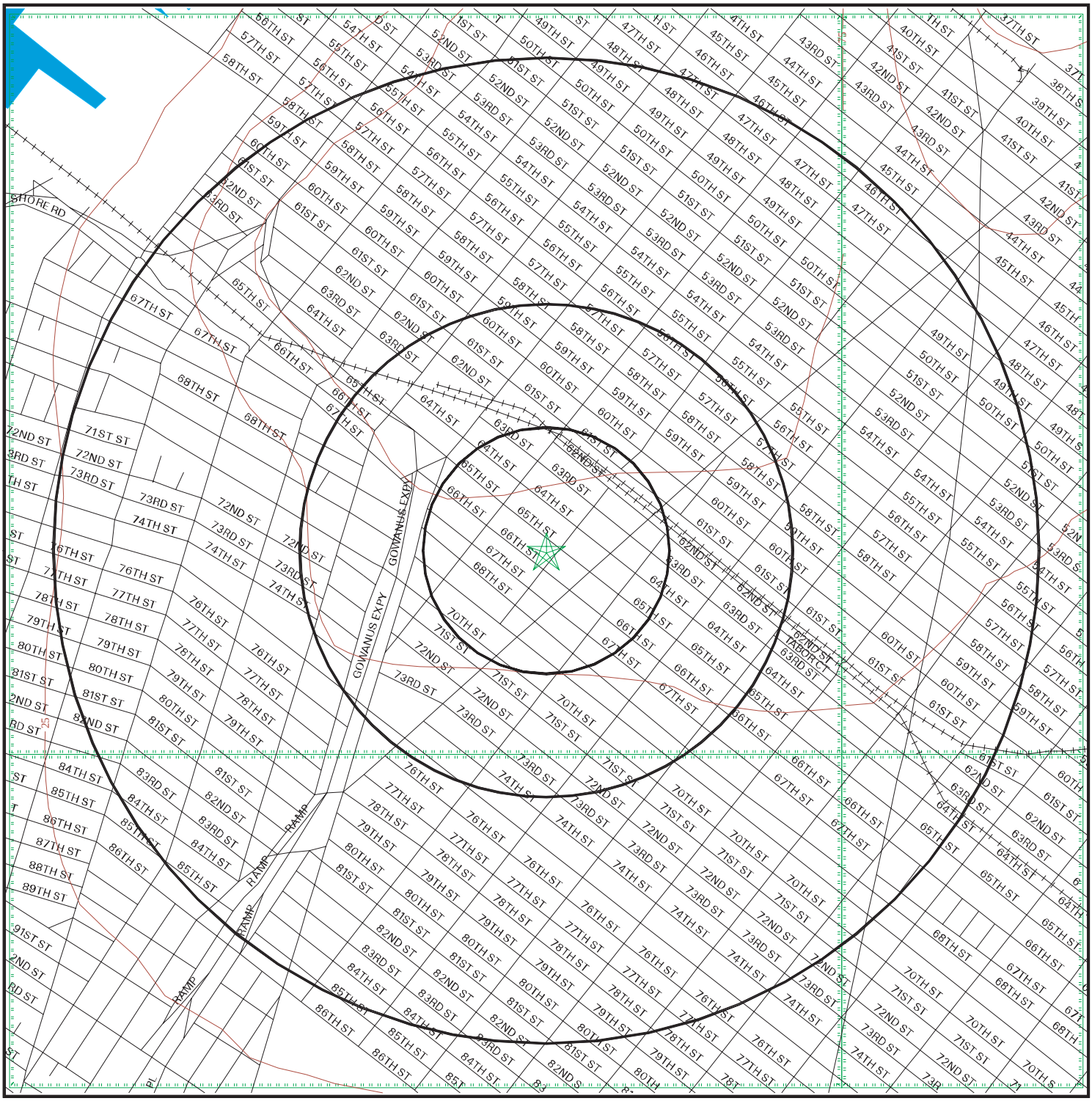
TARGET PROPERTY:	65th Street Station	CUSTOMER:	Vanasse Hangen Brustlin, Inc.
ADDRESS:	65 Street/9 Avenue	CONTACT:	Kurt Frantzen
CITY/STATE/ZIP:	Brooklyn NY 11220	INQUIRY #:	462181.4s
LAT/LONG:	40.6310 / 74.0114	DATE:	February 11, 2000

FLOOD PLAIN MAP FINDINGS

Source: FEMA Q3 Flood Data

County	FEMA flood data electronic coverage
KINGS, NY	NO
Flood Plain panel at target property:	None Reported
Additional Flood Plain panel(s) in search area:	None Reported

National Wetlands Inventory Map



Major Roads
Contour Lines
Waterways
County Boundary

Power Lines
Pipe Lines
Fault Lines

Water
Wetlands
Electronic NWI data available
Electronic NWI data not available

0 1/4 1/2 1 Miles

TARGET PROPERTY:	65th Street Station	CUSTOMER:	Vanasse Hangen Brustlin, Inc.
ADDRESS:	65 Street/9 Avenue	CONTACT:	Kurt Frantzen
CITY/STATE/ZIP:	Brooklyn NY 11220	INQUIRY #:	462181.4s
LAT/LONG:	40.6310 / 74.0114	DATE:	February 11, 2000

WETLANDS MAP FINDINGS

Source: Fish and Wildlife Service NWI data

NWI hardcopy map at target property: Jersey City
Additional NWI hardcopy map(s) in search area:
Brooklyn
The Narrows
Coney Island

Map ID Direction Distance Distance (ft.)	Code and Description*	Database

No Sites Reported.

*See Wetland Classification System for additional information.

WETLANDS CLASSIFICATION SYSTEM

National Wetland Inventory Maps are produced by the U.S. Fish and Wildlife Service, a sub-department of the U.S. Department of the Interior. In 1974, the U.S. Fish and Wildlife Service developed a criteria for wetland classification with four long range objectives:

- to describe ecological units that have certain homogeneous natural attributes,
- to arrange these units in a system that will aid decisions about resource management,
- to furnish units for inventory and mapping, and
- to provide uniformity in concepts and terminology throughout the U.S.

High altitude infrared photographs, soil maps, topographic maps and site visits are the methods used to gather data for the productions of these maps. In the infrared photos, wetlands appear as different colors and these wetlands are then classified by type. Using a hierarchical classification, the maps identify wetland and deepwater habitats according to:

- system
- subsystem
- class
- subclass
- modifiers

(as defined by Cowardin, et al. U.S. Fish and Wildlife Service FWS/OBS 79/31. 1979.)

The classification system consists of five systems:

1. marine
2. estuarine
3. riverine
4. lacustrine
5. palustrine

The marine system consists of deep water tidal habitats and adjacent tidal wetlands. The riverine system consists of all wetlands contained within a channel. The lacustrine systems includes all nontidal wetlands related to swamps, bogs & marshes. The estuarine system consists of deepwater tidal habitats and where ocean water is diluted by fresh water. The palustrine system includes nontidal wetlands dominated by trees and shrubs and where salinity is below .5% in tidal areas. All of these systems are divided in subsystems and then further divided into class.

National Wetland Inventory Maps are produced by transferring gathered data on a standard 7.5 minute U.S.G.S. topographic map. Approximately 52 square miles are covered on a National Wetland Inventory map at a scale of 1:24,000. Electronic data is compiled by digitizing these National Wetland Inventory Maps.

SYSTEM **MARINE**

SUBSYSTEM **1 - SUBTIDAL** **2 - INTERTIDAL**

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	RF-REEF	OW-OPEN WATER / Unknown Bottom	AB-AQUATIC BED	RF-REEF	RS-ROCKY SHORE	US-UNCONSOLIDATED SHORE
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 5 Unknown Submergent	1 Coral 3 Worm		1 Algal 3 Rooted Vascular 5 Unknown Submergent	1 Coral 3 Worm	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic

SYSTEM **E - ESTUARINE**

SUBSYSTEM **1 - SUBTIDAL**

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	RF-REEF	OW-OPEN WATER / Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	2 Mollusk 3 Worm	

SUBSYSTEM **2 - INTERTIDAL**

CLASS	AB-AQUATIC BED	RF-REEF	SB - STREAMBED	RS-ROCKY SHORE	US-UNCONSOLIDATED SHORE	EM-EMERGENT	SS-SCRUB SHRUB	FO-FORESTED
Subclass	1 Algal 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	2 Mollusk 3 Worm	1 Cobble- Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble	1 Cobble- Gravel 2 Sand 3 Mud 4 Organic	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen

SYSTEM — **R - RIVERINE**

SUBSYSTEM	**1 - TIDAL**	**2 - LOWER PERENNIAL**	**3 - UPPER PERENNIAL**	**4 - INTERMITTENT**	**5 - UNKNOWN PERENNIAL**
CLASS	RB-ROCK BOTTOM UB-UNCONSOLIDATED BOTTOM *SB-STREAMBED AB-AQUATIC BED RS-ROCKY SHORE US-UNCONSOLIDATED SHORE **EM-EMERGENT OW-OPEN WATER/ Unknown Bottom				
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble 3 Cobble-Gravel 4 Sand 5 Mud 6 Organic 7 Vegetated	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent

* STREAMBED is limited to TIDAL and INTERMITTENT SUBSYSTEMS, and comprises the only CLASS in the INTERMITTENT SUBSYSTEM.
**EMERGENT is limited to TIDAL and LOWER PERENNIAL SUBSYSTEMS.

SYSTEM — **L - LACUSTRINE**

SUBSYSTEM — **1 - LIMNETIC**

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	OW-OPEN WATER/ Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	

SUBSYSTEM — **2 - LITTORAL**

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	RS-ROCKY SHORE	US-UNCONSOLIDATED SHORE	EM-EMERGENT	OW-OPEN WATER/ Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent	

SUBSYSTEM — **P - PALUSTRINE**

CLASS	RB--ROCK BOTTOM	UB--UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	US--UNCONSOLIDATED SHORE	ML--MOSS-LICHEN	EM--EMERGENT	SS--SCRUB-SHRUB	FO--FORESTED	OW-OPEN WATER/ Unknown
Bottom									
Subclass	1 Bedrock 2 Rubble 3 Mud 4 Organic	1 Cobble-Gravel 2 Sand	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	1 Moss 2 Lichen	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6Deciduous 7 Evergreen	

MODIFIERS

In order to more adequately describe wetland and deepwater habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

WATER REGIME

Non-Tidal

A Temporarily Flooded
B Saturated
C Seasonally Flooded
D Seasonally Flooded/ Well Drained
E Seasonally Flooded/ Saturated
F Semipermanently Flooded
G Intermittently Exposed

Tidal

H Permanently Flooded
J Intermittently Flooded
K Artificially Flooded
W Intermittently Flooded/Temporary
Y Saturated/Semipermanent/ Seasonal
Z Intermittently Exposed/Permanent
U Unknown

Coastal Halinity Modifiers for Inland Salinity

K Artificially Flooded
L Subtidal
M Irregularly Exposed
N Regularly Flooded
P Irregularly Flooded

*S Temporary-Tidal
*R Seasonal-Tidal
*T Semipermanent -Tidal
V Permanent -Tidal
U Unknown

*These water regimes are only used in tidally influenced, freshwater systems.

WATER CHEMISTRY

pH Modifiers for all Fresh Water

1 Hyperhaline
2 Euhaline
3 Mixohaline (Brackish)
4 Polyhaline
5 Mesohaline
6 Oligohaline
0 Fresh

7 Hypersaline
8 Eusaline
9 Mixosaline
0 Fresh

a Acid
t Circumneutral
i Alkaline

SOIL

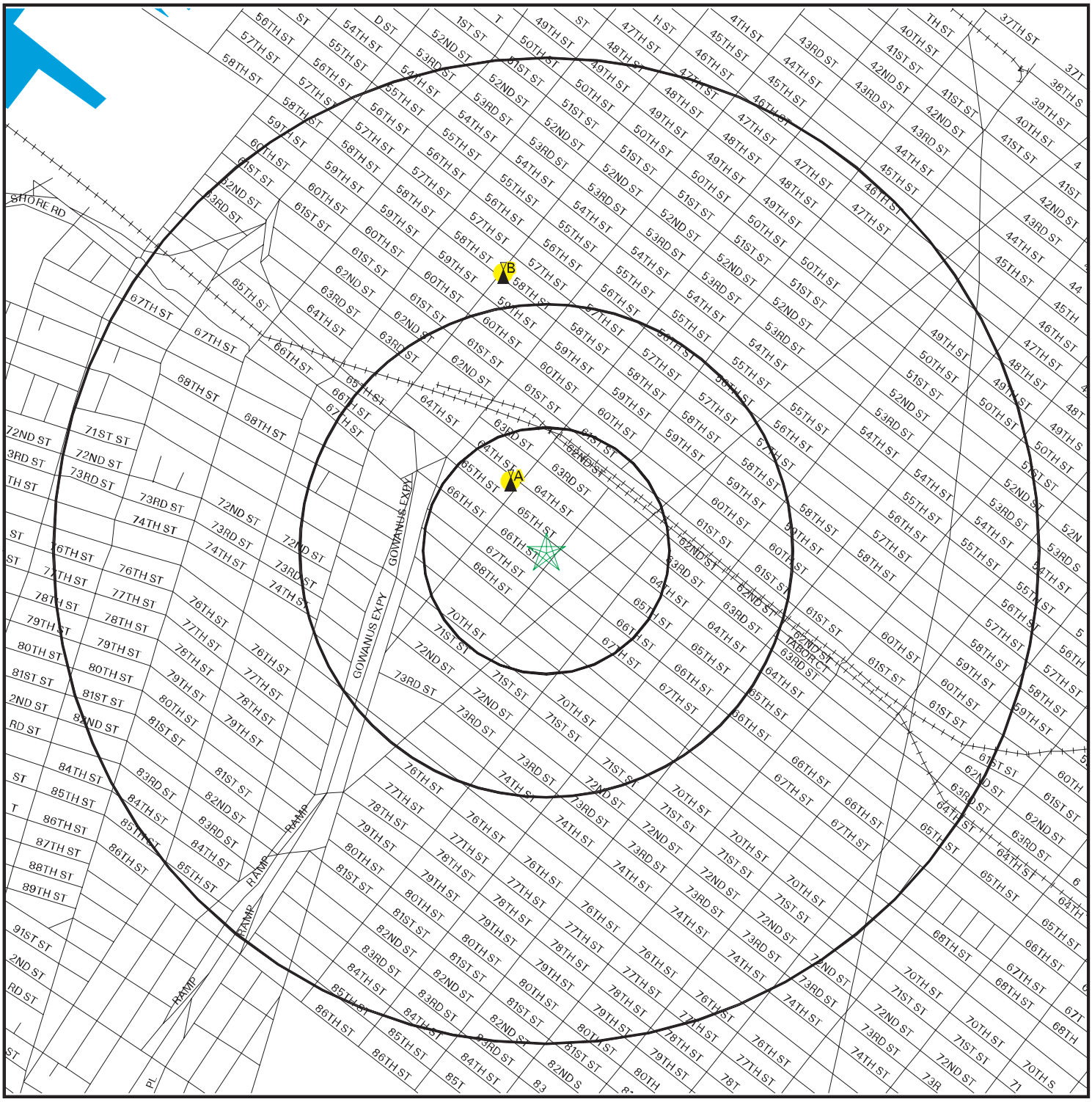
g Organic
n Mineral

SPECIAL MODIFIERS

b Beaver
d Partially Drained/Ditched
f Farmed
h Diked/Impounded
r Artificial Substrate
s Spoil
x Excavated

Source: U.S. Department of the Interior
Fish and Wildlife Service
National Wetlands Inventory

FCC Antenna/Towers & AM Radio Towers Map



Streets
Waterways
Water
FCC Tower Sites
Omni Directional AM Interference
Directional AM Interference

0 1/4 1/2 1 Miles

N

TARGET PROPERTY:	65th Street Station	CUSTOMER:	Vanasse Hangen Brustlin, Inc.
ADDRESS:	65 Street/9 Avenue	CONTACT:	Kurt Frantzen
CITY/STATE/ZIP:	Brooklyn NY 11220	INQUIRY #:	462181.4s
LAT/LONG:	40.6310 / 74.0114	DATE:	February 11, 2000

FCC ANTENNA/TOWERS & AM RADIO TOWERS
MAP FINDINGS

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

A1
NNW
1/8-1/4 mi
842

CEL100000002125
CELLULAR

Low Frequency:	825.03000000	High Frequency:	834.99000000
Callsign:	KNKA310	Radio Code:	CL
DBA Name:	CELLULAR TELEPHONE COMPANY		
Contact:	Not Reported		
Licensee:	CELLULAR TELEPHONE COMPANY Not Reported WASHINGTON, DC 20036		
Transmitter Address:	DE-LUXE MOVERS, 6402 8TH AVENUE BROOKLYN, NY		
County:	KINGS		
Latitude:	403759	Longitude:	0740046
Elevation:	00000	Height:	00000
Height Average:	00000	Effective Height:	00080
Structure Height:	00000	Class Code:	MO
ERP:	00000000	Database ID:	Y
License Date:	940923	Emissions:	40K0F3E 40K0F1D
Issue Date:	940831	Expiration Date:	951001
Mobile Vehicles:	Not Reported	Total Units:	Not Reported
Control Point Auth:	00	Authorization Type:	L

A2
NNW
1/8-1/4 mi
842

CEL100000030650
CELLULAR

Low Frequency:	870.03000000	High Frequency:	879.99000000
Callsign:	KNKA310	Radio Code:	CL
DBA Name:	CELLULAR TELEPHONE COMPANY		
Contact:	Not Reported		
Licensee:	CELLULAR TELEPHONE COMPANY Not Reported WASHINGTON, DC 20036		
Transmitter Address:	DE-LUXE MOVERS, 6402 8TH AVENUE BROOKLYN, NY		
County:	KINGS		
Latitude:	403759	Longitude:	0740046
Elevation:	00000	Height:	00000
Height Average:	00000	Effective Height:	00080
Structure Height:	00000	Class Code:	FB
ERP:	00000000	Database ID:	Y
License Date:	940923	Emissions:	40K0F3E 40K0F1D
Issue Date:	940831	Expiration Date:	951001
Mobile Vehicles:	Not Reported	Total Units:	Not Reported
Control Point Auth:	00	Authorization Type:	L

FCC ANTENNA/TOWERS & AM RADIO TOWERS
MAP FINDINGS

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

B3
North
1/2-1 mi
3011

CEL100000014933
CELLULAR

Low Frequency:	835.02000000	High Frequency:	844.98000000
Callsign:	KNKA206	Radio Code:	CL
DBA Name:	NEW YORK SMSA LIMITED PARTNERSHIP		
Contact:	Not Reported		
Licensee:	NEW YORK SMSA LIMITED PARTNERSHIP Not Reported ORANGEBURG,, NY 109622624		
Transmitter Address:	OUR LADY OF PERPETUAL HELP (PARRRISH CLU BROOKLYN, NY		
County:	KINGS		
Latitude:	403821	Longitude:	0740047
Elevation:	00000	Height:	00000
Height Average:	00000	Effective Height:	00250
Structure Height:	00000	Class Code:	MO
ERP:	00000000	Database ID:	Y
License Date:	940923	Emissions:	40K0F3E 40K0F1D
Issue Date:	940831	Expiration Date:	931001
Mobile Vehicles:	Not Reported	Total Units:	Not Reported
Control Point Auth:	00	Authorization Type:	L

B4
North
1/2-1 mi
3011

CEL100000040066
CELLULAR

Low Frequency:	880.02000000	High Frequency:	889.98000000
Callsign:	KNKA206	Radio Code:	CL
DBA Name:	NEW YORK SMSA LIMITED PARTNERSHIP		
Contact:	Not Reported		
Licensee:	NEW YORK SMSA LIMITED PARTNERSHIP Not Reported ORANGEBURG,, NY 109622624		
Transmitter Address:	OUR LADY OF PERPETUAL HELP (PARRRISH CLU BROOKLYN, NY		
County:	KINGS		
Latitude:	403821	Longitude:	0740047
Elevation:	00000	Height:	00000
Height Average:	00000	Effective Height:	00250
Structure Height:	00000	Class Code:	FB
ERP:	00000000	Database ID:	Y
License Date:	940923	Emissions:	40K0F3E 40K0F1D
Issue Date:	940831	Expiration Date:	931001
Mobile Vehicles:	Not Reported	Total Units:	Not Reported
Control Point Auth:	00	Authorization Type:	L

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Various Federal laws and executive orders address specific environmental concerns. NEPA requires the responsible offices to integrate to the greatest practical extent the applicable procedures required by these laws and executive orders. EDR provides key contacts at agencies charged with implementing these laws and executive orders to supplement the information contained in this report.

NATURAL AREAS
Officially designated wilderness areas
Federal
National Park Service, Northeast Region
200 custom Street, Fifth Floor
Philadelphia, PA 19106
215-597-7013

USDA Forest Service, Eastern
310 West Wisconsin Avenue
Milwaukee, WI 53203
414-297-3693

BLM - Eastern States Office
7450 Boston Blvd.
Springfield, VA 22153
703-440-1713

Fish & Wildlife Service, Region 5
Div. Of Personnel Mgmt. 300 Westgate Center Drive
Hadley, MA 01035-9589
413-253-8313

Government Records Searched
FED_LAND: Federal Lands
Source: USGS
Telephone: 703-648-5094
Federal lands data. Includes data from several Federal land manangement agencies, including Fish and Wildlife Service, Bureau of Land Management, National Park Service, and Forest Service. Includes National Parks, Forests, Monuments; Wildlife Sanctuaries, Preserves, Refuges; Federal Wilderness Areas.
Date of Government Version: 09/01/1997

Officially designated wildlife preserves, sanctuaries and refuges
Federal
Fish & Wildlife Service, Region 5
Div. Of Personnel Mgmt. 300 Westgate Center Drive
Hadley, MA 01035-9589
413-253-8313

State
Dept. of Environmental Conservation 518-457-5690

Government Records Searched
FED_LAND: Federal Lands
Source: USGS
Telephone: 703-648-5094
Federal lands data. Includes data from several Federal land manangement agencies, including Fish and Wildlife Service, Bureau of Land Management, National Park Service, and Forest Service. Includes National Parks, Forests, Monuments; Wildlife Sanctuaries, Preserves, Refuges; Federal Wilderness Areas.
Date of Government Version: 09/01/1997

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Wild and scenic rivers
Federal
Fish & Wildlife Service, Region 5
Div. Of Personnel Mgmt. 300 Westgate Center Drive
Hadley, MA 01035-9589
413-253-8313

Government Records Searched
FED_LAND: Federal Lands
Source: USGS
Telephone: 703-648-5094
Federal lands data. Includes data from several Federal land manangement agencies, including Fish and Wildlife Service, Bureau of Land Management, National Park Service, and Forest Service. Includes National Parks, Forests, Monuments; Wildlife Sanctuaries, Preserves, Refuges; Federal Wilderness Areas.
Date of Government Version: 09/01/1997

Endangered Species
Federal
Fish & Wildlife Service, Region 5
Div. Of Personnel Mgmt. 300 Westgate Center Drive
Hadley, MA 01035-9589
413-253-8313

State
Natural Heritage Program, Dept. of Environmental Conservation 518-783-3932

Government Records Searched
NY_WMA
Wildlife Management Areas
Borders of New York State Wildlife Management Areas
Source: Dept. of Env. Conservation
Telephone: 518-783-5733

LANDMARKS, HISTORICAL, AND ARCHEOLOGICAL SITES
Historic Places
Federal
Park Service; Advisory Council on Historic Preservation
1849 C Street NW
Washington, DC 20240
Phone: (202) 208-6843

State
Parks, Recreation & Historic Preservation 518-474-0443

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Government Records Searched
National Register of Historic Places:
The National Register of Historic Places is the official federal list of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering, and culture. These contribute to an understanding of the historical and cultural foundations of the nation. The National Register includes:
- All prehistoric and historic units of the National Park System;
- National Historic Landmarks, which are properties recognized by the Secretary of the Interior as possessing national significance; and
- Properties significant in American, state, or local prehistory and history that have been nominated by State Historic Preservation Officers, federal agencies, and others, and have been approved for listing by the National Park Service.

Date of Government Version: 06/05/1998

FED_LAND: Federal Lands
Source: USGS
Telephone: 703-648-5094
Federal lands data. Includes data from several Federal land manangement agencies, including Fish and Wildlife Service, Bureau of Land Management, National Park Service, and Forest Service. Includes National Parks, Forests, Monuments; Wildlife Sanctuaries, Preserves, Refuges; Federal Wilderness Areas.
Date of Government Version: 09/01/1997

Indian Religious Sites
Federal
Department of the Interior- Bureau of Indian Affairs
Office of Public Affairs
1849 C Street, NW
Washington, DC 20240-0001
Office: 202-208-3711
Fax: 202-501-1516

National Association of Tribal Historic Preservation Officers
1411 K Street NW, Suite 700
Washington, DC 20005
Phone: 202-628-8476
Fax: 202-628-2241

State
Eastern Area Office, Bureau of Indian Affairs
3701 N. Fairfax Drive Mail Stop 260-VASQ
Arlington, VA 22203
703-235-2571

FLOOD PLAIN, WETLANDS AND COASTAL ZONE

Flood Plain Management
Federal
Federal Emergency Management Agency 877-3362-627

State
New York State Emergency Management Office 518-457-2200

Government Records Searched
Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Wetlands Protection
Federal
Fish & Wildlife Service 813-570-5412

State
Dept. of Environmental Conservation 518-457-5690

Government Records Searched
NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 1999 from the U.S. Fish and Wildlife Service.

Coastal Zone Management
Federal
Office of Ocean and Coastal Resource Management
N/ORM, SSMC4
1305 East-West Highway
Silver Spring, Maryland 20910
301-713-3102

State
Dept of State, Div. Of Coastal Resources & Waterfront Revitalization 518-474-3643

FCC ANTENNA/TOWERS AND AM RADIO TOWERS MAP
For NEPA actions that come under the authority of the FCC, the FCC requires evaluation of Antenna towers and/or supporting structures that are to be equipped with high intensity white lights which are to be located in residential neighborhoods, as defined by the applicable zoning law.

Federal
Federal Communications Commission
Mass Media Bureau
2nd Floor - 445 12th Street SW
Washington DC 20554 USA
Telephone (202) 418-2700

Government Records Searched
Cellular
Federal Communications Commission
Mass Media Bureau
2nd Floor - 445 12th Street SW
Washington DC 20554 USA
Telephone (202) 418-2700

Tower
Federal Communications Commission
Mass Media Bureau
2nd Floor - 445 12th Street SW
Washington DC 20554 USA
Telephone (202) 418-2700

Antenna Registration
Federal Communications Commission
Mass Media Bureau
2nd Floor - 445 12th Street SW
Washington DC 20554 USA
Telephone (202) 418-2700

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

AM Tower
Federal Communications Commission
Mass Media Bureau
2nd Floor - 445 12th Street SW
Washington DC 20554 USA
Telephone (202) 418-2700

OTHER CONTACT SOURCES

Excessive Radio Frequency Emission
For NEPA actions that come under the authority of the FCC, Commission actions granting construction permits, licenses to transmit or renewals thereof, equipment authorizations or modifications in existing facilities, require the determination of whether the particular facility, operation or transmitter would cause human exposure to levels of radiofrequency in excess of certain limits.

Federal
Office of Engineering and Technology
Federal Communications Commission
445 12th Street SW
Washington, DC 20554
Phone: 202-418-2470

Note: Historical topographical maps were reviewed but not used as part of this report. Maps are available upon request.

Note: The Sanborn Fire Insurance Maps listed on the following page were reviewed and utilized for this report. These over-sized maps are available upon request.

Environmental Data Resources, Inc.
an edr company

"Linking Technology with Tradition"

Sanborn™ Map Report

Ship to: Kurt Frantzen
Vanasse Hangen Brustlin, Inc.
54 Tuttle Place
Middletown, CT 06457

1043934JGM 860-632-1500

Order Date: 2/11/2000 **Completion Date:** 02/11/2000
Inquiry #: 462181.5S
P.O. #: 06392.00
Site Name: 65th Street Station
Address: 65 Street/9 Avenue
City/State: Brooklyn, NY 11220
Cross Streets: 9th Avenue

Based on client-supplied information, fire insurance maps for the following years were identified

1905 - 1 - map
1909 - 1 - map
1926 - 1 - map
1950 - 1 - map
1977 - 1 - map
1981 - 1 - map
1992 - 1 - map
1993 - 1 - map
1994 - 1 - map
1995 - 1 - map

Total Maps: 10

Limited Permission to Photocopy

Vanasse Hangen Brustlin, Inc. (the client) is permitted to make up to THREE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Electronic Sanborn Map Images
USER'S GUIDE

Thank you for your interest in electronic Sanborn Map images. The following are guidelines for accessing the images and for transferring them to your system. If you have any questions about the use of electronic Sanborn Map images, contact your EDR Account Executive at 1-800-352-0050.

Organization of Electronic Sanborn Image File

- First Page — Sanborn Map Report, listing years of coverage
- Second Page — Electronic Sanborn Map Images USER'S GUIDE
- Third Page — Oldest Sanborn Map Image
- Last Page — Most recent Sanborn Map Image

Navigating the Electronic Sanborn Image File

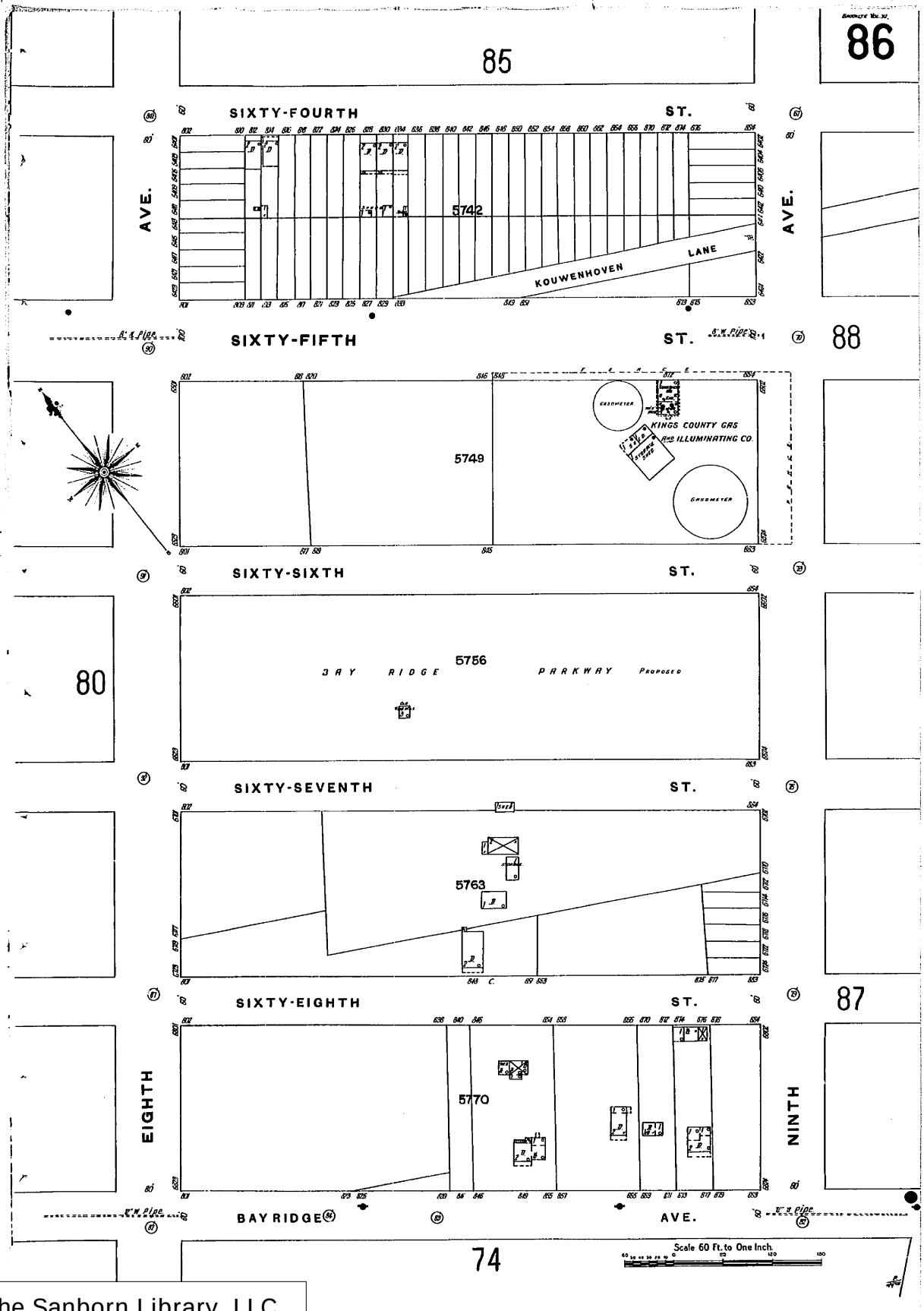
- Open file on screen.
- Identify TP (Target Property) on the most recent map.
- Find TP on older printed images.
- To view the image more clearly, zoom to 250%.
  - 200-250% is the approximate equivalent scale of hardcopy Sanborn Maps.
  - Viewing above 400% will tend to pixelate the display.
- Zooming in on an image:
  - Click on the % in the lower left hand corner and type in ____%.
  - Use the magnifying tool and drag a box around the TP area.

Printing a Sanborn Map from the Electronic File

- EDR recommends printing all images at 300 dpi (300 dpi prints faster than 600 dpi).
- To print only the TP area, cut and paste the area from Adobe Acrobat to Microsoft Word, or other word processor
  - Go to the Menu Bar.
  - Highlight 'Tools'.
  - Highlight 'Select Graphics'.
  - Draw a box around the area of interest.
  - Go to the Menu Bar.
  - Highlight 'Edit'.
  - Highlight 'Copy'.
  - You can paste directly into a report, if necessary. Go to a word processor such as Microsoft Word and paste. Print from the word processor.

Important Information about Email Delivery of Electronic Sanborn Map Images

- Images are grouped into one file, up to 2MB.
- In cases where in excess of 6-7 map years are available, the file size typically exceeds 2MB. In these cases, you will receive multiple files, labeled as 1 of 3, 2 of 3, etc. including all available map years.
- Due to file size limitations, certain ISPs, including AOL, may occasionally delay or decline to deliver files. Please contact your ISP to identify their specific file size limitations.



See Volume Six A Borough of Brooklyn.

64TH ST.

65TH ST.

66TH ST.

67TH ST.

68TH ST.

BAY RIDGE AV.

57 AV.

8TH

9TH AV.

67

56

5742

THE SHEFFIELD FARMS CO. INC.
WAGON HO. & MILK DEPOT.

WAGON HO.

SHOP & STABLES OF THE KINGS COUNTY LIGHTING CO.

KINGS COUNTY LIGHTING COMPANY.

PUMP HO.

GASOMETER 235'
5749

GASOMETER

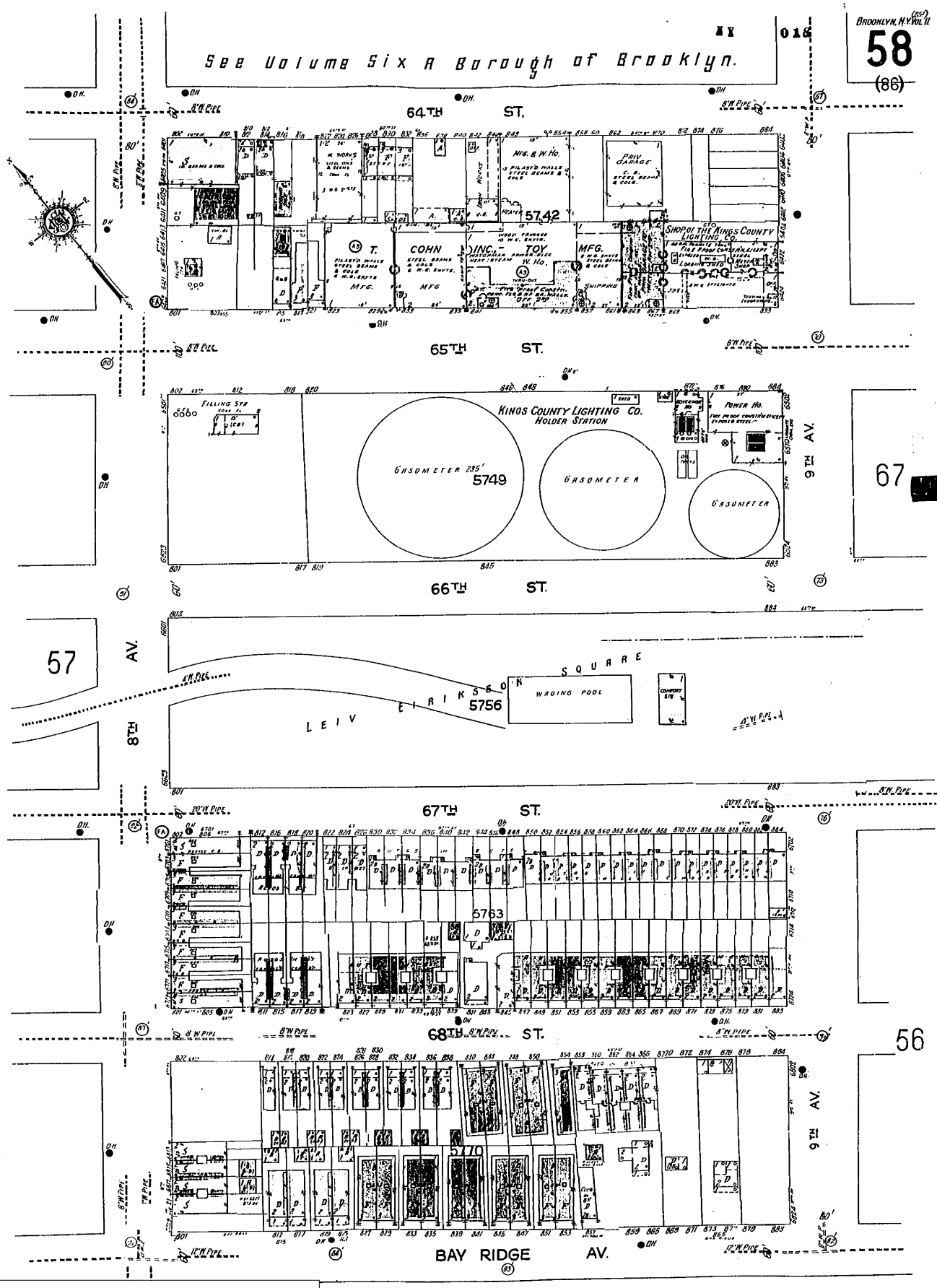
GASOMETER

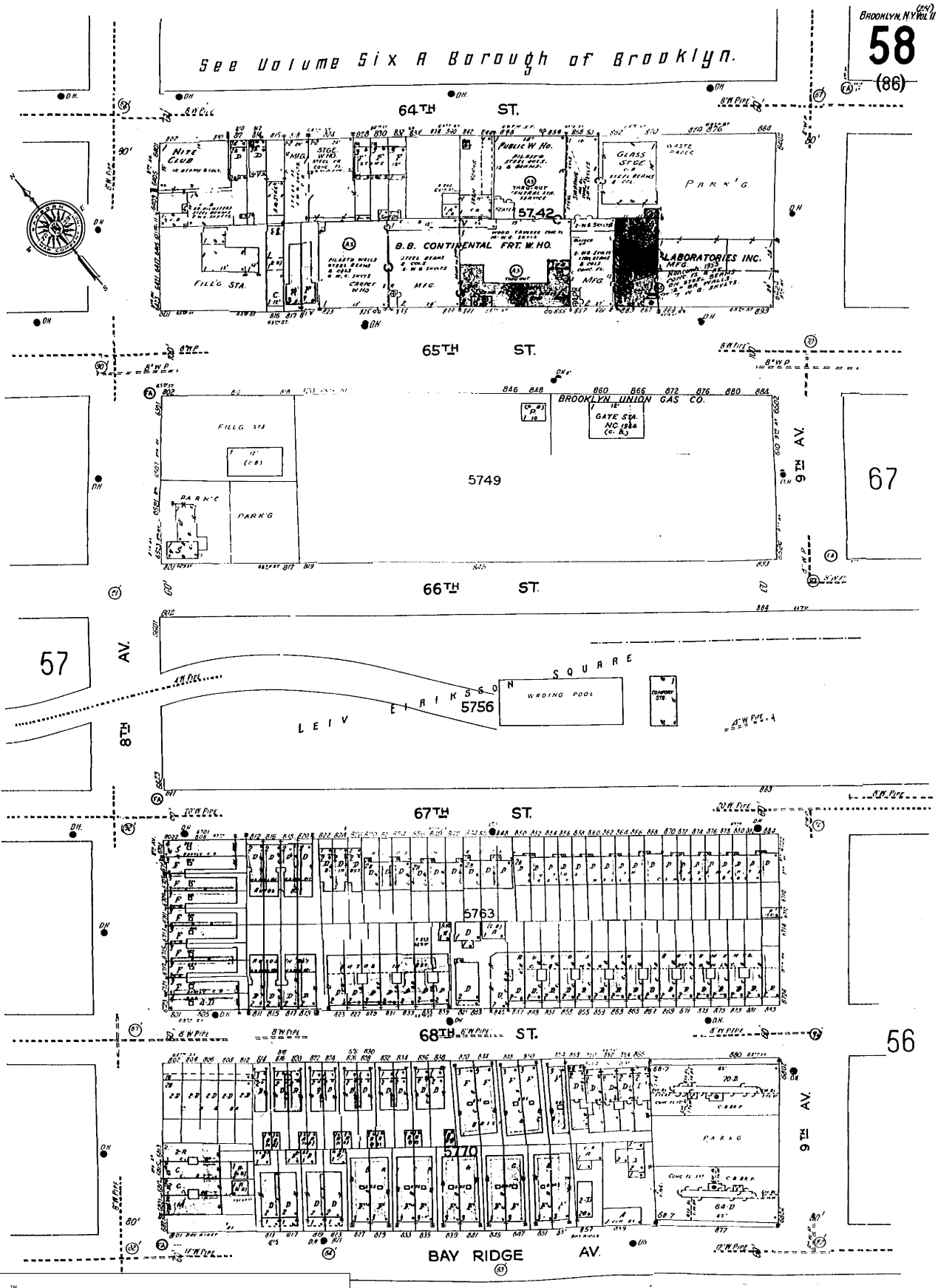
SQUARE
ERIKSON
5756
LEIV

5763

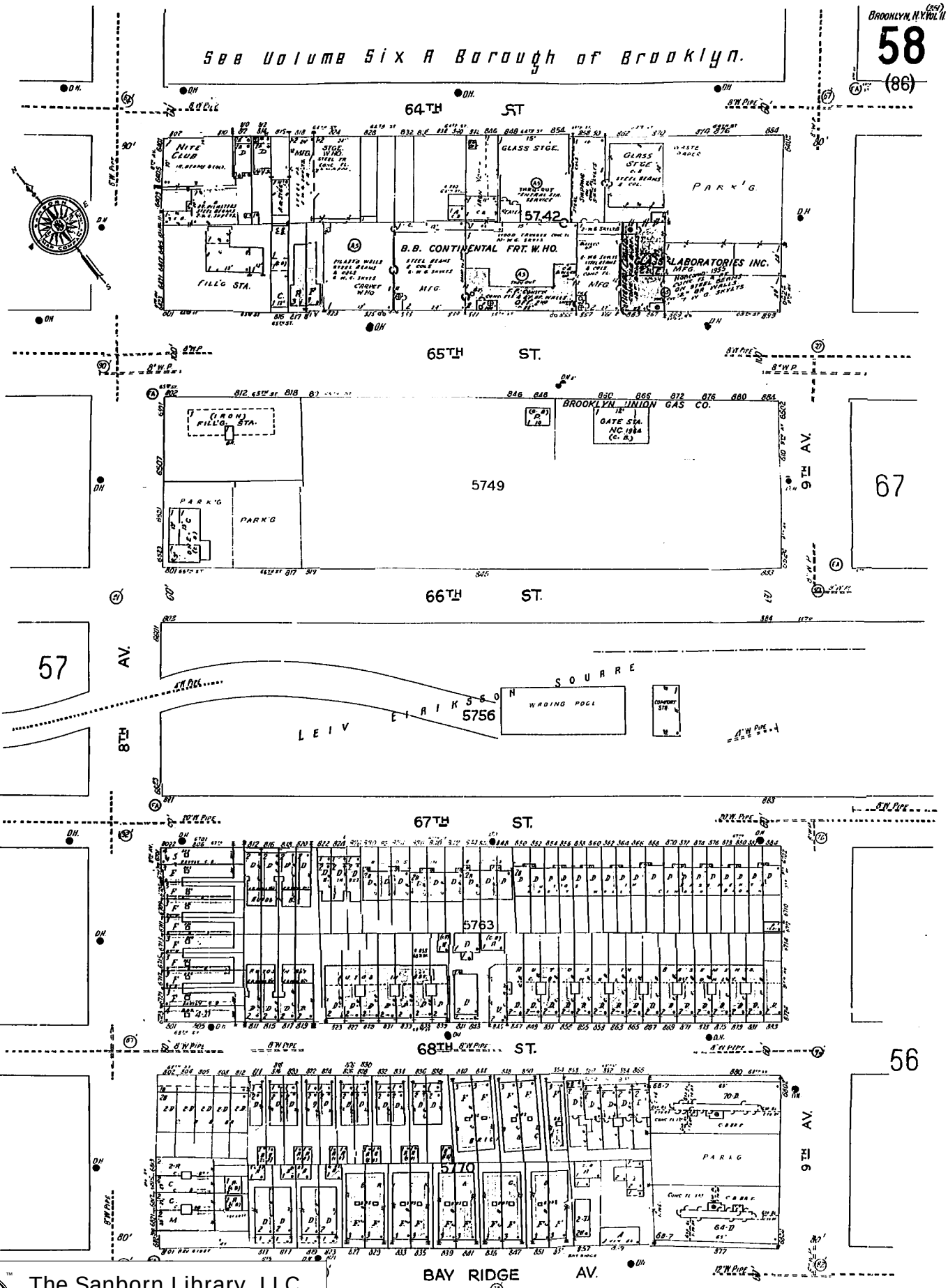
5770

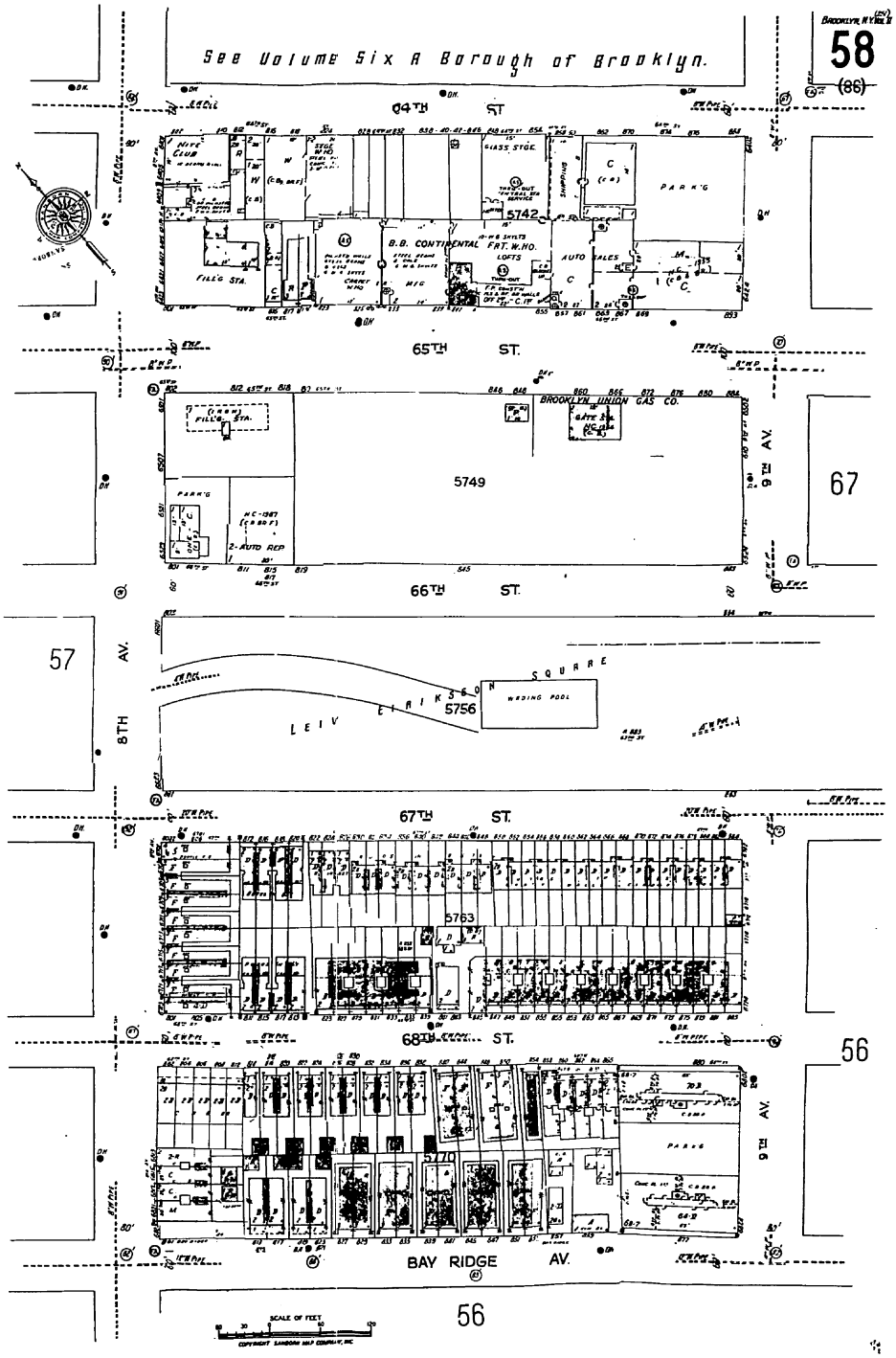
Scale 60 Ft. to One Inch.

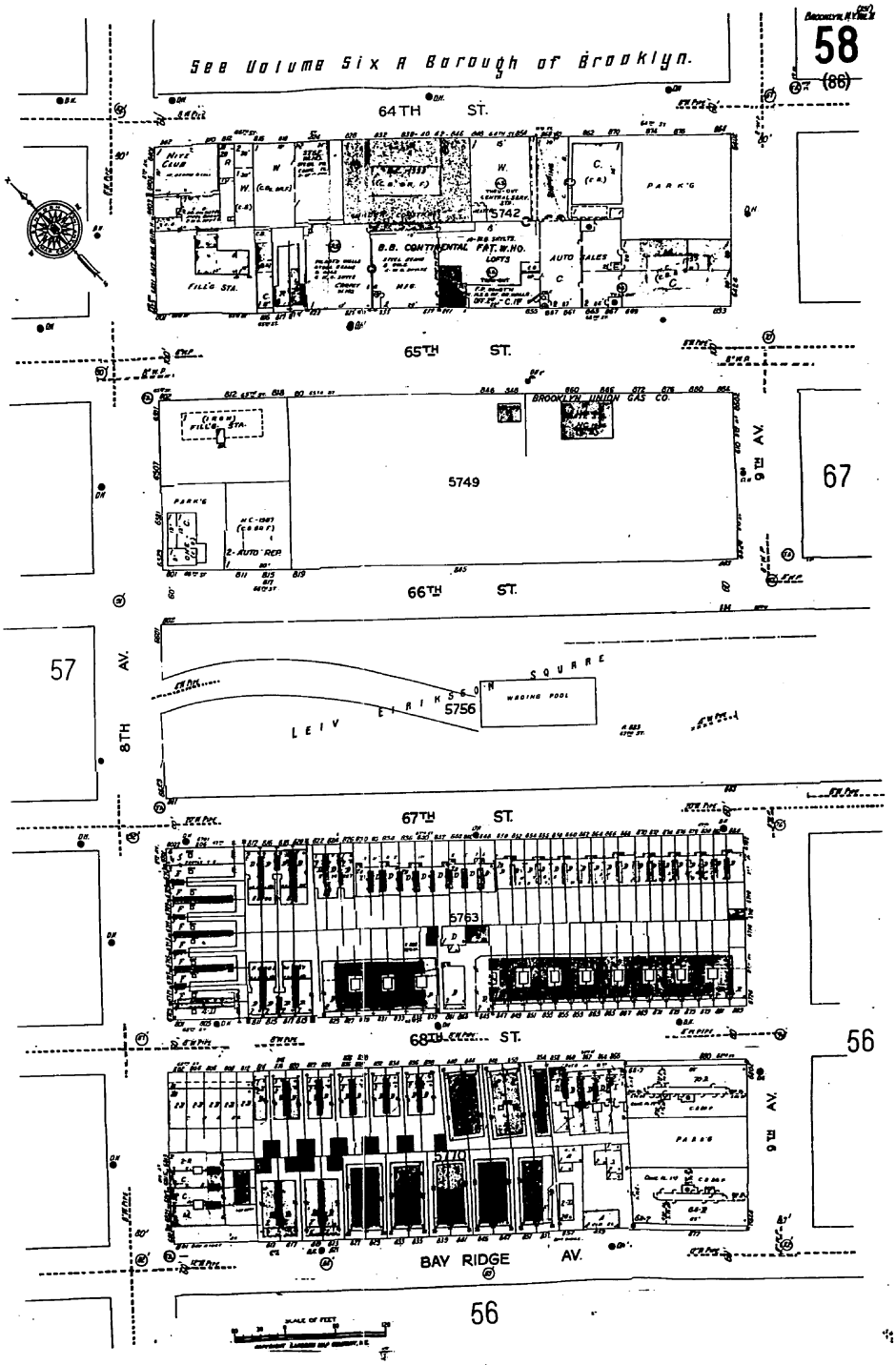


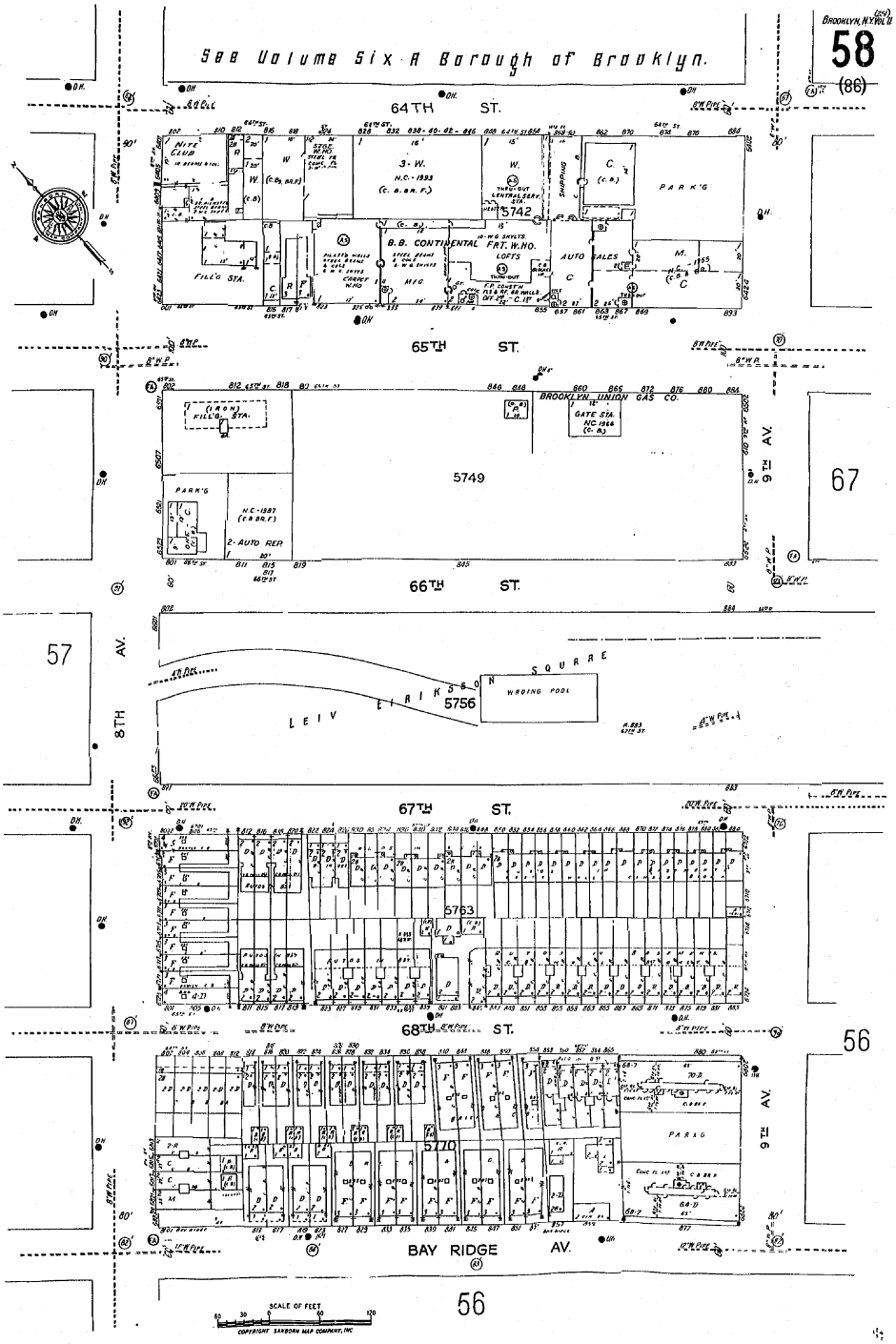


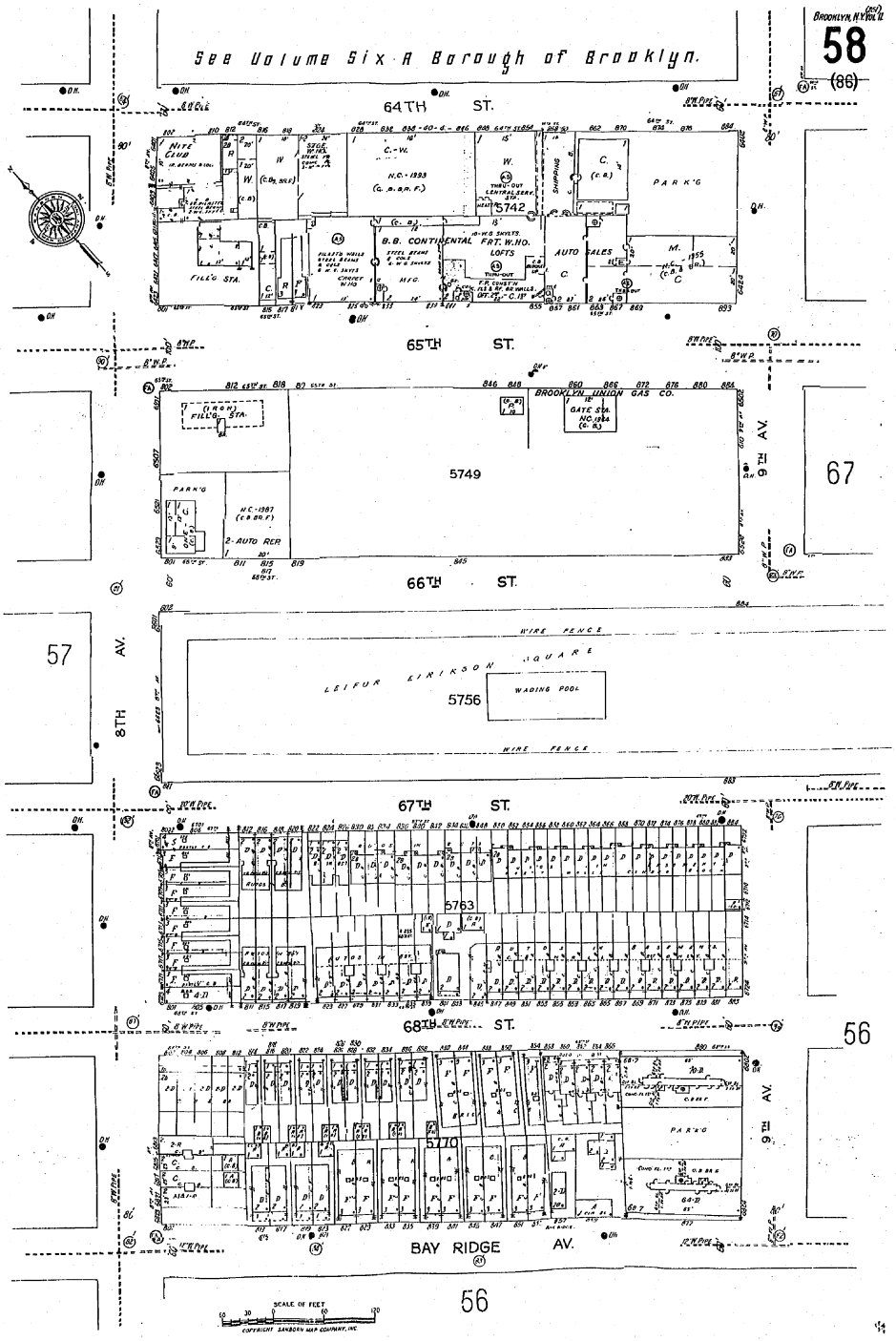
See Volume Six A Borough of Brooklyn.











Appendix B

Photographic Log

Photo/Frame No.: 1 **Direction of View:** East-southeast
Date/Time: 3-13-00/10:30 **Subject:** Moving drill rig to SB-1 location; Subcontractor is Aquifer Drilling & Testing
Photographer: R. Watt

Photo/Frame No.: 2 **Direction of View:** East
Date/Time: 3-13-00/12:10 **Subject:** Auger drilling at SB-1; Aquifer Drilling & Testing, Inc.
Photographer: R. Watt

Photo/Frame No.: 3
Date/Time: 3-13-00/15:43
Photographer: R. Watt
Direction of View: East-southeast
Subject: SB-2 location (white pin flag in foreground) after completion.

Photo/Frame No.: 4
Date/Time: 3-13-00/16:52
Photographer: R. Watt
Direction of View: Northeast
Subject: Drill rig (Aquifer Drilling & Testing) near completion of boring SB-3.

Photo/Frame No.: 5
Date/Time: 3-13-00/16:52
Photographer: R. Watt
Direction of View: Southeast
Subject: Large ball field from near gas station on northwest side of site; sample locations at white pin flags.

Photo/Frame No.: 6
Date/Time: 3-14-00/07:55
Photographer: R. Watt
Direction of View: Northeast
Subject: Preparation of soil gas probe at SG-1.

Photo/Frame No.: 7

Date/Time: 3-14-00/10:00

Photographer: R. Watt

Direction of View: Northwest

Subject: Auger drilling at SB-5 (pitching mound of large ball field).

Photo/Frame No.: 8

Date/Time: 3-15-00/07:38

Photographer: R. Watt

Direction of View: North

Subject: Moving drill rig to SB-8 location on small ball field.

Photo/Frame No.: 9
Date/Time: 3-15-00/12:35
Photographer: R. Watt
Direction of View: West-northwest
Subject: Condition of large ball field after completion of drilling; SB-1 in foreground. Note bare area of outfield in left center of frame.

Photo/Frame No.: 10
Date/Time: 3-15-00/12:36
Photographer: R. Watt
Direction of View: West
Subject: Condition of large ball field after completion of drilling; SB-3 in center of frame.

Photo/Frame No.: 11 **Direction of View:** South
Date/Time: 3-15-00/12:37 **Subject:** Condition of large ball field after completion of drilling; SB-5 in foreground.
Photographer: R. Watt

Photo/Frame No.: 12 **Direction of View:** Southeast
Date/Time: 3-15-00/12:38 **Subject:** Condition of large ball field after completion of drilling; SB-6 near home plate.
Photographer: R. Watt

Photo/Frame No.: 13
Date/Time: 3-15-00/12:39
Photographer: R. Watt
Direction of View: Northeast
Subject: Condition of large ball field after completion of drilling; SB-7 in center of frame.

Photo/Frame No.: 14
Date/Time: 3-15-00/12:40
Photographer: R. Watt
Direction of View: Southwest
Subject: Condition of small ball field after completion of drilling; SB-9 in foreground.

Appendix C

Borehole Logs

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-1

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 4¼-inch HSA with 2-in split spoons
Date: 3/13/2000
Weather: Partly sunny, 32°F

Boring Depth: 18.8 feet BGS
Depth to Ground Water: Perched water at 4.5 - 6 feet BGS
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 5.2' Light to medium brown sandy loam with debris (wire, rebar, glass, concrete, asphalt). Minor gravel including rounded quartz and angular marble. Saturated at 4.5' (perched water).
1 - 3		8	10	11	15	65%	0	
3 - 5		3	5	2	50/1"	38%	0	5.2 - 5.4' Black cinder-like material.
5 - 7		7	28	17	38	60%	0	5.4 - 5.6' Sandy gravel fill.
7 - 9		8	50/4"	x	x	25%	0	5.6 - 5.8' Concrete.
9 - 11		11	12	8	9	65%	0	5.8 - 7.2' Light brown sand with gravel (appears to be fill).
11 - 13		5	11	16	23	45%	0	7.2 - 9' No recovery. Cuttings are medium brown gravelly sand with cobbles (concrete fragments also entrained in cuttings but are probably from near 6').
13 - 15		8	9	10	9	65%	0	
15 - 17		4	6	8	8	65%	0	9 - 9.7' Reddish brown sandy silt with gravel; damp to wet.
17 - 19	SB-1B (17 - 18.5')	11	20	30	50/3"	47%	0	9.7 - 11.5' Variegated colors but primarily light brown, well-sorted fine-to medium-grained sand; primarily quartz with minor feldspar and mafic minerals. Trace subround gravel, amount increasing with depth.
								11.5 - 11.7' Light gray, well-sorted, fine-grained sand.
								11.7 - 18.8' Reddish brown sandy silt with trace subround to round gravel (till).

Key:

BGS = below ground surface
HSA = hollow-stem auger
NA = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-2

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 4¼-inch HSA with 2-in split spoons
Date: 3/13/2000
Weather: Mostly sunny, breezy, 35°F

Boring Depth: 20 feet BGS
Depth to Ground Water: Perched water at 5 - 14 feet BGS
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 1' Dark brown sandy loam with grael and trace brick and concrete fragments.
1 - 3		7	9	7	9	70%	0	1 - 4' Reddish brown sandy silt with trace gravel. Debris coming up augers including scrap metal and brick.
3 - 5		3	20	50/1"	x	45%	0	
5 - 7	SB-2A (5 - 9')	1	1	1	1	50%	0	4 - 7' Medium brown silty sand with trace gravel; wet below 5'; stained dark gray at approximately 6'.
7 - 9		0	0	1	1	40%	0	
9 - 11		0	0	0	1	60%	0	7 - 11' Grayish brown sandy silt; wet. Brick fragment at 9' BGS.
11 - 13	SB-2B (12 - 14')	0	0	0	0	50%	0	11 - 14' Grayish brown silty sand; wet. No PID readings, but emitted slight naphtha/fuel-like odor.
13 - 15		0	1	50\2"	x	100%	0	
16 - 18		21	28	34	36	90%	0	14.2 ' Split spoon refusal (concrete?). Augered through to 16'.
18 - 20		18	22	37	35	75%	0	16 - 20' (probable start depth below refusal at approx. 14.5 - 15') Very compact (dense) red sandy silt with trace gravel (basal till); dry (water is perched above this unit).

Key:

BGS = below ground surface
HSA = hollow-stem auger
NA = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-3

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 2¼-inch HSA with 2-in split spoons
Date: 3/13/2000
Weather: Sunny, breezy, 40°F

Boring Depth: 18.3 feet BGS
Depth to Ground Water: Not encountered
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 1' Dark brown sandy loam
1 - 3		2	4	18	12	65%	0	1 - 7' Orange-brown, well-sorted, fine-grained sand with silt; damp
3 - 5	SB-3A (3 - 7')	9	9	18	20	40%	0	7 - 9' Red sandy silt with gravel. Gravel is subround to subangular and of varied origin.
5 - 7		7	11	12	12	25%	0	
7 - 9		7	8	12	13	55%	0	9 - 12' Light brown to tan, well-sorted, fine-grained sand; dry.
9 - 11		4	8	11	9	75%	0	12 - 18.3' Dense, red sandy silt with gravel; similar to till encountered in SB-2, but not as dense and compacted. Layer of crushed limestone (natural) at 13.4 - 13.6'. Otherwise gravel is subround to angular and of varied origin (quartz, mafics, sandstone, etc.).
11 - 13		10	14	16	16	75%	0	
13 - 15		14	20	22	25	70%	0	
15 - 17		15	20	22	18	70%	0	18.3 ' Refusal (probable gravel/cobble layer).
17 - 19		16	21	50/4"	x	54%	0	

Key:

BGS = below ground surface
HSA = hollow-stem auger
NA = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-4

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 2¼-inch HSA with 2-in split spoons
Date: 3/14/2000
Weather: Partly to mostly sunny, breezy, 40°F

Boring Depth: 19 feet BGS
Depth to Ground Water: Not encountered
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 1' Dark brown sandy loam.
1 - 3		3	3	7	7	60%	0	1 - 3' Reddish brown sandy silt with trace gravel and debris (brick fragments).
3 - 5		10	9	11	8	80%	0	3 - 7' Light brown to tan, well-sorted, fine-grained sand; mostly quartz but some mica and a trace of mafic minerals.
5 - 7	SB-4A (5 - 7')	7	5	5	6	80%	0	
7 - 9		10	6	5	6	45%	0	7 - 10' Same as 3 - 7' BGS but reddish brown color.
9 - 11		3	7	5	9	90%	0	10 - 11.4' Same as 3 - 7' BGS.
11 - 13		5	8	8	8	75%	0	11.4 - 11.8' Dense, reddish brown, sandy silt.
13 - 15		9	9	9	8	80%	0	11.8 - 19' Same as 3 - 7' BGS.
15 - 17		7	9	9	13	80%	0	
17 - 19		11	12	9	10	90%	0	

Key:

BGS = below ground surface
HSA = hollow-stem auger
NA = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-5

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 2¼-inch HSA with 2-in split spoons
Date: 3/14/2000
Weather: Partly to mostly sunny, 45°F

Boring Depth: 19 feet BGS
Depth to Ground Water: Perched water approx. 4.5 - 6' BGS
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 0.5' Orange-brown sand (baseball infield sand).
1 - 3		3	3	8	13	65%	0	0.5 - 1.2' Dark brown sandy loam with gravel and a trace of debris (brick fragments).
3 - 5		7	7	4	5	60%	0	1.2 - 1.5' Orange-brown sand (baseball infield sand).
5 - 7	SB-5A (5.7 - 6')	4	5	50/2"	x	83%	0	1.5 - 3' Medium brown sandy silt with brick fragments.
7 - 9		14	10	12	6	50%	0	3 - 4.5' Reddish brown sandy silt with gravel.
9 - 11		2	3	4	5	50%	0	4.5 - 5.7' Medium brown sand with silt and debris (brick and cinder-like material); wet.
11 - 13		11	11	13	6	60%	0	
13 - 15		9	20	50/3"	x	38%	0	5.7 - 6' .
15 - 17		11	18	17	16	75%	0	6 - 6.5' (approximate) Concrete. Auger through to 7' BGS to resume sampling.
17 - 19		17	20	21	23	80%	0	7 - 8' Multicolored (but primarily light brown) gravelly sand with concrete fragments (concrete from above?).
								8 - 9' No recovery.
								9 - 11.5' Multicolored (but primarily light brown) gravelly sand (appears native).
								11.5 - 14.3' Dense, reddish brown, sandy silt with gravel. Gravel is subround to subangular and of varied origin (quartz, sandstone, mafics).
								14.3' Split spoon refusal on probably gravel/cobble layer. Auger through to 15' to resume sampling.
								15 - 19' Same as 11.5 - 14.3' BGS.

Key:

BGS = below ground surface
HSA = hollow-stem auger
NA = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-6

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 2¼-inch HSA with 2-in split spoons
Date: 3/14/2000
Weather: Sunny, breezy, 50°F

Boring Depth: 19 feet BGS
Depth to Ground Water: Not encountered
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
1 - 3		7	9	12	20	85%	0	0 - 1.5' Orange brown sand (baseball infield sand).
3 - 5	SB-6A (4 - 4.5')	16	16	15	7	65%	90	1.5 - 2' Reddish brown sandy silt with gravel.
5 - 7		50/4"	x	x	x	0%	N/A	2 - 2.7' Medium brown gravelly sand.
7 - 9		38	33	20	23	10%	0	2.7 - 3' No recovery.
9 - 11		11	10	10	13	50%	0	3 - 4' Orange to reddish brown, well-sorted, fine-grained sand. Concrete at 4'.
11 - 13	SB-6B (11-11.5' + 13-13.7' + 15-15.5')	9	11	11	9	25%	0	4 - 4.5' Gravelly sand, stained black, with very strong naphtha odor; maximum PID reading 90 ppm; maximum HCN = 0.8 ppm in headspace in jar; H_2S = 0.
13 - 15		6	9	8	9	35%	0	
15 - 17		6	4	4	5	65%	0	4.5 - 7' No recovery. Split spoon refusal at 5.4' on concrete. Auger through about 6 inches of concrete underlain by rubble to 7' BGS.
17 - 19		10	9	8	6	70%	0	
								7 - 9' No recovery - pushed concrete or a cobble from above.
								9 - 10' Multicolored gravelly sand; does not appear native (looks disturbed).
								10 - 11' No recovery.
								11 - 11.5' Same as 9 - 10' BGS.
								11.5 - 13' No recovery.
								13 - 13.7' Same as 9 - 10' BGS.
								13.7 - 15' No recovery.
								15 - 19' Multicolored (but primarily brown) sand with trace gravel. Appears undisturbed.

Key:

BGS = below ground surface
H_2S = hydrogen sulfide
HCN = hydrogen cyanide
HSA = hollow-stem auger
N/A = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-7

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 2¼-inch HSA with 2-in split spoons
Date: 3/14/2000
Weather: Sunny, windy, 50°F

Boring Depth: 20 feet BGS
Depth to Ground Water: Not encountered
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 1.5' Dark brown sandy loam.
1 - 3		5	5	4	12	70%	0	1.5 - 3.5' Medium to reddish brown sandy silt with gravel and trace debris (brick and cinder-like material). Crushed stone at 3.5' BGS.
3 - 5		10	28	48	50/1"	38%	0	
6 - 8		32	17	14	12	0%	N/A	3.5 - 4.6' No recovery.
8 - 10		4	23	19	15	65%	0	4.6 - 5.2' (approximate) Concrete. Auger through to 6' BGS.
10 - 12	SB-7B (10-12')	12	12	13	14	70%	0	6 - 8' No recovery. Concrete fragment wedged in split spoon shoe.
12 - 14		14	15	14	11	80%	0	8 - 8.5' Multicolored (primarily tan to reddish brown) sand, fine- to coarse-grained.
14 - 16		6	6	9	16	75%	0	8.5 - 8.8' Weathered concrete.
16 - 18		14	20	10	9	90%	0	8.8 - 14' Well-compacted, reddish brown, sandy silt (till).
18 - 20		4	8	12	12	85%	0	14 - 19' Multicolored gravelly sand; sand is fine- to coarse-grained; gravel is subround mafics and quartz and subangular red sandstone.
								19 - 20' Light brown, well-sorted, fine-grained sand.

Key:

BGS = below ground surface
HSA = hollow-stem auger
N/A = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-8

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 2¼-inch HSA with 2-in split spoons
Date: 3/15/2000
Weather: Partly sunny, 40°F

Boring Depth: 19 feet BGS
Depth to Ground Water: Perched water 5 - 7' BGS
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 1.5' Orange brown sand (baseball infield sand).
1 - 3		2	7	13	11	80%	0	1.5 - 4' Medium brown silty sand with debris (brick, cinder-like material, glass).
3 - 5	SB-8A (4 - 6')	14	10	11	10	60%	0	4 - 7' Light brown, well-sorted, fine-grained sand; some brick and glass to 4.5' BGS; wet below 5' BGS; concrete on split spoon shoe at 6.5' BGS.
5 - 7		3	4	34	50/1"	50%	0	
7 - 9		15	14	14	30	20%	0	7 - 7.5' Crushed stone (poor recovery).
9 - 11		14	13	34	30	30%	0	7.5 - 9' No recovery.
11 - 13		11	10	9	13	30%	0	9 - 9.6' Multicolored (but primarily reddish brown) fine- to coarse-grained sand with trace sandstone gravel.
13 - 15		7	22	22	25	40%	0	
15 - 17	SB-8B (15-16' + 17-18')	26	21	22	21	60%	0	9.6 - 11' No recovery.
17 - 19		18	17	21	18	90%	0	11 - 11.6' Same as 9 - 9.6' BGS.
								11.6 - 13' No recovery.
								13 - 13.8' Primarily gray, with some white and yellow, silt to coarse sand - saprolite consisting of quartz with high mica content and some mafic minerals.
								13.8 - 15' No recovery.
								15 - 16.2' Reddish brown, well-sorted silt with very fine-grained sand; wet.
								16.2 - 17' No recovery.
								17 - 19' Well-compacted, reddish brown, sandy silt with gravel (till).

Key:

BGS = below ground surface
HSA = hollow-stem auger
N/A = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-9

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 2¼-inch HSA with 2-in split spoons
Date: 3/15/2000
Weather: Partly sunny, 55°F

Boring Depth: 19 feet BGS
Depth to Ground Water: Perched water approx. 7 - 16' BGS
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 1' Orange brown sand (baseball infield sand).
1 - 3		8	12	50/1"	x	100%	0	1 - 2' Dark brown sandy loam with debris (brick, cinder-like material). Split spoon refusal at 2' BGS; auger through about 6 inches of concrete/rubble.
3 - 5	SB-9A (3-5')	4	10	10	13	65%	59	
5 - 7		6	7	6	8	20%	0	2 - 3' No recovery.
7 - 9		7	10	10	6	15%	0	3 - 5' Dark brown silty sand with gravel and debris (brick, cinder-like material [black, hard, brittle, with reflective "grains"]). Maximum PID reading 59 ppm and maximum HCN reading 0.3 ppm from split spoon (HCN = 4.3 ppm in sample jar headspace), H_2S = 0 ppm.
9 - 11		3	3	5	3	40%	0	
11 - 13		1	2	3	4	0%	N/A	
13 - 15		50/2"	x	x	x	0%	N/A	5 - 5.4' Brick and concrete; wet.
15 - 17	SB-9B (15-16')	10	14	11	9	80%	0	5.4 - 7' No recovery.
17 - 19		6	7	8	12	80%	0	7 - 7.3' Brick and concrete; wet.
								7.3 - 9' No recovery.
								9 - 9.8' Reddish brown fine- to coarse-grained sand; wet.
								9.8 - 11' No recovery.
								11 - 13' No recovery; split spoon is wet.
								13'± Refusal on concrete; auger through to 15' BGS.
								15 - 16' Gray gravelly sand with brick; wet.
								16 - 19' Well-compacted, reddish brown, sandy silt with gravel (till); dry.

Key:

BGS = below ground surface
HSA = hollow-stem auger
N/A = not applicable
PID = photo-ionization detector
PPM = parts per million

VHB

Soil Boring Report

Environmental Risk Management Group

Site Data:

Bayridge Site - KeySpan Energy
65th Street and 9th Avenue
Brooklyn, NY

Project # 0639200 00110

Boring #: SB-10

Driller: Aquifer Drilling & Testing, Inc.
Drill Rig: Mobile B-59
Technique: 2¼-inch HSA with 2-in split spoons
Date: 3/15/2000
Weather: Sunny, light wind, 55°F

Boring Depth: 19 feet BGS
Depth to Ground Water: Not encountered
VHB Representative: Rick Watt

Depth (feet BGS)	Sample #	Blow Counts				Recovery	PID (PPM)	Field Classification And Remarks
								0 - 1.5' Orange brown sand (baseball infield sand).
1 - 3		8	8	7	7	80%	0	1.5 - 3.5' Medium brown silty sand with gravel and trace debris (brick, cinder-like material).
3 - 5		7	10	6	2	55%	0	
5 - 7	SB-10A (5-6.3')	10	10	10	8	65%	0	3.5 - 4' Orange-brown, well-sorted, fine-grained sand.
7 - 9		7	10	10	6	85%	0	4 - 5.1' Orange-brown sandy silt with gravel.
9 - 11		7	9	11	11	75%	0	5.1 - 6.3' Orange- to reddish brown sandy silt with gravel; trace cinder-like debris.
11 - 13		7	4	5	6	80%	0	6.3 - 7' No recovery.
13 - 15		9	7	11	10	55%	0	7 - 7.2' Reddish brown sandy silt.
15 - 17		15	13	11	13	60%	0	7.2 - 8.5' Tan, well-sorted, fine-grained sand.
17 - 19		15	12	11	12	65%	0	8.5 - 11' Reddish brown silt.
								11 - 19' Multicolored fine- to coarse-grained sand of varied origin; becomes increasingly gravelly below 15' BGS.

Key:

BGS = below ground surface
HSA = hollow-stem auger
N/A = not applicable
PID = photo-ionization detector
PPM = parts per million

Appendix D

Grain Size Distribution Curves

Appendix E

Data Validation Report

Will be part of Volume 2 of the report, to come . . .

Appendix F

Laboratory Results

Will be part of Volume 2 of the report, to come . . .