

REMEDIAL INVESTIGATION WORK PLAN

**G&C Services Brownfield Cleanup Program Site
BCP Site No. C203057
255 East 138th Street
Block 2333, Lot 1
Bronx, New York**

October 27, 2011



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PROJECT NO. 10BR188

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CERTIFICATION

I Doug Hamm certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Remedial Investigation Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

A handwritten signature in blue ink, appearing to read "Doug Hamm", is written over the end of the certification text. The signature is stylized and includes a large loop.

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1.0 INTRODUCTION

Brinkerhoff Environmental Services, Inc. (Brinkerhoff) was retained to prepare a Remedial Investigation Work Plan (RIWP) for the G&C Services Site (BCP No. C203057) located at street addresses 2551 3rd Avenue and 245 East 138th Street, Bronx, New York, and which was recently consolidated into one tax block in Block 2333, Lot 1 (hereinafter referred to as the Site). Refer to Figure 1 – Site Location Map and Figure 2 – Tax Map.

This RIWP was prepared based upon the results of previous investigations and in accordance with the requirements of the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER) Brownfield Cleanup Program (BCP) and the NYSDEC May 2010 *Technical Guidance for Site Investigation and Remediation (Technical Guidance)* in order to complete the nature and extent identification of all contamination on and potentially emanating from the Site.

Site development calls for an eight-story affordable housing residential building with first-floor commercial space and 16,200 square feet of below-grade garage-floor parking and storage space.

2.0 SITE BACKGROUND

2.1 Geology

Sediments on the subject property generally consist of dark brown sand from 0 to 4 feet below grade and dark brown to gray-black sand from 4 to 12 feet below grade. Depth to bedrock is projected at greater than 15 feet. Based on data collected from Brinkerhoff's site investigation in January 2011, volatile organic compounds (VOCs) remain in the soil at 4.0 to 4.5 feet below grade near the former dispenser island. Semivolatile organic compounds (SVOCs) and metals are present in the soil from 3.5 feet below grade to 9.0 feet below grade throughout the subject property.

2.2 Hydrogeology

Based on the soil boring logs and monitoring well installation logs provided in previous environmental reports and on the data collected during Brinkerhoff's Phase II Site Investigation, groundwater is 6.5 feet below grade and, based on previous groundwater investigations and topography, groundwater flow direction is anticipated to be to the southwest.

2.3 Topography

The subject property is approximately 20 feet above mean sea level and is generally level.

2.4 Previous Environmental Reports

Brinkerhoff completed a Phase I Environmental Site Assessment (ESA) for the subject property in November 2010. As part of the Phase I ESA, Brinkerhoff conducted a search of available government records and databases and requested copies of previous environmental reports. Brinkerhoff also conducted a Site inspection to evaluate the current condition of the Site. The following represents a summary, in chronological order, of the records information provided for each subject property lot and a current description of the Site.

245 East 138th Street

The portion of the Site at this street address is currently developed with a one-story garage building with an office and two garage bays. The building is currently vacant and padlocked. The remainder of this portion of the Site is a paved parking lot. Based upon the Site inspection, there do not appear to be any access restrictions or other Site conditions that would affect the level of investigation. Historically, this portion of the Site was occupied by a Getty gasoline service station.

Underground Storage Tank (UST) Closure Report, The Tyree Organization, Ltd. (Tyree), October 1998

According to this UST Closure Report, Tyree was retained by the Getty Properties Corporation (Getty) in 1998 to remove four 550-gallon gasoline USTs, one 4,000-gallon gasoline UST, and the associated pump island. The tanks were located on the east side of the Site adjacent to the office. The pump island was located to the south of the building and parallel to East 138th Street. The locations of the historic USTs and dispenser island are shown on Figure 3 – Historic Sample Location Map. A copy of the Tyree UST Closure Report is provided in Appendix I.

On July 1, 1998, the pump island and piping were removed and contaminated soil was identified. An area of contaminated soil was removed via excavation and off-site disposal. A spill was reported to NYSDEC and Spill Case No. 98-04000 was assigned. Postexcavation soil samples were collected from each sidewall and the base of the excavation. (Refer to Table 1 – Postexcavation Soil Sampling Results - Tyree.) The excavation was backfilled to grade with stone.

On July 8, 1998, the 550-gallon USTs were removed from the Site. No holes were observed in the tanks and groundwater was not encountered. Postexcavation soil samples were collected and the excavation was backfilled with stone. The 4,000-gallon UST was removed on July 10, 1998. No holes were identified in the tank and groundwater was not encountered. Postexcavation soil samples were collected from the east and west sidewalls and the excavation was backfilled with stone. (Refer to Table 1.)

The soil samples were sent to Environmental Testing Laboratories for analyses of aromatic hydrocarbons via United States Environmental Protection Agency (EPA) Method 8021 Spill Technology and Remediation Series (STARS) Memo. Laboratory analytical results were compared to the STARS Alternative Guidance Values (STARS Guidance). As shown on Table 1, several compounds were detected at concentrations exceeding applicable standards at the time in the dispenser excavation and the 550-gallon UST excavation. Sample locations and sample depths were not provided in the Tyree's UST Closure Report.

Phase I Environmental Site Assessment (ESA), Middleton Environmental, Inc. (Middleton), October 1, 2001

According to the Phase I ESA prepared by Middleton, the subject property was developed with the present-day garage building in 1952 and was formerly operated as a Getty gas station. Middleton reviewed the above-referenced Tyree UST Closure Report and determined that the spill number had not been closed and an appropriate number of postexcavation soil samples had not been collected. According to the NYSDEC-PBS database, a second 4,000-gallon gasoline UST, a 240-gallon fuel oil UST, and a 240-gallon waste oil UST were identified as being installed in 1998; however, Getty personnel stated that the tanks were not installed and Middleton did not observe evidence of the tanks on Site. Middleton did observe two monitoring wells on Site, but

groundwater data were not provided by Tyree. Based upon the information provided in the Phase I ESA, Middleton recommended additional investigation of the former tank excavations.

Phase II Site Investigation (SI), P.W. Grosser (PWG), December 4, 2001

PWG was contracted to conduct a Phase II SI in response to the above-referenced Middleton Phase I ESA. Since Tyree did not collect soil samples from the base of the UST excavations or from the south sidewall of the 4,000-gallon UST excavation, PWG installed soil borings in these locations to collect soil samples. PWG installed two (2) borings in the former 4,000-gallon UST excavation, three borings in the former 550-gallon UST excavation, and three borings in the vicinity of the former dispenser island excavation. (Refer to Figure 3.) A copy of the PWG Phase II SI is provided in Appendix II.

One soil sample was collected from each boring. PWG also collected groundwater samples from temporary well points installed within each boring. The soil and groundwater samples were analyzed for VOCs via EPA Method 8021 (STARS List). The soil samples were compared to NYSDEC's Recommended Soil Cleanup Objectives (RSCO), which replaced the STARS Guidance. Laboratory analytical results indicated that several VOCs were detected in each sample at concentrations exceeding the applicable RSCO. (Refer to Table 2 – Soil Sampling Results – PWG.)

Groundwater analytical results were compared to NYSDEC's Class GA Groundwater Standards (GWS). Laboratory analytical results indicated that VOCs were detected in the samples collected at concentrations exceeding the applicable standards. PWG also collected groundwater samples from the two monitoring wells on the subject property. Laboratory analytical results indicated that VOCs were detected in the samples collected at concentrations less than the applicable standards. (Refer to Table 3 – Groundwater Sampling Results – PWG.)

The Phase II SI concluded that significant soil contamination remained on Site in the vicinity of the former USTs and former dispenser island, serving as a source of VOCs to the groundwater. PGW recommended vertical and horizontal delineation of the soil and installation of additional monitoring wells to calculate groundwater flow direction and to fully delineate groundwater contamination.

Proposed Remedial Action Plan (RAP), P.W. Grosser (PWG), March 14, 2002

Based upon information obtained from the Phase II SI, PWG proposed excavating soil from the former pump island location and the former UST locations and delineating the extent of the contamination during excavation via field screening. Postexcavation soil samples were proposed followed by the application of Oxygen Release Compound (ORC[®]) directly into the excavation. The excavation would then be backfilled. PWG also proposed the installation of two additional monitoring wells and sampling of all of the wells on Site. No other information was found regarding when the remedial action

was completed or the effectiveness of the remedial action. PWG's Proposed RAP and NYSDEC's approval letter are provided in Appendix III.

No Further Investigation (NFI) Letter, New York State Department of Environmental Conservation (NYSDEC), November 3, 2006

NYSDEC closed Spill No. 98-04000 and requested that the wells associated with the investigation be decommissioned. The letter stated that the approval did not include off-Site contamination migration or environmental conditions unknown at the time of approval. The letter is provided in Appendix IV.

2551 3rd Avenue

The portion of the Site with this street address is developed with a one-story vacant building formerly occupied by a Kentucky Fried Chicken (KFC) fast food restaurant. The remaining portion of the subject property is a paved parking lot. Based upon the Site inspection, there do not appear to be any access restrictions or other Site conditions that would affect the level of investigation.

Phase I Environmental Site Assessment (ESA), AKRF, Inc. (AKRF), February 2007

According to the Phase I ESA, the subject property was developed with one building that operated as a KFC fast food restaurant from the 1960s until December 2006. The Site contained a suspected stormwater detention vault and a suspected grease trap related to the restaurant. The Phase I ESA indicated that while no evidence of USTs was observed during the Site inspection, the 1935 and 1946 Sanborn[®] Fire Insurance Maps showed that a gasoline station containing 10 550-gallon gasoline USTs was also present on this portion of the Site. No information was provided during report preparation showing that the tanks had been removed or properly closed. The Phase I ESA concluded that soil and groundwater may have been affected by historic on-site and off-site uses, as well as urban fill and the potential USTs. AKRF recommended a Phase II SI.

Tank and Spill Closure Report (TSCR), LCS Inc., August 31, 2007

According to the TSCR, on June 6, 2007, a geophysical investigation was conducted on this portion of the Site to evaluate the presence of USTs. The geophysical survey identified one anomalous area indicative of USTs.

On June 29, 2007, 11 550-gallon USTs and associated piping were removed by Brookside Environmental, Inc. Three of the USTs contained waste oil and the remaining eight USTs contained gasoline. Five of the 11 USTs were observed to contain holes on the bottoms and sidewalls. Petroleum-impacted soils were present on the subject

property; therefore, Spill Case No. 07-03567 was assigned. Approximately 205 tons of contaminated soil were excavated and disposed. Groundwater was not encountered during the excavation.

Postexcavation soil samples were collected and analyzed by a New York-certified laboratory for VOCs via EPA Method 8260 and 8270 STARS. VOCs were not detected in the soil samples collected; however, several soil samples showed elevated levels of SVOCs. (Refer to Table 4 – Postexcavation Soil Sampling Results – LCS.) LCS concluded that the elevated levels of SVOCs were related to historic ash fill found on Site. A copy of the LCS TSCR is provided in Appendix V.

No Further Investigation (NFI) Letter, New York State Department of Environmental Conservation (NYSDEC), May 16, 2008

NYSDEC closed Spill Case No. 0703567 and stated that NFI or response would be required. However, groundwater sampling and analysis was not conducted. A copy of the NYSDEC's NFI Letter is provided in Appendix VI.

245 East 138th Street and 2551 3rd Avenue

Phase I Environmental Site Assessment (ESA), Brinkerhoff Environmental Services, Inc. (Brinkerhoff), November 2, 2010

As stated above, Brinkerhoff completed a Phase I ESA for the Site. The Site was identified in the New York City Office of Environmental Remediation E-Designation database under No. E-227, hazardous materials, Phase I and Phase II testing protocol, and air quality associated with No. 2 fuel oil, No. 4 fuel oil, or natural gas for HVAC (heating, ventilating, and air conditioning), and exhaust stack location limitations. Based upon the information provided in the report, including the former use of the Site as two gasoline stations and the former confirmed presence of contamination on Site, Brinkerhoff recommended further investigation. Brinkerhoff recommended a geophysical investigation, soil investigation, and groundwater investigation. Brinkerhoff also recommended an investigation for the E-Designation according to the Phase II SI sampling protocol.

Phase II Site Investigation (SI), Brinkerhoff Environmental Services, Inc., January 20, 2011

Brinkerhoff completed a Phase II SI, which included a geophysical investigation, soil boring and sample analyses, and a groundwater investigation. The geophysical investigation did not identify anomalies indicative of remaining USTs. A copy of Brinkerhoff's Phase II SI Report is provided in Appendix VII.

Laboratory analytical results related to the soil investigation reported VOCs below NYSDEC's RSCO for Restricted Residential Use, but in exceedance of the CP-51 Soil Cleanup Levels for Gasoline Contaminated Soil. The VOCs benzene, ethylbenzene,

xylenes, and isopropylbenzene exceeded this soil cleanup level; chlorinated VOCs were not detected in the soil samples. The laboratory also reported elevated concentrations of SVOCs and various metals, including lead, chromium, copper, and mercury, at concentrations exceeding the RSCOs for Restricted Residential Use. (Refer to Table 5 – Soil Sampling Results – Brinkerhoff.)

A groundwater investigation was conducted and the laboratory analytical results indicated that the gasoline-related compounds benzene, toluene, ethylbenzene, xylenes, 1,4,5-trimethylbenzene, and 1,2,4-trimethylbenzene exceeded applicable GWS. (Refer to Table 6 – Groundwater Sampling Results – Brinkerhoff and Table 7 – Groundwater Sampling Results – Brinkerhoff.)

The presence of SVOCs, metals, and VOCs in the soil and VOCs in the groundwater suggests that contamination related to former petroleum site operations and contaminated fill still exists at the Site.

3.0 REMEDIAL INVESTIGATION WORK PLAN (RIWP)

The following RIWP presents a plan to complete the nature and extent delineation of soil, soil vapor, and groundwater contamination at the Site in accordance with DER-10. Brinkerhoff proposes to conduct investigations to evaluate the presence of additional contaminants beyond those already identified in previous investigations to determine viable options for remediation to effectively mitigate on-site sources of contamination. The investigations will include soil, groundwater, and soil vapor sampling, particularly in the footprints of the structures on Site, which are scheduled to be demolished prior to the investigation. The results of the investigation will be used to develop and implement an appropriate remedial action with regard to the proposed development.

3.1 Proposed Soil Investigation

In order to fully delineate the nature and extent of impacted soil, additional sampling and analysis are proposed in accordance with the sampling protocol in DER-10. A Geologist from Brinkerhoff will be present during the field investigation to direct the installation of borings and to collect soil samples for laboratory analyses. A Geoprobe[®] drill rig will be utilized to install the soil borings. The following procedures will be used in evaluating soil for evidence of contamination:

- ✓ A properly calibrated photoionization detector (PID) will be used to continuously field screen soil for evidence of VOC contamination;
- ✓ Soil will be visually inspected for discoloration and petroleum staining; and,
- ✓ Olfactory methods will be used to inspect soil for evidence of unnatural odors.

Soil logs of material encountered, PID readings, and field observations will be kept in a logbook and later converted into Soil Log Forms, which will be provided in a Remedial Investigation Report (RIR).

3.2 Proposed Soil Sampling

3.2.1 Historical Site Use – Gasoline Stations

According to previous Site investigations, VOCs associated with former gasoline USTs and a former pump island remain at a minimum in the soil at 245 East 138th Street. Brinkerhoff proposes to install eight soil borings on this portion of the Site to delineate the extent of the VOC contamination in the soil [G-1 thru G-8 (G-8 also will be the location of proposed monitoring well MW-4)]. Refer to Figure 4 – Proposed Sample Location Map.

Brinkerhoff will continuously field screen and will collect one soil sample from each boring from the discrete 6-inch interval equivalent to the zone with the highest PID reading, the 6-inch interval above the water table, and/or the 6-inch interval above

bedrock, based upon field screening results. The borings will be installed until refusal is met by either the presence of bedrock or a confining layer. The samples will be analyzed for VOCs using EPA Method 8260, SVOCs using EPA Method 8270, and lead as indicated on Table 8 – Analytical Methods/Quality Assurance Summary. *(Please note that sample G-7 also will be analyzed for metals, pesticides, and polychlorinated biphenyls (PCBs) as the location also is denoted as HF-5, which is being submitted for analysis of historic fill parameters.)*

Additional soil samples will be collected from within the footprint of the former garage building (GAR-1 and GAR-2) and the former KFC (KFC-1 and KFC-2). These samples will be collected to evaluate contamination that may have migrated beneath the buildings or that may be present as a result of potential former hydraulic lifts. These samples will be analyzed for VOCs, SVOCs, metals, PCBs and pesticides.

3.2.2 Urban Fill

According to previous Site investigations, SVOCs and metals typically associated with the presence of urban fill were also identified on Site in addition to petroleum-related contaminants. Brinkerhoff proposes to install six soil borings to investigate the presence of urban fill (designated HF-1 thru HF-6 on Figure 4). Soil samples from each boring will be collected from an estimated three intervals as outlined above in Section 3.2.1.

Samples collected as part of the urban fill investigation will be analyzed for Target Compound List/Target Analyte List (TCL/TAL) parameters by a certified laboratory.

3.3 Proposed Groundwater Investigation

3.3.1 Monitoring Well Installation

In order to complete the groundwater investigation, including verification of groundwater flow direction and extent of impacted groundwater, three additional groundwater monitoring wells (MW-2 through MW-4) will be installed. MW-1 currently is present on site from previous environmental investigations. Upon verification of groundwater flow direction, it may be necessary to install additional wells downgradient of the contaminant plume and off site in order to evaluate the extent of the contamination.

A Geologist from Brinkerhoff will direct the installation of the proposed monitoring wells. The proposed locations of the wells are shown on Figure 4. The wells will be installed by a licensed Well Driller and will consist of 2-inch polyvinyl chloride (PVC) with locking flush-mount casings. The wells will be installed using auger-drilling techniques to an estimated total depth of 15 feet with 13 feet of .020 slotted screen and 2 feet of solid PVC riser. The wells will be installed using a Geoprobe drill rig fitted with hollow stem augers. The slotted screen will extend at least 3 feet above the seasonal groundwater level. A gravel pack will be placed surrounding the slotted screen. A bentonite seal will be placed on top of the gravel pack and the remaining borehole sealed with grout. A Monitoring Well Schematic Diagram is provided as Figure 5.

The Geologist will screen drill cuttings for evidence of contamination and prepare lithologic logs. Soil from each boring will be field screened for VOC vapors using a properly calibrated PID and for observable indicators such as odors and/or staining. Detailed geologic logs will be prepared for each well. Sediments will be logged using the Unified Soil Classification System. The wells will be identified as MW-2 through MW-4.

Once installed, the casing elevation of each groundwater monitoring well will be surveyed to an on-site arbitrary benchmark. The survey data, along with depth to groundwater data, will be used to calculate groundwater flow direction.

3.3.2 Temporary Well Point Installation

In order to evaluate groundwater condition in the locations where soil and/or groundwater contamination was identified during previous investigations, Brinkerhoff also will install temporary well points. The well points will be installed in the locations of soil borings HF-3, HF-6, KFC-1, G-1, G-3, and G-6 as depicted on Figure 4. The temporary well points will be installed via Geoprobe[®] direct-push drill rig and will consist of 2-inch diameter 0.010 slotted PVC screen and 2-inch diameter solid PVC riser to the surface.

3.3.3 Groundwater Sampling and Analysis

At least two weeks after installation, representative groundwater samples will be collected from all four wells in accordance with the USEPA Low Stress/Low Flow Groundwater Sampling Protocol. Prior to purging, an interface probe, capable of detecting free-phase product thickness of 0.01 feet, will be used to gauge each well. The wells will be purged until the temperature, conductivity, and potential of hydrogen (pH) have stabilized and turbidity has reached 10 nephelometric turbidity units (NTUs), if possible. The wells will be purged using a submersible pump with adjustable flow speed.

Representative groundwater samples will then be collected from each monitoring well directly from the discharge point of the pump tubing. Each sample will be analyzed for TCL/TAL, which includes SVOCs, VOCs, TAL metals, and PCBs/pesticides. Metal analyses will be conducted for both filtered and nonfiltered samples. Refer to Table 9 for a summary of analytical and QA/QC methods.

Groundwater samples will be collected from the temporary well points using the same methodology described above. The samples will be analyzed for VOCs and SVOCS, and the samples collected from TWP-2, TWP-3, and TWP-6 also will be analyzed for lead (filtered and nonfiltered).

3.4 Sensitive Receptors

The Site is located in the Bronx, New York, in a highly-developed urban area. The land use within one-half mile of the Site consists primarily of residential and commercial multi-story structures. The Harlem River is located 0.2 miles to the west of the subject property. According to the Office of Environmental Remediation's Searchable Property Environmental E-Database (SPEED) and OASIS NYC.net, there are multiple residences, housing structures, community parks, gardens, and playgrounds, 13 day care centers, and the following schools within a one-half mile of the subject property:

- PS 154 Jonathan D. Hyatt
- PS 043 Jonas Bronck
- PS 179
- PS 049 Willis Avenue
- JHS 149 Elijah Clark
- MS 203
- PS 018 John Peter Zenger
- Lincoln Academy
- Health Support Program

There are no wetland areas located within one-half mile of the Site.

3.5 Soil Vapor Investigation (SVI)

To determine if there are existing soil vapor issues associated with the Site, soil vapor sampling will be conducted in accordance with NYS Department of Health guidelines. The vapor sampling will consist of collecting a total of eight vapor samples. Five samples will be collected along the Site boundaries, one sample will be collected from below the garage floor, and two samples will be collected from below the KFC floor. The proposed locations are shown on Figure 4.

Each sample will be collected from the subsurface sediments at depths of no greater than 5 feet below grade and, where applicable, in the vadose zone, 1 foot above the capillary fringe. The soil vapor probe will be sealed above the sampling zone for a minimum distance of 3 feet to prevent outdoor air infiltration.

Flow rates for both purging and collection will not exceed 0.2 liters per minute to minimize outdoor air infiltration during sampling. A helium tracer gas will be used to verify that adequate sampling techniques are being implemented (i.e., to verify infiltration of outdoor air is not occurring). Samples will be analyzed by a certified laboratory for VOCs via EPA Method TO-15.

3.6 Quality Assurance Project Plan

3.6.1 Sampling Protocol

The soil and groundwater samples will be collected and analyzed in accordance with DER-10 and the BCP *Technical Guidance*, Section 2. The samples will be analyzed for TCL/TAL parameters as listed in NYCRR Part 375, the Commissioner Policy on Soil Cleanup Guidance (CP-Soil) and by an analytical method included in the NYSDEC Analytical Services Protocol (ASP). The sampling methods, sample preservation requirements, holding times, decontamination procedures, and collection of field blanks, trip blanks, and duplicates will conform to the ASP.

The samples will be analyzed by an accredited laboratory pursuant to the New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP). The samples will be transported under proper chain of custody. The samples will be collected and properly preserved, if necessary, by an Environmental Scientist/Geologist from Brinkerhoff under the oversight of the Project Manager. The soil borings will be installed using direct-push drill technology (Geoprobe®). The drill rig uses macrocores lined with designated disposable acetate liners. The samples will be collected from the acetate liners following field screening.

The samples collected will be put into designated sample jars and allotted a specific sample number to be included on the chain of custody. One duplicate sample will be collected from each soil sampling event and groundwater event and will be analyzed for VOCs, SVOCs, and metals, and one field blank will be collected per sampling event. Refer to Table 8 for more detailed sampling information. Analytical results will be reported with matrix spikes and will be provided in electronic and paper format. Sampling methods, sample preservation requirements, sample holding times, decontamination procedure for field equipment and frequency for field blanks, field duplicates and trip blanks for aqueous samples will conform to the ASP.

Once the samples are collected and placed in laboratory-prepared glassware, the sample bottles will be placed in a cooler on ice, transported to Brinkerhoff's office, and placed in a designated refrigerator until picked up by Accredited, an NYSDOH-certified laboratory, which is the laboratory chosen for this project.

3.6.2 Sampling Groundwater

When sampling groundwater, approximately two weeks after well installation, representative groundwater samples will be collected from each monitoring well in accordance with DER-10. Prior to purging, an interface probe, capable of detecting free-phase product thickness of 0.01 feet, will be used to gauge each well.

The wells will be sampled in accordance with the USEPA Low Stress/Low Flow Groundwater Sampling Protocol via submersible pumps with dedicated Teflon® tubing. Purged water will be placed in 55-gallon drums for future off-site disposal. The low

stress/low flow sampling procedure will be used to reduce turbidity of the groundwater samples.

The following will be completed before purging:

1. Note date, time and weather conditions.
2. Identify well identification number.
3. Take PID readings from well immediately after removal of cap.
4. Take depth to groundwater/free product and depth of well.
5. Estimate water volume in well.

The following will be completed after purging:

1. Note start and end time for purging.
2. Note purge method and pumping rate.
3. Note depth from top of casing to groundwater.
4. Take pH, dissolved oxygen, temperature, turbidity, and specific conductance.

The following will be completed after sample collection

1. Note start and end time for sampling.
2. Note sampling method.
3. Take pH, dissolved oxygen, temperature, turbidity, and specific conductance.

Monitoring Well Data Forms will be prepared for each monitoring well sampled and will include all the data collected above.

Samples will be collected using disposable dedicated bailers and transferred directly into laboratory-supplied glassware. The sample bottles will be placed in a cooler on ice, transported to Brinkerhoff's office, and placed in a designated refrigerator until picked up by Accredited.

Field blanks, consisting of laboratory-supplied water, will be poured over the decontaminated sampling equipment prior to sampling. Trip blanks consisting of laboratory-supplied vials of water will accompany the samples to the laboratory. These samples will be analyzed for VOCs.

3.6.3 Decontamination Procedures for Drilling Equipment

During installation of the groundwater monitoring wells, the hollow stem augers will be properly decontaminated using a high-pressure wash between well installations. Wash water, purge water, and drill cuttings will be placed in 55-gallon drums for proper off-site disposal.

The soil borings will be installed using direct-push drill technology (Geoprobe®). The drill rig uses macrocores lined with designated disposable acetate liners; therefore, no decontamination is required. Dedicated acetate liners will be discarded into 55-gallon drums for off-site disposal.

3.7 Principal Personnel Contact Information

Following are the principal personnel who will be assigned to the management, oversight, and completion of this project:

Brinkerhoff Environmental Services, Inc.
1913 Atlantic Avenue
Manasquan, New Jersey 08736
Office: 732-223-2225

Personnel

Principal/Project Coordinator - Doug Harm

Will be responsible for the overall coordination and management of the project.

Project Engineer – Ira N. Pierce, PE

Will be responsible for data review, evaluation, oversight, and final sign-off where applicable.

Project Manager – Melanie O. Rogacki

Will be responsible for day-to-day coordination, scheduling, data review, and evaluation and will be the principal contact for matters relating to the environmental assessment and remediation.

Quality Assurance Officer – Gary DiMartinis

Will review sampling procedures and certify that the data was collected and analyzed using the appropriate procedures.

Geologist – Duane A. Shinton

Will conduct the various field investigations associated with this project and prepare report data.

Subcontractors

Laboratory

Accredited Analytical Resources, LLC (Accredited)

20 Pershing Avenue
Carteret, New Jersey 07008
NYSDOH Certification No. 11109
Office: 732-969-6112

Driller**PAL Environmental Services, Inc.**

1102 Queens Plaza South
Long Island City, New York 11101
Office: 718-349-0900

Remedial Party Contact**Roger Pine**

Development Associates
334-336 East 110th Street
New York, New York 10029
Office: 212-996-6640

Qualifications for the above principal personnel are provided in Appendix VIII.

3.8 Health and Safety Plan (HASP)

Brinkerhoff prepared a Site-Specific HASP in accordance with the requirements and guidelines of applicable Occupational Safety and Health Administration (OSHA) requirements in 29 Code of Federal Regulations (CFR) Part 1910.120. Site workers will be instructed regarding the contents of the HASP, including the location of the nearest hospital, the appropriate health and safety issues, and the appropriate personal protective equipment, in a Site meeting prior to the commencement of field activities. The HASP is provided in Appendix IX.

Brinkerhoff also prepared a Community Air Monitoring Plan (CAMP) to monitor the Site for elevated VOCs and particulates during ground-intrusive activities such as soil excavation, test pit installation, and soil boring and groundwater monitoring well installation. The CAMP is provided in Appendix X. A Community Plan, which is provided in Appendix XI, has been approved for the site.

3.9 Reporting

Following completion of the field investigation and receipt of laboratory analytical data, an RIR will be prepared. The RIR will include a detailed description of the geology and hydrogeology at the Site, a full characterization of the contaminants present, a comprehensive summary of the laboratory analytical data obtained, soil boring logs, monitoring well installation logs, a Data Usability Summary Report, electronic data submittals, and maps showing sample location, contaminant isopleths, and groundwater flow direction.

The RIR will include a qualitative human health exposure assessment as per DER-10 Section 3.3. Exposure pathways will be evaluated including the following:

1. Source of contamination;
2. Environmental media and transport mechanisms;
3. Point of exposure;
4. Routes of exposure; and,
5. Receptor population.

A RAP will be prepared along with the RIR. The RAP will include Remedial Action Objectives (RAOs) for the protection of public health and environment. The RAP will provide proposed remedial actions to be taken to address RAOs identified.

All data will be submitted electronically to NYSDEC through the Environmental Information Management System, using the standardized electronic data deliverable (EDD) format.

3.10 Schedule

The following is a tentative schedule for completing the environmental investigation at the Site:

July - September 2011

Distribute RIWP Fact Sheet and begin 30-day Public Comment; Subsequent Comment and Approval by NYSDEC

September - December 2011

Implement RIWP

- Conduct soil sampling
- Install monitoring wells
- Complete vapor investigation
- Sample monitoring wells
- Determine groundwater flow direction
- Receive laboratory analytical data
- Conduct data evaluation, validation, and interpretation

January - April 2012

Conduct supplemental investigation if required or submit RIR and RAP to NYSDEC; Distribute Fact Sheet and hold 45-day public comment period.

April - July 2012

If no supplemental investigation required and there are no comments on the RAP, implement RAP (If there are supplemental investigation and/or comments on the RAP, RAP implementation will occur July 2012-September 2012)

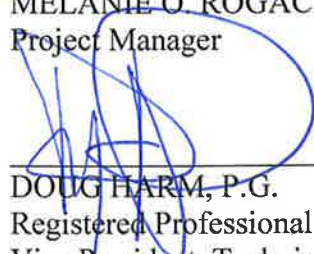
The tentative schedule would begin immediately upon approval of this RIWP by NYSDEC.

This report has been prepared and is respectfully submitted by
BRINKERHOFF ENVIRONMENTAL SERVICES, INC.

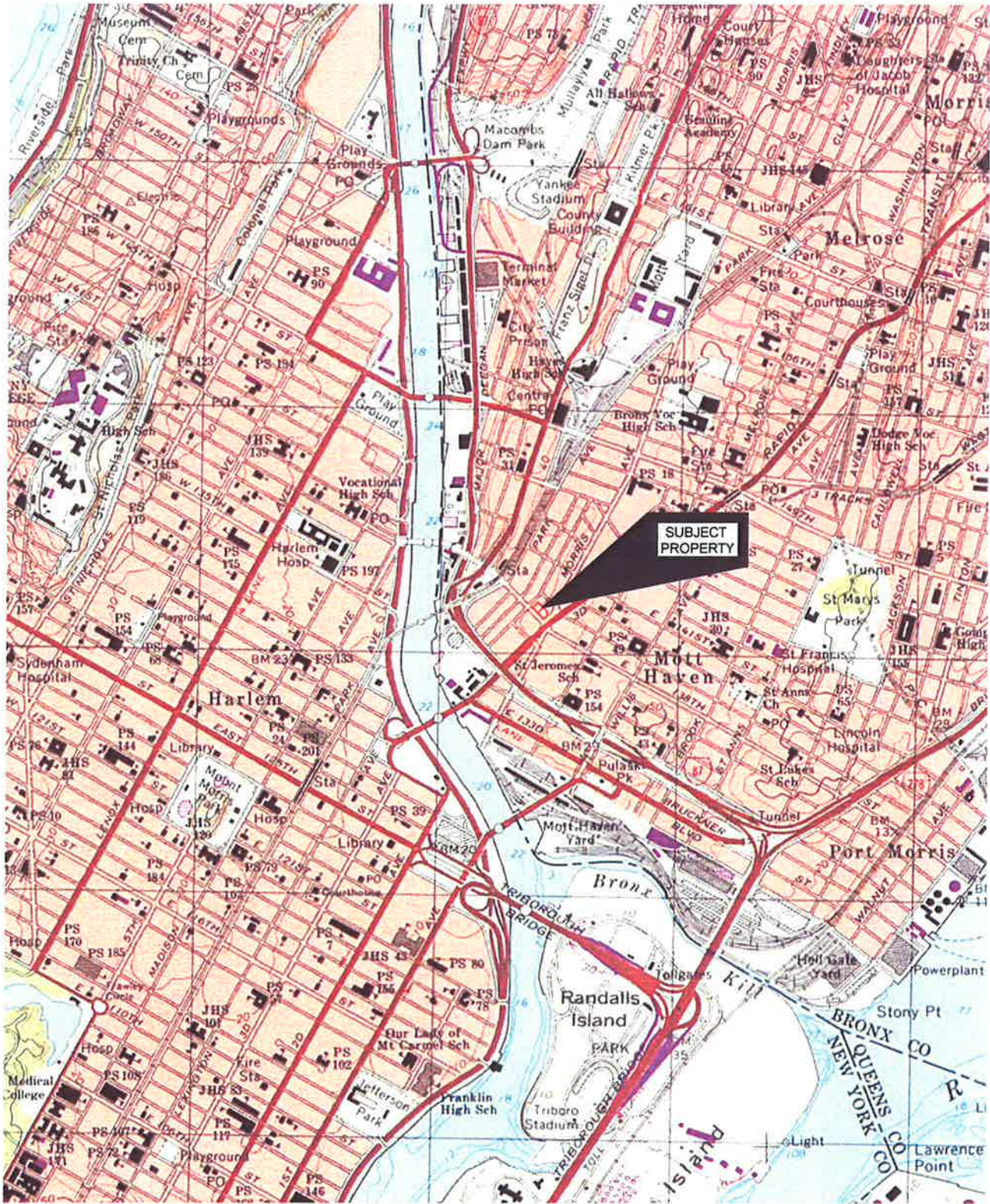

MELANIE O. ROGACKI

Project Manager


Date


DOUG HARM, P.G.
Registered Professional Geologist
Vice President, Technical Services


Date



SCALE: 1" = 24,000'
 PHOTO REVISED: 1995

0' 1000' 2000'
 SCALE: 1" = 2000'

BRINKERHOFF
 ENVIRONMENTAL SERVICES, INC.

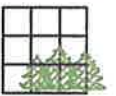
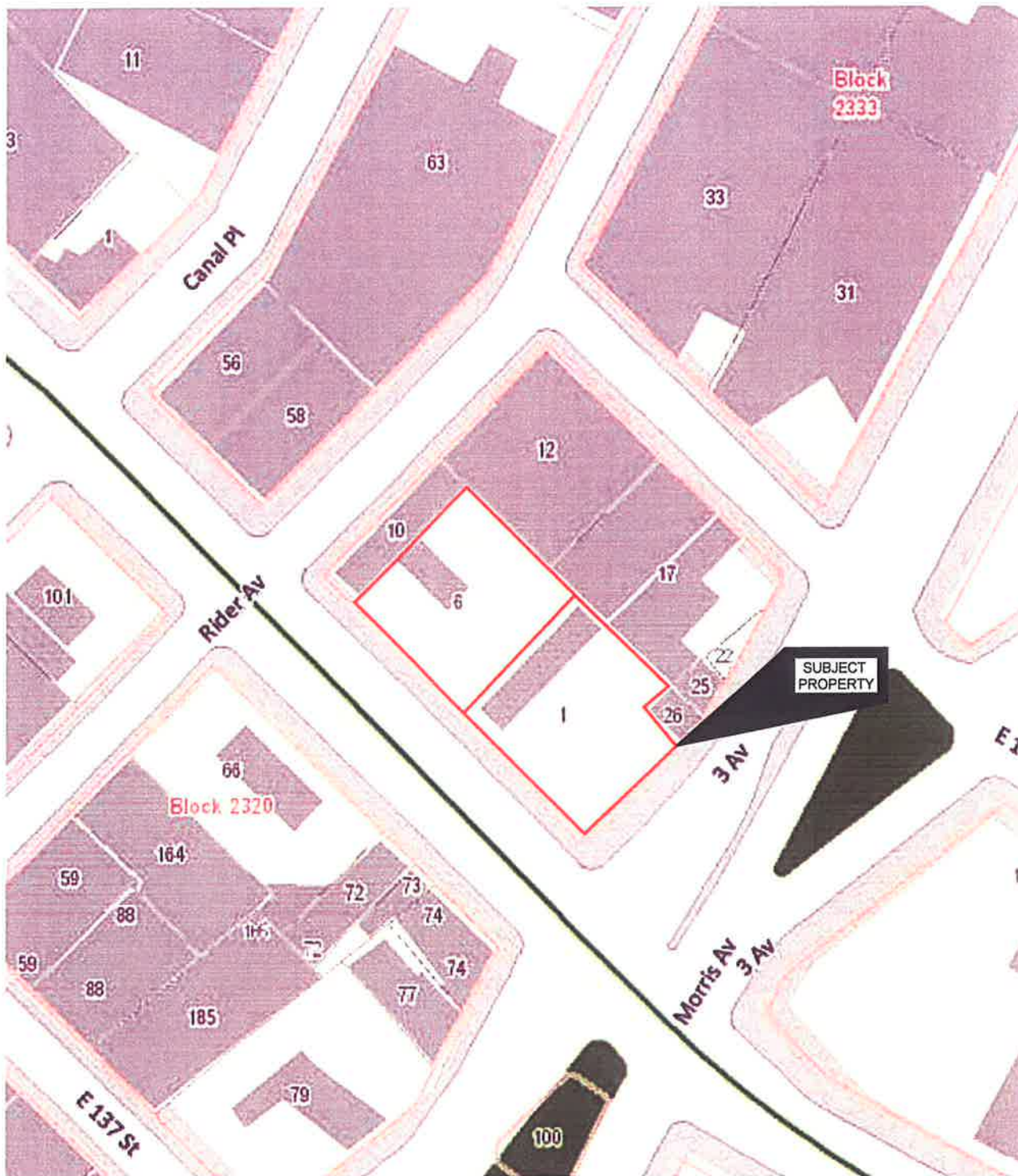


FIGURE 1 - SITE LOCATION MAP
 U.S.G.S. TOPOGRAPHIC CENTRAL PARK, NY QUAD
 255 EAST 138TH STREET
 BLOCK 2333, LOT 1
 BRONX, NEW YORK

DATE: 6/22/11

JOB NO.: 10BR188

SCALE: 1" = 2000'



0' 50' 100'
SCALE: 1"=100'

BRINKERHOFF
ENVIRONMENTAL SERVICES, INC.



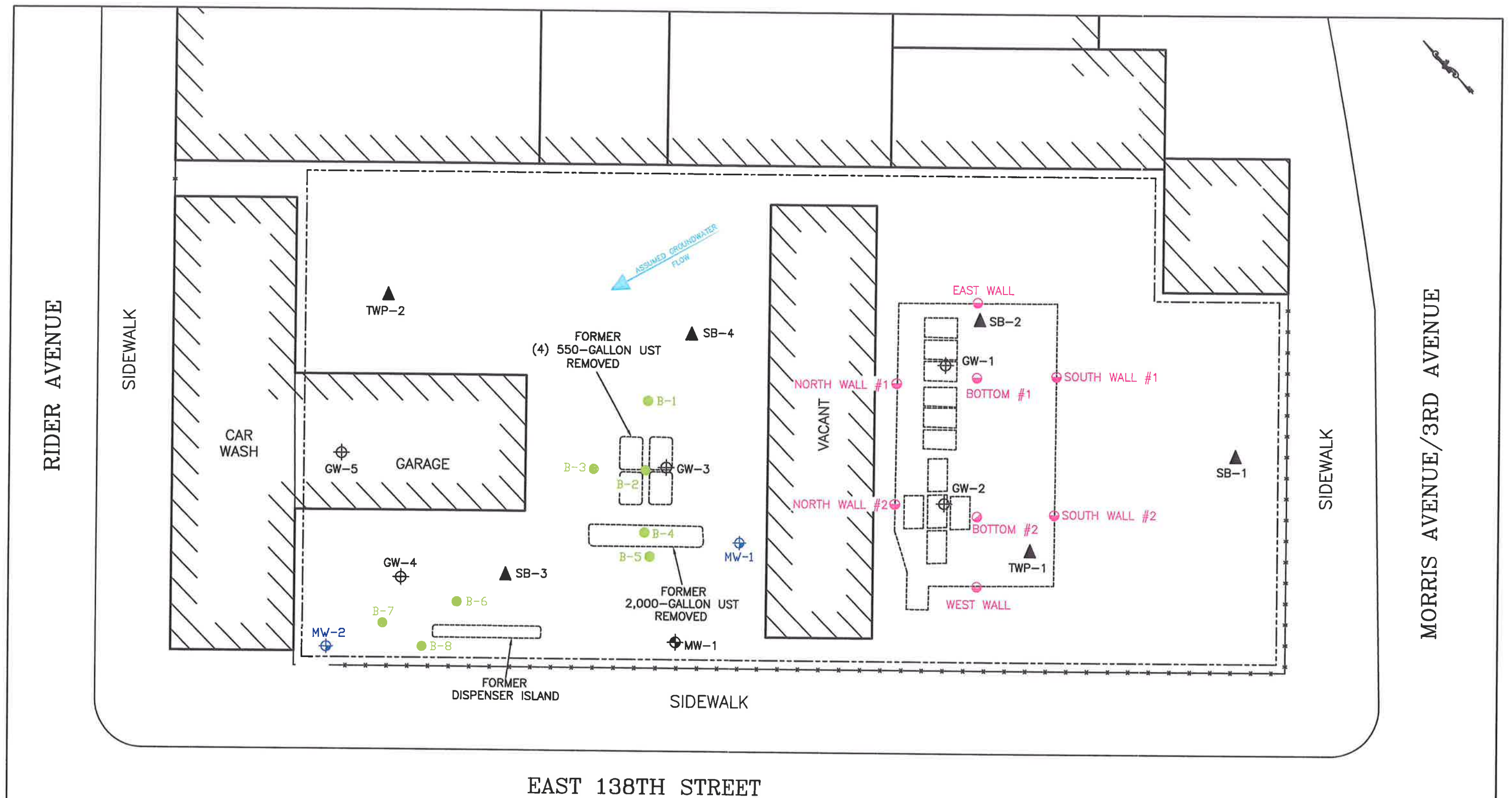
FIGURE 2 - TAX MAP

255 EAST 138TH STREET
BLOCK 2333, LOT 1
BRONX, NEW YORK

DATE: 10/28/10

JOB NO.: 10BR188

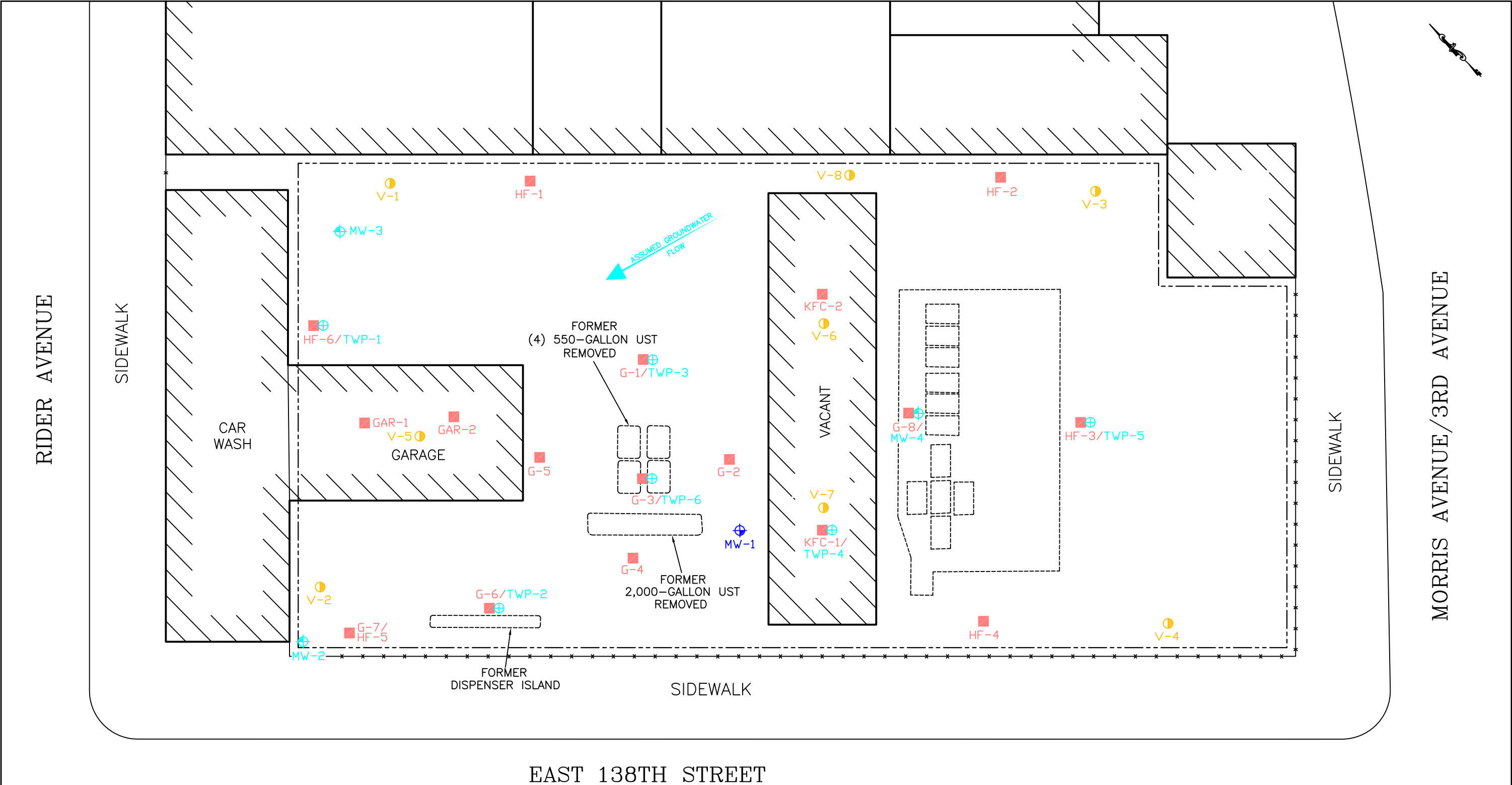
SCALE: 1" = 100'



LEGEND	
---	PROPERTY BOUNDARY
⊕	MONITORING WELL
▲	SOIL BORING
⊕	TEMPORARY WELL POINT
●	LCS SOIL SAMPLE LOCATION
●	P.W. GROSSER SOIL SAMPLE LOCATION
⊕	P.W. GROSSER MONITORING WELL LOCATION

0' 10' 20'
SCALE: 1"=20'

BRINKERHOFF ENVIRONMENTAL SERVICES, INC.		
FIGURE 3 HISTORIC SAMPLE LOCATION MAP 255 EAST 138TH STREET BLOCK 2333, LOT 1 BRONX, NEW YORK		
DATE: 6/22/11	JOB NO.: 10BR188	SCALE: 1" = 20'



LEGEND

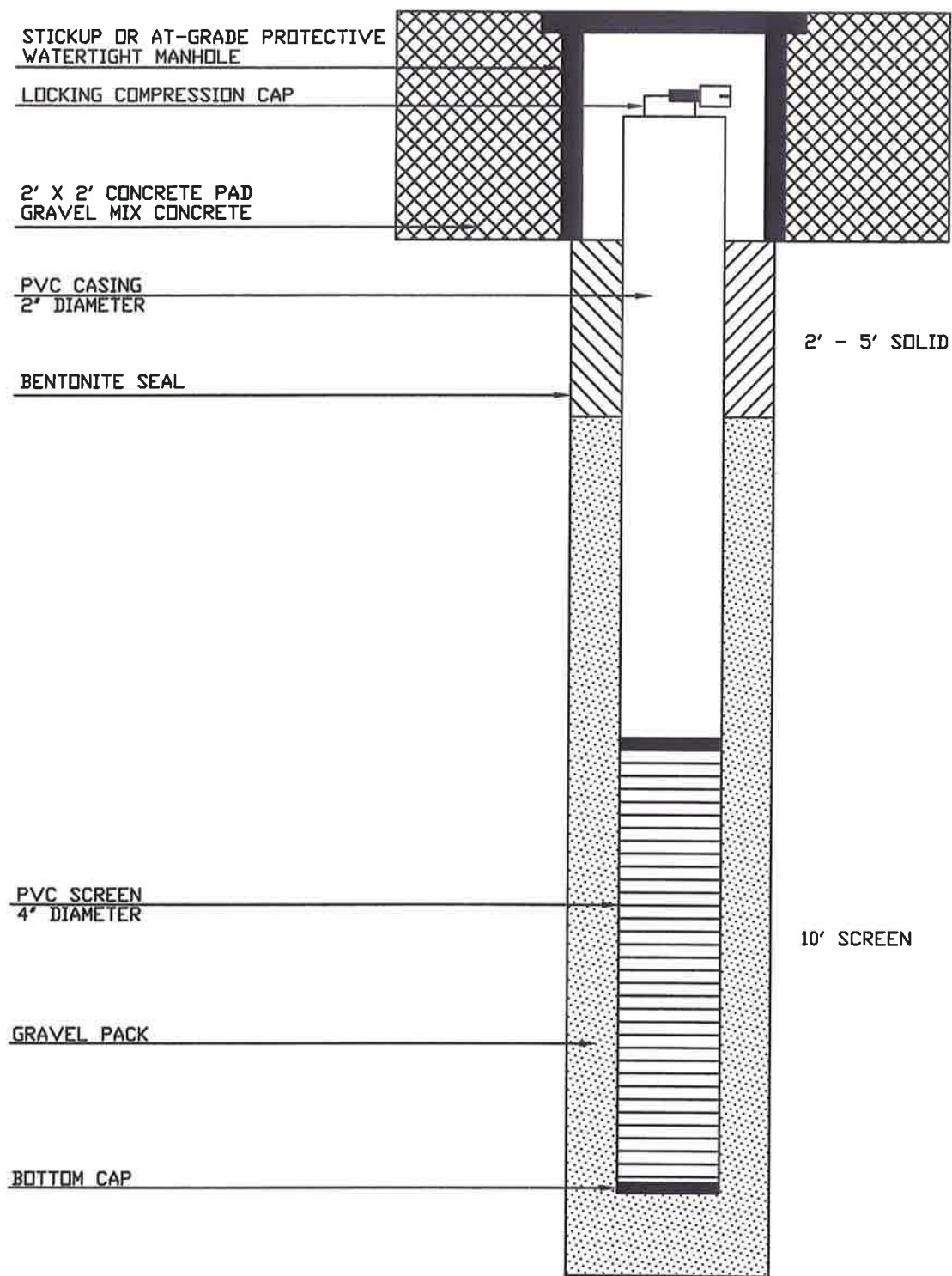
- - PROPERTY BOUNDARY
- ⊕ - P.W. GROSSER MONITORING WELL LOCATION
- ⊕ - PROPOSED MONITORING WELL LOCATION
- - PROPOSED VAPOR SAMPLE LOCATION
- - PROPOSED SOIL SAMPLE LOCATION
- ⊕ - PROPOSED SOIL SAMPLE/ TEMPORARY WELL POINT LOCATION

0' 10' 20'
SCALE: 1"=20'

BRINKERHOFF
ENVIRONMENTAL SERVICES, INC.

FIGURE 4
PROPOSED SAMPLE LOCATION MAP
255 EAST 138TH STREET
BLOCK 2333, LOT 1
BRONX, NEW YORK

DATE: 10/27/11	JOB NO.: 10BR188	SCALE: 1" = 20'
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BRINKERHOFF
ENVIRONMENTAL SERVICES, INC.



FIGURE 5
MONITORING WELL SCHEMATIC DIAGRAM
255 EAST 138TH STREET
BLOCK 2333, LOT 1
BRONX, NEW YORK

DATE: 6/22/11

JOB NO.: 10BR188

SCALE: NTS

Table 1
Postexcavation Soil Sampling Results - Tyree
245 East 138th Street
Bronx, New York

AOC Location		Pump Island					550-gallon gasoline excavation					4,000-gallon gasoline UST		NYSDEC RSCOs - TAGM 4046	Soil Cleanup Levels for Gasoline Contaminated Soils (CP-51)	NYS DEC Residential Direct Contact					
North Sidewall	South Sidewall	East Sidewall	West Sidewall	Bottom Excavation	North Sidewall	South Sidewall	East Sidewall	West Sidewall	East Sidewall	West Sidewall											
Sample ID	7/1/1988	7/1/1988	7/1/1988	7/1/1988	7/1/1988	7/8/1988	7/8/1988	7/8/1988	7/8/1988	7/10/1988	7/10/1988	7/10/1988	0.014	0.06	2.9						
Date	1812	1480	2000	2000	452	1985	-	15	27.8	25.8	51.4	0.1				0.7	100				
PID	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							0.1	1	30	
Sample Depth																					0.1
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		0.1	2.3	100						
Compound	Aromatic Hydrocarbons and Base Neutrals																				
Benzene	<0.028	<0.00077	<0.00073	<0.00073	2.2	0.0077	0.0025	<0.00031	<0.00029	<0.00035	<0.00034	0.014				0.06	2.9				
Toluene	<0.023	<0.0009	<0.0009	<0.0009	<0.89	0.039	0.0044	<0.00037	<0.00035	<0.00041	<0.0004							0.1	0.7	100	
Ethylbenzene	<0.025	<0.00046	<0.00046	<0.00046	2.5	0.27	0.0021	<0.00036	<0.00036	<0.00043	<0.00041		0.1	1	30						
Xylenes	<0.035	21.7	<0.001	60.3	78.1	2.095	0.00148	<0.001	<0.00096	<0.0011	0.0017										0.1
Isopropylbenzene	0.203	<0.45	<0.00043	2.57	3	0.132	<0.00029	<0.00029	<0.00027	<0.00033	<0.00031	0.1				2.3	100				
n-propylbenzene	0.71	1.7	0.0026	2.81	5.1	0.399	0.0012	<0.00046	<0.00043	<0.00051	<0.00049							0.1	3.9	100	
p-isopropyltoluene	0.152	44.4	<0.00044	8.12	29.2	0.369	<0.0004	<0.0004	<0.00038	<0.00045	0.0141		0.1	10	NSE						
1,2,4-trimethylbenzene	0.648	6.6	<0.00045	13.7	15.6	4.77	0.0152	<0.00037	<0.00035	<0.00041	0.0042										0.1
1,3,5-trimethylbenzene	0.374	634	0.0059	30.5	167	1.73	0.0071	<0.00034	<0.00031	<0.00038	0.124	0.1				8.4	47				
n-butylbenzene	1.87	<0.5	0.0014	10.9	<0.47	0.405	<0.00044	<0.00044	<0.00041	<0.00049	<0.00047							0.1	12	100	
sec-butylbenzene	0.672	<0.49	<0.0046	2.26	9	0.137	<0.0004	<0.0004	<0.00038	<0.00045	<0.00043		0.1	11	100						
t-butylbenzene	<0.019	<0.43	<0.0004	<0.036	<0.4	<0.0029	<0.00058	<0.00058	<0.00055	<0.00065	<0.00062										0.1
naphthalene	1.7	<0.84	<0.0008	30.4	37.6	0.572	0.0055	<0.00062	<0.00058	<0.00069	<0.00062	0.2				12	100				
MTBE	<0.110	15.5	0.0073	<0.210	25.9	0.0885	<0.00062	<0.00062	<0.00058	<0.00069	0.0042							1	0.93	62	
Notes																					

Notes
N/A - Not available - Sampling depths were not provided in the associated report

Table 2
Soil Sampling Results - PWG
245 East 138th Street
Bronx, New York

AOC Location	UST - North Wall	550 - Center	550 - Southwest Wall	4000 - Center	UST - South Wall	Dispenser Island - North	Dispenser Island - West	Dispenser Island - South	NYSDEC RSCOs - TAGM 4046	Soil Cleanup Levels for Gasoline Contaminated Soils (CP-51)	NYS DEC Residential Direct Contact
Sample ID	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8			
Date	11/9/2001	11/9/2001	11/9/2001	11/9/2001	11/9/2001	11/9/2001	11/9/2001	11/9/2001			
Sample Depth	6'-8'	6'-8'	6'-8'	6'-8'	6'-8'	6'-8'	5'-7'	6'-8'			
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
Compound	Soil Analytical Results For Volatile Organic Compounds										
MTBE	ND	ND	ND	ND	ND	0.067	ND	ND	0.12	0.93	62
Benzene	0.7	0.41	ND	0.2	0.14	0.032	ND	ND	0.06	0.06	2.9
Toluene	0.14	0.19	2.9	0.44	0.1	0.032	0.52	ND	1.5	0.7	100
Ethylbenzene	0.067	0.1	2.7	0.32	0.069	0.21	10	19	5.5	1	30
Xylenes	0.465	0.84	31	1.93	0.84	0.078	2.88	3.3	1.2	0.26	100
Isopropylbenzene	0.49	3.2	0.79	1.6	1.6	1.2	11	7.9	2.3	2.3	NSE
n-Propylbenzene	1	7.5	2.6	5.6	4.9	4.5	38	28	3.7	3.9	100
1,3,5-Trimethylbenzene	ND	0.069	10	0.41	0.087	4.5	2.6	14	3.3	8.4	47
1,2,4-Trimethylbenzene	0.13	0.17	33	0.73	0.07	0.08	27	46	10	3.6	47
sec-Butylbenzene	0.26	1.9	0.76	1.3	0.95	0.71	7.2	4.4	10	11	100
p-Isopropyltoluene	0.084	0.53	0.53	0.17	0.32	0.073	1.7	1.5	10	10	NSE
n-Butylbenzene	0.28	4.2	ND	2.8	1.9	1.7	21	ND	10	12	100
Napthalene	0.26	0.43	6.4	1.3	0.35	2.6	30	13	13	12	100
t-Butylbenzene	ND	0.19	ND	0.053	0.074	ND	ND	ND	10	5.9	100

Table 3

[illegible]

Table 4
Postexcavation Soil Sampling Results - LCS
2551 3rd Avenue
Bronx, New York

AOC Location	North Wall #1	North Wall #2	South Wall #1	South Wall #2	West Wall #1	East Wall #1	Bottom #1	Bottom #2	NYSDEC RSCOs - TAGM 4046	NYS DEC Residential Direct Contact
Sample ID	6/29/2007	7/3/2007	6/29/2007	7/3/2007	7/3/2007	6/29/2007	6/29/2007	7/3/2007		
Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
Compound	Volatile Organic Compounds by Method 8260 STARS List +10 TICs									
TICs	0.041 JB	0.037 JB	0.038 JB	0.042 JB	0.043 JB	0.037 JB	0.037 JB	0.039 JB	10	100
Semi-Volatile Organic Compounds by Method 8270 TCL										
naphthalene	<0.067	0.089	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	13	100
acenaphthylene	<0.067	0.162	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	41	100
acenaphthene	<0.067	0.183	<0.067	<0.067	<0.067	0.328	<0.067	<0.067	NSE	100
fluorene	<0.067	0.142	<0.067	<0.067	<0.067	0.352	<0.067	<0.067	50	100
phenanthrene	<0.067	2.53	0.327	0.203	0.465	3.55	<0.067	0.154	50	100
anthracene	<0.067	0.503	<0.067	<0.067	0.095	0.589	<0.067	<0.067	50	100
fluoranthene	<0.067	4.12	0.424	0.297	0.777	4.51	<0.067	0.234	50	100
pyrene	<0.067	6.08	0.39	0.284	0.825	3.81	<0.067	0.254	50	100
benzo(a)anthracene	<0.067	2.55	0.193	0.149	0.433	1.85	<0.067	0.125	0.224 or MDL	1
chrysene	<0.067	2.17	0.19	0.146	0.42	1.59	<0.067	0.124	0.4	1
benzo(b)fluoranthene	<0.067	3.65	0.21	0.173	0.574	1.92	<0.067	0.124	0.22 or MDL	1
benzo(k)fluoranthene	<0.067	0.921	<0.067	0.086	0.199	0.728	<0.067	<0.067	0.22 or MDL	1
benzo(a)pyrene	<0.067	2.22	0.192	0.151	0.426	1.65	<0.067	0.114	0.061 or MDL	1
indeno(1,2,3-cd)pyrene	<0.067	0.775	0.108	<0.067	0.161	0.75	<0.067	<0.067	3.2	0.5
dibenzo(a,h)anthracene	<0.067	0.332	<0.067	<0.067	<0.067	0.313	<0.067	<0.067	0.014 or MDL	0.33
benz(g,h,i)perylene	<0.067	0.685	0.158	0.112	0.193	0.628	<0.067	0.097	50	100
TICs	1.48	9.16	1.64	2.85	1.04	4.82	1.25	2.86	500	100

Table 5
Soil Sampling Results - Brinkerhoff
245 East 138th Street and 2551 3rd Avenue
Bronx, New York

Sample ID	SB-1-1	SB-1-2	SB-2-1	SB-2-2	SB-3-1	SB-3-2	SB-4-1	SB-4-2	TWP-1-1	TWP-1-2	TWP-2-1	TWP-2-2	Soil Cleanup Levels for Gasoline Contaminated Soils (CP-51)	NYS DEC Residential Direct Contact
Date	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010		
PID	ND	ND	47	ND	240	ND	ND	ND	ND	ND	ND	ND		
Sample Depth	4.0-4.5'	8.0-8.5'	4.0-4.5'	8.0-8.5'	7.5-8.0'	4.0-4.5'	3.5-4.0'	8.0-8.5'	3.0-3.5'	8.5-9.0'	3.0-3.5'	9.0-9.5'		
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
Compound	Volatile Organic Compounds													
Methyl tert-Butyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.93	NSE
Benzene	ND	ND	ND	ND	ND	0.648	ND	ND	ND	ND	ND	ND	0.06	2.9
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.7	100
Ethylbenzene	ND	ND	ND	ND	ND	2.04	ND	ND	ND	ND	ND	ND	1	30
Xylenes	ND	ND	ND	ND	ND	1.92	ND	ND	ND	ND	ND	ND	0.26	100
Isopropylbenzene	ND	ND	ND	ND	0.00669	15.9	ND	ND	ND	ND	ND	ND	2.3	100
TiCs	ND	ND	ND	ND	0.19	424	ND	ND	0.041	ND	ND	0.022	100	100
Compound	Semivolatile Organic Compounds													
Naphthalene	ND	0.068	0.07	ND	1.56	10.1	0.072	0.048	0.11	0.134	0.131	ND	NSE	100
Benzo(a)anthracene	ND	1.63	0.399	ND	9.08	0.301	1.36	ND	3.58	2.58	0.554	ND	NSE	1
Chrysene	ND	1.64	0.41	ND	9.06	0.302	1.29	ND	3.76	2.54	0.624	ND	NSE	1
Benzo(b)fluoranthene	ND	1.57	0.324	ND	5.34	ND	1.1	ND	2.99	2.18	0.623	ND	NSE	1
Benzo(k)fluoranthene	ND	1.3	0.331	ND	5.44	ND	1.23	ND	2.76	2.38	0.577	ND	NSE	1
Benzo(a)pyrene	ND	1.7	0.365	ND	7.26	ND	1.5	ND	3.18	2.86	0.731	ND	NSE	1
Indeno(1,2,3-cd)pyrene	ND	0.663	0.148	ND	2.08	ND	0.493	ND	0.869	0.864	0.271	ND	NSE	0.5
Dibenz(a,h)anthracene	ND	0.23	0.049	ND	0.727	ND	0.181	ND	0.387	0.327	0.123	ND	NSE	0.33
TiCs	0.341	2.3	0.372	ND	32.6	61.9	1.54	2.57	9.54	7.2	0.562	ND	NSE	100
Compound	Metals													
Arsenic	6.75	ND	33.4	0.548	6.47	12.8	8.52	0.779	3.31	12.2	4.53	0.723	NSE	16
Barium	601	ND	99.7	58.9	60.1	35	77.8	72.2	77.8	86.9	45.5	79	NSE	350
Copper	55.2	ND	881	22.8	836	335	199	25.7	35.9	191	5.2	24.4	NSE	270
Lead	1890	1.11	657	7.42	217	2760	256	16.4	111	665	77.4	7.71	NSE	400
Mercury	0.116	1.77	0.582	0.00808	0.293	0.047	0.37	0.143	0.194	3.45	0.391	0.066	NSE	0.81
Compound	General Analytical													
Cyanide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NSE	27

*Only compounds detected are listed on this table

Table 6
Groundwater Sampling Results - Brinkerhoff
255 East 138th Street
Bronx, New York

AOC Location			
Sample ID	MW-1	TWP-1	NYS DEC
Date	11/22/2010	11/22/2010	Part 703:
Sample Depth			GW Quality
Units	µg/L	µg/L	Standards
Compound	Volatile Organic Compounds (VOCs)		
Acetone	6	ND	NSE
	Semivolatile Organic Compounds (SVOCs)		
	SVOCs were not detected		
	Poly Chlorinated Biphenyls (PCBs)		
Aroclor-1260	ND	0.073	0.1
	Pesticides		
4,4'-DDT	ND	0.059	0.01
alpha-Chlordane	ND	0.04	NSE
gamma-Chlordane	ND	0.051	0.1
	Metals		
Aluminum	1210	8750	100
Antimony	ND	1.72	3
Arsenic	4.45	12.9	25
Barium	198	307	1000
Beryllium	ND	1.58	11
Cadmium	165	6.49	5
Calcium	60400	114000	NSE
Chromium	14.1	26.9	50
Cobalt	3.98 J	26.9	5
Copper	108	433	200
Iron	22500	13600	300
Lead	47.6	2420	50
Magnesium	11400	15800	35000
Manganese	2710	1400	300
Nickel	12.1	48	100
Potassium	13200	23000	NSE
Sodium	107000	47200	20000
Vanadium	8.66	47.7	14
Zinc	251	1440	NSE
	General Analytical		
Cyanide	ND	ND	1

Table 7
Groundwater Sampling Results - Brinkerhoff
255 East 138th Street
Bronx, New York

Sample ID	GW-1	GW-2	GW-3	GW-4	GW-5	NYS DEC Part 703: GW Quality Standards
Date	1/6/2011	1/6/2011	1/6/2011	1/6/2011	1/6/2011	
Sample Depth	6-10'	6-10'	6-10'	6-10'	6-10'	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	
Compound	Volatile Organic Compounds					
Benzene	ND	3.4	2.9	15	ND	1
Toluene	ND	46	0.91 J	1.1	0.71 J	5
Ethylbenzene	ND	31	0.47 J	2.2	ND	5
Xylenes	ND	267	2.8	12	2.1	5
1,3,5-Trimethylbenzene	ND	91 J	ND	ND	ND	5
1,2,4-Trimethylbenzene	ND	65 J	ND	ND	ND	5
MTBE	ND	ND	ND	3.3	13	NSE
TBA	9.6 J	ND	ND	25	44	NSE
Naphthalene	4.67 J	ND	ND	ND	ND	10

Table 8
Analytical Methods/Quality Assurance Summary Table
Soil and Soil Gas
245 East 138th Street and 2551 3rd Avenue
Bronx, New York

Sample ID	G-1	G-2	G-3	G-4	G-5	G-6	G-7*	G-8#	GAR-1	GAR-2	KFC-1	KFC-2	HF-1	HF-2	HF-3	HF-4	HF-5	HF-6	V-1	V-2	V-3	V-4
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Field Blank	1/soil sampling event	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trip Blank	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Duplicate samples	Approximately three samples will be collected from each boring location. Duplicates are required at a frequency of 1 per 20 samples, therefore an estimated 3 duplicate sampels will be collected.																		NA	NA	NA	NA
Analytical Parameter	VOC SVOC	VOC SVOC	VOC SVOC Lead	VOC SVOC Lead	VOC SVOC	VOC SVOC Lead	VOC SVOC Metals PCBs Pesticides	VOC SVOC Lead	VOC SVOC Metals PCBs Pesticides	VOC SVOC Metals PCBs Pesticides	VOC SVOC Metals PCBs Pesticides	VOC SVOC Metals PCBs Pesticides	VOC SVOC Metals PCBs Pesticides	VOC SVOC Metals PCBs Pesticides	VOC SVOC Metals PCBs Pesticides	VOC SVOC Metals PCBs Pesticides	VOC SVOC Metals PCBs Pesticides	VOC SVOC Metals PCBs Pesticides	VOC	VOC	VOC	VOC
Analytical Method	USEPA 8260 8270	USEPA 8260 8270	USEPA 8260 8270 6010	USEPA 8260 8270 6010	USEPA 8260 8270	USEPA 8260 8270 6010	USEPA 8260 8270 6010 8082 8081	USEPA 8260 8270 6010	USEPA 8260 8270 6010 8082 8081	USEPA 8260 8270 6010 8082 8081	USEPA 8260 8270 6010 8082 8081	USEPA 8260 8270 6010 8082 8081	USEPA 8260 8270 6010 8082 8081	USEPA 8260 8270 6010 8082 8081	USEPA 8260 8270 6010 8082 8081	USEPA 8260 8270 6020 8082 8081 8151	USEPA 8260 8270 6020 8082 8081	USEPA 8260 8270 6020 8082 8081 8151	USEPA TO-15	USEPA TO-15	USEPA TO-15	USEPA TO-15
Preservation	Encore 4°C	Encore 4°C	Encore 4°C	Encore 4°C	Encore 4°C	Encore 4°C	Encore 4°C	Encore 4°C	Encore 4°C	Encore 4°C	Encore 4°C	Encore 4°C	Encore 4°C	Encore 4°C	Encore 4°C	Encore 4°C	Encore 4°C	Encore 4°C	NA	NA	NA	NA
Container	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	8 oz glass jar Teflon-lined cap	6L Summa Canister	6L Summa Canister	6L Summa Canister	6L Summa Canister

Notes:
Sample holding time varies per parameter. Samples will be submitted to the laboratory within 24 hours to allow for all holding times to be met.
NA - Not applicable
*Same sample as HF-5
Same location as monitoring well MW-4 listed on Table 9

Table 9
Analytical Methods/Quality Assurance Summary Table
Groundwater
245 East 138th Street and 2551 3rd Avenue
Bronx, New York

Sample ID	MW-1	MW-2	MW-3	MW-4#	TWP-1	TWP-2	TWP-3	TWP-4	TWP-5	TWP-6
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Field Blank	1/groundwater sampling event	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trip Blank	1/groundwater sampling event	NA	NA	NA	NA	NA	NA	NA	NA	NA
Duplicate samples	1/groundwater sampling event	NA	NA	NA	NA	NA	NA	NA	NA	NA
Analytical Parameter	VOC SVOC Metals PCBs Pesticides	VOC SVOC Metals PCBs Pesticides	VOC SVOC Metals PCBs Pesticides	VOC SVOC Metals PCBs Pesticides	VOC SVOC	VOC SVOC Lead	VOC SVOC Lead	VOC SVOC	VOC SVOC	VOC SVOC Lead
Analytical Method	USEPA 8260 8270 6010 8082 8081 8151	USEPA 8260 8270 6010 8082 8081 8151	USEPA 8260 8270 6010 8082 8081 8151	USEPA 8260 8270 6010 8082 8081 8151	USEPA 8260 8270	USEPA 8260 8270 6010	USEPA 8260 8270 6010	USEPA 8260 8270	USEPA 8260 8270	USEPA 8260 8270 6010
Preservation	HCl - VOC HNO ₃ - Metals	HCl - VOC HNO ₃ - Metals	HCl - VOC HNO ₃ - Metals	HCl - VOC HNO ₃ - Metals	HCl - VOC	HCl - VOC HNO ₃ - Metals	HCl - VOC HNO ₃ - Metals	HCl - VOC	HCl - VOC	HCl - VOC HNO ₃ - Metals
Container	40mL glass 250 mL amber white plastic	40mL glass 250 mL amber white plastic	40mL glass 250 mL amber white plastic	40mL glass 250 mL amber white plastic	40mL glass 250 mL white plastic	40mL glass 250 mL amber white plastic	40mL glass 250 mL amber white plastic	40mL glass 250 mL amber white plastic	40mL glass 250 mL amber white plastic	40mL glass 250 mL amber white plastic

Notes:

Sample holding time varies per parameter. Samples will be submitted to the laboratory within 24 hours to allow for all holding times to be met.

NA - Not applicable

Same location as soil boring G-8 on Table 8.

203 740

0450

Matt Roche

UNDERGROUND STORAGE TANK CLOSURE REPORT,
SOIL EXCAVATION AND RECYCLING
GETTY SERVICE STATION # 111
245 EAST 138TH STREET
BRONX, NEW YORK
OCTOBER 1998

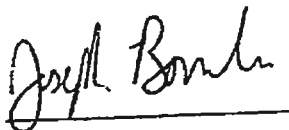
PREPARED FOR:

203-740-8200

MR. SCOTT HANLEY
GETTY PROPERTIES CORPORATION (516-542
4301 BOSTON POST ROAD
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5022

PREPARED BY:



Joseph Borrelli
Environmental Scientist I

REVIEWED BY:



Steven Gustems
Environmental Scientist III

THE TYREE ORGANIZATION, LTD.
125 COMMERCE DRIVE
BROOKFIELD, CONNECTICUT 06804

UNDERGROUND STORAGE TANK CLOSURE REPORT
SOIL EXCAVATION AND RECYCLING
GETTY SERVICE STATION # 111
245 EAST 138TH STREET
BRONX, NEW YORK

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1.0 INTRODUCTION & SCOPE OF WORK

The Tyree Organization Ltd., (Tyree) was retained by Getty Properties Corporation (Getty) to complete the following scope of work: remove four (4) existing 550 gallon gasoline underground storage tanks (UST), one (1) 4000 gallon gasoline UST, and remove pump islands and associated piping at Getty Service Station #111 located at 245 East 138th Street, Bronx, New York. A Tyree Environmental Scientist was on-site during all soil removal and tank removal activities to screen soils for volatile organic contaminants (VOC's), collect soil samples for laboratory analysis, and to document the condition of the existing gasoline tanks.

2.0 SITE DESCRIPTION

2.1 Site Location & Land Use

The project site is Getty Service Station #111 located at 245 East 138th Street, Bronx, New York. A Site Location Map, showing the relative location of the site, is attached as Figure 1, Appendix A. A one story concrete block building approximately 1,100 square feet in size is located on the north side of the property. The building contains a sales office, three automotive service bays, storage, and lavatories. The grounds are mostly level and are covered with asphalt paving. The station is currently an active site which engages in vehicle repairs.

The five gasoline UST's removed during this project were located on the east side of the property, adjacent to the office. The four (4) 550 gallon gasoline underground storage tanks removed during this project were located in one excavation near the eastern side of the concrete building. The one (1) 4000 gallon gasoline underground storage tank removed during the project was located adjacent south to the above mentioned excavation. A site plan is attached as Figure 2, Appendix A.

2.2 Local Land Uses

The project site is located in a commercially zoned area on East 138th Street. Local land uses include the following:

- East 138th Street and Former City gas station to the south.
- Apartments to the north.
- Kentucky Fried Chicken to the east.
- Audio/Video store to the west.

3.0 SOIL EXCAVATION AND TANK REMOVAL PROCEDURES

3.1 Notifications

A utilities markout was requested from the New York State Utilities Markout Service on June 26, 1998 (1-800-962-7962).

A petroleum contamination spill was called in to the NYS DEC after elevated PID readings were recorded while excavating around the fill pipe for the 550 gallon tank excavation. NYS DEC spill number 98-04000 was assigned to the site.

3.2 Soil Excavation And Tank Removal

A Tyree Environmental Scientist was on-site for dispenser island removal as well as underground storage tanks to conduct a physical inspection of the piping, tanks, screen soils for VOC's using a PID meter, and collect soil samples for laboratory analysis.

3.2.1 Pump Island Removal Activities - July 1, 1998

On July 1, 1998, removal of gasoline dispenser island and associated piping took place. The former dispenser island location is shown on Figure 2, Site Plan, Appendix A. PID readings ranged from 452 ppm on the bottom excavation, to >2000 ppm on the east and west sidewall. PID readings are located in Table 1, Appendix B. Soil samples from each sidewall and the excavation base were retained for laboratory analysis. The excavation was backfilled to grade with peastone. Backfill delivery manifests are located in Appendix D.

3.2.2 (550) Gallon Gasoline Underground Storage Tank Removal Activities - July 8, 1998

On July 8, 1998 four (4) 550 gallon gasoline underground storage tanks located on the eastern end of the property were uncovered. Prior to removal, approximately 102 gallons of residual gasoline was removed from the tanks by a vacuum truck operated by Tyree. The vacuum truck manifest is attached in Appendix E.

The tanks were visually confirmed to be single-walled steel construction. Although corrosive pitting and rust were observed on the outer portion of the tanks, no holes were present. The former location of the tanks are shown on Figure 2, Site Plan, Appendix A. Photographs of the tanks are located on Figures 3 through Figures 10, Appendix A.

Subsequent to the removal of the gasoline UST's, soil samples were collected from the sidewalls and the base of the excavation. The excavation contained all four UST's. PID readings ranged from 15 ppm on the bottom, to 1985 ppm on the east and west sidewalls. PID readings are shown in Table 2, Appendix B. No groundwater was encountered in the excavation. Soil samples were collected from the excavation and retained for laboratory analysis.

Subsequent to removal, the tank was cut open and cleaned of any residual product. The excavation was backfilled to grade with peastone. Backfill delivery manifests are located in Appendix D.

3.2.3 (4000) Gasoline Underground Storage Tank Removal Activities - July 10, 1998

On July 10, 1998, Tyree began removing the 4,000 gallon gasoline UST, using a Case 680k backhoe. Prior to removal, remaining gasoline (approximately 1800 gallons) was removed by Getty and transferred to another service station.

The tank was visually confirmed to be single walled steel construction. Although corrosive pitting and rust were observed on the outer portion of the tanks, no holes were present. No groundwater was encountered in the excavation. The former location of the tank is shown on Figure 2, Appendix A. Photographs of the 4,000 gasoline underground storage tank are shown on Figure 11, Appendix A.

Subsequent to removal of the tank, soil samples were collected from the east and west sidewalls of the excavation. PID readings are shown in Table 3, Appendix B. No groundwater was encountered in the excavation.

Subsequent to removal, the tank was cut open and cleaned of any residual product. The excavation was backfilled to grade with peastone. Backfill manifests are located in Appendix D.

4.0 SOIL SAMPLING AND ANALYSIS

On June 1, 1998, subsequent to the excavation of the dispenser island, soil samples were collected from the north, south, east, and west sidewall, and excavation base. Subsequent to the excavation of four (4) 550 gallon gasoline tanks, soil samples were collected from the north, south, east, and west sidewalls on July 8, 1998. Soil samples were collected from the north, south, east, and west sidewall, and excavation base for the 4000 gallon gasoline tank excavation on July 10, 1998. All samples were sent to Environmental Testing Laboratories (ETL) and analyzed for the presence of aromatic hydrocarbons according to EPA Method 8021 Stars Memo. The laboratory data is summarized on Tables 1-3, Appendix B. The completed laboratory report is attached in Appendix C.

4.1 EPA Method 8021 Stars Memo Compounds - Dispenser Island Excavation

The levels of benzene, isopropylbenzene, n-Propylbenzene, p-Isopropyltoluene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, n-Butylbenzene, sec-Butylbenzene, and Naphthalene detected in the soil samples collected from the north sidewall exceeded their NYS DEC TCLP Alternative Guidance Values. Levels of 1,3,5-Trimethylbenzene detected in the soil samples collected from the south sidewall and bottom excavation exceeded their NYS DEC Alternative Guidance Values. The levels of mixed xylenes, benzene, isopropylbenzene, n-Propylbenzene, p-Isopropyltoluene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, n-Butylbenzene, sec-Butylbenzene, and Naphthalene detected in the soil samples collected from the west sidewall exceeded their NYS DEC TCLP Alternative Guidance Values.

4.2 EPA Method 8021 Stars Memo Compounds - 550 Gallon UST Excavation

The levels of ethylbenzene, mixed xylenes, isopropylbenzene, n-Propylbenzene, p-Isopropyltoluene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, n-Butylbenzene, sec-Butylbenzene, and Naphthalene detected in the soil samples collected from the north sidewall exceeded their NYS DEC TCLP Alternative Guidance Values.

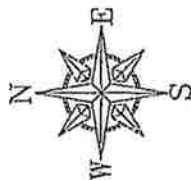
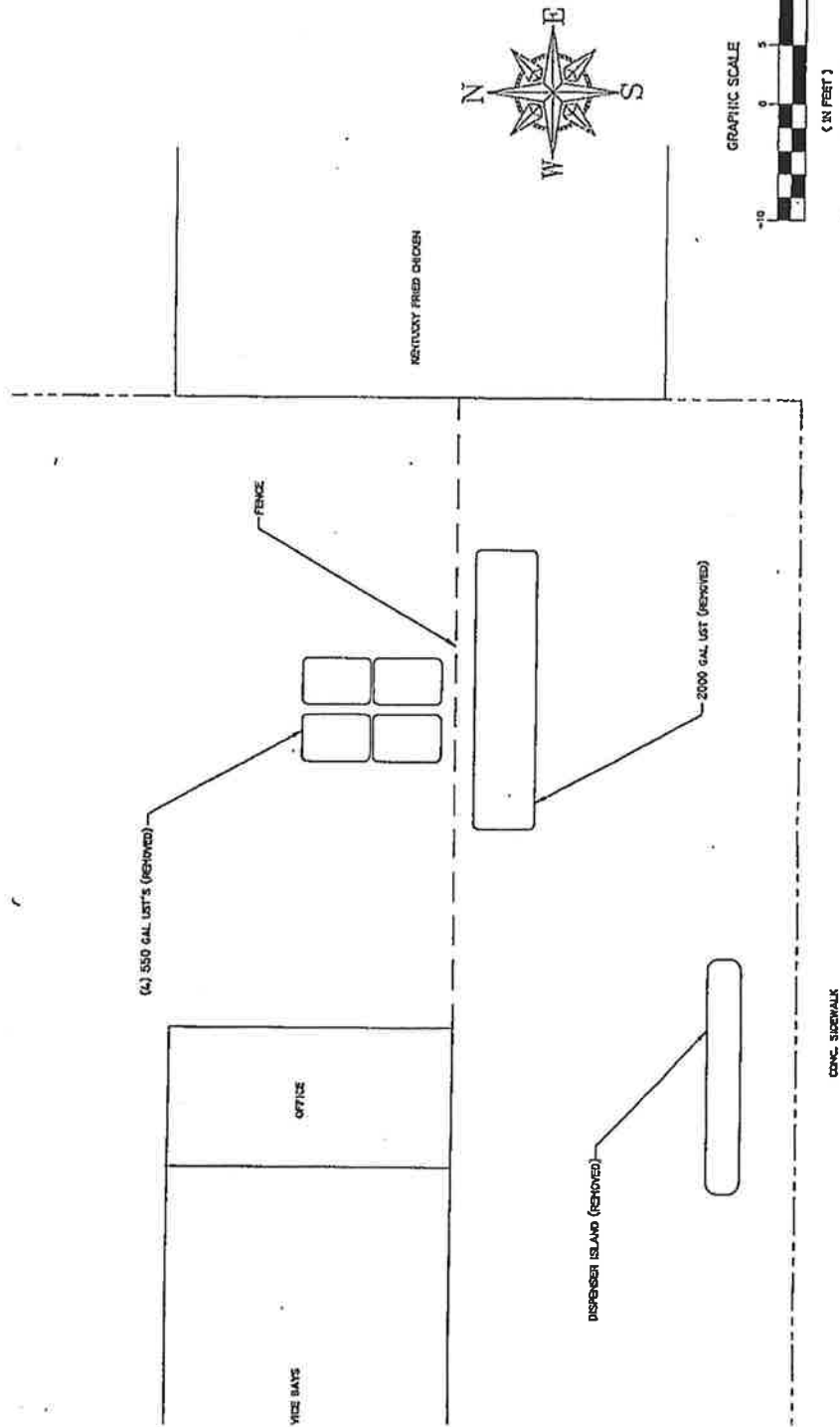
4.3 EPA Method 8021 Stars Memo Compounds - 4000 Gallon UST Excavation

Levels of all STARS Memo EPA Method 8021 analytes in the soil samples collected from the gasoline tank east and west sidewalls on July 10, 1998, were below their NYS DEC TCLP Alternative Guidance Values.

5.0 SOIL DISPOSAL

Soil removed from the gasoline underground storage tank and pump island excavations was stockpiled on polyethylene lining, and later removed by Electro Environmental Technologies of Bellport, New York. Approximately 178 tons of soil was stockpiled. The soil was taken to ESMI, Fort Edwards, NY. The soil disposal manifest is located in Attachment F.

6.0 APPENDICES



GRAPHIC SCALE



(1/4" = 10 FEET)
1" = 40 FEET

**TYREE ENVIRONMENTAL
TECHNOLOGIES**

TITLE

Site Plan

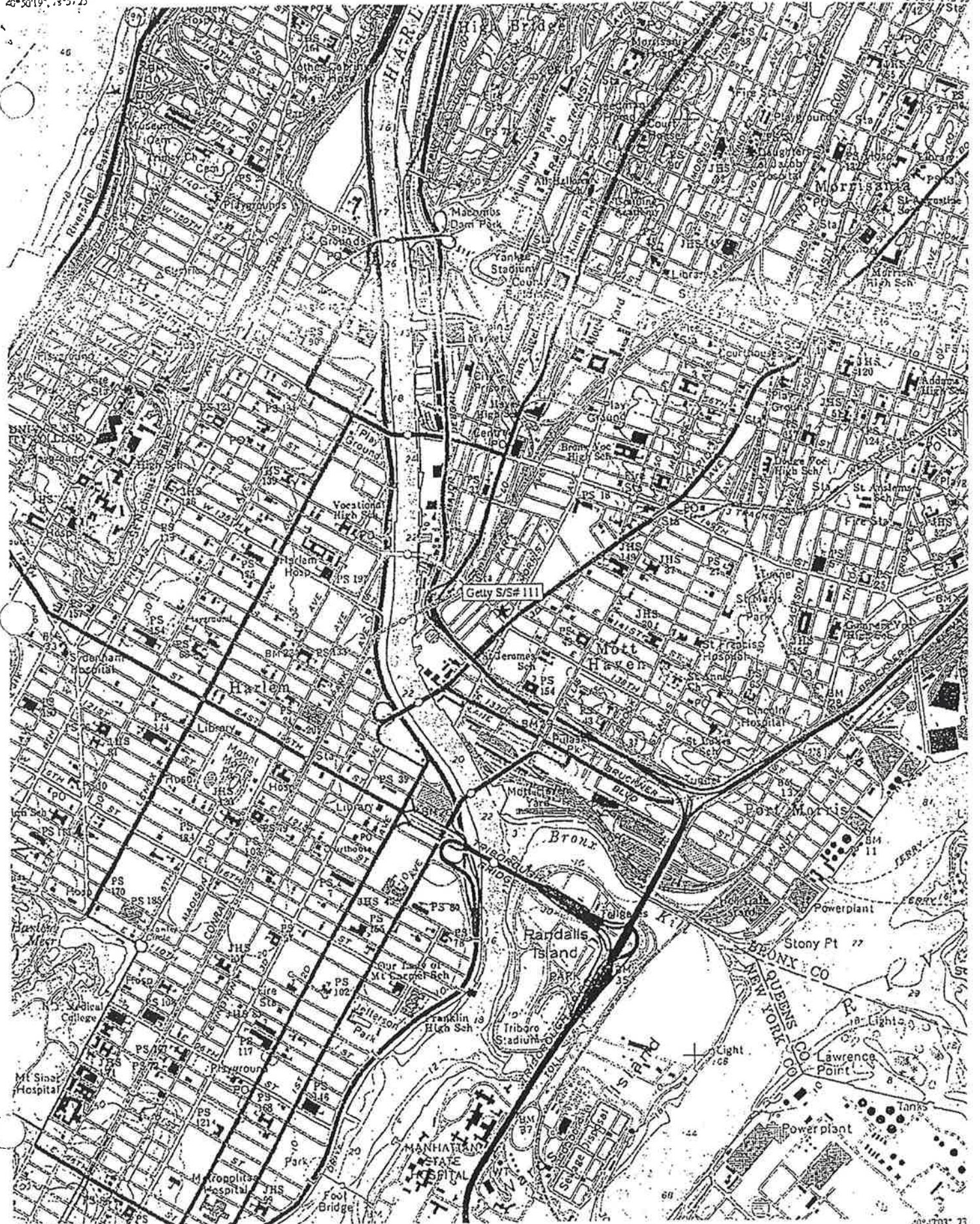
APPENDIX A

FIGURES

SITE LOCATION MAP - FIGURE 1

40°50'19", 73°57'25"

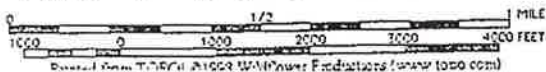
40°50'19", 73°57'25"



40°47'03", 73°57'25" NAD83

40°47'03", 73°57'25"

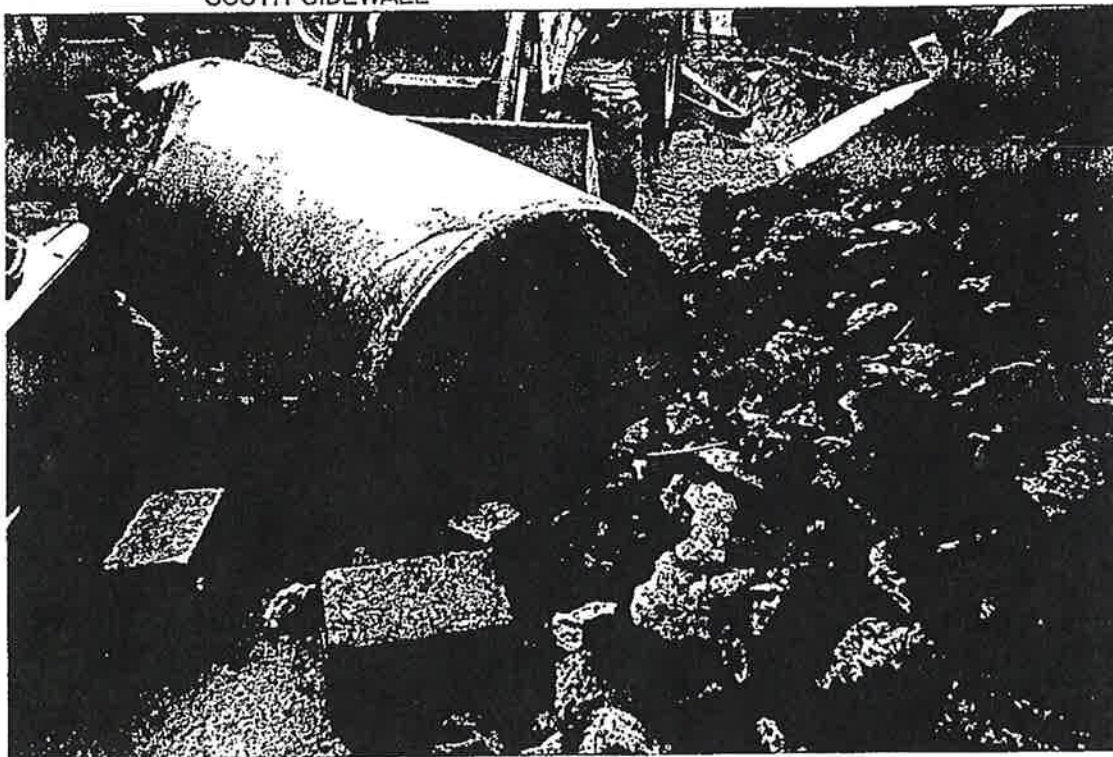
MT 172
13.7



NORTH SIDEWALL



SOUTH SIDEWALL



**TYREE ENVIRONMENTAL
TECHNOLOGIES**

TITLE

Photographs: 550 Gal. Gasoline UST(A)

SITE: Getty Service Station # 111

SCALE

LOCATION: 245 East 135th Street

NA

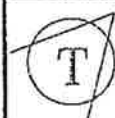
Bronx, New York

PLATE

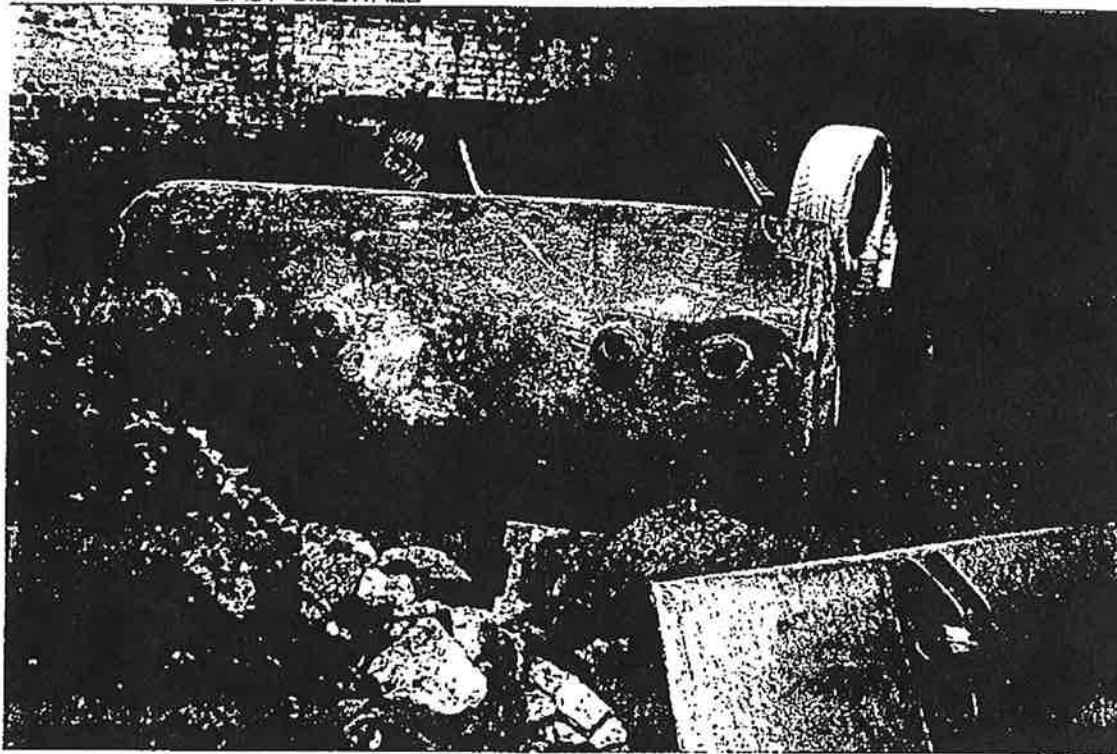
CLIENT: Getty Properties Corporation

DRW BY: J. Borrelli Date: 10/3/98

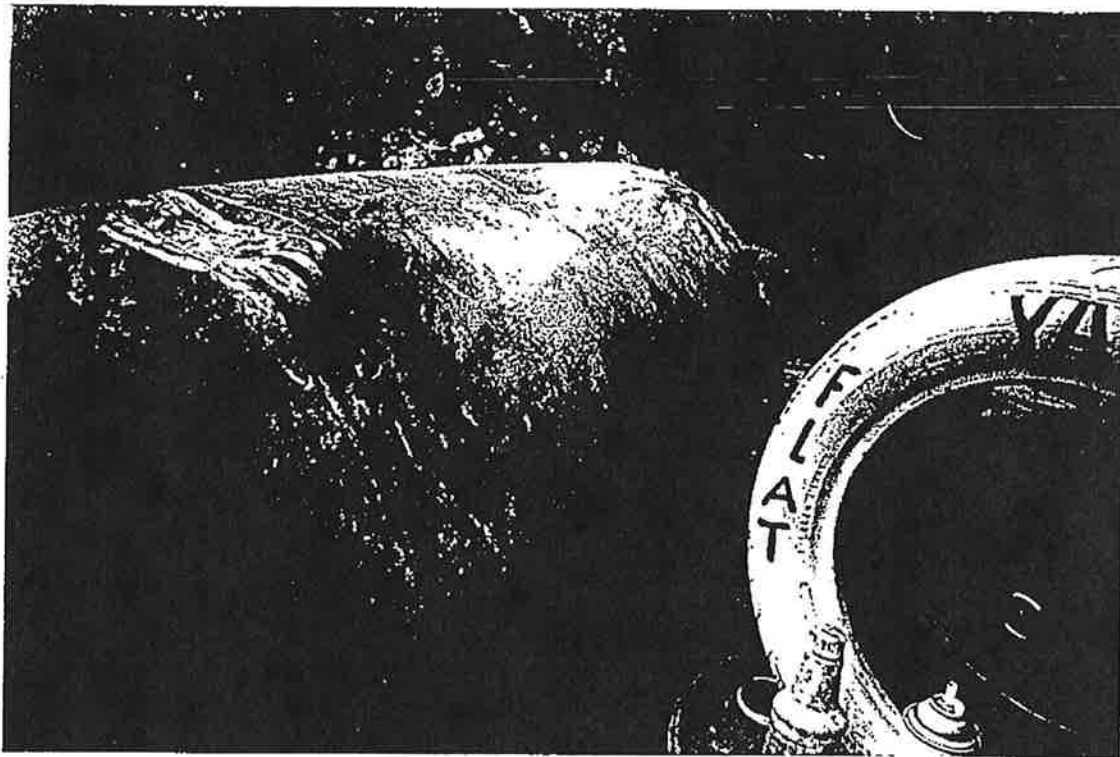
FIGURE 3



EAST SIDEWALL



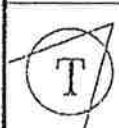
WEST SIDEWALL



**TYREE ENVIRONMENTAL
TECHNOLOGIES**

TITLE

Photographs: 550 Gal. Gasoline UST(A)



SITE: Getty Service Station # 111

SCALE

LOCATION: 245 East 138th Street

NA

Bronx, New York

PLATE

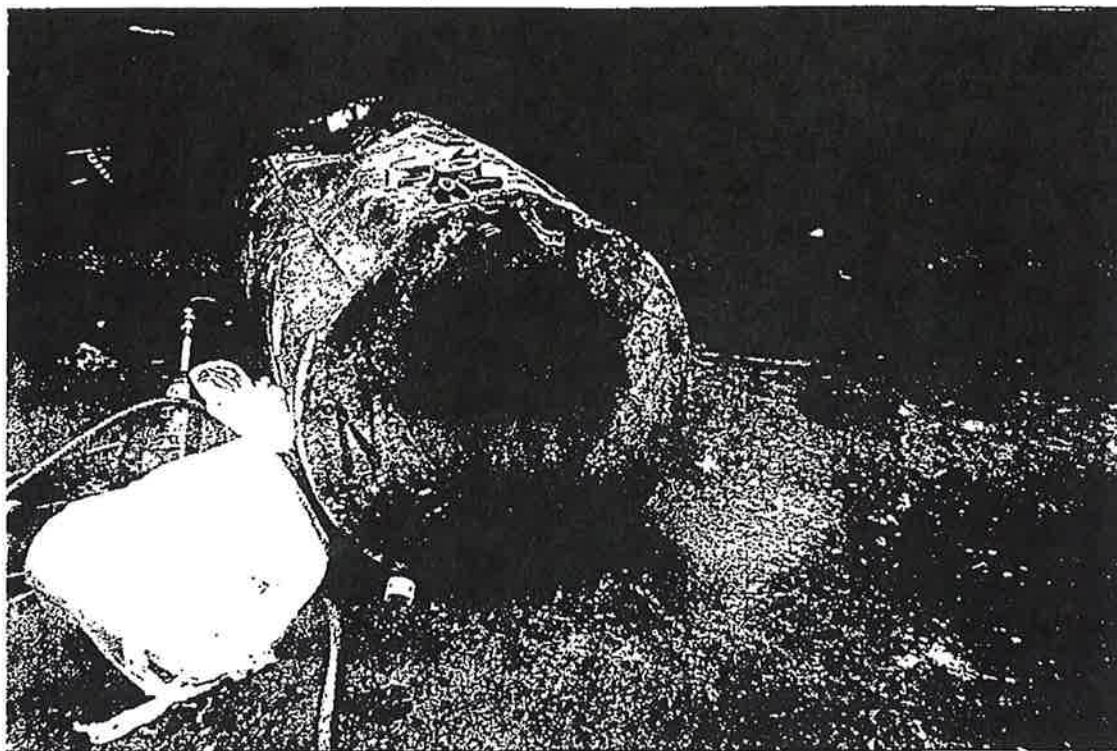
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DRW BY: J. Borrelli

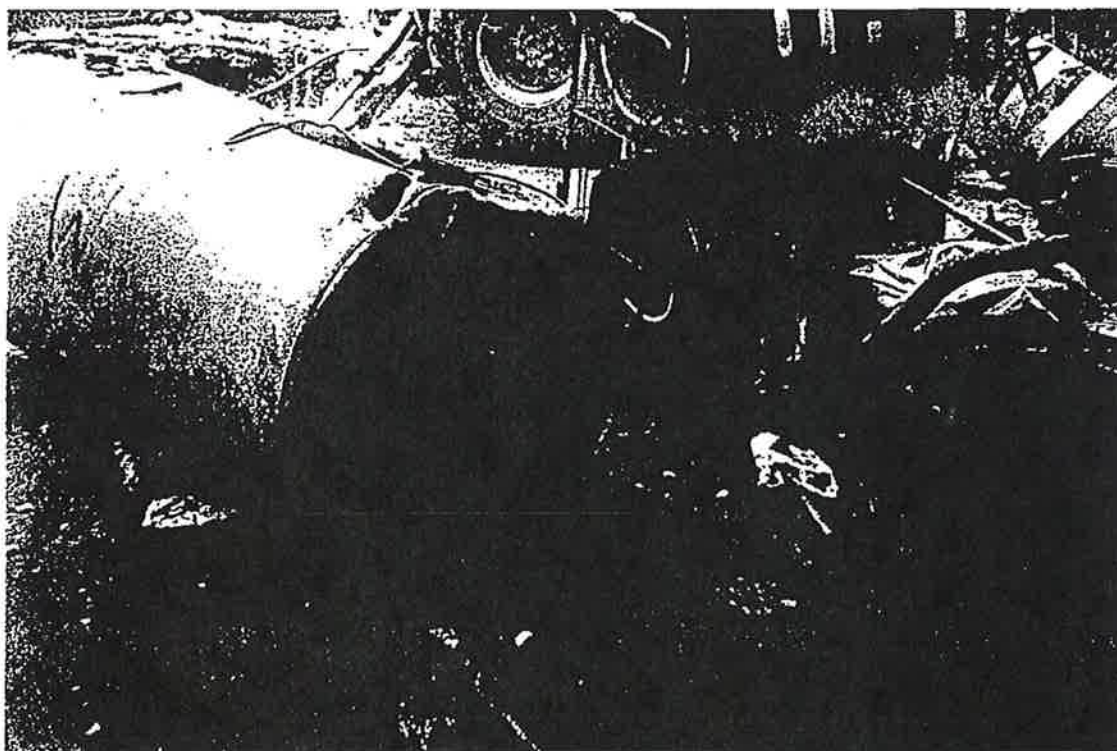
Date: 10/5/98

FIGURE 4

NORTH SIDEWALL



SOUTH SIDEWALL



*TYREE ENVIRONMENTAL
TECHNOLOGIES*

TITLE

Photographs: 550 Gal. Gasoline UST(B)



SITE: Getty Service Station # 111

SCALE

LOCATION: 245 East 138th Street

NA

Bronx, New York

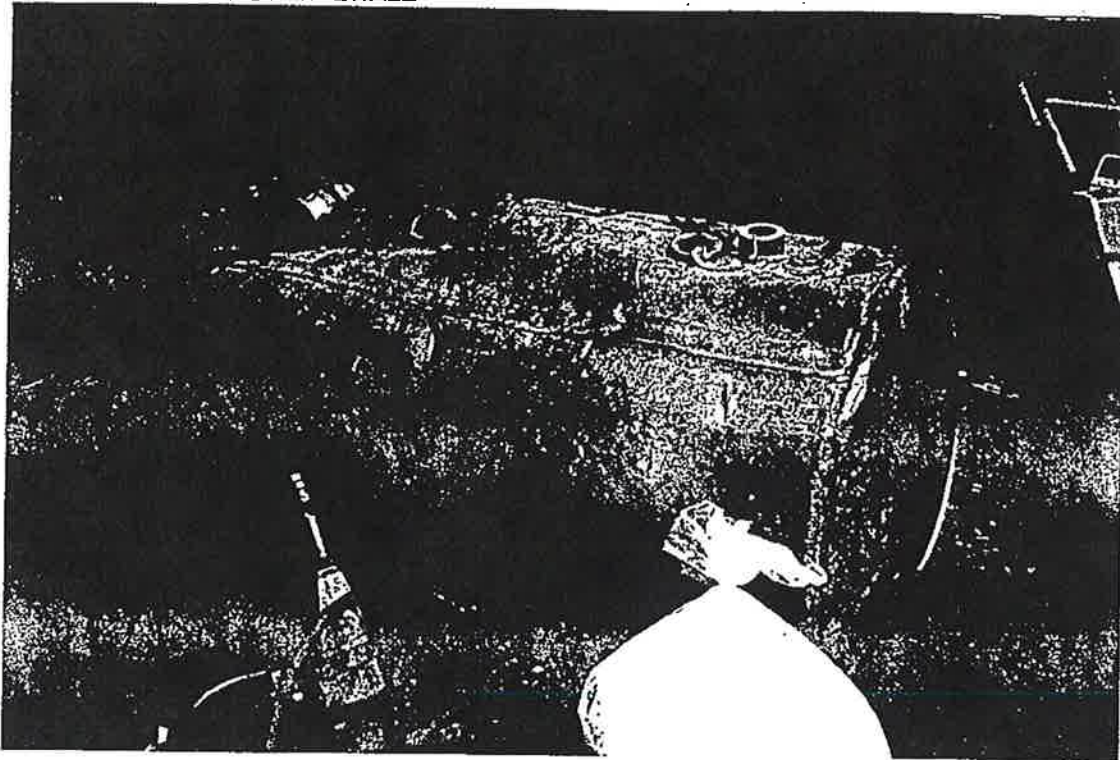
PLATE

CLIENT: Getty Properties Corporation

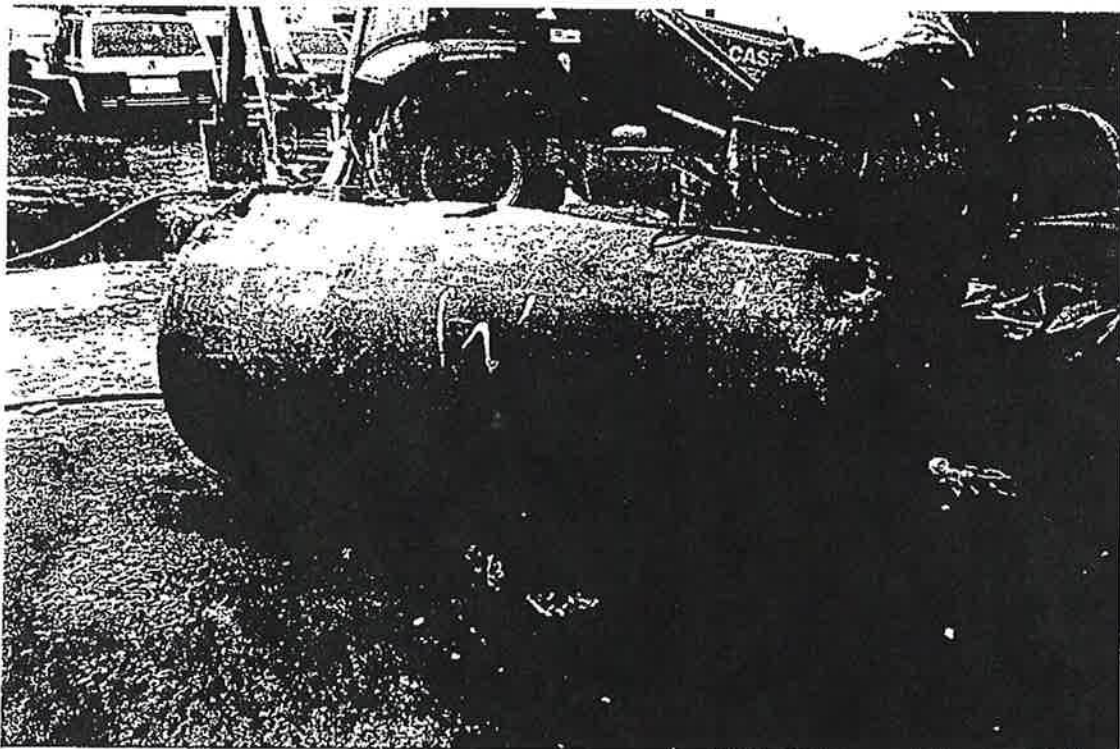
DRW BY: J. Borrelli Date: 10/5/95

FIGURE 5

EAST SIDEWALL



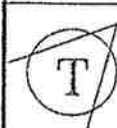
WEST SIDEWALL



TYREE ENVIRONMENTAL TECHNOLOGIES

TITLE

Photographs: 550 Gal. Gasoline UST(B)



SITE: Getty Service Station # 111

LOCATION: 245 East 138th Street

Bronx, New York

CLIENT: Getty Properties Corporation

DRW BY: J. Borrelli

Date: 10/5/98

SCALE

NA

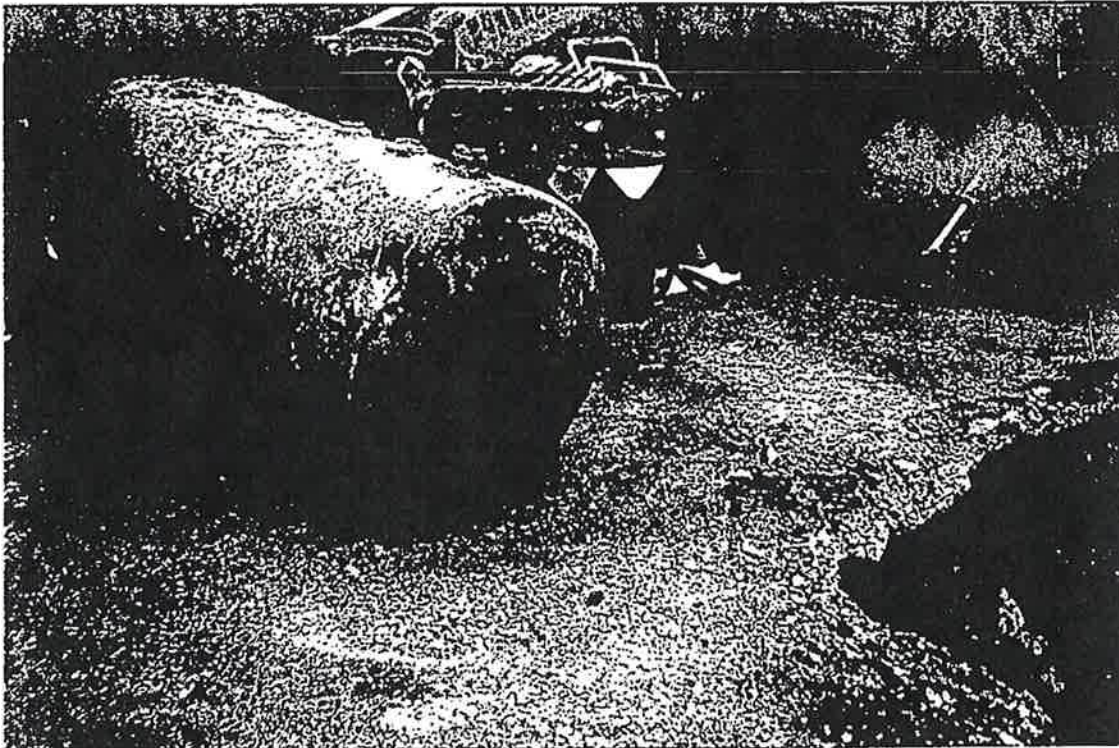
PLATE

FIGURE 6

NORTH SIDEWALL



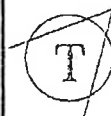
SOUTH SIDEWALL



**TYREE ENVIRONMENTAL
TECHNOLOGIES**

TITLE

Photographs: 550 Gal. Gasoline UST(C)



SITE: Getty Service Station # 111

SCALE

LOCATION: 245 East 138th Street

NA

Bronx, New York

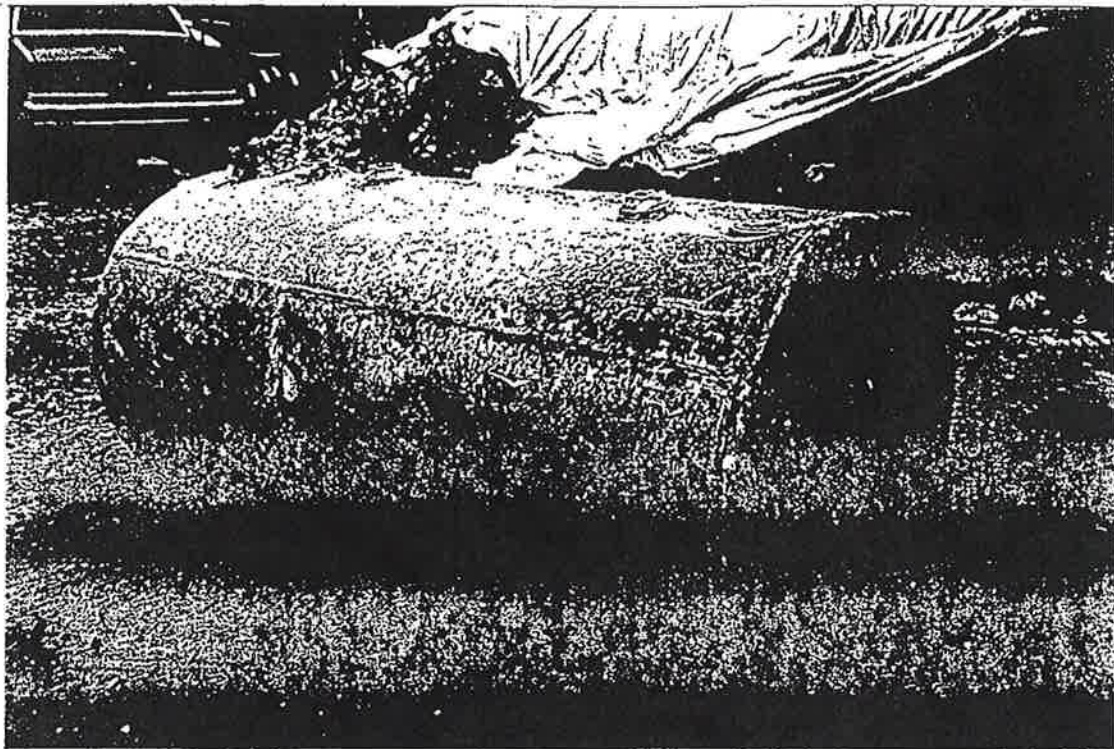
PLATE

CLIENT: Getty Properties Corporation

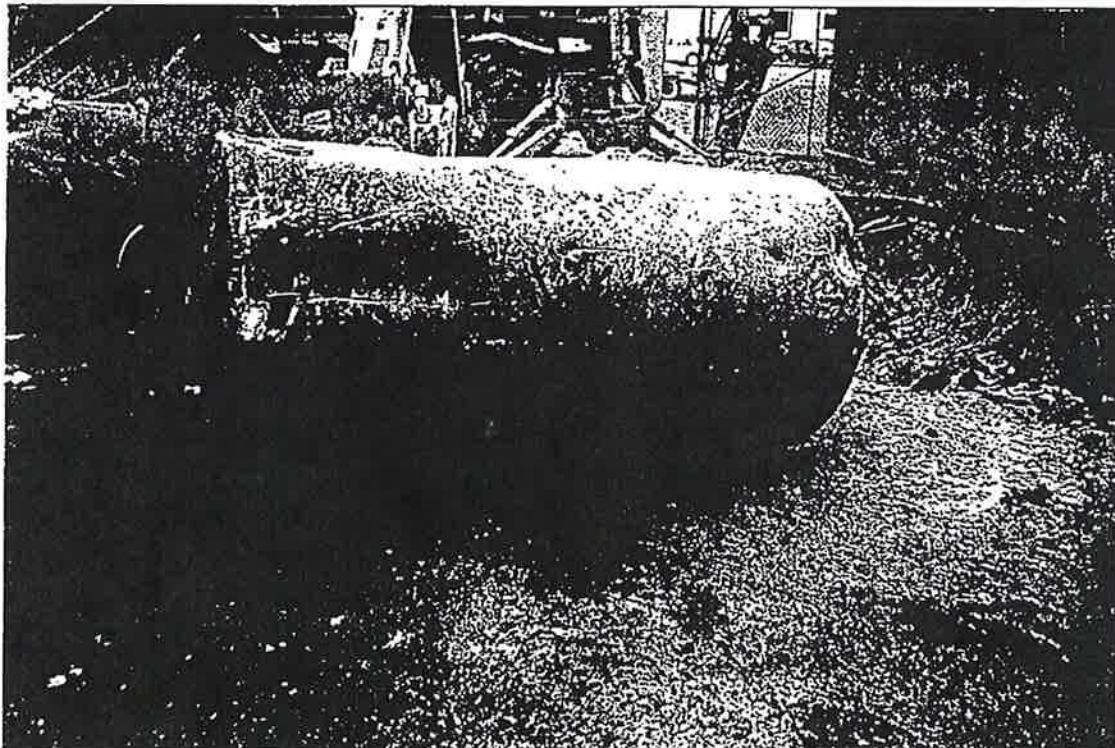
DRW BY: J. Borrelli Date: 10/5/98

FIGURE 7

EAST SIDEWALL



WEST SIDEWALL



*TYREE ENVIRONMENTAL
TECHNOLOGIES*

TITLE

Photographs: 550 Gal. Gasoline UST(C)



SITE: Getty Service Station # 111

SCALE

LOCATION: 245 East 138th Street

NA

Bronx, New York

PLATE

CLIENT: Getty Properties Corporation

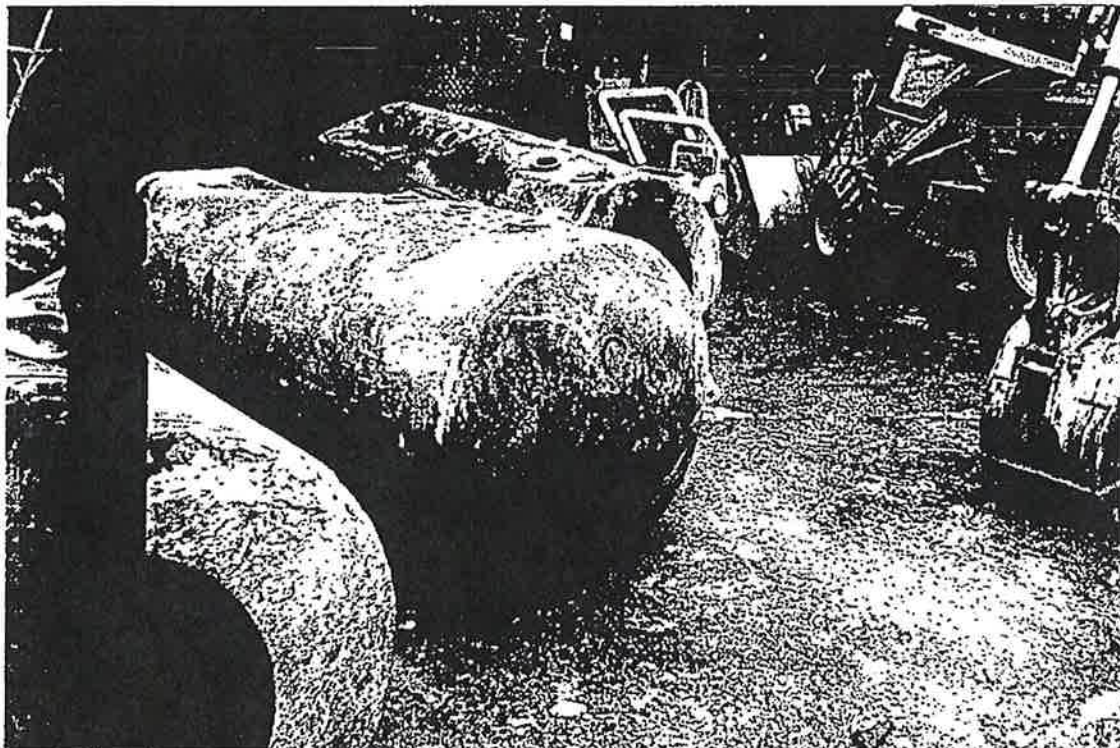
DRW BY: J. Borrelli Date: 10/5/98

FIGURE 8

NORTH SIDEWALL



SOUTH SIDEWALL



TYREE ENVIRONMENTAL TECHNOLOGIES

TITLE

Photographs: 550 Gal. Gasoline UST(D)



SITE: Getty Service Station # 111

SCALE

LOCATION: 245 East 138th Street

NA

Bronx, New York

PLATE

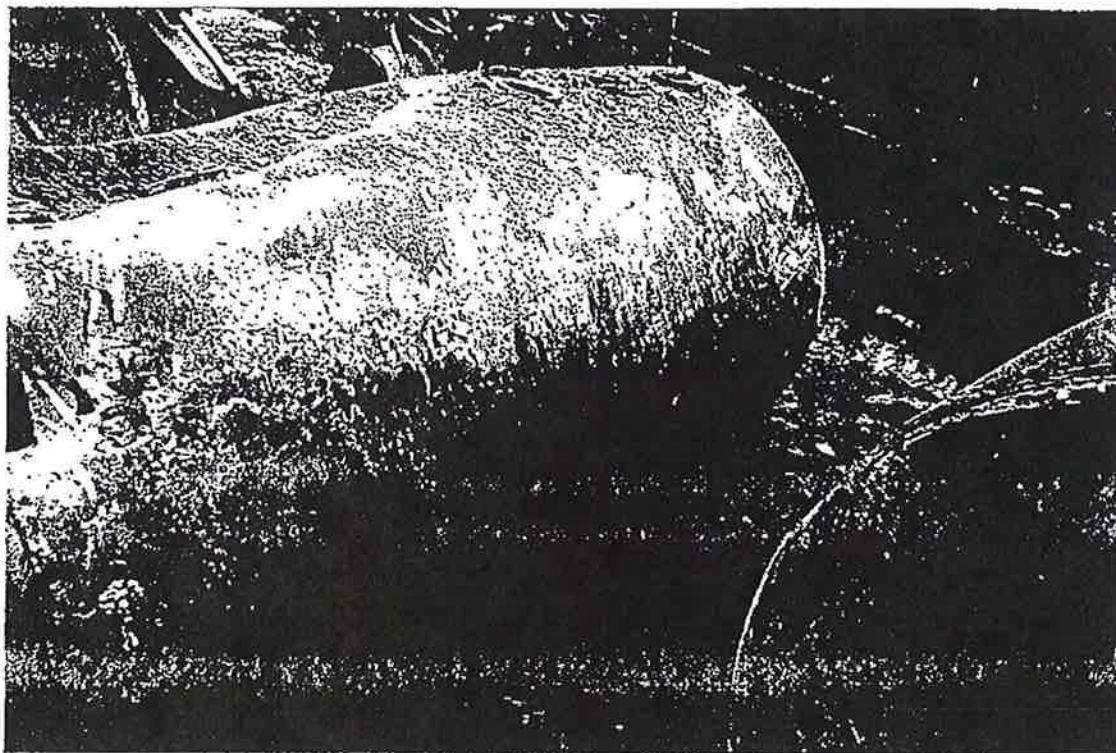
CLIENT: Getty Properties Corporation

DRW BY: J. Borrelli

Date: 10/5/98

FIGURE 9

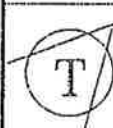
WEST SIDEWALL



*TYREE ENVIRONMENTAL
TECHNOLOGIES*

TITLE

Photographs: 550 Gal. Gasoline UST(D)



SITE: Getty Service Station # 111

SCALE

LOCATION: 245 East 138th Street

NA

Bronx, New York

PLATE

CLIENT: Getty Properties Corporation

DRW BY: J. Borrelli Date: 10/5/98

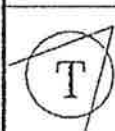
FIGURE 10



TYREE ENVIRONMENTAL TECHNOLOGIES

TITLE

Photographs: 2000 Gal. Gasoline UST



SITE: Getty Service Station # 111

SCALE

LOCATION: 245 East 138th Street

NA

Bronx, New York

PLATE

CLIENT: Getty Properties Corporation

DRW BY: J. Borrelli

Date: 10/5/98

FIGURE 11

APPENDIX B

TABLES

Table 1
Summary of Laboratory Data
Aromatic Hydrocarbons & Base Neutrals
July 1, 1998
Pump Island Excavation

Analyte	North Sidewall (ppb)	South Sidewall (ppb)	East Sidewall (ppb)	West Sidewall (ppb)	Bottom Excavation (ppb)	NYS DEC Alternative Guidance Values (ppb)
Benzene	<28	<0.77	<0.73	<53	2.2	14
Toluene	<23	<0.96	<0.9	<44	<0.89	100
Ethylbenzene	<25	<0.49	<0.46	<47	2.5	100
m,p -Xylenes	<25	3.2	<0.81	27600	12	100
o - xylenes	<10	18.5	<0.48	32700	66.1	100
Mixed Xylenes	<35	21.7	<1	60300	78.1	100
Isopropylbenzene	203	<0.45	<0.43	2570	3	100
n-Propylbenzene	710	1.7	2.6	2810	5.1	100
p-Isopropyltoluene	152	44.4	<0.44	8120	29.2	100
1,2,4-Trimethylbenzene	648	6.6	<0.45	137000	15.6	100
1,3,5-Trimethylbenzene	374	634	5.9	30500	167	100
n-Butylbenzene	1870	<0.5	1.4	10900	<0.47	100
sec-Butylbenzene	672	<0.49	<0.46	2260	9	100
t-Butylbenzene	<19	<0.43	<0.4	<36	<0.4	100
Naphthalene	1700	<0.84	<0.8	30400	37.6	200
MTBE	<110	15.5	7.3	<210	25.9	1000
PID	1812	1460	2000	2000	452	*

Note: Bold = Exceeds NYS DEC Alternative Guidance Value * - PID readings measured in parts per million

Table 2
Summary of Laboratory Data
Aromatic Hydrocarbons & Base Neutrals
July 8, 1998

550 gallon gasoline tank excavation

Analyte	North Sidewall (ppb)	South Sidewall (ppb)	East Sidewall (ppb)	West Sidewall (ppb)	NYS DEC Alternative Guidance Values (ppb)
Aromatic Hydrocarbons					
Benzene	7.7	2.5	<0.31	<0.29	14
Toluene	39	4.4	<0.37	<0.35	100
Ethylbenzene	270	2.1	<0.38	<0.36	100
m,p -Xylenes	1430	10.7	<0.71	<0.66	100
o - xylenes	665	4.1	<0.31	<0.29	100
Mixed Xylenes	2095	14.8	<1	<0.96	100
Isopropylbenzene	132	<0.29	<0.29	<0.27	100
n-Propylbenzene	399	1.2	<0.46	<0.43	100
p-Isopropyltoluene	369	<0.4	<0.4	<0.38	100
1,2,4-Trimethylbenzene	4770	15.2	<0.37	<0.35	100
1,3,5-Trimethylbenzene	1730	7.1	<0.34	<0.31	100
n-Butylbenzene	405	<0.44	<0.44	<0.41	100
sec-Butylbenzene	137	<0.4	<0.4	<0.38	100
t-Butylbenzene	<2.9	<0.58	<0.58	<0.55	100
Naphthalene	572	5.5	<0.62	<0.58	200
MTBE	88.5	<0.62	<0.62	<0.58	1000
PID	1985	--	15.0	27.8	*

Note: Bold = Exceeds NYS DEC Alternative Guidance Value * - PID readings measured in parts per million

Table 3
Summary of Laboratory Data
Aromatic Hydrocarbons & Base Neutrals
July 10, 1998
4000 gallon gasoline tank

Analyte	East Sidewall (ppb)	West Sidewall (ppb)	NYS DEC Alternative Guidance Values (ppb)
Aromatic Hydrocarbons			
Benzene	<0.35	<0.34	14
Toluene	<0.41	<0.4	100
Ethylbenzene	<0.43	<0.41	100
m,p -Xylenes	<0.79	1.7	100
o - xylenes	<0.35	<0.34	100
Mixed Xylenes	<1.1	1.7	100
Isopropylbenzene	<0.33	<0.31	100
n-Propylbenzene	<0.51	<0.49	100
p-Isopropyltoluene	<0.45	14.1	100
1,2,4-Trimethylbenzene	<0.41	4.2	100
1,3,5-Trimethylbenzene	<0.38	124	100
n-Butylbenzene	<0.49	<0.47	100
sec-Butylbenzene	<0.45	<0.43	100
t-Butylbenzene	<0.65	<0.62	100
Naphthalene	<0.69	<0.66	200
MTBE	<0.69	4.2	1000
PID	25.8	51.4	*

Note: Bold = Exceeds NYS DEC Alternative Guidance Value * - PID readings measured in parts per million

P. W. GROSSER
CONSULTING
ENGINEER &
HYDROGEOLOGIST, P.C.



December 4, 2001

Mr. Chris Boyle
Bradford N. Swett Management
201 East 86th Street, Suite 404
New York, New York 10028

Re: **Phase II Site Investigation**
245 East 138th Street
Bronx, New York

Dear Mr. Boyle:

P.W. Grosser Consulting Engineer & Hydrogeologist, P.C. (PWGC) has prepared the following report to document the results of the Phase II Environmental Site Assessment performed at the above referenced site on November 9, 2001.

Site Background

The subject property is located on the north side of East 138th Street -136 in Bronx, New York. The site is approximately 10,000 square feet in size and is improved with an approximately 1,100 square foot, one-story masonry building. The remainder of the site is paved with asphalt. The building is currently vacant and was recently damaged by fire. The site was formerly utilized as a Getty Service Station and automotive repair shop. A Phase I Environmental Site Assessment performed by Middleton Environmental, Inc. (MEI), indicated that five (one 4,000-gallon and four 550-gallon) underground gasoline storage tanks were formerly located east of the building and a dispenser island was formerly located to the north of the building.

In 1998, Getty retained the Tyree Organization to remove the five underground storage tanks (USTs) and the associated dispenser island. During the tank removal gasoline impacted soils were encountered while excavating the four 550-gallon tanks. Tyree contacted the New York State Department of Environmental Conservation (NYSDEC) who assigned a spill number (No. 98-04000) to the site. Tyree excavated approximately 180 tons of gasoline impacted soil from the UST and dispenser areas and disposed of the soil off site. Following the tank/soil removal Tyree collected endpoint soil samples for laboratory analysis. The Tyree report indicates that five soil samples were collected from each the dispenser island and 550-gallon UST excavations (one from each of the four sidewalls and one from the bottom of the excavation). However, Table 2, in Appendix B does not list analytical results for the bottom sample from the 550-gallon UST excavation. Tyree also collected two endpoint samples (east and west sidewalls) from the 4,000-gallon UST excavation.

630

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The endpoint samples were analyzed for volatile organic compounds (VOCs) by EPA Method 8021 (STARS List). This method is specified by the NYSDEC Spill Technology and Remediation Series (STARS) Memo #1 - Petroleum-Contaminated Soil Guidance Policy in the evaluation of petroleum spills. Analytical results were compared to the NYSDEC's Alternative Guidance Values specified in STARS guidance document to determine if additional investigation and/or remediation is warranted.

Analytical results indicate that the samples collected from the north and west sidewalls and the excavation bottom from the dispenser island area and the north sidewall of the 550-gallon UST excavation contained one or more compounds in excess of the STARS Guidance Values. In addition, bottom endpoint samples from the 550-gallon and 4,000-gallon UST excavations, as well as, the south sidewall sample from the 4,000-gallon were not collected/analyzed as required by NYSDEC regulations.

The MEI report also indicates that two groundwater monitoring wells were present on the property at the time of the Phase I site inspection. However, no additional information regarding the wells was available from either Tyree or Getty.

Former Underground Gasoline Storage Tanks

Tyree's analytical results indicate that the sample collected from the north sidewall of the 550-gallon UST excavation contained VOCs in excess of the NYSDEC Guidance Values. In addition, bottom endpoint samples from the 550-gallon and 4,000-gallon UST excavations, as well as, the south sidewall sample from the 4,000-gallon were not collected/analyzed as required by NYSDEC regulations.

In order to provide the data omitted during the tank removals, delineate the extent of any petroleum impacts, and determine if additional investigation and/or remediation is warranted, PWGC drilled five soil borings (B-1 through B-5) in the vicinity of the former USTs. Based on the location of the site and its proximity to the East River, groundwater is assumed to flow to the southwest. Borings were located as follows: one north (upgradient) of the USTs to delineate the northern extent of impacted soils beyond the north sidewall sample collected from the 550-gallon UST area; one boring from the center of each the two former tank excavations (550-gallon UST excavation and 4,000-gallon UST excavation); two downgradient (south and southwest of the two former tank excavations (550-gallon UST excavation and 4,000-gallon UST excavation). Soil boring locations are shown on Figure 1.

At each boring location soil samples were collected continuously from grade to a depth of eight feet below grade using a GeoprobeTM. Groundwater was encountered at approximately seven to eight feet below grade. The GeoprobeTM uses direct push technology to drive core samplers to the desired depth for soil sample collection. Soil samples were visually characterized by a PWGC hydrogeologist and field screened for the presence of volatile organic compounds (VOCs) using a Hnu Model 101 photoionization detector (PID).



One soil sample from each boring, based on visual evidence of contamination or elevated PID readings was submitted to Ecotest Laboratories, North Babylon, New York (NYSDOH ID #10320) for analysis. Where no visual evidence or elevated PID reading was observed, the deepest sample (above groundwater) from that boring was submitted for analysis. Non-disposable sampling equipment was cleaned using a distilled water and Alconox detergent wash and a distilled water rinse prior to the collection of each sample. Boring logs are included as Appendix A.

In addition, one groundwater sample was collected from each of the five borings for laboratory analysis. The water samples were collected using either a four foot long screen point sampler driven to a depth of four foot below the water table. A piece of disposable polyethylene tubing with a stainless steel check valve was inserted through the probe rods/well casing into the water bearing zone. The tubing was hand oscillated and one to two gallons of water were purged to reduce turbidity prior to sampling.

Soil and groundwater samples were analyzed for volatile organic compounds (VOCs) by EPA Method 8021 (STARS List), as specified by the NYSDEC Spill Technology and Remediation Series (STARS) Memo #1 - Petroleum-Contaminated Soil Guidance Policy in the evaluation of gasoline spills.

Soil analytical results were compared to the NYSDEC's Recommended Soil Cleanup Objectives (RSCOs) specified in the NYSDEC's Technical and Administrative Guidance Memorandum (TAGM) guidance document to determine if additional investigation and/or remediation is warranted. The STARS Alternative Guidance Values have been replaced by the RSCOs.

Analytical results indicate that one or more VOCs were detected in each of the five soil samples at concentrations in excess of their respective RSCO. Total VOC concentrations ranged from 3,876 ug/kg (B-1) to 90,680 ug/kg (B-3), with concentrations exceeding 10,000 ug/kg in four of the five samples. Soil analytical results are summarized on Table 1 and the laboratory reports are included in Appendix B.

Groundwater sample results were compared to the NYSDEC's Class GA Groundwater Standards. Groundwater analytical results indicated that one or more VOCs were detected in each of the five samples at concentrations in excess of their respective Standard. Total VOC concentrations ranged from 152 ug/l (B-5) to 5,447 ug/kg (B-3), with concentrations exceeding 100 ug/l each of the five samples. Groundwater analytical results are summarized on Table 2 and the laboratory reports are included in Appendix B.

Former Gasoline Dispenser Island

Endpoint samples collected by Tyree indicated the presence of elevated VOC concentrations in the soil samples collected from the north and west sidewalls, as well as, the bottom of the excavation. The lateral and vertical extent of these impacted soils has not been properly delineated.



Three soil borings (B-6 through B-8) were drilled in the vicinity (north, south and west) of the former dispenser to delineate the extent of petroleum impacted soil and to determine if additional investigation and/or remediation is warranted. Soil boring locations are shown on Figure 1.

At each boring location soil samples were collected continuously from grade to a depth of eight feet below grade using a GeoprobeTM. Groundwater was encountered at approximately seven to eight feet below grade. The GeoprobeTM uses direct push technology to drive core samplers to the desired depth for soil sample collection. This method can be performed quickly, so that in the event that refusal occurs, a new location can be accessed with minimal effort. Soil samples were visually characterized by a PWGC hydrogeologist and field screened for the presence of volatile organic compounds (VOCs) using a Hnu Model 101 photoionization detector (PID).

One soil sample from each boring, based on visual evidence of contamination or elevated PID readings was submitted to Ecotest Laboratories, North Babylon, New York (NYSDOH ID #10320) for analysis. Where no visual evidence or elevated PID reading was observed, the deepest sample (above groundwater) from that boring was submitted for analysis. Non-disposable sampling equipment was cleaned using a distilled water and Alconox detergent wash and a distilled water rinse prior to the collection of each sample. Boring logs are included as Appendix A.

In addition, one groundwater sample was collected from each of the three borings for laboratory analysis. The water samples were collected using either a four foot long screen point sampler driven to a depth of four foot below the water table. A piece of disposable polyethylene tubing with a stainless steel check valve was inserted through the probe rods/well casing into the water bearing zone. The tubing was hand oscillated and one to two gallons of water were purged to reduce turbidity prior to sampling.

Soil and groundwater samples were analyzed for volatile organic compounds (VOCs) by EPA Method 8021 (STARS List), as specified by the NYSDEC Spill Technology and Remediation Series (STARS) Memo #1 - Petroleum-Contaminated Soil Guidance Policy in the evaluation of gasoline spills.

Soil analytical results were compared to the NYSDEC's RSCOs to determine if additional investigation and/or remediation is warranted. Analytical results indicate that one or more VOC's were detected at concentrations above their respective RSCO. Total VOC concentrations ranged from 15,782 ug/kg (B-6) to 151,900 ug/kg (B-7). Soil analytical results are summarized on Table 1 and the laboratory reports are included in Appendix B.

Groundwater sample results were compared to the NYSDEC's Class GA Groundwater Standards. Groundwater analytical results indicated that one or more VOCs were detected in each of the three samples at concentrations in excess of their respective Standard. Total VOC concentrations ranged from 57 ug/l (B-8) to 2,655 ug/kg (B-7). Groundwater analytical results are summarized on Table 2 and the laboratory reports are included in Appendix B.



Groundwater Monitoring Wells

PWGC visually inspected each of the two on-site groundwater monitoring wells to determine if they were viable for sampling. The wells are constructed of 4-inch diameter PVC pipe and finished at grade with locking caps and a manhole. PWGC collected a groundwater sample from each of the monitoring wells (MW-1 and MW-2). Prior to sampling, a minimum of three casing volumes was removed from the wells using a dedicated polyethylene bailer. Purging is performed to ensure representative samples from the formation surrounding the wells are obtained and to eliminate standing water in the wells. Temperature, pH, conductivity and dissolved oxygen measurements were collected and recorded after the removal of each casing volume. Well sampling logs are included as Appendix B.

Non-disposable sampling equipment was cleaned using a distilled water and Alconox detergent wash and a distilled water rinse prior to the collection of each sample. The samples were placed in pre-cleaned laboratory supplied glassware and stored in a cooler packed with ice for transport to the laboratory. The groundwater samples were analyzed by Ecotest Laboratories for VOCs by EPA Method 8021 (STARS List).

Groundwater sample results were compared to the NYSDEC's Class GA Groundwater Standards. Analytical results indicate that methyl tertiary butyl ether (MTBE) was detected in monitoring well MW-1 (6 ug/l) and that isopropylbenzene (1 ug/l) and n-propylbenzene (4 ug/l) were detected in well MW-2, but at concentrations below their respective groundwater standards. Groundwater analytical results are summarized on Table 1 and the laboratory reports are included in Appendix C.

Conclusions and Recommendations

Soil and groundwater samples collected from the eight soil borings drilled in the vicinity of the five former gasoline USTs and former dispenser island indicate that presence of VOCs in excess of the NYSDEC RSCOs and Groundwater Standards.

Based on this data significant soil contamination remains at the site in the vicinity of the former USTs and the former dispenser island. This soil contamination continues to serve as a source of VOCs to the groundwater resulting in the degradation of groundwater quality beneath the site, as well as the possibility that a dissolved contaminant plume is migrating downgradient beyond the property boundary.

The lateral and vertical extent of soil contamination has not been fully delineated at the site. Based on the location of the site and its proximity to the East River, groundwater is assumed to flow to the southwest. Analytical results for the groundwater samples collected from the two on-site groundwater monitoring wells, MW-1 and MW-2 (located at the southeast and southwestern corners of the property) contained VOCs, but at concentrations below their respective groundwater samples. These wells appear to delineate the lateral extent of groundwater contamination (east-west). In addition, analytical results for groundwater samples collected from boring B-8 and well MW-2, located along the southern property boundary, contained low to non-detectable levels of VOCs



indicating that contaminants are not significantly migrating off-site. However, additional monitoring wells need to be installed at the site to determine the exact groundwater flow direction in order to fully delineate the extent of groundwater contamination.

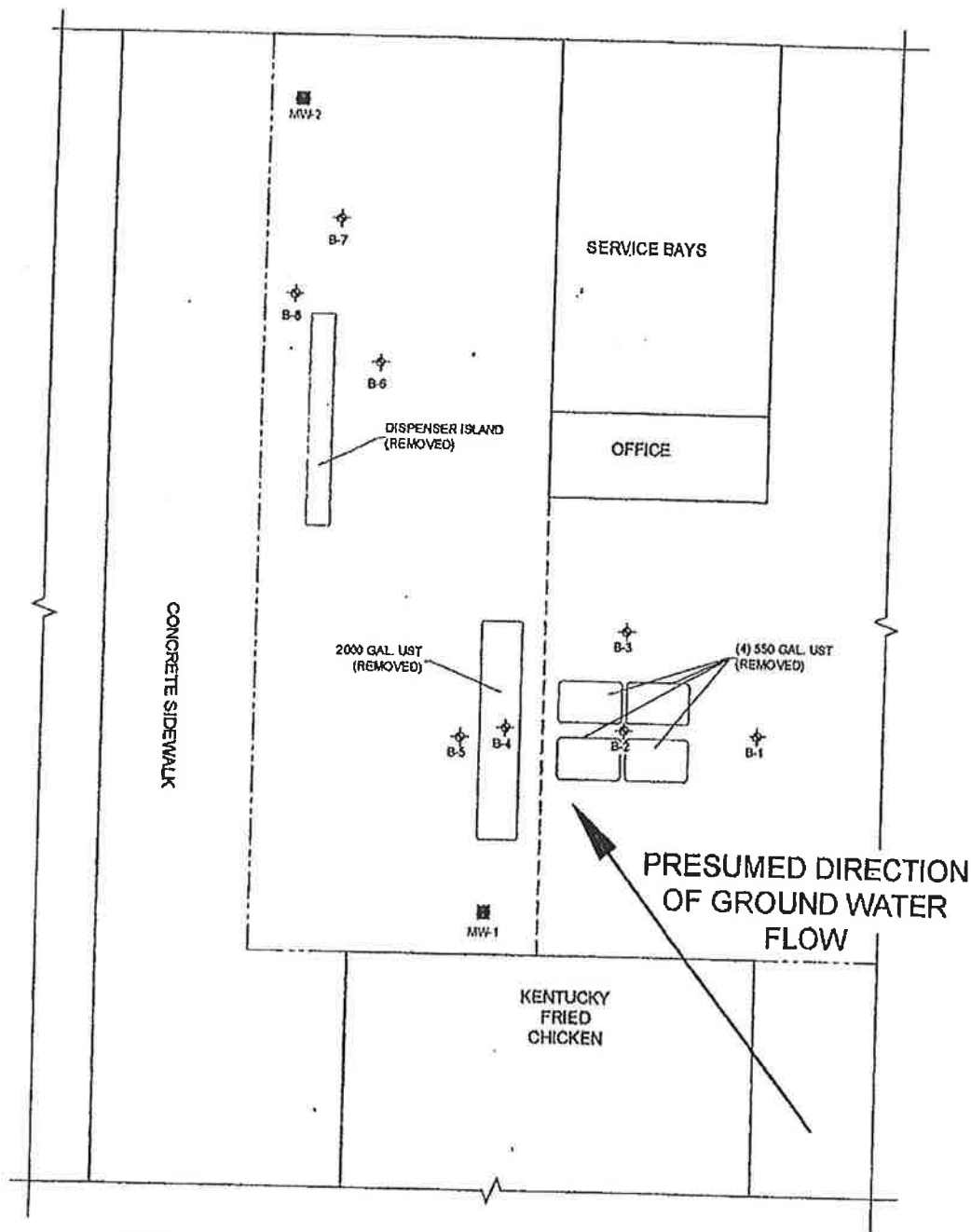
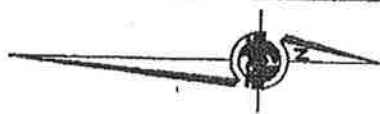
PWGC believes that Getty should maintain responsibility for the closure of the active NYSDEC spill file including the additional investigation required to satisfy the NYSDEC tank closure requirements delineate the extent of gasoline impacted soils and groundwater, and any subsequent remediation.

It may be possible for Bradford Swett Management to take ownership of the property with the provision that Getty will maintain the responsibility for the investigation/remediation at the site associated with the active spill file. However, the future usage of the property may be limited based on the location of future monitoring wells, remediation equipment. In addition, the potential for organic vapors to impact future site occupants, as well as off-site contaminant migration may result in significant cost increases and liability for the property owner.

Because soil and groundwater contamination has not been fully delineated, it is premature to develop a detailed remedial cost estimate for the property. However, based on the data collected during the Phase II ESA, the most effective remedial approach for the site would likely consist of the installation of additional monitoring wells to establish the site specific groundwater flow direction, soil excavation to remove contaminant source areas, and treatment/injection of an oxygen releasing compound (ORC) or bioremediation to address residual soil and groundwater contamination. The approximate costs complete this work would be \$30,000 to \$50,000. Remedial activities would be subject to review and approval by the NYSDEC and additional remediation and/or continued groundwater monitoring would likely be required to monitor the effectiveness of the remedial action and obtain closure of the spill file.

Very truly yours,
P.W. Grosser Consulting, Inc.

Keith W. Butler
Project Manager - Hydrogeologist



LEGEND

- ✦ B-1 BORING LOCATION
■ MW-1 MONITORING WELL LOCATION

245 E. 138th STREET
BRONX, NY
N.T.S.

**BORING LOCATION
AREA MAP**

LA-6/BSM161/P200/SIT PLAN

P.W. GROSSER CONSULTING
ENGINEER & HYDROGEOLOGIST, P.C.

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Bronx, NY 10476-3215
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Project	BS197101	Sheet No.	1
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TABLES

BRADFORD N. SWETT MANAGEMENT
FORMER GETTY SERVICE STATION
245 EAST 138TH STREET
BRONX, NEW YORK

TABLE 1
SOIL ANALYTICAL RESULTS FOR VOLATILE ORGANIC COMPOUNDS

Compound	NYSDEC (1)	B-1 UST-N (6-8)	B-2 550 Center (6-8)	B-3 550 SW (6-8)	B-4 4000 Center (6-8)	B-5 UST-S (6-8)	B-6 DI-N (6-8)	B-7 DI-W (5-7)	B-8 DI-S (6-8)
Methyl tertiary butyl ether	120	ND	ND	ND	ND	ND	67	ND	ND
Benzene	60	700	410	ND	200	140	32	ND	ND
Toluene	1,500	140	190	2,900	440	100	32	ND	ND
Ethyl benzene	5,500	67	100	2,700	320	69	210	520	ND
m + p Xylene	1,200	400	700	21,000	1,600	640	64	10,000	19,000
o Xylene	1,200	65	140	10,000	330	200	14	2,570	3,300
Isopropylbenzene	2,300	490	3,200	790	1,600	1,600	1,200	310	ND
n-Propylbenzene	3,700	1,000	7,500	2,600	5,600	4,900	4,500	11,000	7,900
1,3,5-Trimethylbenzene	3,300	ND	69	10,000	410	87	4,500	38,000	28,000
1,2,4-Trimethylbenzene	10,000	130	170	33,000	750	70	80	2,600	14,000
sec-Butylbenzene	10,000	260	1,900	760	1,300	950	710	27,000	46,000
p-Isopropyltoluene	10,000	84	530	530	170	320	73	7,200	4,400
n-Butylbenzene	10,000	280	4,200	ND	2,800	1,900	1,700	21,000	1,500
Naphthalene	13,000	260	430	6,400	1,300	350	2,600	30,000	ND
tert-Butylbenzene	10,000	ND	190	ND	53	74	ND	ND	13,000
									ND

Notes:

1 - NYSDEC Recommended Soil Cleanup Objectives (RSCOs) - TAGM 4046

ND - Not Detected

* - Guidance Value

All units are ug/kg

BRADFORD N. SWETT MANAGEMENT
FORMER GETTY SERVICE STATION
245 EAST 138TH STREET
BRONX, NEW YORK

TABLE 2
GROUNDWATER ANALYTICAL RESULTS FOR VOLATILE ORGANIC COMPOUNDS

Compound	NYSDEC (1)	MW-1 (8-12)	MW-2 (8-12)	B-1 UST-N (8-12)	B-2 550 Center (8-12)	B-3 550 SW (8-12)	B-4 4000 Center (8-12)	B-5 UST-S (8-12)	B-6 DI-N (8-12)	B-7 DI-W (8-12)	B-8 DI-S (8-12)
Methyl tertiary butyl ether	10 *	6	ND	110	160	180	ND	ND	820	110	46
Benzene	1	ND	ND	78	430	95	48	30	320	100	ND
Toluene	5	ND	ND	27	ND	640	23	ND	14	14	ND
Ethyl benzene	5	ND	ND	11	ND	250	18	ND	78	170	ND
m + p Xylene	5**	ND	ND	63	ND	1700	82	ND	25	26	ND
o Xylene	5	ND	ND	38	ND	990	21	ND	ND	ND	ND
Isopropylbenzene	5	ND	1	40	44	34	130	29	73	340	11
n-Propylbenzene	5	ND	4	50	79	65	320	65	160	920	ND
1,3,5-Trimethylbenzene	5	ND	ND	ND	ND	300	20	ND	ND	19	ND
1,2,4-Trimethylbenzene	5	ND	ND	14	ND	1100	18	ND	19	130	ND
sec-Butylbenzene	5	ND	ND	25	22	9	41	11	12	110	ND
p-Isopropyltoluene	5	ND	ND	ND	ND	37	16	ND	ND	16	ND
n-Butylbenzene	5	ND	ND	44	42	24	67	17	22	200	ND
Naphthalene	10 *	ND	ND	21	24	23	65	ND	ND	500	ND
tert-butylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1 - NYSDEC Class GA Groundwater Standards and Guidance Values, 6/98.

ND - Not Detected

* - Guidance Value

** - Standard applies to each individual isomer.

All units are ug/L

FIGURES

P. W. GROSSER

CONSULTING, INC



P. W. GROSSER

CONSULTING

ENGINEER &

HYDROGEOLOGIST, P.C.

March 14, 2002

Mr. Jeff Vought
1 Hunter's Point Plaza
47-40 21st Street
Long Island City, NY 11101

630

JOHNSON

AVENUE

SUITE 7

Re: **Proposed Remedial Action**
Spill No. 98-04000
245 East 138th Street
Bronx, New York

BOHEMIA

Dear Mr. Vought:

NEW YORK

11716-2618

PHONE:

631-589-6353

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VISIT US AT:

www.pwgrosser.com

P.W. Grosser Consulting Inc. (PWGC) on behalf of Bradford N. Swett Management, L.L.C. has prepared the following plan to address the gasoline - affected soil at the above referenced site and, by doing so, satisfy DEC's concerns and achieve closure of the spill file.

Site Background and Release Mitigation

The site is a former Getty Service Station which was assigned a spill number in 1998 when gasoline- impacted soils were encountered during the excavation of four 550-gallon underground storage tanks (USTs). The suspected sources of the release (USTs, dispensers) were effectively removed during this procedure and there are no known or documented sources presently existing on the site.

Approximately 180 tons of gasoline impacted soil were removed from the UST and dispenser areas and disposed of off-site during the tank removal process by Getty.

On November 9, 2001, PWGC performed a Phase II environmental investigation at the site on behalf of the potential buyer of the property; Bradford N. Swett Management, L.L.C.. Soil and groundwater samples collected from the eight soil borings drilled in the vicinity of the former gasoline USTs and former dispenser island, indicated the presence of VOCs in excess of NYSDEC soil guidance (TAGM) and ambient water quality standards (AWQS).

Summary of Nature and Extent of Contamination

The results of the phase II investigation performed by PWGC indicate that there is moderate (5-25 ppm) to high (>25 ppm) VOC impact to soils and low (<0.25 ppm) to moderate (0.25-3 ppm) VOC impact to groundwater at the site.



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VOC concentrations in soil were greatest in the vicinity of the dispenser island (B7, B8) and just west of the UST grave, suggesting that minimal excavation was performed in these areas. VOCs in groundwater were highest in the UST area, indicating that this was the primary source of groundwater impact at the site. Both soils and groundwater were generally enriched in xylenes and trimethylbenzenes and deficient in MTBE and benzene, providing evidence that the source fuel has been in the ground for some time.

The lateral and vertical extent of soil contamination has not been fully delineated at the site, though it is clear that excavation within the two source areas failed to remove all of the impacted soil and that a significant quantity remains in both areas.

Based on the location of the site and its proximity to the East River, groundwater is assumed to flow to the southwest. Analytical results of groundwater samples collected from the two on-site groundwater monitoring wells, MW-1 and MW-2 (located at the southeast and southwestern corners of the property) did not contain VOCs above standards. These wells appear to delineate the lateral extent of east-west groundwater contamination. Analytical results from groundwater samples collected from boring B-8, located along the southern property boundary, contained low to non-detectable levels of VOCs, suggesting that there is limited impact to groundwater downgradient of the source areas. However, additional monitoring wells are needed at the site to refine the groundwater flow direction and to better delineate the extent of groundwater contamination.

Refer to the Phase II investigation report (PWGC, 12/4/02) for a detailed description of VOC distribution in soil and groundwater at the site.

Remedial Approach

As discussed above, contamination at the site consists primarily of moderate to high VOCs (predominantly xylenes, TMB) in source area soils with moderate to low VOC (xylenes, TMB) concentrations present in source area and perimeter groundwater locations respectively.

There is evidence which suggests that plume development and migration have stabilized at the site, and a state of equilibrium exists between the addition of new mass and natural attenuation processes. With current equilibrium conditions resulting in a stable plume, a reduction or suspension in the addition of new mass would allow attenuation processes to prevail and groundwater quality to improve rapidly. The remedial approach will therefore be to remove the residual material which remains in the source areas, and apply Oxygen Release Compound (ORC®) directly to the excavation to expedite remediation of the groundwater.

Procedure

Residually impacted soils will be excavated from the two identified source areas to the extent practical, and loaded into lined roll-off containers for off-site disposal by a licensed waste transport and disposal company. Since the extent of residual soil impact has not been completely defined, an attempt will be made to delineate as the excavation proceeds. This will be performed by a PWGC hydrogeologist or field engineer using hand held instrumentation (PID) and best judgement in



evaluating physical evidence of contamination (staining, odors, sheen, etc.). Confirmatory endpoint samples will be collected from each excavation to establish the effectiveness of the removal process. ORC will be then be applied to the excavation in quantities appropriate for the size of the excavation and the degree of residual contamination remaining.

DEC will be notified a minimum of 1 week prior to initiating removal activities to allow adequate time for the department to schedule an on-site observer.

The excavation procedure will be as follows:

- Remove surface cover (asphalt, concrete, etc.) using a rubber-tired backhoe or track mounted excavator and begin excavation of soil.
- Remove "clean soil" to a depth of approximately 2 feet above the surface of the water table or until impacted material is encountered (PID, physical evidence), whichever comes first, and stock pile separately.
- Begin removal of impacted soils into lined roll-off containers. An effort will be made to delineate and remove impacted soils vertically and horizontally until visibly clean material is encountered and monitoring instruments indicate that no VOC contaminants are present.
- Once the PWGC representative and regulatory observer are satisfied with the removal effort, endpoint or confirmatory samples will be collected from the excavation. The number and location of samples will be determined using best judgment in the field and made in concurrence with on-site DEC personnel, if present.
- A sample from near-surface may be obtained using a decontaminated stainless steel hand auger, shovel or scoop. A soil sample from the base of the excavation should be retrieved using the bucket of the backhoe. A decontaminated shovel or scoop will then be used to collect a sample of the soil from the bucket and to separate it into appropriate containers. Personnel shall not enter an excavation if it is more than 4 feet deep.
- After completing the removal of impacted soils to the extent practical, ORC will be applied to the bottom of the excavation either as a slurry or in it's powdered (unmixed) form. The amount of ORC applied will depend on the size of the excavation and the degree of contamination remaining, but is expected to be in the range of 200 to 300 lbs. per excavation. The amount of ORC to be applied will be based on software supplied by the manufacturer (see attached example).
- Following ORC application, the deeper portion of the excavation will be backfilled using clean fill material. The remainder of the excavation will be backfilled using the clean soil removed from the upper portion of the excavation and stockpiled separately on-site.



Monitoring Program

The groundwater monitoring program will include water level readings and sampling of the on-site monitoring network. Two additional wells are to be installed as shown in Figure 1 to supplement the existing wells and provide better coverage of the property line immediately downgradient of the two source areas. The final location of these wells will be determined after the source removal is complete, and will be made in concurrence with the DEC case manager. After the new wells are installed, a survey will be performed to locate the wells horizontally to the nearest 0.1 ft. and determine the relative casing elevation to the nearest 0.01 ft.

Samples collected from the monitoring wells will be submitted for laboratory analysis of BTEX and MTBE according to EPA Method 602. It is anticipated that a single sampling event will be sufficient to confirm the limited degree of groundwater impact present, however a second event may be scheduled, if required.

Reporting

Following receipt of the laboratory analysis results, a report will be generated which will summarize all analytical and field data collected during the source removal activities, and provide an assessment of current conditions. The report will include summary data tables, a scaled site map showing the location of site monitoring wells, excavated areas and significant site features, a groundwater contour map and recommendations for additional work or site closure, if warranted.


Time Schedule

The following time schedule has been developed to implement the remedial action in the shortest practical period:

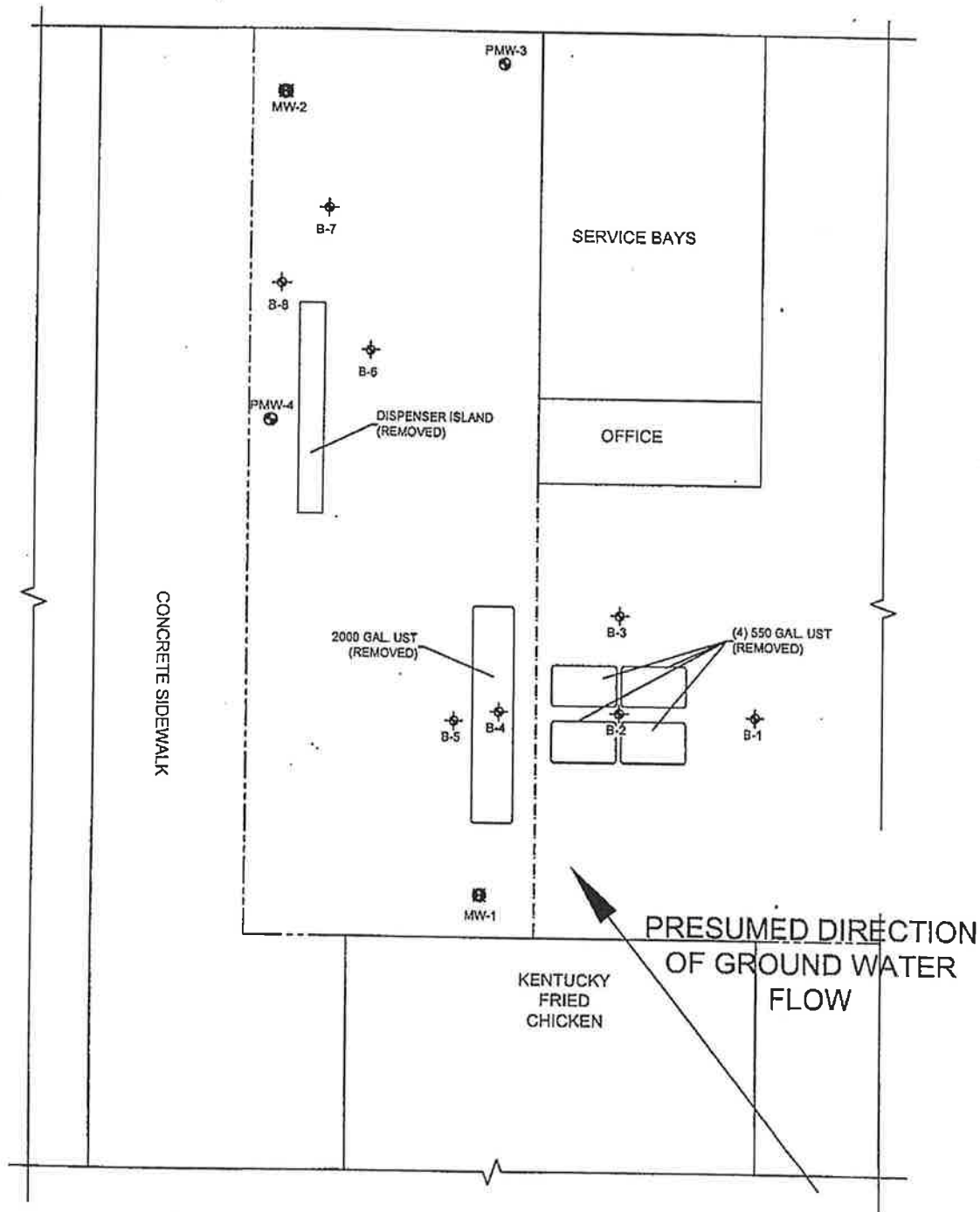
- ① Schedule source area excavation within 4 weeks of DEC approval.
- ② Install supplemental monitoring wells within 1 week of completing excavation activities.
- ③ Sample site monitoring wells within 2 weeks following supplemental well installation.
- ④ Submit summary report within 3 weeks of receiving the laboratory analysis results.

Initiating the work is contingent upon completing the transfer of ownership of the property, in addition to your approval of this plan. If you require additional information or have any questions or comments on the proposed remedial plan, please contact me.

Very truly yours,
P.W. Grosser Consulting, Inc.


Charles B. Sosik, P.G.
Senior Hydrogeologist

Cc: C. Boyle, BSM



LEGEND

- ✦ B-1 BORING LOCATION
- MW-1 EXISTING MONITORING WELL LOCATION
- PMW-4 PROPOSED MONITORING WELL LOCATION

245 E. 138th STREET
BRONX, NY
N.Y.S.

SITE MAP

Project	BSM0101	Page No.	1
Client	AS		
Design	PWGC		
Date	DLM	Date	2/19/02

LA-D/BSM0101/CDD/S/STEPHAN

P.W. GROSSER CONSULTING
ENGINEER & HYDROGEOLOGIST, P.C.

638 Johnson Ave. Suite 7
Babylon, N.Y. 11718-2818
Ph 516-661-1111 Fax 516-661-1112
E-mail: www.pwgrosser.com





ORC Design Software for Excavation Applications

Regenesis Technical Support: USA (949) 366-8000, www.regenesis.com

US Version 3.0

Site Name: Former Getty S/S, Spill # 98-04000

Location: 245 E. 138th Street

Consultant: Bronx, NY

Site Conceptual Model/Extent of Plume Requiring Remediation

Planned Excavation:

GW Plume:

Width of planned excavation	30 ft	
Length of planned excavation	30 ft	= 900 sq. ft.
Thickness of saturated zone to be excavated	5 ft	= 4,500 cu. ft.
Width of plume area containing contaminant	20 ft	
Length of plume area containing contaminant	50 ft	= 1,000 sq. ft.
Thickness of contaminated saturated zone	8 ft	= 8,000 cu. ft.
Total porosity	0.25	
Plume pore volume	2,000 ft ³	= 14,962 gallons

Dissolved Phase Oxygen Demand (Based on GW Plume Dimensions)

Individual species that represent oxygen demand

Benzene
Toluene
Ethylbenzene
Xylenes
MTBE
User added, also add stoichiometric demand
User added, also add stoichiometric demand

Measures of total oxygen demand

Total Petroleum Hydrocarbons
Biological Oxygen Demand (BOD)
Chemical Oxygen Demand (COD)

Contaminant	Conc. (mg/L)	Mass (lb)	Stoich. (wt/wt) O ₂ /contamin.	ORC (lb) (10% O ₂)
Benzene	0.05	0.0	3.1	0
Toluene	1.50	0.2	3.1	6
Ethylbenzene	1.50	0.2	3.2	6
Xylenes	2.00	0.2	3.2	8
MTBE	0.05	0.0	2.7	0
User added	0.00	0.0	0.0	0
User added	0.00	0.0	0.0	0
Total Petroleum Hydrocarbons	10.00	1.2	3.1	39
Biological Oxygen Demand (BOD)	30.00	3.7	1	37
Chemical Oxygen Demand (COD)	60.00	7.5	1	75

Estimates for Sorbed Phase Oxygen Demand:

Soil bulk density
Fraction of organic carbon: foc
(Estimated using Soil Conc=foc*Koc*Cgw)
(Adjust Koc or foc as necessary to provide a realistic estimate)

Individual species that represent oxygen demand

Benzene
Toluene
Ethylbenzene
Xylenes
MTBE
User added, also add stoichiometric demand
User added, also add stoichiometric demand

Measures of total oxygen demand

Total Petroleum Hydrocarbons
Biological Oxygen Demand (BOD):
Chemical Oxygen Demand (COD):

Koc (L/kg)	Contaminant Conc (mg/kg)	Mass (lb)	Stoich. O ₂ /contam.	ORC (lb) (10% O ₂)
83	0.02	0.0	3.1	0
135	1.01	0.4	3.1	12
95	0.71	0.3	3.2	9
240	2.40	0.9	3.2	30
12	0.00	0.0	2.7	0
0	0.00	0.0	0.0	0
0	0.00	0.0	0.0	0
178	8.90	3.4	3.1	106
Use a multiple of dissolved phase ->	1.00	3.7	1	37
Use a multiple of dissolved phase ->	1.00	7.5	1	75

Summary of Estimated ORC Requirements

Individual Species: Total BTEX, MTBE
Total Petroleum Hydrocarbons
Biological Oxygen Demand (BOD)
Chemical Oxygen Demand (COD)

ORC for Dissolved Phase (lbs)	ORC for Sorbed Phase (lbs)	Add Dem Factor (1 to 10x)	ORC Total w/ Add Dem Factor	ORC Cost at \$ 10.00
20	51	5	354	\$ 3,539
39	106	2	290	\$ 2,895
37	37	2	150	\$ 1,497
75	75	1	150	\$ 1,497

Select above measure (button) to specify required ORC quantity (in 30 lb increments) →

360 pounds ORC

Slurry Mixing Volume

Design solids content for spraying into excav. (20-40% by wt.)
Total water for mixing slurry (gal)

30%
101 gallons

Project Summary

ORC bulk material for slurry injection (lbs)	360
Number of 30 lb ORC buckets	12.0
ORC bulk material cost	\$ 11.00
Cost for bulk ORC material	\$ 3,960
Shipping and Tax Estimates	
Sales Tax Rate/Cost	0% \$ -
Total Matl. Cost	\$ 3,960
Shipping (call for amount)	\$ -
Total Regenesis Material Cost	\$ 3,960

Other Project Cost Estimates

Design	\$ -
Permitting and reporting	\$ -
Excavation contractors	\$ -
Construction management	\$ -
Laboratory costs	\$ -
Groundwater monitoring	\$ -
Other	\$ -
Other	\$ -
Total Project Cost	\$ 3,960

New York State Department of Environmental Conservation
Division of Environmental Remediation,
Bureau of Spills Management, Region 2
47-40 21st Street, Long Island City, NY 11101
Phone: (718) 482-6364 FAX: (718) 482-4098



April 15, 2002

Mr. Chris Boyle
Bradford N. Swett Management, LLC
210 East 86th Street
Suite 404
New York, NY 10028
Fax: (212) 249-0029

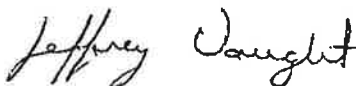
Spill#: 9804000
Re: 245 East 138th Street, Bronx

Dear Mr. Boyle:

The New York State Department of Environmental Conservation has received the Proposed Remedial Action Plan for the above referenced site dated March 14, 2002. The Department approves the plan and requires notification of when work will begin.

If there are any questions concerning this issue, please call me at (718) 482-6364.

Sincerely,


Jeffrey Vought
Engineering Geologist I

**New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 2**

47-40 21st Street, Long Island City, NY 11101
Phone: (718) 482-4679 FAX: (718) 482-6358
Website: www.dec.state.ny.us



Denise M. Sheehan
Commissioner

November 3, 2006

Mr. Kevin Shea
Getty Properties Corp.
125 Jericho Turnpike
Jericho, NY 11753

Re: Spill #:98-04000
Getty S/S #111
East 138th Street, Bronx, NY

Dear Mr. Shea:

Based on the submitted documentation provided to date, no further investigation or response will be required concerning this site, with regard to the spill number referenced above. The NYSDEC spill case # **98-04000** has been inactivated. All monitoring wells associated with the spill investigation must be decommissioned as outlined in the Department's Groundwater Monitoring Well Decommissioning Procedures.

Notwithstanding this approval, the Department hereby reserves all of its rights concerning, and such forbearance shall not extend to, any further investigation or remedial action the Department deems necessary due to:

- I. The off-site migration of petroleum contaminants that was not addressed by this evaluation.
- II. Environmental conditions related to the Site which were unknown to the Department at the time of this approval.
- III. Information received, in whole or part, after the Department's approval for inactivation, which indicates that inactivation decision and/or corrective action is not sufficiently protective of human health for the reasonably anticipated use of the site.
- IV. Fraud in obtaining this approval for inactivation.

Please be advised that you should maintain a permanent file of all documentation and correspondence regarding this case for future property transactions, refinancing, etc. The Department's files regarding this release may not be maintained indefinitely. If there are any questions concerning this issue, please call me at (718) 482-4679.

Sincerely,

Joe Sun, Ph.D., P.E.
Project Manager/Unit Supervisor
Environmental Engineer 2
NYSDEC Region 2

cc: Paul Lindell (Delta Environmental)



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CLEVELAND
OHIO

TANK AND SPILL CLOSURE REPORT

2551 3rd Avenue
Bronx, New York
LCS File #07N1364.26
NYSDEC Spill #07-03567

Prepared for:

Mr. Bradford Barr
Bradford N. Swett Management, LLC
1536 3rd Avenue, 3rd Floor
New York, New York 10028

Prepared by:

LCS, Inc.
Mr. Bryan Mayback
P.O. Box 406
Buffalo, New York 14205

August 31, 2007

INTRODUCTION

Based on information provided within the February 2007 AKRF, Inc. (AKRF) Phase I Environmental Assessment, the above-referenced subject property was historically used as a gasoline station and included a machine shop operation. Historic Sanborn maps identified ten 550-gallon gasoline underground storage tanks (USTs) on-site from at least 1935 through at least 1946. The location of these USTs was not identified on the historic Sanborn maps. In addition, documentation associated with the removal, closure, etc. of these USTs was apparently not available, according to the AKRF study.

At the request of the client, the purpose of LCS' work was to identify and remove the USTs associated with the former gasoline station. Initially, LCS contracted NAEVA Geophysics, Inc. (NAEVA) to complete a geophysical survey on-site; this survey was completed by NAEVA on June 6, 2007. The geophysical survey identified one suspect UST area (anomaly #1). The excavation initiated in this area.

In the end, LCS supervised the removal of 11 USTs by Brookside Environmental, Inc. (Brookside); such were removed in accordance with 6 NYCRR Part 613.9 (b) *Closure of Petroleum Bulk Storage tanks permanently out-of-service*.

This report summarizes the work performed.

PROPERTY DESCRIPTION

The subject property is located at 2551 3rd Avenue, Bronx, New York. The property measures approximately 0.2 acres and is developed with a one-story commercial structure. This structure is currently unoccupied but was historically utilized by Kentucky Fried Chicken as a restaurant. A site location map is presented as Figure 1 in Appendix A. A site investigation map showing the work areas is presented as Figure 2 in Appendix A.

WORK DESCRIPTION

UST Discovery, Removal and Excavation

The asphalt and underlying soils were excavated in the area of Anomaly #1 using a track-mounted backhoe. In all, 11 550-gallon USTs were discovered on-site; three of these USTs apparently contained waste oil while the remaining eight USTs apparently contained gasoline. The contents of each UST were displaced using a vacuum truck and transported off-site for proper disposal. A total of approximately 5,180-gallons of petroleum/water was removed from the on-site USTs. The USTs and all accessible ancillary piping were then removed and cleaned (including sludge removal) by Brookside prior to off-site disposal at a metal recycling. Refer to Appendix C for all disposal documentation.

The top approximately four feet of soil over the excavation area was visually "clean" and did not exhibit elevated photoionization detector (PID) measurements. This soil was staged on-site for reuse. Based on LCS' observations, five of the 11 USTs had less than one-inch diameter holes on the bottom and side walls. The soils proximate to these USTs exhibited petroleum-type odors as well as elevated PID measurements. The impacted soil was removed from the excavation and staged on and covered with polyethylene for future removal to a local solid waste disposal facility. It should be noted that ash fill material was encountered on-site in the excavation. Approximately 204.63 tons of contaminated soil were removed from the excavation. The final excavation measured approximately

60 feet by 30 feet. The depth of the excavation ranged from 12 to 16 feet below ground surface (ft. bgs). The northern portion of the excavation was limited due to the close proximity to the subject structure (refer to Figure 2-Site Investigation Plan). No groundwater was encountered during completion of the work.

Due to the presence of the aforementioned impacted soils, as required by law, the New York State Department of Environmental Conservation (NYSDEC) was contacted and spill number 07-03567 was assigned to the site. Mr. Hiralkumar Patel from NYSDC Region 2 is the spill engineer assigned to the spill.

Waste Soil Characterization

In order to obtain approval for disposal of the impacted soils at a local solid waste disposal facility, Brookside collected a composite soil sample from the stockpile of impacted soil and submitted it to a New York State Department of Health (NYSDOH) approved laboratory for analysis. The analysis for soil characterization was based on the requirements of the disposal facility. The complete analytical report is located in Appendix B. Based on the laboratory results, the soils met the requirements of the landfill.

Confirmatory Sampling

Following removal of impacted soils or when the excavation was limited by underground utilities or structural components of the on-site structure, confirmatory soil samples were collected from the sidewalls and bottom of the excavation. The samples were placed directly into laboratory-supplied sample containers and submitted to a NYSDOH-approved laboratory for testing. Confirmatory soil samples from the excavation were analyzed in accordance with United States Environmental Protection Agency (USEPA) SW-846 Methods 8260 Spill Technology and Remediation Series (STARS) list plus 10 tentatively identified compounds (TICs) for VOCs and 8270 STARS list + 20 TICs for SVOCs. Please see Appendix B for the analytical results.

Backfilling Excavations

The excavation was backfilled with "clean" excavated soil, clean imported fill and compacted. No surface restoration (i.e., asphalt or concrete replacement) was completed.

Analytical Results

The confirmatory soil samples collected and analyzed detected the following analytes. The respective concentrations as well as applicable regulatory guidance values are also listed for comparison. Analytes not detected are not shown. The entire analytical report is located in Appendix B.

Conclusions

UST Discovery, Removal and Excavation

As previously indicated, due to the presence of the aforementioned impacted soils, as required by law, the NYSDEC was contacted and spill number 07-03567 was assigned to the site. Mr. Hiralkumar Patel from NYSDEC Region 2 is the spill engineer assigned to the spill.

Eleven 550-gallon USTs and ancillary piping were removed from the above-referenced property. The tanks and associated ancillary piping were cleaned and disposed of off-site by Brookside Environmental, Inc.

Based on the analytical result of this investigation, no VOC analytes were detected at concentrations above the laboratory's method detection limit. Some elevated SVOCs were detected within the collected/analyzed soil samples from the East Wall, West Wall and North Wall #2. One SVOC analyte (benzo(a)pyrene) was detected at an elevated concentration within the soil samples collected from Bottom #2, South Wall #1 and South Wall #2. These elevated SVOC analytes are likely due to ash fill encountered on-site and not representative of impact from the former USTs (LCS would expect more VOCs associated with gasoline USTs and only SVOCs were identified). This information was forwarded to Mr. Hiralkumar Patel, the NYSDEC spill engineer assigned to the spill. In response to this information, Mr. Patel indicated via email that no further work (i.e., excavation) would be required (This email is located in Appendix D).

RECOMMENDATIONS

A copy of this report should be provided to the NYSDEC for their review and spill closure. Based on the work completed and the response from the NYSDEC spill engineer, no further remediation appears warranted at this time. However, as with any property, if any intrusive work (i.e., site redevelopment or utility work encounters any impacted soils, they should be handled properly.

This report should be maintained for future reference and use. If you should have any questions, please call our office.

Respectfully submitted,



Bryan Mayback
Senior Environmental Technician



Robert J. Szustakowski
Chief Operating Officer

APPENDIX A

[Send To Printer](#)

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USGS Bronx, New York, United States 01 Jul 1992

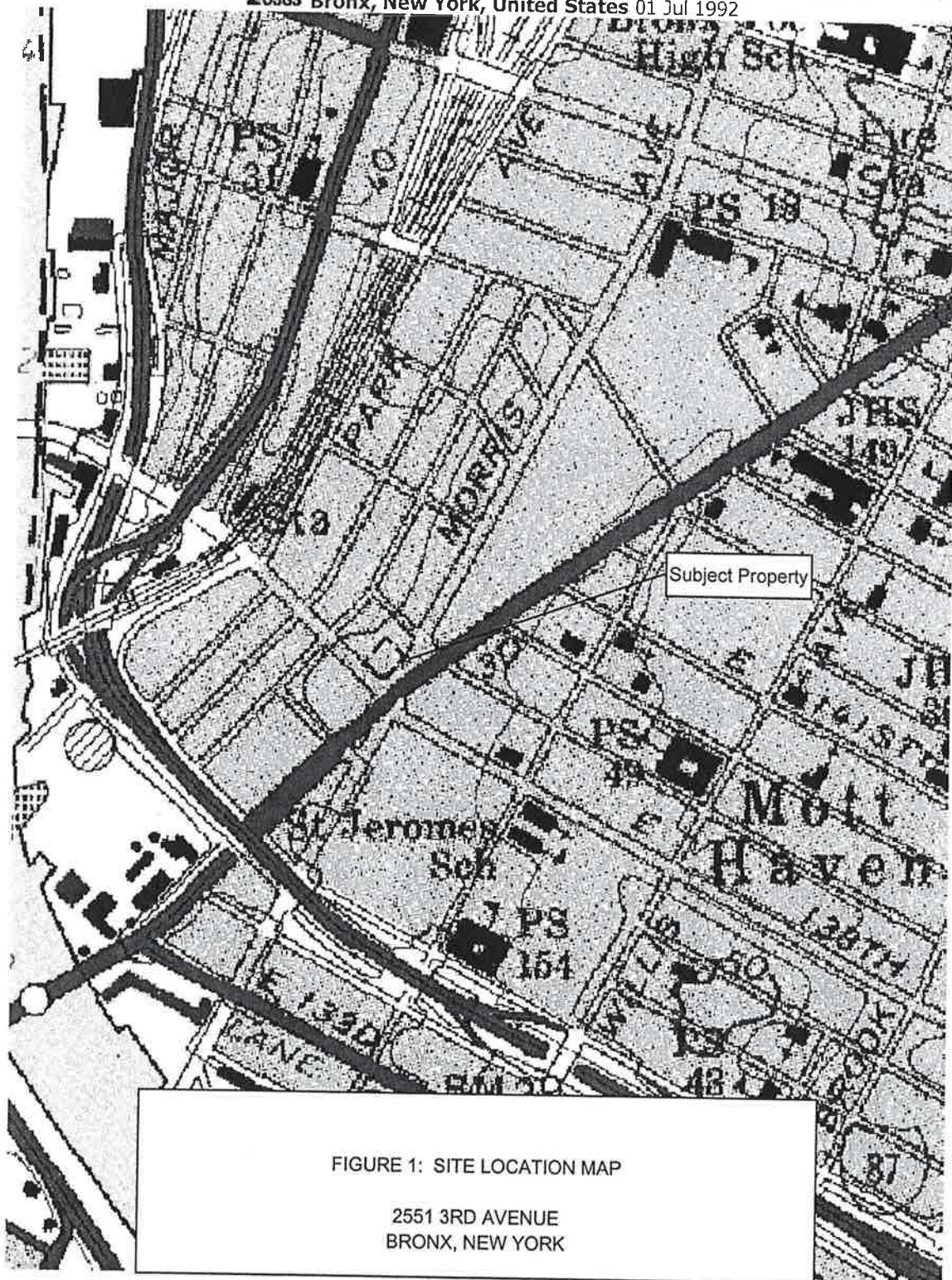


Image courtesy of the U.S. Geological Survey
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VOCs by Method 8260 STARS List + 10 TICs

Sample ID	North Wall #1	North Wall 2	South Wall #1	South Wall 2	West Wall	East Wall	Bottom #1	Bottom #2	TAGM Recommended Soil Cleanup Objectives
Date Sampled	6/29/07	7/3/07	6/29/07	7/3/07	7/3/07	6/29/07	6/29/07	7/3/07	ug/kg
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
TICs	41 J, B	37 J, B	38 J, B	42 J, B	43 J, B	37 J, B	37 J, B	39 J, B	10,000*

SVOCs by Method 8270 TCL

Sample ID	North Wall #1	North Wall #2	South Wall #1	South Wall #2	West Wall	East Wall	Bottom #1	Bottom #2	TAGM Recommended Soil Cleanup Objectives
Date Sampled	6/29/07	7/3/07	6/29/07	7/3/07	7/3/07	6/29/07	6/29/07	7/3/07	ug/kg
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
naphthalene	<67	89	<67	<67	<67	<67	<67	<67	13,000
acenaphthylene	<67	162	<67	<67	<67	99	<67	<67	41,000
fluorene	<67	183	<67	<67	<67	328	<67	<67	NL
phenanthrene	<67	142	<67	<67	<67	352	<67	<67	50,000
anthracene	<67	2,530	327	203	465	3,550	<67	154	50,000
fluoranthene	<67	503	<67	<67	95	589	<67	234	50,000
pyrene	<67	4,120	424	297	777	4,510	<67	254	50,000
benzo(a)anthracene	<67	6,060	390	284	825	3,810	<67	125	224 or MDL
chrysene	<67	2,170	193	149	433	1,850	<67	124	400
benzo(b)fluoranthene	<67	3,650	210	173	420	1,590	<67	124	220 or MDL
benzo(k)fluoranthene	<67	921	<67	85	574	1,920	<67	<67	220 or MDL
benzo(a)pyrene	<67	2,270	182	151	426	1,550	<67	114	61 or MDL
indeno (1,2,3-cd) pyrene	<67	775	108	<67	161	750	<67	<67	3,200
dibenz(a,h)anthracene	<67	332	<67	<67	313	628	<67	97	14 or MDL
benz(g,h,i)perylene	<67	685	158	112	193	628	<67	2,860	50,000
TICs	1,480	9,160	1,640	2,850	1,040	4,820	1,250	2,860	500,000**

ug/kg = micrograms per kilogram

NL = Not Listed

MDL = Method Detection Limit

J = Indicates an estimated value

B = This analyte was also detected within the laboratory's method blank and may be the result of laboratory contamination
TAGM Recommended Soil Cleanup Objectives = Division Technical and Administrative Guidance Memorandum No. 4046,
(TAGM); Determination of Soil Cleanup Objectives and Cleanup Levels and addendum (August, 2001).

* = As per TAGM 4046 individual and sum of VOCs not listed. Tentatively Identified Compounds (TICs) must be <or = 10,000,000 ug/kg

** = Total Semi-VOCs <500,000ppb, and Individual Semi-VOCs <50,000ppb

*** = Analyte that is detected above the TAGM Recommended Soil Cleanup Objective.

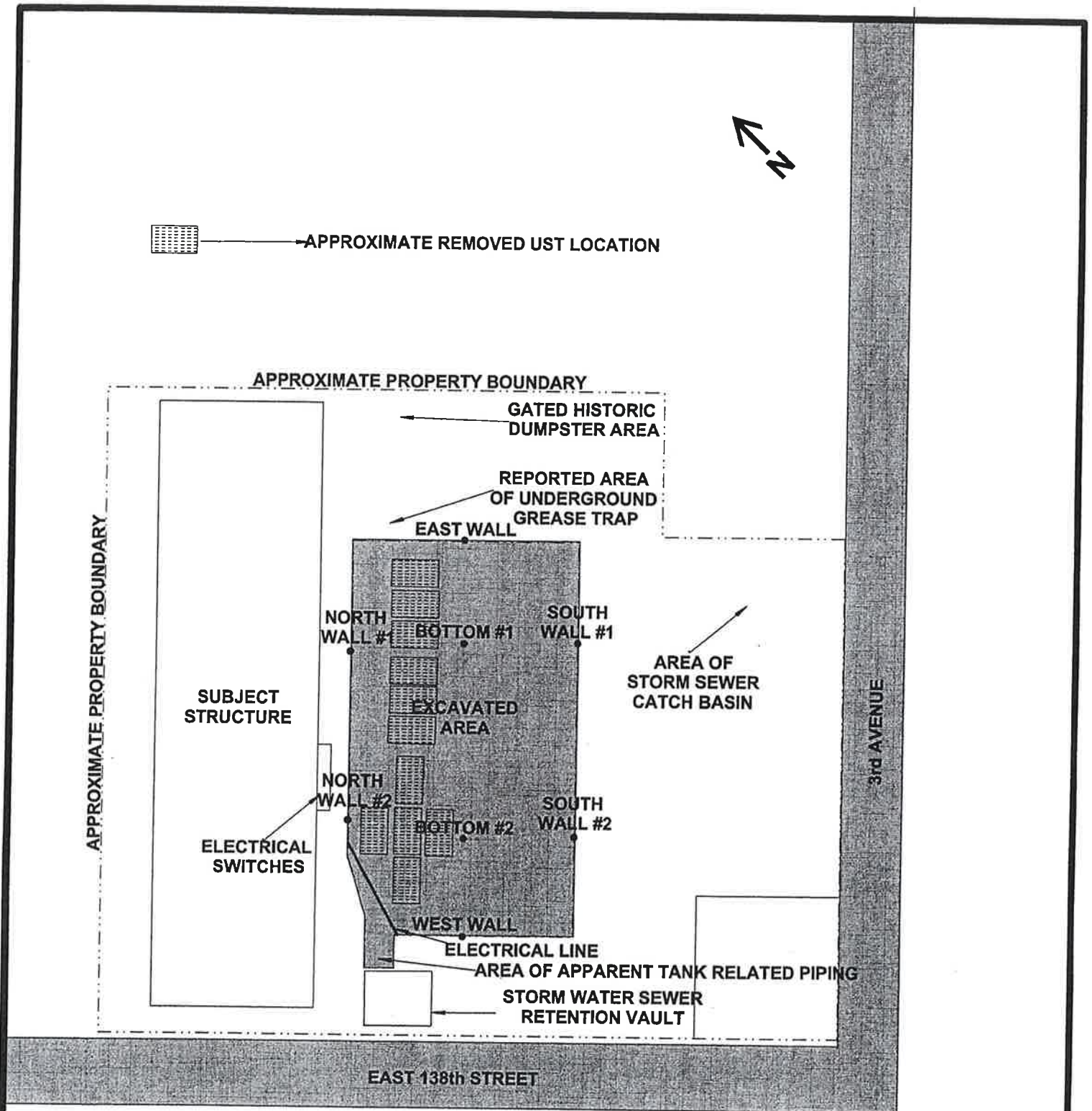


FIGURE 2 - SITE INVESTIGATION PLAN

**2551 3rd AVENUE
BRONX, NEW YORK**

LCS INC.

Drawn by: DPS/BWM

Checked by: DBR

0 20 30
Approximate Scale in Feet

LCS Project #07N1364.26

**New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 2
Spill Prevention and Response Programs**

47-40 21ST Street, Long Island City, NY 11101-5407

Phone: (718) 482-7366 • FAX: (718) 482-4098 • Website: www.dec.state.ny.us



Alexander B. Grannis
Commissioner

May 16, 2008

Bradford S. Barr
Bradford N Swett Management LLC.
1536 3rd Avenue, 3rd Floor
New York, NY 10028

**Re.: Spill at 2551 3rd Avenue
Bronx, NY
Spill Case #: 0703567**

Project Manager: Hiralkumar Patel

Dear Mr. Barr,

Based on the submitted documentation provided to date, no further investigation or response will be required concerning this site, with regard to the spill number referenced above. The New York State DEC spill case **0703567** has been inactivated.

The Department hereby reserves all of its rights concerning, and such forbearance shall not extend to, any further investigation or remedial action the Department deems necessary due to:

- I. The off-site migration of petroleum contaminants that was not addressed by this evaluation.
- II. Environmental conditions related to the Site which were unknown to the Department at the time of this approval.
- III. Information received, in whole or part, after the Department's approval for inactivation, which indicates that inactivation decision and/or corrective action is not sufficiently protective of human health for the reasonably anticipated use of the site.
- IV. Fraud in obtaining this approval for inactivation.

Please be advised that you should maintain a permanent file of all documentation and correspondence regarding this case for future property transactions, refinancing, etc. The Department's files regarding this release may not be maintained indefinitely.

Sincerely,

Hiralkumar Patel
Environmental Engineer 1
Spill Prevention & Response Programs

cc: Doug Reid, LCS

**PHASE II
SITE INVESTIGATION REPORT**

**2551 3rd Avenue and 245 East 138th Street
Block 2333, Lots 1 and 6
Bronx, New York**

January 20, 2011

Prepared for

**East 138th Street LLC
334-336 East 110th Street
New York, New York 10029**

PHASE II SITE INVESTIGATION REPORT

**2551 3rd Avenue and 245 East 138th Street
Block 2333, Lots 1 and 6
Bronx, New York**

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FIGURES

Figure 1 – Site Location Map

Figure 2 – Tax Map

Figure 3 – Sample Location Map

Figure 4 – Benzene in Groundwater Isopleth Map

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PHASE II SITE INVESTIGATION REPORT

**2551 3rd Avenue and 245 East 138th Street
Block 2333, Lots 1 and 6
Bronx, New York**

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PHASE II SITE INVESTIGATION REPORT

**2551 3rd Avenue and 245 East 138th Street
Block 2333, Lots 1 and 6
Bronx, New York**

January 20, 2011

1.0 INTRODUCTION

Brinkerhoff Environmental Services, Inc. (Brinkerhoff) completed a Phase I Environmental Site Assessment (ESA) for two (2) parcels identified as 2551 3rd Avenue and 245 East 138th Street, Block 2333, Lots 1 and 6, in the Bronx, New York. The locations of the sites are shown on Figure 1 – Site Location Map and Figure 2 – Tax Map. The following recognized environmental concerns (RECs) were identified during completion of the Phase I ESA.

2551 3rd Avenue

- According to Sanborn® Fire Insurance Maps (Sanborns), the subject property was formerly developed as a gasoline service station with 11 550-gallon gasoline underground storage tanks (USTs). A Tank and Spill Closure Report (Closure Report) prepared for the owner at the time stated that 11 550-gallon USTs were removed from the subject site. Five (5) of the USTs were discovered to be leaking, and a New York State Department of Environmental Conservation (NYSDEC) Spill Number was assigned. Contaminated soil was removed from beneath the USTs and soil samples were collected. The Closure Report states the soil samples did not show elevated levels of volatile organic compounds (VOCs), but semivolatile organic compounds (SVOCs) were detected. No groundwater sampling and analysis had been completed if the underlying aquifer had been impacted by the leaking tanks.

245 East 138th Street

- According to said Sanborns, the subject property was formerly developed with a gasoline service station with four (4) 550-gallon gasoline USTs. According to the Environmental Data Resources, Inc. (EDR) search, the subject property was a former Getty gas station with four (4) 550-gallon USTs and one (1) 4,000-gallon UST. These USTs were removed from the subject property, and a discharge was confirmed after removal. A remedial action was conducted and the NYSDEC issued a Letter of No Further Action (NFA) for the spill. The NYSDEC stated in the NFA that gasoline related compounds remained in the groundwater, but were showing signs of a decreasing trend in their concentrations. During the site visit, Brinkerhoff observed four (4) vent pipes attached to the subject building.

In order to verify no USTs remained on either parcel and to confirm if soil and groundwater contamination remained on site from these two former gasoline stations, a Phase II Site Investigation (SI) was completed.

On October 22, 2010, a geophysical investigation was completed at the site. Both ground-penetrating radar (GPR) and electromagnetic imaging (EM) were completed in order to identify if there were any buried anomalies. Soil groundwater investigations were completed in November 2010 and January 2011. A Geoprobe® drill rig was utilized to install borings in the identified RECs. Temporary well points were installed for the purpose of collecting groundwater samples. Soil and groundwater samples were collected for analyses by a New York Department of Health certified laboratory.

The laboratory reported the VOCs benzene, ethyl benzene and xylenes over the 6 NYCRR Subpart 375-6.8 (a) Soil Cleanup Objectives (SCO) for Unrestricted Residential Use. Isopropylbenzene was reported over the new CP-51 Supplemental Soil Cleanup Levels for Gasoline Contaminated Soil. The laboratory also reported elevated concentrations of SVOCs and various metals, including lead, chromium, copper and mercury, over NYSDEC's Subchapter 375-6 (a) SCOs.

The laboratory also reported gasoline related compounds over the NYSDEC's Groundwater Quality Standards (GWQS) beneath the site. The compounds benzene, toluene, ethylbenzene, xylenes, 1,4,5-trimethylbenzene and 1,2,4-trimethylbenzene were all detected over the GWQS.

The presence of the PAHs, metals and VOCs in the soil and VOCs in the groundwater suggest contamination related to former petroleum site operations and contaminated fill and that remediation will be required as well as vapor mitigation since benzene is a carcinogen and the planned use is residential.

The following Phase II SI presents the findings of the environmental investigations conducted and provides recommendations to address the contamination discovered at the site.

2.0 GEOPHYSICAL SURVEY

2.1 Introduction

On October 22, 2010, Brinkerhoff performed a geophysical investigation of open areas of the subject property. The purpose of the geophysical survey was to identify subsurface anomalies indicative of possible USTs or other buried hazards. GPR and EM were utilized for the investigation.

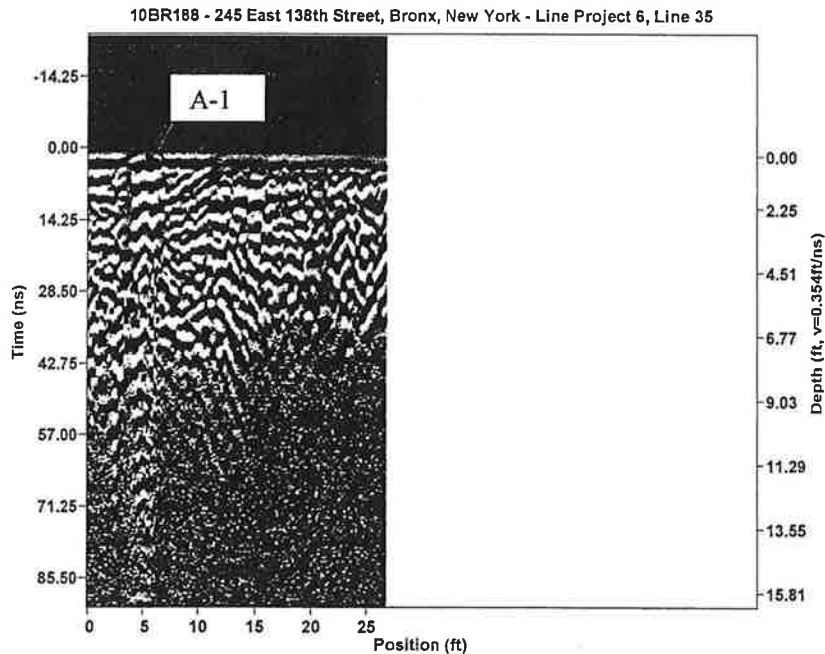
2.2 Geophysical Methods and Limitations

- A. **Electromagnetic Survey** – Electromagnetic data were collected using a Geonics EM61-MK2A High Sensitivity Metal Detector (EM-61). The EM-61 was operated in the differential mode while recording magnetic metallic response measurements. The effective depth of data collection was approximately 10 feet. The field procedure involved device calibration, data collection and recording, and data storage for analysis in the office. Data were recorded on the Allegro Field Computer. Magnetic data and digital global positioning system (DGPS) data were simultaneously recorded at 0.2-second intervals (approximately every 0.5 feet) along survey lines at approximately two-point-five (2.5)-foot intervals. The data were downloaded to a personal computer for processing.
- B. **GPR Survey** - GPR data were collected with a Sensors and Software Inc. Noggin^{plus} SmartCart GPR System (SmartCart) utilizing a 250 MHz (megahertz) antenna. Data were collected continuously on 137 survey lines across selected open areas of the subject property. The survey lines were spaced approximately two (2) feet apart and oriented perpendicular to each other. The depth of investigation was from zero (0) to approximately six (6) feet with this antenna. The data were processed using Ekko View Deluxe software.

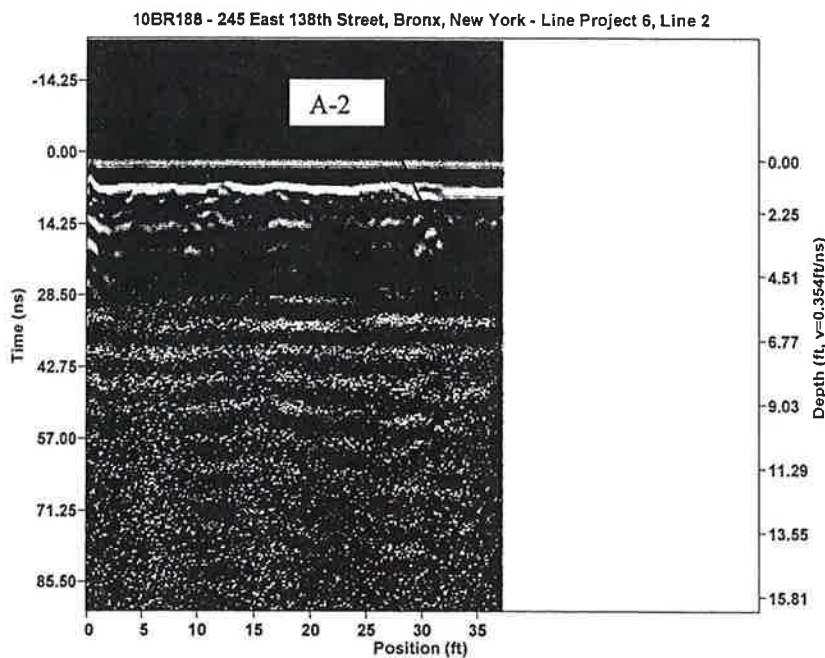
2.3 Geophysical Results

- A. **EM-61 Results:** Several areas of anomalous change in magnetic susceptibility were seen in the EM-61 data. Analysis of the EM 61 data showed that these anomalies coincided with observable surface features and/or the location of possible subsurface metallic materials. Brinkerhoff further investigated the anomalies with the GPR.
- B. **GPR Results:** GPR data were collected from the anomalous areas. The locations of the anomalies were marked out with white spray paint during the survey. Representative GPR profiles are presented below.

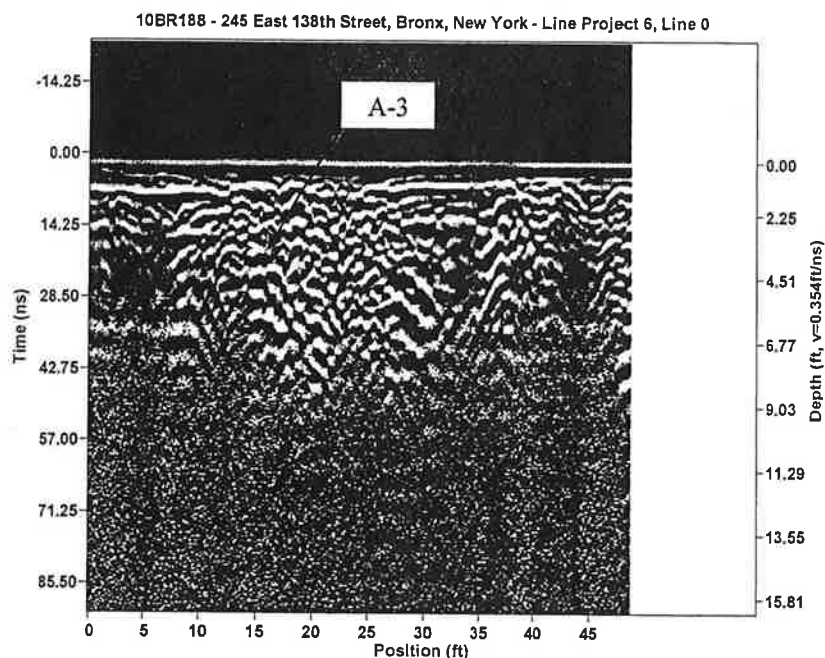
Anomaly A-1: GPR data gathered in this area were indicative of a layer of possible metallic building debris or other objects located approximately between six (6) inches to one (1) foot below grade. A representative GPR scan from that area is shown below. The data are not suggestive of a UST.



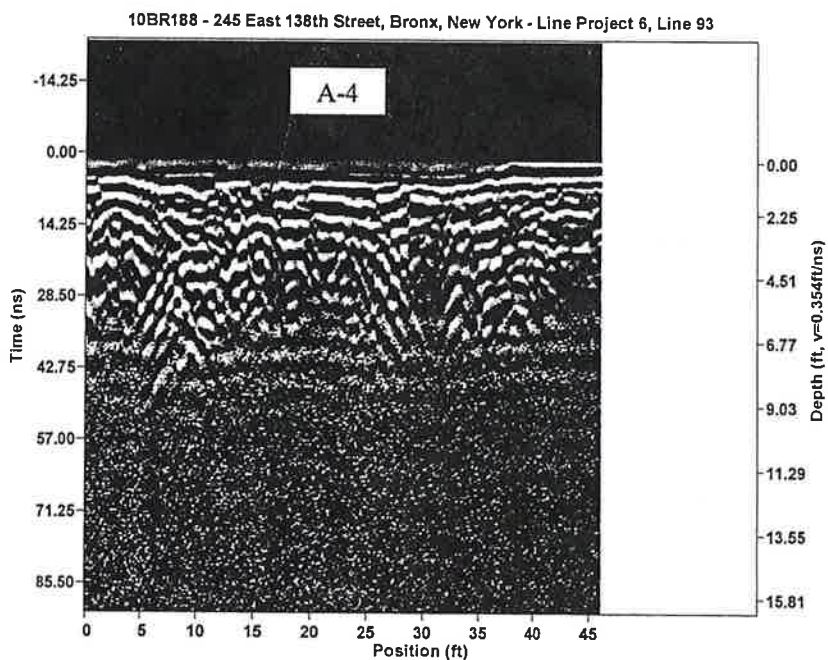
Anomaly A-2: GPR data gathered in this area were indicative of possible buried building debris located approximately two-point-five (2.5) feet below grade. A representative GPR scan from that area is shown below. The data are not suggestive of a UST.



Anomaly A-3: GPR data gathered in this area were indicative of possible buried building debris located approximately four-point-five (4.5) feet below grade. A representative GPR scan from that area is shown below. The data are not suggestive of a UST.



Anomaly A-4: GPR data gathered in this area were indicative of possible buried building debris located approximately two-point-five (2.5) feet below grade. A representative GPR scan from that area is shown below. The data are not suggestive of a UST.



In summary, Anomalies A-1 through A-4 were observed using EM technology. These anomalies were further investigated using GPR technology and found to represent possible building debris or other buried debris. The data were not suggestive of USTs. Therefore, no evidence was found suggesting USTs remained on either of the two (2) parcels.

3.0 SOIL BORING INVESTIGATION

3.1 Soil Boring Installation – November 22, 2010

On November 22, 2010, a Geologist from Brinkerhoff directed the installation of six (6) borings on two (2) parcels identified as 2551 3rd Avenue and 245 East 138th Street. Boring locations are shown on Figure 3. Soil borings were designated SB-1 through SB-4 and TWP-1 and TWP-2 and were advanced to a maximum depth of 10 feet below grade. Subsurface soils were field-screened using a properly calibrated photoionization detector (PID) for evidence of petroleum staining and/or odors. Elevated PID readings, petroleum staining, and petroleum odors were encountered in three (3) of the soil borings. Soil Log Forms are provided in Exhibit I.

Three (3) of the six (6) borings were installed at 2551 3rd Avenue. One (1) boring was installed close to the property line along 3rd Avenue near the eastern corner of the subject property (SB-1). One (1) boring was installed near the former Kentucky Fried Chicken (KFC) building in northern portion of this parcel (SB-2). One (1) boring was installed close to the former KFC building and along the property line on East 138th Street in the western corner of the subject property (TWP-1).

The three (3) other soil borings were installed on 245 East 138th Street parcel. One (1) soil boring was installed downgradient of the former garage building on the subject property near East 138th Street (SB-3). One (1) soil boring was installed on the eastern portion of this parcel near the former KFC building (SB-4). One (1) soil boring was installed behind the former garage in the northern corner of the subject property (TWP-2).

3.2 Soil Sample Collection and Laboratory Analysis

Two (2) soil samples were collected from each boring. One (1) soil sample was collected from the six (6)-inch interval with the highest evidence of contamination between two (2) and five (5) feet below grade. The second sample was collected from the six (6)-inch interval above the groundwater table. Each soil sample was analyzed for the USEPA's Target Compound List and Target Analyte List (TCL/TAL) which includes VOCs, SVOCs, pesticides/polychlorinated biphenyls (PCBs), and metals. Integrated Analytical Laboratories LLC (IAL), a New York Department of Health-certified laboratory, was the laboratory utilized on this project.

Once collected, the samples were placed in laboratory-prepared glassware, identified on a chain-of-custody form, and placed in a cooler on ice. The samples were then transported to the laboratory for chemical analyses.

Summaries of the field sampling data are provided on Tables 1 and 2. A summary of the laboratory analytical data is provided on Table 3. The compounds that were detected are included in Table 3. Laboratory analytical data package is provided in Exhibit II.

3.3 Laboratory Data Evaluation

Since the site is scheduled to be re-developed into residential use with ground floor commercial, the soil cleanup objectives of the NYSDECs Subpart 375-6.8 (a) Soil Cleanup Objectives (SCOs) for Unrestricted Residential Use and the new CP-51 Soil Cleanup Levels for Gasoline Contaminated Soil were utilized to evaluate the sampling data. The laboratory reported the VOCs benzene, ethyl benzene and xylenes over Subpart 375 (a) SCO and isopropylbenzene over the CP-51 Soil Cleanup Level for Gasoline Contaminated Soil. All other VOCs were below the various cleanup objectives.

The laboratory reported elevated concentrations of SVOCs, specifically Poly Nuclear Aromatic Hydrocarbons (PAHs) and various metals, including lead, chromium, copper and mercury, over NYSDEC's Subpart 375-6.8 (a) SCO.

Due to the former petroleum operations on both sites, the presence of the PAHs, metals and VOCs suggest contamination related to former petroleum site operations is still present at levels that will require remediation and vapor mitigation in future on-site buildings.

4.0 GROUNDWATER INVESTIGATION

4.1 Groundwater Sampling - November 22, 2010

On November 22, 2010, a limited groundwater investigation was conducted. A Geoprobe® drill rig was utilized to install two (2) temporary well points for the purpose of collecting representative groundwater samples. Each temporary well point was installed to a depth 12 feet below grade. Average depth to groundwater was eight-point-five (8.5) feet below grade. Each temporary well point consisted of one (1)-inch polyvinyl chloride (PVC) slotted screen and riser. A groundwater monitoring well was present on the 245 East 138th Street parcel. This well was gauged to be 13 feet deep. Locations of the monitoring well and two (2) temporary well points are shown on Figure 3. For purposes of this report, the monitoring well was labeled as MW-1.

Brinkerhoff collected a representative groundwater sample from TWP-1 and MW-1. Little to no water entered Temporary Well Point TWP-2; therefore, no groundwater sample could be collected.

The MW-1 well and well point were purged of approximately three (3) to five (5) well volumes and representative groundwater samples were collected. Once collected, the samples were placed in laboratory-prepared glassware, identified on a chain-of-custody form, and placed in a cooler on ice. The samples were then transported to the laboratory for chemical analyses.

Petroleum sheen and odors were not observed in either the monitoring well or the temporary well point. Depth to groundwater was gauged at five-point-forty-four (5.44) feet below grade in MW-1 and seven-point-thirty-one (7.31) feet below grade in the temporary well point.

Once collected, the samples were placed in laboratory-prepared glassware, identified on a chain-of-custody form, and placed in a cooler on ice. The samples were then transported to the laboratory for chemical analyses. The samples were analyzed for TCL/TAL.

4.1.1 Laboratory Data Evaluation

No VOCs or SVOCs were detected in the two (2) groundwater samples collected, with the exception of acetone in TWP-1 at 10.6 parts per billion (ppb). Acetone is a common laboratory contaminant; therefore, it is not likely related to the site.

A trace level of PCBs was detected in TWP-1 at 0.073 ppb along with a trace of the pesticides 4,4-DDT (diclorodiphenyltrichloroethane) at 0.059 ppb, alpha-chlordane at 0.040 ppb, and gamma-chlordane at 0.051 ppb.

Various metals were detected in both groundwater samples including aluminum, cadmium, manganese and lead.

Laboratory analytical data are summarized in Table 4. The complete laboratory analytical data package is provided in Exhibit II.

4.2 Groundwater Sampling – January 6, 2011

On January 6, 2011, a second groundwater investigation was implemented due to suspect groundwater contamination being present due to odors encountered in the soil borings. This groundwater investigation centered in the area of the former dispenser island at the former Getty Station once located at 245 East 138th Street and within the former tankfield once present at 2551 3rd Avenue. The groundwater investigation also targeted inside the former Getty Station service bay to evaluate whether a hydraulic lift may have once been present. These specific areas were not previously investigated.

A Geoprobe® drill rig was utilized to install five (5) temporary well points in these areas. Each temporary well point was installed to a depth 15 feet below grade. Average depth to groundwater was between six (6) and seven (7) feet below grade. eight-point-five (8.5) feet below grade. Each temporary well point consisted of one (1)-inch polyvinyl chloride (PVC) slotted screen and riser. Location of the groundwater sampling points is provided on Figure 4.

Representative groundwater samples were collected from the five (5) points, identified as GW-1 through GW-5. Each sample was analyzed by a certified laboratory for VOCs. The sample collected within the former service bay was also analyzed for SVOCs.

4.2.1 Laboratory Data Evaluation

The laboratory reported benzene over the GWQS at three (3) of the five groundwater sample locations. Benzene exceeded the GWQS of one (1) part per billion (ppb) at Sample Location GW-2, located in the former tankfield once present at 2551 3rd Avenue, at Sample location GW-3, located in the former tankfield at 245 East 138th Street and the highest concentration of 15 ppb was detected in the area of the former dispenser island associated with former USTs once located at 245 East 138th Street. The laboratory also reported other gasoline related compounds over the GWQS including toluene, ethylbenzene, xylenes, 1,4,5-trimethylbenzene and 1,2,4-trimethylbenzene. The laboratory data is summarized in Tables 5 and 6. The laboratory data package is provided in Exhibit III.

Using the groundwater data generated in November 2010 and January 2011, a benzene in groundwater contaminant isopleth map was generated and is presented as Figure 4. The data shows a contaminant plume centered in the southwest portion of the parcel as illustrated in MW-5. This data suggests the dispenser island was the primary source of the contamination present in the groundwater, and suggests this area requires additional remediation.

5.0 SUMMARY AND CONCLUSIONS

Brinkerhoff completed a Phase I ESA for two (2) parcels identified as 2551 3rd Avenue and 245 East 138th Street, Block 2333, Lots 1 and 6, in the Bronx, New York. The Phase I ESA identified that both parcels once contained USTs. The parcel identified as 2551 3rd Avenue was reported to have contained 11 550-gallon gasoline USTs. A Closure Report prepared for the site owner at the time stated that 11 550-gallon USTs were removed from the subject site. Five (5) of the USTs were discovered to be leaking. Some contaminated soil was removed from the site and confirmatory soil samples were collected in the excavation. The soil samples revealed the presence of SVOCs in the soil.

The parcel identified as 245 East 138th Street was reported to have been a gasoline service station with four (4) 550-gallon gasoline USTs. Four (4) 550-gallon USTs and one (1) 4,000-gallon UST were removed from the subject property. A discharge was confirmed after removal of the USTs. A remedial action was conducted and NYSDEC later issued a Letter of NFA for the spill.

In order to verify no USTs remained on either parcel, a geophysical investigation was completed at the site, which included both GPR and EM. The geophysical investigation found no evidence that USTs remain on either parcel, however multiple anomalies of unknown buried metals were identified.

A limited soil and groundwater investigation was then completed in November 2010 for the purpose of doing an are-wide investigation rather than focus on the former UST areas and dispensing island. Both soil and groundwater samples were collected for laboratory analyses.

The laboratory reported VOCs in the soil over the Subpart 375-6.8(a) SCO. The VOCs benzene, ethyl benzene and xylenes exceeded those objectives while isopropylbenzene exceeded CP-51 Soil Cleanup Levels for Gasoline Contaminated Soil. The laboratory also reported elevated concentrations of SVOCs, and various metals, including lead, chromium, copper and mercury, over Subpart 375-6.8(a) SCO.

The laboratory also reported gasoline related compounds over the GWQS beneath the site. The compounds benzene, toluene, ethylbenzene, xylenes, 1,4,5-trimethylbenzene and 1,2,4-trimethylbenzene were all detected over the GWQS.


The presence of the PAHs, metals and VOCs in the soil and VOCs in the groundwater suggest contamination related to former petroleum site operations and contaminated fill.

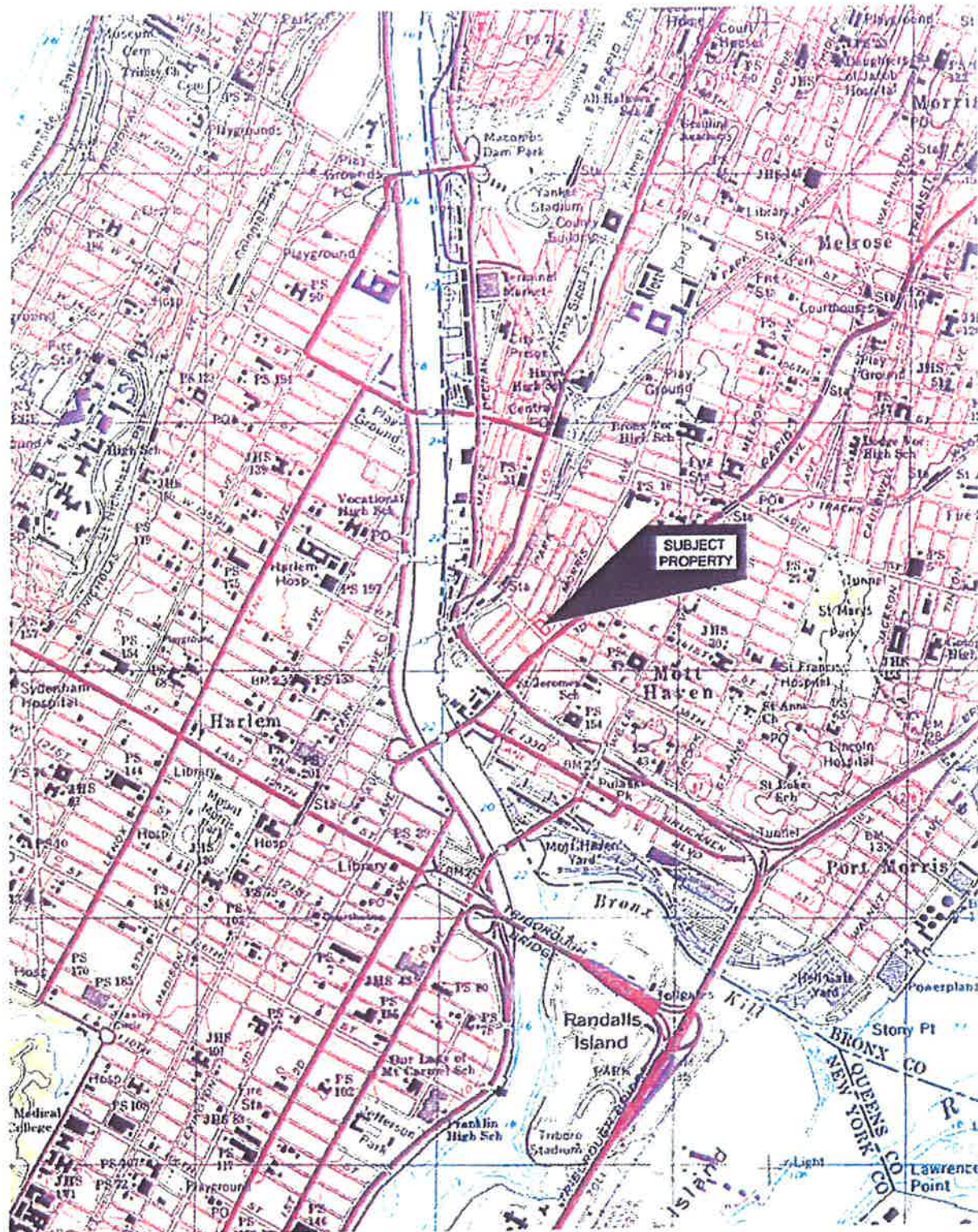
Since gasoline related contamination and fill contamination are present on the property and the site is scheduled for re-development into residential use, a remediation is required. Since site development will require off-site disposal of contaminated soil and the potential exists that additional contamination will be discovered during excavation, a Soil Management Plan to address off-site disposal of excavated soil will be required. A Remedial Action Work Plan (RAWP) shall also include capping of open areas with either concrete, asphalt or two (2) feet of clean fill and placement of a vapor barrier and a possible sub-slab depressurization system beneath the planned building.

Brinkerhoff recommends exploring the Brownfield Cleanup Program eligibility for the site since extensive activities are planned and the site is impacted with both gasoline related and fill material contamination. It is likely more contamination will be found during site construction. Since groundwater remains impacted beneath the site, vapor intrusion issues will be present. This will require a corrective action to assure no vapor issues will exist within the newly constructed building.

This report has been prepared and is respectfully submitted by
BRINKERHOFF ENVIRONMENTAL SERVICES, INC.


STEVEN BIGDA
Geologist
1/20/11
Date


DOUG HARM, P.G.
Vice President, Technical Services
Registered Professional Geologist
1/20/11
Date



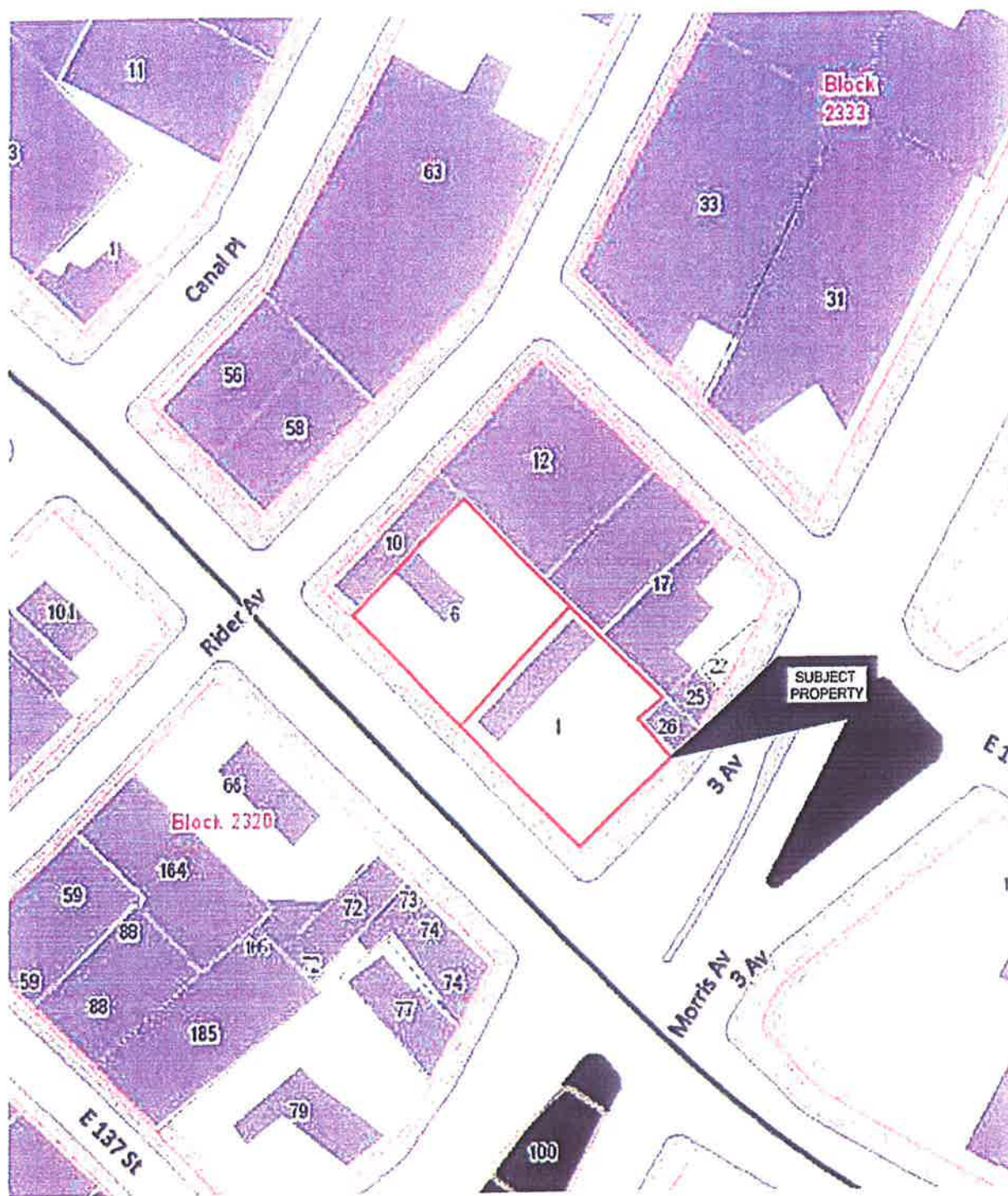
SCALE: 1" = 24,000'
PHOTO REVISED: 1995

0' 1000' 2000'
SCALE: 1" = 2000'

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FIGURE 1 - SITE LOCATION MAP
U.S.G.S. TOPOGRAPHIC CENTRAL PARK, NY QUAD
2551 3RD AVENUE, BLOCK 2333, LOT 1
245 EAST 138TH STREET, BLOCK 2333, LOT 6
BRONX, NEW YORK

DATE: 10/28/10 JOB NO.: 10BR188 SCALE: 1" = 2000'



0' 50' 100'

SCALE: 1"=100'

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FIGURE 2 - TAX MAP

2551 3RD AVENUE, BLOCK 2333, LOT 1
245 EAST 138TH STREET, BLOCK 2333, LOT 6
BRONX, NEW YORK

DATE: 10/28/10

JOB NO.: 10BR188

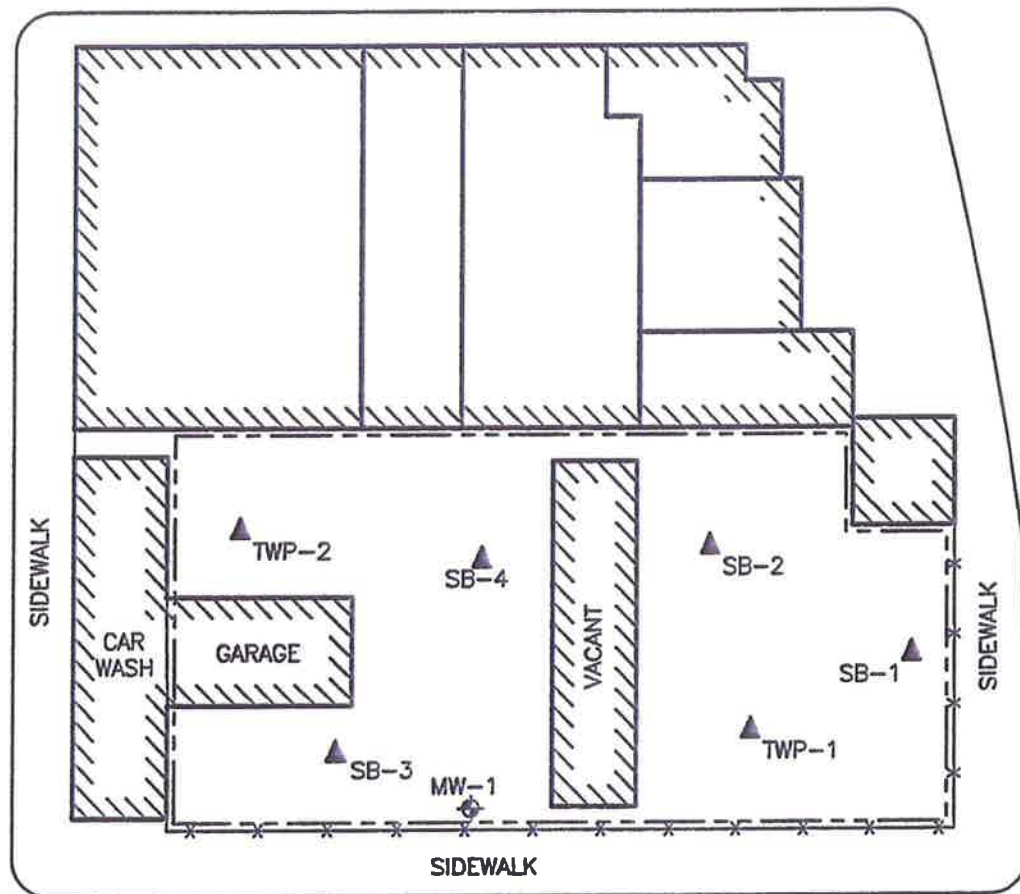
SCALE: 1" = 100'

RIDER AVENUE

MORRIS AVENUE

EAST 139TH STREET

EAST 138TH STREET



LEGEND

- PROPERTY BOUNDARY
- ◆ MONITORING WELL
- ▲ SOIL BORING

0' 25' 50'
SCALE: 1"=50'

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FIGURE 3
SAMPLE LOCATION MAP
2551 3RD AVENUE
245 EAST 138TH STREET
BRONX, NEW YORK

DATE: 12/20/10

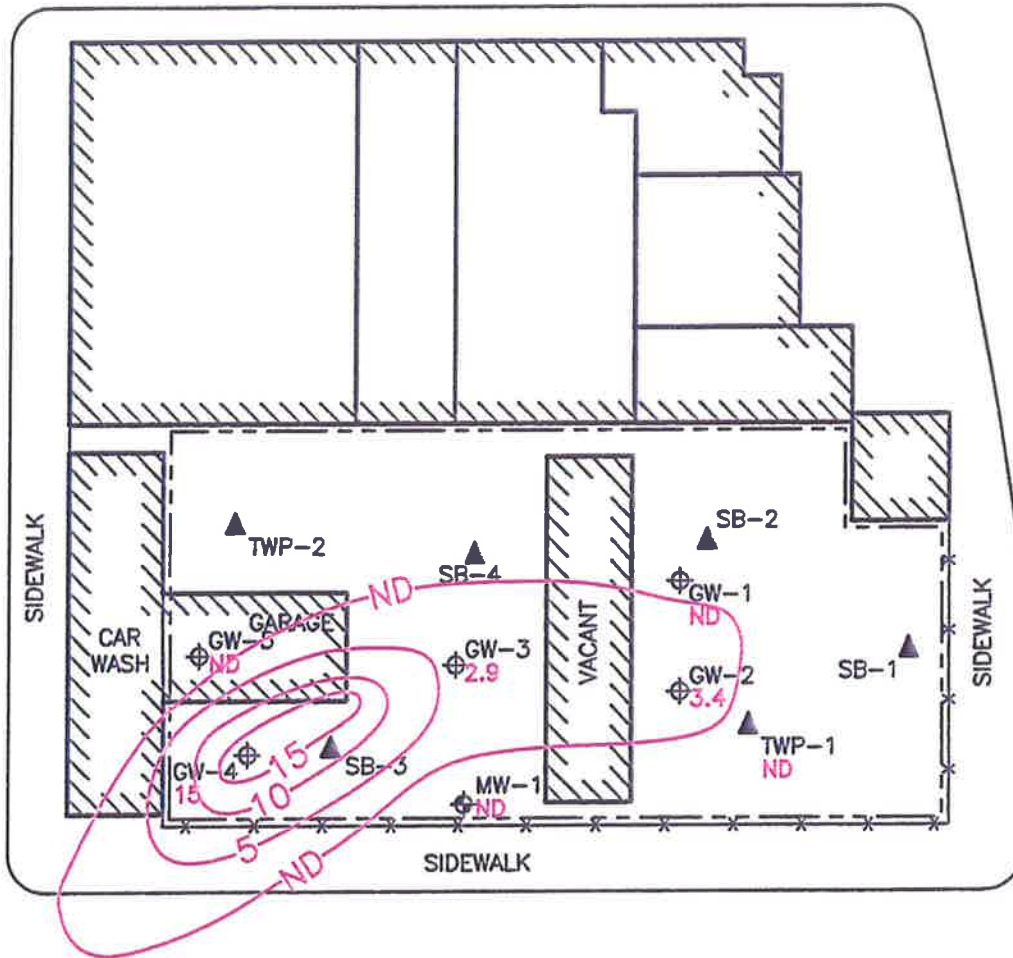
JOB NO.: 10BR188

SCALE: 1" = 50'

RIDER AVENUE

EAST 139TH STREET

MORRIS AVENUE/3RD AVENUE



EAST 138TH STREET

LEGEND

- PROPERTY BOUNDARY
- ⊕ MONITORING WELL
- ▲ SOIL BORING
- ⊕ TEMPORARY WELL POINT

0' 25' 50'
SCALE: 1"=50'

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FIGURE 4 - BENZENE IN GROUNDWATER
ISOPLETH MAP NOV. 2010/JAN. 2011
2551 3RD AVENUE
245 EAST 138TH STREET
BRONX, NEW YORK

DATE: 01/19/11

JOB NO.: 10BR188

SCALE: 1" = 50'

Table 1
Field Sampling Data
2551 3rd Avenue
Bronx, New York
November 22, 2010

	SB-1-1	SB-1-2	SB-2-1	SB-2-2	TWP-1-1	TWP-1-2
Sample Depth (feet)	4.0-4.5	8.0-8.5	4.0-4.5	8.0-8.5	3.0-3.5	8.5-9.0
PID Readings in ppm	ND	ND	47	ND	ND	ND

PID - Photoionization Detector; ppm - parts per million; ND - Not Detected.

Table 2
Field Sampling Data
245 East 138th Street
Bronx, New York
November 22, 2010

	SB-3-1	SB-3-2	SB-4-1	SB-4-2	TWP-2-1	TWP-2-2
Sample Depth (feet)	7.5-8.0	4.0-4.5	3.5-4.0	8.0-8.5	3.0-3.5	9.0-9.5
PID Readings in ppm	240	ND	ND	ND	ND	ND

PID - Photoionization Detector; ppm - parts per million; ND - Not Detected.

Table 3
Soil Sampling Results

SUMMARY REPORT																						
Client: Brinkhoff Environmental Services																						
Project: 138 STREET - 100RT18																						
Lab Case No.: ETD-11995																						
Client ID: Sample Depth: Lab ID	Subpart - 374.6 (a) Unrestricted Residential	Soil Cleanup Levels for Gasoline Contaminated Soils (CP-51)	SB-1-1 Conc Soil	SB-1-2		SB-2-1		SB-2-2		SB-3-1		SB-3-2		SB-4-1		SB-4-2		TWP-1-1 Conc Soil	TWP-1-2 Conc Soil	TWP-2-1 Conc Soil	TWP-2-2 Conc Soil	
				Conc Soil	MDL Soil	Conc Soil	MDL Soil	Conc Soil	MDL Soil	Conc Soil	MDL Soil	Conc Soil	MDL Soil	Conc Soil	MDL Soil	Conc Soil	MDL Soil					Conc Soil
Volatiles (ppm)																						
Methyl tert-butyl ether (MTBE)	0.83	ND	0.000273	ND	0.000273	ND	0.000273	ND	0.000273	ND	0.000273	ND	0.000273	ND	0.000273	ND	0.000273	ND	0.000273	ND	0.000273	ND
Benzene	0.06	ND	0.000468	ND	0.000468	ND	0.000468	ND	0.000468	ND	0.000468	ND	0.000468	ND	0.000468	ND	0.000468	ND	0.000468	ND	0.000468	ND
Toluene	0.7	ND	0.000466	ND	0.000466	ND	0.000466	ND	0.000466	ND	0.000466	ND	0.000466	ND	0.000466	ND	0.000466	ND	0.000466	ND	0.000466	ND
Ethylbenzene	1	ND	0.000429	ND	0.000429	ND	0.000429	ND	0.000429	ND	0.000429	ND	0.000429	ND	0.000429	ND	0.000429	ND	0.000429	ND	0.000429	ND
Total Xylenes	0.26	ND	0.00133	ND	0.00133	ND	0.00133	ND	0.00133	ND	0.00133	ND	0.00133	ND	0.00133	ND	0.00133	ND	0.00133	ND	0.00133	ND
Isopropylbenzene	(NA)	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND
TOTAL VOC's	(NA)	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND
TOTAL TICS	(NA)	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND
TOTAL VOC's & TICS	(NA)	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND	0.000799	ND
Semivolatiles - BUA (ppm)																						
Naphthalene	12	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Benzofluoranthene	1	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND
Chrysene	1	ND	0.0049	ND	0.0049	ND	0.0049	ND	0.0049	ND	0.0049	ND	0.0049	ND	0.0049	ND	0.0049	ND	0.0049	ND	0.0049	ND
Benzofluoranthene	1	ND	0.0059	ND	0.0059	ND	0.0059	ND	0.0059	ND	0.0059	ND	0.0059	ND	0.0059	ND	0.0059	ND	0.0059	ND	0.0059	ND
Benzofluoranthene	0.8	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND
Benzofluoranthene	1	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND
Indeno[1,2,3-cd]pyrene	0.5	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND
Dibenzofluoranthene	0.33	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND
Dibenzofluoranthene	0.33	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND
TOTAL BUA's	(NA)	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND
TOTAL TICS	(NA)	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND
TOTAL BUA's & TICS	(NA)	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034	ND
Metals (ppm)																						
Arsenic	13	ND	0.360	ND	0.360	ND	0.360	ND	0.360	ND	0.360	ND	0.360	ND	0.360	ND	0.360	ND	0.360	ND	0.360	ND
Barium	350	ND	3.02	ND	3.02	ND	3.02	ND	3.02	ND	3.02	ND	3.02	ND	3.02	ND	3.02	ND	3.02	ND	3.02	ND
Copper	50	ND	0.719	ND	0.719	ND	0.719	ND	0.719	ND	0.719	ND	0.719	ND	0.719	ND	0.719	ND	0.719	ND	0.719	ND
Lead	63	ND	0.151	ND	0.151	ND	0.151	ND	0.151	ND	0.151	ND	0.151	ND	0.151	ND	0.151	ND	0.151	ND	0.151	ND
Mercury	0.81	ND	0.00072	ND	0.00072	ND	0.00072	ND	0.00072	ND	0.00072	ND	0.00072	ND	0.00072	ND	0.00072	ND	0.00072	ND	0.00072	ND
General Analytical																						
Cyanide, Total-ppm	27	ND	0.909	ND	0.909	ND	0.909	ND	0.909	ND	0.909	ND	0.909	ND	0.909	ND	0.909	ND	0.909	ND	0.909	ND

ND = Analyzed for but Not Detected at the MDL

ND = Analyzed for but Not Detected at the MDL

J = The concentration was detected at a value below the MDL and above the MDL
All qualifiers on individual Volatiles & Semivolatiles are carried down through summation
(NA) - No Standards Available
Shaded over the CP-51 level for gasoline contaminated soil Cleanup Objectives
Bold over the S band 374-6 (a) Cleanup Objectives

Table 4
Summary of Groundwater Sampling Results

SUMMARY REPORT							
Client: Brinkerhoff Environmental Services							
Project: 138 STREET - 10BR188							
Lab Case No.: E10-11995							
Client ID:		MW-1			TWP-1		
Sample Depth:		GW					
Lab ID:		Standards/ 11995-013			11995-014		
Date Sampled:		Criteria 11/22/2010			11/22/2010		
Matrix:		(ppb) - ug/L Aqueous			Aqueous		
Volatiles (ppb)		Conc	Q	MDL	Conc	Q	MDL
Dichlorodifluoromethane		(NA)	ND	0.770	ND		0.770
Chloromethane		(NA)	ND	0.550	ND		0.550
Vinyl chloride		2	ND	0.460	ND		0.460
Bromomethane		(NA)	ND	0.870	ND		0.870
Chloroethane		50	ND	0.720	ND		0.720
Trichlorofluoromethane		(NA)	ND	0.750	ND		0.750
1,1-Dichloroethene		5	ND	0.590	ND		0.590
Acetone		50	ND	0.770	10.6		0.770
Carbon disulfide		50	ND	0.820	ND		0.820
Methylene chloride		5	ND	1.98	ND		1.98
trans-1,2-Dichloroethene		5	ND	0.480	ND		0.480
Methyl tert-butyl ether (MTBE)		(NA)	ND	0.210	ND		0.210
1,1-Dichloroethane		5	ND	0.450	ND		0.450
cis-1,2-Dichloroethene		(NA)	ND	0.380	ND		0.380
2-Butanone (MEK)		50	ND	0.590	ND		0.590
Bromochloromethane		(NA)	ND	0.320	ND		0.320
Chloroform		7	ND	0.250	ND		0.250
1,1,1-Trichloroethane		5	ND	0.310	ND		0.310
Carbon tetrachloride		5	ND	0.220	ND		0.220
1,2-Dichloroethane (EDC)		5	ND	0.240	ND		0.240
Benzene		0.7	ND	0.200	ND		0.200
Trichloroethene		5	ND	0.230	ND		0.230
1,2-Dichloropropane		(NA)	ND	0.240	ND		0.240
1,4-Dioxane		(NA)	ND	25.7	ND		25.7
Bromodichloromethane		(NA)	ND	0.230	ND		0.230
cis-1,3-Dichloropropene		(NA)	ND	0.250	ND		0.250
4-Methyl-2-pentanone (MIBK)		50	ND	0.400	ND		0.400
Toluene		5	ND	0.190	ND		0.190
trans-1,3-Dichloropropene		(NA)	ND	0.190	ND		0.190
1,1,2-Trichloroethane		(NA)	ND	0.300	ND		0.300
Tetrachloroethene		5	ND	0.220	ND		0.220
2-Hexanone		(NA)	ND	0.650	ND		0.650
Dibromochloromethane		50	ND	0.210	ND		0.210
1,2-Dibromoethane (EDB)		(NA)	ND	0.220	ND		0.220
Chlorobenzene		5	ND	0.190	ND		0.190
Ethylbenzene		5	ND	0.220	ND		0.220
Total Xylenes		5	ND	0.600	ND		0.600
Styrene		(NA)	ND	0.210	ND		0.210
Bromoform		(NA)	ND	0.230	ND		0.230
Isopropylbenzene		(NA)	ND	0.200	ND		0.200
1,1,2,2-Tetrachloroethane		5	ND	0.210	ND		0.210
1,3-Dichlorobenzene		5	ND	0.300	ND		0.300
1,4-Dichlorobenzene		5	ND	0.190	ND		0.190
1,2-Dichlorobenzene		4.7	ND	0.230	ND		0.230
1,2-Dibromo-3-chloropropane		(NA)	ND	0.210	ND		0.210
1,2,4-Trichlorobenzene		5	ND	0.240	ND		0.240
1,2,3-Trichlorobenzene		(NA)	ND	0.190	ND		0.190
1,1,2-Trichloro-1,2,2-trifluoroethane		5	ND	0.680	ND		0.680
Methyl acetate		(NA)	ND	0.510	ND		0.510

Table 4
Summary of Groundwater Sampling Results

Client ID:		MW-1			TWP-1		
Sample Depth:	GW						
Lab ID:	Standards/	11995-013			11995-014		
Date Sampled:	Criteria	11/22/2010			11/22/2010		
Matrix:	(ppb) - ug/L	Aqueous			Aqueous		
Cyclohexane	(NA)	ND		0.390	ND		0.390
Methylcyclohexane	(NA)	ND		0.280	ND		0.280
TOTAL VO's:	NA	ND			10.6		
TOTAL TIC's:	NA	ND			ND		
TOTAL VO's & TIC's:	NA	ND			10.6		
Semivolatiles - BNA (ppb)							
Benzaldehyde	(NA)	ND		0.260	ND		0.260
Phenol	1	ND		0.320	ND		0.320
Bis(2-chloroethyl) ether	(NA)	ND		0.220	ND		0.220
2-Chlorophenol	50	ND		0.480	ND		0.480
2-Methylphenol	5	ND		0.410	ND		0.410
Bis(2-chloroisopropyl) ether	(NA)	ND		0.250	ND		0.250
4-Methylphenol	50	ND		0.260	ND		0.260
N-Nitrosodi-n-propylamine	(NA)	ND		0.400	ND		0.400
Acetophenone	(NA)	ND		0.250	ND		0.250
Hexachloroethane	(NA)	ND		0.280	ND		0.280
Nitrobenzene	5	ND		0.230	ND		0.230
Isophorone	50	ND		0.310	ND		0.310
2-Nitrophenol	5	ND		0.250	ND		0.250
2,4-Dimethylphenol	(NA)	ND		0.230	ND		0.230
Bis(2-chloroethoxy) methane	(NA)	ND		0.300	ND		0.300
2,4-Dichlorophenol	1	ND		0.250	ND		0.250
Naphthalene	10	ND		0.266	ND		0.266
4-Chloroaniline	5	ND		0.250	ND		0.250
Hexachlorobutadiene	(NA)	ND		0.230	ND		0.230
Caprolactam	(NA)	ND		0.230	ND		0.230
4-Chloro-3-methylphenol	5	ND		0.220	ND		0.220
2-Methylnaphthalene	50	ND		0.223	ND		0.223
Hexachlorocyclopentadiene	(NA)	ND		0.210	ND		0.210
2,4,6-Trichlorophenol	(NA)	ND		0.210	ND		0.210
2,4,5-Trichlorophenol	1	ND		0.260	ND		0.260
1,1'-Biphenyl	(NA)	ND		0.230	ND		0.230
2-Chloronaphthalene	(NA)	ND		0.340	ND		0.340
2-Nitroaniline	5	ND		0.220	ND		0.220
Dimethyl phthalate	50	ND		0.230	ND		0.230
2,6-Dinitrotoluene	5	ND		0.220	ND		0.220
Acenaphthylene	20	ND		0.222	ND		0.222
3-Nitroaniline	5	ND		0.210	ND		0.210
Acenaphthene	20	ND		0.213	ND		0.213
2,4-Dinitrophenol	5	ND		0.260	ND		0.260
4-Nitrophenol	5	ND		0.380	ND		0.380
2,4-Dinitrotoluene	(NA)	ND		0.220	ND		0.220
Dibenzofuran	5	ND		0.240	ND		0.240
Diethyl phthalate	50	ND		0.230	ND		0.230
Fluorene	50	ND		0.231	ND		0.231
4-Chlorophenyl phenyl ether	(NA)	ND		0.220	ND		0.220
4-Nitroaniline	(NA)	ND		0.220	ND		0.220
1,2,4,5-Tetrachlorobenzene	(NA)	ND		0.210	ND		0.210
4,6-Dinitro-2-methylphenol	(NA)	ND		0.230	ND		0.230
N-Nitrosodiphenylamine	(NA)	ND		0.220	ND		0.220
4-Bromophenyl phenyl ether	(NA)	ND		0.220	ND		0.220
Hexachlorobenzene	0.35	ND		0.230	ND		0.230
Atrazine	(NA)	ND		0.230	ND		0.230
Pentachlorophenol	1	ND		0.240	ND		0.240
Phenanthrene	50	ND		0.321	ND		0.321
Anthracene	50	ND		0.242	ND		0.242

Table 4
Summary of Groundwater Sampling Results

Client ID:		MW-1			TWP-1		
Sample Depth:	GW						
Lab ID:	Standards/	11995-013			11995-014		
Date Sampled:	Criteria	11/22/2010			11/22/2010		
Matrix:	(ppb) - ug/L	Aqueous			Aqueous		
Carbazole	(NA)	ND		0.280	ND		0.280
Di-n-butyl phthalate	50	ND		0.230	ND		0.230
Fluoranthene	50	ND		0.235	ND		0.235
Pyrene	50	ND		0.238	ND		0.238
Butyl benzyl phthalate	50	ND		0.240	ND		0.240
3,3'-Dichlorobenzidine	(NA)	ND		0.230	ND		0.230
Benzo[a]anthracene	0.002	ND		0.230	ND		0.230
Chrysene	0.002	ND		0.215	ND		0.215
Bis(2-ethylhexyl) phthalate	50	ND		0.260	ND		0.260
Di-n-octyl phthalate	50	ND		0.220	ND		0.220
Benzo[b]fluoranthene	0.002	ND		0.290	ND		0.290
Benzo[k]fluoranthene	0.002	ND		0.220	ND		0.220
Benzo[a]pyrene	0.002	ND		0.210	ND		0.210
Indeno[1,2,3-cd]pyrene	0.002	ND		0.260	ND		0.260
Dibenz[a,h]anthracene	50	ND		0.220	ND		0.220
Benzo[g,h,i]perylene	5	ND		0.218	ND		0.218
TOTAL BNA'S:	NA	ND			ND		
TOTAL TIC's:	NA	ND			ND		
TOTAL BNA'S & TIC's:	NA	ND			ND		
PCB's (ppb)							
Aroclor-1016	0.1	ND		0.020	ND		0.020
Aroclor-1221	0.1	ND		0.020	ND		0.020
Aroclor-1232	0.1	ND		0.020	ND		0.020
Aroclor-1242	0.1	ND		0.020	ND		0.020
Aroclor-1248	0.1	ND		0.020	ND		0.020
Aroclor-1254	0.1	ND		0.020	ND		0.020
Aroclor-1260	0.1	ND		0.020	0.073		0.020
Pesticides (ppb)							
alpha-BHC	0.05	ND		0.005	ND		0.005
beta-BHC	0.05	ND		0.005	ND		0.005
gamma-BHC	0.05	ND		0.005	ND		0.005
delta-BHC	0.05	ND		0.005	ND		0.005
Heptachlor	0.01	ND		0.005	ND		0.005
Aldrin	0.01	ND		0.005	ND		0.005
Heptachlor epoxide	0.01	ND		0.005	ND		0.005
Endosulfan I	0.1	ND		0.005	ND		0.005
4,4'-DDE	0.01	ND		0.005	ND		0.005
Dieldrin	0.01	ND		0.005	ND		0.005
Endrin	0.01	ND		0.005	ND		0.005
Endosulfan II	0.1	ND		0.005	ND		0.005
4,4'-DDD	0.01	ND		0.005	ND		0.005
Endrin aldehyde	(NA)	ND		0.005	ND		0.005
Endosulfan sulfate	0.1	ND		0.005	ND		0.005
4,4'-DDT	0.01	ND		0.005	0.059		0.005
Endrin ketone	(NA)	ND		0.005	ND		0.005
Methoxychlor	35.0	ND		0.005	ND		0.005
alpha-Chlordane	(NA)	ND		0.005	0.040		0.005
gamma-Chlordane	0.1	ND		0.005	0.051		0.005
Toxaphene	(NA)	ND		0.060	ND		0.060
Metals (ppb)							
Aluminum	100	1210		20.0	8750		20.0
Antimony	3	ND		1.00	1.72	J	1.00
Arsenic	25	4.45		1.00	12.9		1.00
Barium	1,000	198		10.0	307		10.0
Beryllium	11	ND		1.00	1.58		1.00
Cadmium	5	165		0.500	6.49		0.500

Table 4
Summary of Groundwater Sampling Results

Client ID:		MW-1			TWP-1		
Sample Depth:	GW						
Lab ID:	Standards/	11995-013			11995-014		
Date Sampled:	Criteria	11/22/2010			11/22/2010		
Matrix:	(ppb) - ug/L	Aqueous			Aqueous		
Calcium	(NA)	60400		100	114000		100
Chromium	50	14.1		2.00	26.9		2.00
Cobalt	5	3.98	J	2.00	26.9		2.00
Copper	200	108		2.00	433		2.00
Iron	300	22500		50.0	13600		50.0
Lead	50	47.6		0.500	2420		0.500
Magnesium	35,000	11400		50.0	15800		50.0
Manganese	300	2710		2.00	1400		2.00
Mercury	0.7	ND		0.300	ND		0.300
Nickel	100	12.1		1.00	48.0		1.00
Potassium	(NA)	13200		50.0	23000		50.0
Selenium	10	ND		4.00	ND		4.00
Silver	50	ND		0.500	ND		0.500
Sodium	20,000	107000		10000	47200		10000
Thallium	(NA)	ND		0.500	ND		0.500
Vanadium	14	8.66		2.00	47.7		2.00
Zinc	(NA)	251		4.00	1440		4.00
General Analytical							
Cyanide, Total-ppb	(NA)	ND		14.0	ND		14.0
(IS) = Interim Specific Criteria based on the methodologies and risk assessment approach contained in the GWQS.							
(ISM) = An Interim Specific Criteria (see above), but expressly indicated to ensure consistency with Safe Drinking Water Act Maximum Contaminant Level(MCL); may differ from specific criteria in the GWQS.							
(IGC) = Interim Generic Criteria for synthetic organic chemicals (SOC) with evidence of carcinogenicity; 5 ppb							
(IGNC) = Interim Generic Criteria for SOC's lacking evidence of carcinogenicity; 100 ppb							
(NA) = No Standards Available							
ND = Analyzed for but Not Detected at the MDL							
J = The concentration was detected at a value below the RL and above the MDL							
All qualifiers on individual Volatiles & Semivolatiles are carried down through summation.							

Table 5
Groundwater Sampling Results
Volatile Organic Analysis
245 East 138th Street & 2551 3rd Avenue
Bronx, New York
January 6, 2011

(Results reported in parts per billion [ppb])

COMPOUND	GW-1	GW-2	GW-3	GW-4	GW-5	GWQS
FIELD MEASUREMENTS						
Depth to Groundwater	6.71	6.43	8.91	6.43	7.00	--
VOLATILE ORGANICS						
Benzene	ND	3.4	2.9	15	ND	1
Toluene	ND	46	0.91J	1.1	0.71J	5
Ethylbenzene	ND	31	0.47J	2.2	ND	5
Xylenes	ND	267	2.8	12	2.1	5
1,3,5-Trimethylbenzene	ND	91J	ND	ND	ND	5
1,2,4-Trimethylbenzene	ND	65J	ND	ND	ND	5
MTBE	ND	ND	ND	3.3	13	
TBA	9.6J	ND	ND	25	44	
Naphthalene	4.67J	ND	ND	ND	ND	

GWQS- New York Department of Environmental Conservation's Groundwater Quality Standard; ND- Not detected; NL- Not limit established.; D-Results from a dilution; Concentrations in **bold** exceed applicable GWQS.

Table 6
Groundwater Sampling Results
Semi Volatile Organic Analysis
245 East 138th Street & 2551 3rd Avenue
Bronx, New York
January 6, 2011

(Results reported in parts per billion [ppb])

COMPOUND	GW-5	GWQS
SEMI VOLATILE ORGANICS		
No semi volatiles detected	ND	--
Phenanthrene	ND	NL
Pyrene	ND	NL

INTERVAL DEPTH (feet)	PID READING (parts per million)	SOIL DESCRIPTION
0-3.0'	0	No Recovery.
3.0'-4.0'	0	Black tar material.
4.0'-4.5'	0	Mix of red brick and brown sand.
4.5'-5.0'	0	Brown to tan colored sand.
5.0'-7.0'	0	No Recovery.
7.0'-9.5'	0	Dark brown loamy sand.
9.5'-10.0	0	Black, moist loamy, silty sand
		Sample SB-1-1 taken at 3.0 feet below grade. Sample SB-1-2 taken 8.0 feet below grade.

Date: 12/17/10 Signature: _____
Steven Bigda

SOIL LOG FORM

Soil Boring/Test Pit ID: SB-2
Date Installed: 11/22/2010
Depth to Groundwater: Around 7 feet below grade.

INTERVAL DEPTH (feet)	PID READING (parts per million)	SOIL DESCRIPTION
0-2.5'	0	No Recovery.
2.5'-3.5'	0	Dark brown to black sand.
3.5'-4.0'	0.7 4.7	Light brown sand with some red rock fragments.
4.0'-4.5'	47.3	Light brown sand with some red rock fragments.
4.5'-5.0'	6.3	Light brown sand with some red rock fragments.
5.0'-6.5'	0	No Recovery
6.5'-10.0	0	Moist gray silty sand
		Sample SB-2-1 taken at around 4 feet below grade
		Sample SB-2-2 taken at around 9 feet below grade

Date: 12/17/10 Signature: [Signature]
Steven Bigda

SOIL LOG FORM

[illegible]

SOIL LOG FORM

Soil Boring/Test Pit ID: TWP-2
Date Installed: 11/22/2010
Depth to Groundwater: Around 9.5 feet below grade

[illegible]

DOUGLAS L. HARM, P.G.
Vice President, Technical Services
Principal Hydrogeologist

QUALIFICATIONS AND EXPERIENCE

Mr. Harm's primary area of expertise is directing geologic and hydrogeologic investigations and the management of technical personnel, including Geologists, Hydrogeologists, Biologists, Geotechnicians, and Environmental Scientists. He has more than 25 years of extensive experience as a Geologist/Hydrogeologist and has managed a diverse range of projects involving complex geologic, hydrogeologic, and environmental issues.

Underground Storage Tank Management

Mr. Harm has directed environmental projects at more than 100 retail gasoline stations for major oil companies, including subsurface evaluation during UST removal, groundwater investigations, design of soil and groundwater remediation systems, oversight during installation of remedial systems, and supervised operation and maintenance of the systems.

Mr. Harm has conducted more than 1,000 site assessments following UST closures for various residential and commercial accounts, including Fortune 500 companies. He has directed numerous projects for municipalities, including the development of bid specifications and the management of the bidding process, and implemented projects involving the removal and/or replacement/upgrade of USTs.

Phase I and II Environmental Site Assessments

Mr. Harm supervises Phase I and II ESAs, SIs, and RIs for commercial/industrial property owners, banks, and public sector clients. He also manages Phase II Environmental Site Assessments at hazardous waste landfills in cooperation with state and federal agencies.

Landfill Management and Closure

Mr. Harm has directed investigations at numerous hazardous waste landfills, CERCLA, and Superfund sites. He coordinates environmental affairs associated with obtaining closure approval and commercial development on former landfills. Projects involved field sampling, site characterization, installation of groundwater monitoring wells, application for discharge to groundwater permits and coordinating liner placement, dynamic compaction plans, and methane monitoring.

Asbestos Inspections

Mr. Harm conducts asbestos inspections in accordance with the Environmental Protection Agency/Asbestos Hazard Emergency Response Act (EPA/AHERA) regulations. Inspections include identifying suspected asbestos containing materials and field sampling according to EPA/AHERA protocol. He is responsible for interpretation of laboratory analytical data and generation of report of findings.

Soil and Groundwater Remediation

Mr. Harm has extensive experience in evaluating geologic/hydrogeologic data for the purposes of evaluating groundwater contaminant transport computer models and evaluating effectiveness of remedial applications. He designs soil and groundwater remediation projects ranging from pump-and-treat systems to passive systems. Mr. Harm's other responsibilities include state and federal permit acquisition and implementation, supervision of operations and system maintenance, and reporting to local, state and federal agencies.

Mr. Harm is an expert in the evaluation, development, and installation of active soil and groundwater remediation systems. He is licensed to run remediation systems requiring an N-2 Industrial Wastewater Treatment System Operator.

Subsurface Exploration

From 1979 to 1986, Mr. Harm worked as an Exploration Geologist in the oil and gas industry. He developed oil and gas field prospects, interpreting a wide variety of geologic and geophysical data. The prospects were then presented to various investor groups for participation in the exploration programs.

Responsibilities included design, coordination, and oversight of well drilling programs. Duties involved interpretation of field data to evaluate economic productivity of the oil and gas wells. Well depths ranged from 800 – 6500 feet deep.

Expert Testimony

Mr. Harm provides expert witness testimony at legal depositions for cases involving soil and groundwater issues. He also provides expert witness testimony in Courts of Law and was sanctioned by the Superior Court of Burlington County as being an expert in the field of environmental issues associated with leaking tanks and geologic and hydrogeologic evaluation.

EDUCATION

B.S., Geology, West Virginia University, 1979

Waynesburg College, Rocky Mountain Summer Field Camp, 1976

REGISTRATIONS AND PROFESSIONAL CERTIFICATIONS

NJDEP Licensed Site Remediation Professional (LSRP) No. 510698

Registered Professional Geologist, Pennsylvania, No. PG000238G

Registered Professional Geologist, Delaware, No. 54-0001217

Licensed Subsurface Evaluator and UST Closure, No. 10556

Pennsylvania UST Removal Certified, No. 4163

EPA/AHERA Asbestos Inspector Certified, No. 007099

40-Hour OSHA Certification, 29 CFR 1910.120

Licensed N-2 Industrial Wastewater Treatment System Operator, No. 0016442

IRA N. PIERCE, P.E., P.C.
Vice President, Engineering Services
Principal Engineer

QUALIFICATIONS AND EXPERIENCE

Mr. Pierce is a civil engineer and planner with over 30 years experience in the metropolitan regions of New York, New Jersey, and Pennsylvania. Mr. Pierce is responsible for preparation of engineering studies and designs for private and public facilities, environmental studies including impact assessments, wetlands banking; alternatives analyses, traffic and transport studies, and construction programs.

Mr. Pierce prepared environmental impact assessments for Newark Airport and for the US Postal Service in New Jersey. He prepared both military and civilian master plans, engineering studies, transportation plans, and capital programs for the US Department of Defense, New York City Transit, the Regional Planning Commission in Philadelphia. He has prepared structural design for private sector industrial and residential facilities as well as extensive environmental and geotechnical engineering designs and studies. He pioneered the use of quantitative deterministic and probabilistic analysis tools for scheduling, cost studies, value engineering, and risk assessment programs on large-scale infrastructure projects and programs. He provided testimony and technical assistance on that subject to the US Office of Management and Budget, ASCE's Civil Engineering Research Foundation, state, local, and quasi-public agencies.

EDUCATION

B.S.C.E., The Cooper Union School of Engineering, New York, NY
M. Public Administration, Specialty in Urban Planning Engineering, Graduate School of Public Affairs, Albany, NY
Doctoral Candidate, Graduate School of Public Administration, New York University, New York, NY

PROFESSIONAL REGISTRATION

Professional Engineer in New York, New Jersey, and Pennsylvania

PROFESSIONAL MEMBERSHIPS AND AFFILIATIONS

President, Greater New York Construction User Council of the Business Roundtable
Advisory Board Member, Civil Engineering Research Foundation
Instructor, Cooper Union School of Engineering, New York, NY
Program on Transportation Planning, Highway, Bridges, and Tunnel Construction for New Immigrants from the former Soviet Union
Design Team Volunteer, The Partnership for the Homeless, Peter's Place, New York, NY
Member, New York Building Congress Committees on Transportation and Infrastructure; Environment and Economic Development
Board Member, Mechanics Institute, New York, NY
President, Philadelphia Section, ASCE

MELANIE O. ROGACKI
Project Manager

QUALIFICATIONS AND EXPERIENCE

Ms. Rogacki is a graduate of Cook College, Rutgers University, with a Bachelor of Science degree in Natural Resource Management. She spent two years at the New Jersey Department of Environmental Protection managing the state's federally mandated stormwater public education campaign and writing and editing publications and regulations.

She is trained in sampling methods outlined in the August 2005 *NJDEP Field Sampling Procedures Manual* and the New Jersey Department of Environmental Protection's (NJDEP's) *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E). Under the direction of a Senior Project Manager (PM), Ms. Rogacki's responsibilities with Brinkerhoff Environmental Services, Inc. include overseeing groundwater and soil sample collection, conducting site investigations, assisting with preparation of reports for submission to regulatory agencies and preparing compliance permitting and environmental impact analysis.

Phase I Environmental Site Assessments (ESAs)/Real Estate Investigations

Ms. Rogacki performs field technical services as directed by the PM. She is familiar with the use of various groundwater and oil/water probes for gauging wells and product layers, collecting field measurements and documenting field conditions. Ms. Rogacki is responsible for coordinating/conducting Phase I ESAs in accordance with American Society for Testing and Materials (ASTM) standards. Her experience includes performing onsite inspections, review of historic aerial photographs, Sanborn fire insurance maps, title search review, permit and license review, and searches of county, state and federal records.

Site Investigations/Soil and Groundwater Sampling

Ms. Rogacki's experience includes identification of appropriate glassware for the intended sampling and preparation of chain-of-custody forms and labels that accompany samples to the analytical laboratory. She also is experienced in soil boring installation using GeoProbe® equipment and a hand auger, monitoring well installation and development, soil screening and using a Photoionization Detector (PID).

Report Preparation

Ms. Rogacki is responsible for the daily preparation of field notes, soil log forms, monitoring well forms, tables, groundwater contour maps, and other reports as required by the PM. She also assists with the preparation of electronic data deliverables for NJDEP report submissions.

Compliance Permitting and Environmental Impact Analysis

Ms. Rogacki applies site-specific information to state and federal regulations to identify necessary permits for compliance. Activities include obtainment of research material, permit applications and evaluation of environmental impact resulting from proposed development.

EDUCATION

B.S., Natural Resource Management, Cook College, Rutgers University, 1996

REGISTRATIONS AND PROFESSIONAL CERTIFICATIONS

40-Hour OSHA Certification, 29 CFR 1910.120, 2002

NJDEP Subsurface Evaluator No. 463681

Asbestos Hazard Emergency Response Act (AHERA) Asbestos Building Inspector

DUANE A. SHINTON
Environmental Scientist

QUALIFICATIONS AND EXPERIENCE

Mr. Shinton is a Geologist with over 10 years experience in evaluating subsurface soils, preparing geologic and hydrogeologic maps, conducting Phase I Environmental Site Assessments, managing underground storage tank (UST) closures, and performing field investigations. He also has experience with laboratory testing of soil samples for permeability, grain size, and other geotechnical parameters. Under the direction of a senior level Project Manager (PM), Mr. Shinton has worked on projects for private and public agencies throughout New Jersey.

Mr. Shinton utilizes Auto Cad to prepare site maps, geologic cross sections, hydrogeologic maps, and engineering plans.

Lead Inspection Testing and Risk Assessment

Conducts site investigations with emphasis on lead-based paint hazards. Mr. Shinton is experienced in using a nondestructive XRF instrument that uses a Colbalt 57 source. His experience includes selecting lead-based paint testing combinations and downloading XRF information for computer generated reports.

Underground Storage Tank Management

Certified by the New Jersey Department of Environmental Protection (NJDEP) as a Subsurface Evaluator, Mr. Shinton manages the closure of regulated and unregulated USTs, conducts subsurface evaluations associated with UST removal, directs site remediation, postexcavation soil sampling and backfilling of excavations. He has completed Site Investigation Reports as required by the NJDEP upon closure of a regulated UST.

Remedial Investigations

When a discharge of petroleum or other hazardous substances is verified, Mr. Shinton oversees the gathering, correlation, and interpretation of field and laboratory analytical data as required for preparation of Remedial Investigation Reports. He has overseen field sampling projects requiring the use of GeoProbe equipment and standard drilling techniques such as split-spoon sampling and well construction using hollow-stem augers. Detailed technical reports are prepared including contaminant concentration tables and diagrams.

Soil And Groundwater Investigations

Mr. Shinton directs investigations involving the construction of monitoring wells, installation of soil borings and well points, groundwater sampling and laboratory analysis for hydrogeological and environmental characterization. He conducts remedial investigations to determine the extent of contamination and scope of remediation required.

Geophysical Investigations

On sites where subsurface metallic objects are suspected, Mr. Shinton has successfully performed gravity and magnetic surveys to locate buried drums, underground storage tanks, and other subsurface structures. He has used both remote sensing and impressed current methods.

Phase I Environmental Site Assessments

Mr. Shinton is responsible for coordinating and conducting Phase I Environmental Site Assessments in accordance with American Society for Testing and Materials (ASTM) standards. His experience includes performing on-site inspections, review of historical aerial photographs, Sanborn fire insurance maps, title search review, permit and license review, and searches of all county, state, and federal records.

Geotechnical Testing

Mr. Shinton has performed geotechnical testing on disturbed and undisturbed soil samples using ASTM methods. He is familiar with grain size testing and plotting particle size distribution graphs, soil classification using the Unified, Burmeister, and other methods and evaluating permeability using the sieve/hydrometer method, falling-head permeability, and tube permeameter tests.

EDUCATION

B.S., Geology, The Richard Stockton College of New Jersey, 1994

A.S., Civil Engineering Technology, Ocean County College, 1993

REGISTRATIONS, CERTIFICATIONS, AND AFFILIATIONS

New Jersey Lead Inspector/Risk Assessor Refresher, Certificate #ACC-0203-18-002

New Jersey Lead Inspector/Risk Assessor, Permit #016636

NJDEP Subsurface Evaluator, No.0019689

40-Hour OSHA Certification, 29 CFR 1910.120

AHERA Asbestos Building Inspector

SITE-SPECIFIC HEALTH AND SAFETY PLAN

245 East 138th Street, Bronx, New York

1.0 INTRODUCTION

This Site-Specific Health and Safety Plan (HASP) was prepared in accordance with the requirements and guidelines of the applicable Occupational Safety and Health Administration (OSHA) requirements in 29 Code of Federal Regulations (CFR) Part 1910.120. This HASP has been prepared for the property at 245 138th Street, Bronx, New York. The HASP will be available for inspection and review by site workers and regulatory personnel while work activities involving the installation of soil borings, groundwater monitoring wells and the collection of soil and groundwater samples. Site workers are required to comply with this HASP when conducting the site activities listed in Section B. Site workers will notify the Site Safety Officer of matters regarding health, safety and security.

All personnel and subcontractors must familiarize themselves with material contained herein, including special conditions and facilities located near each project as listed on the following pages. The information contained in this HASP pertains to installation of soil borings, collection of soil and groundwater samples for laboratory analysis.

2.0 SITE DESCRIPTION

The following description is prepared to present the location of the subject property and to provide particular information regarding the immediate surrounding area.

Location	6245 East 138 th Street and 2552 3 rd Avenue. The site is bounded on the north by buildings, on the west by Rider Avenue, on the east by Morris Avenue/3 rd Avenue and the south by East 138 th Street.
Hazards	Heavy machinery (i.e., Geoprobe), and typical slip, trip, and fall hazards. Chemical exposure hazards may exist from volatile organic and semi volatile organic compounds.
Weather Conditions	Weather conditions are variable at the subject property. Seasonal variations will be taken into consideration for the health and safety of the field personnel. The Site Safety Officer is responsible to determine proper working conditions at the subject property.

3.0 ENTRY OBJECTIVES

The objective of entry to the Work Area is to conduct soil borings . Work performed at the site will be done in accordance with 29 CFR 1926, Subpart P, and all other appropriate federal and state regulations.

4.0 ON-SITE ORGANIZATION AND COORDINATION

Key project personnel and their responsibilities to carry out the stated job function at the site are discussed below.

Brinkerhoff Environmental Services, Inc. (Brinkerhoff) will direct the work as described. The contact information for the designated person to provide Health and Safety support for this project is:

Steven Biga
Geologist and Health and Safety Officer
Brinkerhoff Environmental Services, Inc.
1913 Atlantic Avenue, Suite R5
Manasquan, New Jersey 08736
Phone: (732) 223-2225, Fax: (732) 223-3666

The Health and Safety Officer for overall administration of this HASP during site work will be assigned upon start of construction. The Health and Safety Officer's responsibilities will include overall project safety and health monitoring for the work to be performed and to enforce the HASP prepared for the site.

5.0 ON-SITE CONTROL

Excavating Precautions (Utilities)

1. A utility markout of all underground utilities will be completed prior to the inception of ground-intrusive work, in compliance with 29 CFR 1926.651. The utility markout will utilize the One Call system prior to the commencement of operations at the site. Work will commence less than 10 business days after contacting the One Call system.
2. Visually inspect all utility markout locations on site.

3. Operations in the vicinity of overhead power lines will be conducted in accordance with 29 CFR 1910.333 (c)(3).
4. Conduct all excavations and subsequent soil sampling in the vicinity of a utility with caution.
5. If a utility line is damaged, call the utility company immediately. Phone numbers are listed in this HASP in Section K on Page 11.

6.0 HAZARD EVALUATION

6.1 Environmental Hazards

At present, suspected contaminants in the subsurface soil constitutes an environmental hazard. Various chemical compounds have been identified in the groundwater. If encountered in the soil at higher concentrations than anticipated, exposure concerns could become a health issue. The following are known or suspected to be present at the site.

6.1.1 Volatile Organic Compounds (VOCs)

Volatile organic compounds (VOCs), such as benzene, toluene, ethyl benzene, and xylene (BTEX), are present at low concentrations within soil. In some cases, the chemical components may be present in non-aqueous phase liquids (NAPL) such as fuels, oils, or tar within subsurface soils planned for excavation. These compounds generally have a depressant effect on the central nervous system (CNS), may cause chronic liver and kidney damage, and some are suspected human carcinogens. Benzene is a suspected human carcinogen. Acute exposure may include headache, dizziness, nausea, and skin and eye irritation. The primary route of exposure to VOCs is through inhalation; therefore, air monitoring and respiratory protection are the primary controls against exposure to VOCs.

6.1.2 Urban Historic Fill

Urban historic fill has been identified on the property. The urban historic fill is impacted with poly nuclear aromatic hydrocarbons (PAHs) and metals. The following substances are known or suspected might be present on site in concentrations that exceed the New York State Department of Conservation's (NYSDEC's) Subpart 375-6 Remedial Cleanup Objectives (RCO) for Restricted Residential Use.

SUBSTANCE IN SITE SOILS
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Dibenz(a,h)anthracene
Copper
Lead

The following are exposure limits and symptoms of overexposure. Material Safety Data Sheets are provided as an attachment to this HASP.

Contaminant

PAHs (Example, benzo (a) anthracene)

Exposure Limits

OSHA PEL: 0.2mg/m³

NIOSH REL: 0.1mg/m³

Symptoms of Overexposure

Eye irritation, nausea, vomiting, diarrhea and confusion

Contaminant

Lead

Exposure Limits

OSHA PEL: 0.050 mg/m³

NIOSH REL: 0.100 mg/m³

Systems of Overexposure

Weakness, insomnia, abdominal pain, eye irritation

Contaminant

Benzene

Exposure Limits

OSHA PEL: 5 ppm

NIOSH REL: 1.0 ppm

Systems of Overexposure

Skin and eye irritation, dizziness, headache, nausea

6.2 Physical Hazards

The work to be completed at the site in conjunction with this HASP consists of installing soil borings and monitoring wells. Additional physical hazards expected on site include overhead power lines, buried utilities, slip, trip, and fall hazards, and hazards associated with heavy machinery (Geoprobe) operation.

7.0 HAZARD MONITORING

Air monitoring and visual inspection of soil during excavation operations should be conducted. A photo ionization detector (PID) will be used to screen both the soil and ambient air for the presence of VOCs.

The following are the Short Term (ST) Exposure Limits on a 15 minute time weighted average and the Immediate Danger to Life and Health (IDLH) conditions for VOCs which may be present in the subsurface soil. The levels are presented in parts per million (ppm).

Compound	ST	IDLH
Benzene	5 ppm	500 ppm
Ethyl benzene	100 ppm	500 ppm
Toluene	150 ppm	500 ppm
Xylenes	150 ppm	900 ppm

7.1 Personal Protective Equipment (PPE)

Based upon evaluation of potential hazards, the following levels of personal protection have been designated for the Work Area:

Location	Job Function	Level of Protection			
Entire Site	Boring Installation	A	B	C	D

If VOCs are detected with the indicate a need to upgrade the PPE, the Health and Safety Officer will stop all work and evaluate the level of protection required to complete the project. A determination will be made regarding the safety of the situation and the type of PPE that will be required. *At no time will work be conducted in an environment where an IDLH condition could be present.*

The following are monitoring levels for which a change in the level of protection or evacuation of the work area would be implemented. If the work area is evacuated, procedures such as the use of ventilation would be utilized if possible to lower monitoring levels to below the threshold for raising the level of protection.

PID 150 ppm

It should be noted that the work proposed will not be performed in a level of PPE other than Level D. Procedures would have to be put in place to lower the PPE requirement to Level D, should conditions suggest an increase in the level of PPE required.

Precautions will be implemented to limit direct contact with the soil or inhalation of dust. At a minimum, nitrile gloves are to be worn when handling soil, dust control procedures used if necessary and through hand washing prior to handing food.

Specific protective equipment for potential levels of protection is as follows:

7.1.1 Levels A & B

Since levels A & B are for IDLH environments, they are not applicable to this project.

7.1.2 Level C

The concentration(s) and type(s) of airborne substance(s) is (are) known and the criteria for using air-purifying respirators are met. The following constitute Level C equipment:

- National Institute for Occupational Safety and Health (NIOSH)-approved full-face or half-face air purifying respirators;
- Chemical-resistant clothing (overalls, chemical-splash suit, disposable chemical-resistant overalls);
- Gloves, outer and inner, chemical-resistant;
- Boots, outer, chemical-resistant, with steel toe and shank;
- Optional chemical resistant boot covers;
- Hard hat;
- Safety glasses with side shields;
- Face shield and safety glasses when not wearing a full face respirator; and,
- Hearing protection when working in noise hazardous areas or near operating heavy equipment.

7.1.3 Level D

A work uniform providing no respiratory protection is used only for prevention of skin contamination. The following constitute Level D equipment:

- Coveralls or other skin-protective clothing (long-sleeve shirts and long pants);
- Gloves;
- Boots or shoes, chemical-resistant, steel toe and shank;
- Optional chemical resistant boot covers;
- Safety glasses or chemical splash goggles;
- Hard hat;
- Escape mask (optional);
- Hearing protection when working in noise-hazardous areas or near operating heavy equipment; and,
- High-visibility safety vest.

***NO CHANGES TO THE SPECIFIED LEVELS OF PROTECTION SHALL BE MADE
WITHOUT THE APPROVAL OF THE SITE SAFETY OFFICER.***

8.0 COMMUNICATION PROCEDURES

The following standard hand signals will be used in case of emergency:

<u>Message</u>	<u>Interpretation(s)</u>
Hands gripping throat	Out of air; can't breathe.
Grip partner's wrist	Leave area immediately.
Hands on top of head	Need assistance.
Thumbs up	OK; I am all right; I understand.
Thumbs down	No; Negative.

9.0 DECONTAMINATION PROCEDURES

Should hazardous materials be encountered, a decontamination procedure will be implemented. Generated waste, such as disposable PPE, will be disposed of in accordance with applicable local, state, and federal regulations. The decontamination protocol shall be used with the following decontamination stations:

- (1) Equipment drop;
- (2) Detergent and Water Rinse (optional); and,
- (3) Remove PPE (if utilized) and place in waste container

Decontamination of equipment is not anticipated to be required for this project.

10.0 MEDICAL MONITORING

As per 29 CFR 1910.120 (b)(4)(ii)(D) and in accordance with 29 CFR 1910.120 (f), persons engaging in on-site activities during which they are or may be exposed to hazardous substances or health hazards at or above the permissible exposure limits or published exposure levels for 30 days or more a year are included in a Medical Surveillance Program.

The timing and location of this project may be such that heat/cold stress could pose a threat to the health and safety of site personnel. Work/rest regimens will be employed as deemed necessary by the Site Safety Officer so site workers do not suffer adverse effects from heat/cold stress. Special clothing and an appropriate diet and fluid intake will be recommended to all on-site personnel to further reduce these temperature-related hazards. Site workers should stop work and notify the Site Safety Officer when they observe symptoms of heat/cold stress in themselves or co-workers.

10.1 Heat Stress Monitoring

Heat stress monitoring of personnel wearing protective clothing (i.e., impermeable fabric) should be considered when the ambient temperature is 70 degrees Fahrenheit or above. To monitor the worker, one of the following methods should be employed:

- Heart rate should be measured by the radial pulse for a 30-second period as early as possible in the rest period. If the heart rate exceeds 110 beats per minute, shorten the next work cycle by one-third (0.3) and keep the rest period the same. If the heart rate still exceeds 110 beats per minute at the next rest period, shorten the following cycle by one-third (0.3).
- Oral temperature should be measured at the end of the work period (before drinking). If oral temperature exceeds 99.6 degrees Fahrenheit, shorten the next work cycle by one-third (0.3) without changing the rest period. If the oral temperature still exceeds 99.6 degrees Fahrenheit at the beginning of the next rest period, shorten the next work cycle by one-third (0.3). Do not permit a worker to wear a semipermeable or impermeable garment when his/her oral temperature exceeds 100.6 degrees Fahrenheit.

10.2 Cold Stress Monitoring

Work/rest schedules must be altered to minimize the potential for cold stress. Cold stress is defined as a decrease in core body temperature to 96.8 degrees Fahrenheit and/or cold injury to body extremities. Decreases in core body temperature are associated with reduced mental alertness, reduction in rational decision-making, or loss of consciousness in severe cases. Symptoms of cold stress include pain in extremities (i.e., hands and feet) and severe shivering.

9.0 MEDICAL EMERGENCIES

10.1 Emergency Medical Care

- First Aid & Rescue Squad (Call 911).
- Lincoln Hospital is located less than 5 minutes drive time from the site.

10.2 Directions to Lincoln Hospital

See attached turn by turn driving directions and map.

10.3 List of Emergency Phone Numbers

Agency/Facility	Phone Number
All Services	911
Police	911
Fire Emergency	911
Lincoln Hospital	718-579-6010

10.4 First Aid Equipment

First aid equipment is available on site at the following locations:

Equipment	Location
First Aid Kit	Field Vehicle
Fire Extinguisher	Field Vehicle

11.0 EMERGENCY PROCEDURES

On-site personnel will use the following standard emergency procedures. The Health and Safety Officer shall be notified of on-site emergencies and be responsible for ensuring that the appropriate procedures are followed.

10.1 Personnel Injury in the Work Area

Upon notification of an injury in the Work Area, the Health and Site Safety Officer will assess the nature of the injury. For a true emergency, 911 shall be called and local emergency services personnel shall initiate the appropriate first aid and contact the designated medical facility, if required.

If the cause of the injury or loss of the injured person does not affect the performance of site personnel, operations may continue with the local emergency services personnel initiating the appropriate first aid and necessary follow-up, as stated above. If the injury increases the risk to others, the designated emergency signal shall be sounded and all site personnel shall move to the site entrance for further instructions. Activities on site will stop until the added risk is removed or minimized. No persons shall reenter the Work Area until the cause of the symptoms or injury is determined by the Health and Safety Officer.

11.2 Fire/Explosion

Upon notification of a fire or explosion on site, the designated emergency signal (three [3] horn blasts) shall be sounded, and all site personnel shall be assembled at the site entrance. The fire department shall be alerted, and all personnel shall be moved to a safe distance from the involved area.

11.3 PPE Failure

If utilization of PPE is necessitated by conditions in the Work Area and a site worker experiences a failure or alteration of protective equipment which affects the protection factor, that person shall immediately leave the Work Area. Reentry shall not be permitted until the equipment has been repaired or replaced.

11.4 Other Equipment Failure

If other equipment on site fails to operate properly, the Health and Safety Officer shall be notified and then determine the effect of this failure on continuing operations. If the failure affects the safety of personnel or prevents completion of the planned tasks, all personnel shall leave the Work Area until the situation is evaluated and appropriate actions taken.

In all situations, when an on-site emergency results in evacuation of the Work Area, personnel shall not reenter until

1. The conditions resulting in the emergency have been corrected.
2. The hazards have been reassessed.
3. The HASP has been revised.
4. Site personnel have been briefed regarding changes in the HASP.

11.0 SITE PERSONNEL SIGNATURE PAGE

ALL SITE PERSONNEL HAVE READ THE ABOVE HEALTH AND SAFETY PLAN AND ARE FAMILIAR AND WILL COMPLY WITH ITS PROVISIONS, AS EVIDENCED BY SIGNATURE BELOW.

Name	Signature	Date

Google maps


Directions to Lincoln Hospital

234 East 149th Street, NY 10451 - (718) 579-6010

0.7 mi – about 1 min

Save trees. Go green!Download Google Maps on your phone at google.com/gmm

718-579-6010


 245 E 138th St, Bronx, NY 10451

1. Head **northwest** on **E 138th St** toward **Rider Ave**


go 0.1 mi
total 0.1 mi

 2. Turn **right** at **Grand Concourse**
About 1 min

go 0.4 mi
total 0.6 mi

 3. Take the 2nd **right** onto **E 149th St**
Destination will be on the right

go 0.2 mi
total 0.7 mi

 **Lincoln Hospital**
234 East 149th Street, NY 10451 - (718) 579-6010

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2010 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

Safety data for benzene



Click [here](#) for data on benzene in student-friendly format, from the HSci project

Glossary of terms on this data sheet.

The information on this web page is provided to help you to work safely, but it is intended to be an overview of hazards, not a replacement for a full Material Safety Data Sheet (MSDS). MSDS forms can be downloaded from the web sites of many chemical suppliers.

General

Synonyms: (6)annulene, benzin, benzol, benzole, benzolene, phene, phenyl hydride, pyrobenzole, coal naphtha

Molecular formula: C_6H_6

CAS No: 71-43-2

EC No: 200-753-7

Annex I Index No: 601-020-00-8

Physical data

Appearance: colourless liquid

Melting point: 5.5 C

Boiling point: 80 C

Specific gravity: 0.87

Vapour pressure: 74.6 mm Hg at 20 C

Flash point: -11 C

Explosion limits: 1.3 % - 8 %

Autoignition temperature: 561 C

Stability

Stable. Substances to be avoided include strong oxidizing agents, sulfuric acid, nitric acid, halogens. Highly flammable.

Toxicology

This material is a known carcinogen. The risks of using it in the laboratory must be fully assessed before work begins. TLV 10 ppm. Short-term exposure may cause a variety of effects, including nausea, vomiting, dizziness, narcosis, reduction in blood pressure, CNS depression. Skin contact may lead to dermatitis. Long-term exposure may lead to irreversible effects. Severe eye irritant. Skin and respiratory irritant.

Toxicity data

(The meaning of any abbreviations which appear in this section is given [here](#).)

ORL-MAN LDLO 50 mg kg⁻¹

IHL-HMN LCLO 2000 ppm/5h

ORL-RAT LD50 930 mg kg⁻¹

IHL-MUS LC50 9980 ppm

IPR-MUS LD50 340 mg kg⁻¹

ORL-MUS LD50 4700 mg kg⁻¹

Risk phrases

(The meaning of any risk phrases which appear in this section is given [here](#).)

R11 R23 R24 R25 R36 R38 R45 R48 R65.

Personal protection

Safety glasses, gloves, good ventilation. Thought should be given to using an alternative, safer product.

Safety phrases

(The meaning of any safety phrases which appear in this section is given [here](#).)

S45 S53.

[Return to [Physical & Theoretical Chemistry Lab. Safety home page](#).]

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Note also that the information on the PTCL Safety web site, where this page was hosted, has been copied onto many other sites, often without permission. If you have any doubts about the veracity of the information that you are viewing, or have any queries, please check the URL that your web browser displays for this page. If the URL begins "http://msds.chem.ox.ac.uk/" the page is maintained by the Safety Officer in Physical Chemistry at Oxford University. If not, this page is a copy made by some other person and we have no responsibility for it.

Safety data for benzo(a)pyrene



Glossary of terms on this data sheet.

The information on this web page is provided to help you to work safely, but it is intended to be an overview of hazards, not a replacement for a full Material Safety Data Sheet (MSDS). MSDS forms can be downloaded from the web sites of many chemical suppliers.

General

Synonyms: 1,2-benzopyrene, 6,7-benzopyrene, benzo[a]pyrene, B(a)P, BP, 3,4-benzopyrene, benzo[d,e,f]chrysene, 3,4-benzopyrene, benzpyrene, 3,4-benzylpyrene, 3,4-benz[a]pyrene, 3,4-BP, 3,4-benzopyrene

Molecular formula: $C_{20}H_{12}$

CAS No: 50-32-8

EINECS No: 200-028-5

EU Index No: 601-032-00-3

Physical data

Appearance: yellow crystals or powder [found in cigarette smoke, coal tar, fuel exhaust gas and in many other sources]

Melting point: 176 C

Boiling point: 495 C

Vapour density: 8.7 (air = 1)

Vapour pressure:

Density ($g\ cm^{-3}$): 1.351

Flash point:

Explosion limits:

Autoignition temperature:

Water solubility: slight

Stability

Stable. Incompatible with strong oxidizing agents.

Toxicology

POISON. This material is an experimental carcinogen, mutagen, tumorigen, neoplastigen and teratogen. It is a probable carcinogen in humans and a known human mutagen. IARC Group 2A carcinogen. It is believed to cause bladder, skin and lung cancer. Exposure to it may damage the developing foetus. May cause reproductive damage. May be transferred to nursing infants through mother's milk. Skin, respiratory and eye irritant. May cause changes to the colour and properties of skin. Exposure to sunlight can increase the skin damage caused by this chemical.

Toxicity data

(The meaning of any abbreviations which appear in this section is given [here](#).)

SCU-RAT LD50 50 mg kg⁻¹

IPR-MUS LDLO 500 mg kg⁻¹

IRN-FRG LDLO 11 mg kg⁻¹

Risk phrases

(The meaning of any risk phrases which appear in this section is given [here](#).)

R45 R46 R50 R53 R60 R61.

Transport information

(The meaning of any UN hazard codes which appear in this section is given [here](#).)

Un No 2811. Packing group III. Hazard class 6.1.

Environmental information

Very toxic in the environment - may cause long-term damage.

Personal protection

Restricted material. Only to be used by trained workers. Prepare a full risk assessment before starting work. Safety glasses, gloves, good ventilation. Handle as a carcinogen. Do not dry sweep spills because of the risk of increasing the amount of airborne material.

Safety phrases

(The meaning of any safety phrases which appear in this section is given [here](#).)

S45 S53 S60 S61.

[Return to [Physical & Theoretical Chemistry Lab. Safety home page.](#)]

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Safety data for benzo[b]fluoranthene



Glossary of terms on this data sheet.

The information on this web page is provided to help you to work safely, but it is intended to be an overview of hazards, not a replacement for a full Material Safety Data Sheet (MSDS). MSDS forms can be downloaded from the web sites of many chemical suppliers.

General

Synonyms: 3,4-benzofluoranthene, benz[e]acenaphthanthrylene, 3,4-benz[e]acenaphthanthrylane, 2,3-benzofluoranthene, benzofluoranthrene, benzo[e]fluoranthene

Use:

Molecular formula: $C_{20}H_{12}$

CAS No: 205-99-2

EINECS No: 205-911-9

EC Index No: 601-024-00-4

Physical data

Appearance: off-white to tan powder

Melting point: 163 - 165 C

Boiling point:

Vapour density:

Vapour pressure:

Density ($g\ cm^{-3}$):

Flash point:

Explosion limits:

Autoignition temperature:

Water solubility:

Stability

Stable. Incompatible with strong oxidizing agents.

Toxicology

Toxic. Probable human carcinogen. May act as an irritant.

Toxicity data

(The meaning of any toxicological abbreviations which appear in this section is given [here](#).)

Risk phrases

(The meaning of any risk phrases which appear in this section is given [here](#).)

R45 R50 R53.

Environmental information

Very harmful to aquatic organisms - may cause long-term damage to the environment.

Transport information

(The meaning of any UN hazard codes which appear in this section is given [here](#).)

Personal protection

Safety glasses, good ventilation, disposable gloves. Treat as a possible carcinogen.

Safety phrases

(The meaning of any safety phrases which appear in this section is given [here](#).)

S45 S53 S60 S61.

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Safety data for lead



Click here for data on lead in student-friendly format, from the HSci project

Glossary of terms on this data sheet.

The information on this web page is provided to help you to work safely, but it is intended to be an overview of hazards, not a replacement for a full Material Safety Data Sheet (MSDS). MSDS forms can be downloaded from the web sites of many chemical suppliers.

General

Synonyms: lead shot, C.I. 77575. [Note: the exact formulation of lead obtained as lead shot may vary; it may contain small amounts of antimony, arsenic and other materials.]

Molecular formula: Pb

CAS No: 7439-92-1

EINECS No:

Physical data

Appearance: grey metal granules, shot, foil, sheet or powder

Melting point: 327 C

Boiling point: 1744 C

Vapour density:

Vapour pressure:

Density (g cm⁻³): 11.34

Flash point:

Explosion limits:

Autoignition temperature:

Water solubility: insoluble

Stability

Stable. Incompatible with strong oxidizing agents, potassium, sodium.

Toxicology

Toxic by ingestion or inhalation. Chronic poison. Typical TLV/TWA as powder 0.15 mg/m³. Typical PEL 0.05 mg/m³

Risk phrases

(The meaning of any risk phrases which appear in this section is given here.)
R23 R25.

Transport information

Non-hazardous for air, sea and road transport.

Personal protection

Solid lead is believed to present a relatively low hazard to health, but it is a cumulative poison, and can cause serious harm if inhaled as a powder, or ingested over a long period. Most lead salts are very poisonous, as are many organic compounds containing lead, such as lead tetraethyl.

[Return to [Physical & Theoretical Chemistry Lab. Safety home page](#).]

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X

COMMUNITY AIR MONITORING PLAN

1.0 SCOPE OF WORK

Real-time air monitoring for volatile organic compounds (VOCs) and particulate levels at the perimeter of the exclusion zone or work area will be performed. Continuous monitoring will be performed for all ground intrusive activities and during the handling of contaminated or potentially contaminated media. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pit excavation or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be performed during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. Periodic monitoring during sample collection, for instance, will consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. Depending upon the proximity of potentially exposed individuals, continuous monitoring may be performed during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence. Exceedances of action levels observed during performance of the Community Air Monitoring Plan (CAMP) will be reported to the NYSDEC case manager.

1.1 VOC Monitoring, Response Levels, and Actions

VOCs will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis during invasive work. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will resume provided that the total organic vapor level 200 feet downwind of the 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.

All 15-minute readings must be recorded and be available for OER personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

1.2 Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10

particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings will be recorded and be available for NYSDEC personnel to review.



New York State Department of Environmental Conservation

Brownfield Cleanup Program

Citizen Participation Plan for **Former G & C Services**

2551 3rd Avenue and 245 East 138th Street
Bronx, New York

October 2011

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* * * * *

Note: The information presented in this Citizen Participation Plan was current as of the date of its approval by the New York State Department of Environmental Conservation. Portions of this Citizen Participation Plan may be revised during the site's investigation and cleanup process.

Applicant: **East 138th Street, LLC (Applicant)**
Site Name: **Former G & C Services**
Site Address: **2551 3rd Avenue and 245 East 138th Street**
Site County: **Bronx County**
Site Number: **C#203057**

1. What is New York's Brownfield Cleanup Program?

New York's Brownfield Cleanup Program (BCP) works with private developers to encourage the voluntary cleanup of contaminated properties known as "brownfields" so that they can be reused and developed. These uses include recreation, housing, and business.

A *brownfield* is any real property that is difficult to reuse or redevelop because of the presence or potential presence of contamination. A brownfield typically is a former industrial or commercial property where operations may have resulted in environmental contamination. A brownfield can pose environmental, legal, and financial burdens on a community. If a brownfield is not addressed, it can reduce property values in the area and affect economic development of nearby properties.

The BCP is administered by the New York State Department of Environmental Conservation (NYSDEC) which oversees Applicants that conduct brownfield site investigation and cleanup activities. An Applicant is a person who has requested to participate in the BCP and has been accepted by NYSDEC. The BCP contains investigation and cleanup requirements, ensuring that cleanups protect public health and the environment. When NYSDEC certifies that these requirements have been met, the property can be reused or redeveloped for the intended use.

For more information about the BCP, go online at: <http://www.dec.ny.gov/chemical/8450.html> .

2. Citizen Participation Activities

Why NYSDEC Involves the Public and Why It Is Important

NYSDEC involves the public to improve the process of investigating and cleaning up contaminated sites, and to enable citizens to participate more fully in decisions that affect their health, environment, and social well being. NYSDEC provides opportunities for citizen involvement and encourages early two-way communication with citizens before decision makers form or adopt final positions.

Involving citizens affected and interest in site investigation and cleanup programs is important for many reasons. These include:

- Promoting the development of timely, effective site investigation and cleanup programs that protect public health and the environment
- Improving public access to, and understanding of, issues and information related to a particular site and that site's investigation and cleanup process
- Providing citizens with early and continuing opportunities to participate in NYSDEC's site investigation and cleanup process
- Ensuring that NYSDEC makes site investigation and cleanup decisions that benefit from input that reflects the interests and perspectives found within the affected community
- Encouraging dialogue to promote the exchange of information among the affected/interested public, State agencies, and other interested parties that strengthens trust among the parties, increases understanding of site and community issues and concerns, and improves decision making.

This Citizen Participation (CP) Plan provides information about how NYSDEC will inform and involve the public during the investigation and cleanup of the site identified above. The public information and involvement program will be carried out with assistance, as appropriate, from the Applicant.

Project Contacts

Appendix A identifies NYSDEC project contact(s) to whom the public should address questions or request information about the site's investigation and cleanup program. The public's suggestions about this CP Plan and the CP program for the site are always welcome. Interested people are encouraged to share their ideas and suggestions with the project contacts at any time.

Locations of Reports and Information

The locations of the reports and information related to the site's investigation and cleanup program also are identified in Appendix A. These locations provide convenient access to important project documents for public review and comment. Some documents may be placed on the NYSDEC web site. If this occurs, NYSDEC will inform the public in fact sheets distributed about the site and by other means, as appropriate.

Site Contact List

Appendix B contains the site contact list. This list has been developed to keep the community informed about, and involved in, the site's investigation and cleanup process. The site contact list will be used periodically to distribute fact sheets that provide updates about the status of the

project. These will include notifications of upcoming activities at the site (such as fieldwork), as well as availability of project documents and announcements about public comment periods. The site contact list includes, at a minimum:

- chief executive officer and planning board chairperson of each county, city, town and village in which the site is located;
- residents, owners, and occupants of the site and properties adjacent to the site;
- the public water supplier which services the area in which the site is located;
- any person who has requested to be placed on the site contact list;
- the administrator of any school or day care facility located on or near the site for purposes of posting and/or dissemination of information at the facility;
- location(s) of reports and information.

The site contact list will be reviewed periodically and updated as appropriate. Individuals and organizations will be added to the site contact list upon request. Such requests should be submitted to the NYSDEC project contact(s) identified in Appendix A. Other additions to the site contact list may be made at the discretion of the NYSDEC project manager, in consultation with other NYSDEC staff as appropriate.

CP Activities

The table at the end of this section identifies the CP activities, at a minimum, that have been and will be conducted during the site's investigation and cleanup program. The flowchart in Appendix D shows how these CP activities integrate with the site investigation and cleanup process. The public is informed about these CP activities through fact sheets and notices distributed at significant points during the program. Elements of the investigation and cleanup process that match up with the CP activities are explained briefly in Section 5.

- **Notices and fact sheets** help the interested and affected public to understand contamination issues related to a site, and the nature and progress of efforts to investigate and clean up a site.
- **Public forums, comment periods and contact with project managers** provide opportunities for the public to contribute information, opinions and perspectives that have potential to influence decisions about a site's investigation and cleanup.

The public is encouraged to contact project staff at any time during the site's investigation and cleanup process with questions, comments, or requests for information.

This CP Plan may be revised due to changes in major issues of public concern identified in Section 3 or in the nature and scope of investigation and cleanup activities. Modifications may include additions to the site contact list and changes in planned citizen participation activities.

Technical Assistance Grant

NYSDEC must determine if the site poses a significant threat to public health or the environment. This determination generally is made using information developed during the investigation of the site, as described in Section 5.

If the site is determined to be a significant threat, a qualifying community group may apply for a Technical Assistance Grant (TAG). The purpose of a TAG is to provide funds to the qualifying group to obtain independent technical assistance. This assistance helps the TAG recipient to interpret and understand existing environmental information about the nature and extent of contamination related to the site and the development/implementation of a remedy.

An eligible community group must certify that its membership represents the interests of the community affected by the site, and that its members' health, economic well-being or enjoyment of the environment may be affected by a release or threatened release of contamination at the site.

For more information about TAGs, go online at <http://www.dec.ny.gov/regulations/2590.html>

Note: The table identifying the citizen participation activities related to the site's investigation and cleanup program follows on the next page:

Citizen Participation Requirements (Activities)	Timing of CP Activity(ies)
<p align="center">Application Process:</p> <ul style="list-style-type: none"> • Prepare site contact list • Establish document repositories 	
<ul style="list-style-type: none"> • Publish notice in Environmental Notice Bulletin (ENB) announcing receipt of application and 30-day public comment period • Publish above ENB content in local newspaper • Mail above ENB content to site contact list • Conduct 30-day public comment period 	<p>At time of preparation of application to participate in the BCP.</p> <p>When NYSDEC determines that BCP application is complete. The 30-day public comment period begins on date of publication of notice in ENB. End date of public comment period is as stated in ENB notice. Therefore, ENB notice, newspaper notice, and notice to the site contact list should be provided to the public at the same time.</p>
<p align="center">After Execution of Brownfield Site Cleanup Agreement:</p> <ul style="list-style-type: none"> • Prepare Citizen Participation (CP) Plan 	
<p align="center">Before NYSDEC Approves Remedial Investigation (RI) Work Plan:</p> <ul style="list-style-type: none"> • Distribute fact sheet to site contact list about proposed RI activities and announcing 30-day public comment period about draft RI Work Plan • Conduct 30-day public comment period 	<p>Before start of Remedial Investigation</p> <p>Before NYSDEC approves RI Work Plan. If RI Work Plan is submitted with application, public comment periods will be combined and public notice will include fact sheet. Thirty-day public comment period begins/ends as per dates identified in fact sheet.</p>
<p align="center">After Applicant Completes Remedial Investigation:</p> <ul style="list-style-type: none"> • Distribute fact sheet to site contact list that describes RI results 	
<p align="center">Before NYSDEC Approves Remedial Work Plan (RWP):</p> <ul style="list-style-type: none"> • Distribute fact sheet to site contact list about proposed RWP and announcing 45-day public comment period • Public meeting by NYSDEC about proposed RWP (if requested by affected community or at discretion of NYSDEC project manager) • Conduct 45-day public comment period 	<p>Before NYSDEC approves RI Report</p> <p>Before NYSDEC approves RWP. Forty-five day public comment period begins/ends as per dates identified in fact sheet. Public meeting would be held within the 45-day public comment period.</p>
<p align="center">Before Applicant Starts Cleanup Action:</p> <ul style="list-style-type: none"> • Distribute fact sheet to site contact list that describes upcoming cleanup action 	
<p align="center">After Applicant Completes Cleanup Action:</p> <ul style="list-style-type: none"> • Distribute fact sheet to site contact list that announces that cleanup action has been completed and that summarizes the Final Engineering Report • Distribute fact sheet to site contact list announcing issuance of Certificate of Completion (COC) 	<p>Before the start of cleanup action.</p> <p>At the time NYSDEC approves Final Engineering Report. These two fact sheets are combined if possible if there is not a delay in issuing the COC.</p>

3. Major Issues of Public Concern

This section of the CP Plan identifies major issues of public concern that relate to the site. Additional major issues of public concern may be identified during the course of the site investigation and cleanup process.

To date, no major issues of public concern have been raised in relation to the project. The applicant was able to secure a number of letters of support for the project including one from the South Bronx Overall Economic Development Corp. (SoBRO), the local community based organization working on a Brownfield Opportunity Area (BOA) designation for this neighborhood. The low income housing project for this site is consistent with the evolving BOA plan for the community.

This Site is in an environmental justice area. As such, the Volunteer will make all possible efforts to be sensitive to the needs of the community and ensure that community members are aware of activities at the Site.

It is anticipated that cleanup of the site will involve significant excavation of contaminated soil. This is expected to generate temporary increased truck traffic as contaminated soil is removed from the Site. A truck route that takes into consideration surrounding land uses and traffic patterns will be proposed prior to the cleanup. Any potential odors, air quality concerns or other nuisances which may affect the community during the investigation and/or cleanup process will be addressed by adherence to a Community Air Monitoring Plan and an Odor, Dust, and Nuisance Control Plan, which will be included in the Remedial Action Work Plan.

The site contact list (Appendix B) has been voluntarily edited to include the stakeholders related to the community, including SoBRO.

Due to the significant number of Spanish-speaking residents in the community, fact sheets will be disseminated in Spanish as well as English. If any public meetings are to be held, the need for a translator at such events will be evaluated at that time.

4. Site Information

Appendix C contains a map identifying the location of the site.

Site Description

The Site is made up of two lots (Block 2333 Lots 1 and 6) totaling approximately .4678 acres in the South Bronx, New York, Bronx County. Lot 1 is developed with a one-story vacant building formerly occupied by a Kentucky Fried Chicken (KFC) fast food restaurant. Prior to the KFC, the parcel was operated as a Cities Services Gas Station. The remaining portion of this parcel is a paved parking lot. The parcel has been vacant since approximately 2006. Lot 2 is developed

with a one-story garage building, including an office and two garage bays. This parcel was operated for 80 years as various gas stations, and most recently as a Getty gas station and auto repair shop. The remaining portion of this parcel is a paved parking lot. This parcel has been vacant since approximately 2001.

Large, multi-story former industrial buildings, the front of which are along East 139th Street and several smaller buildings are located on the corner of 139th Street and 3rd Avenue to the north of the Site. A one-story garage building currently limited to parking and storage by the owner is located along Rider Avenue to the west of the Site. Third Avenue and a federally assisted Section 8 Senior Residential Building are located to the east of the Site. East 138th Street, an abandoned gas station and commercial storefronts with residential apartments above are located on the other side of East 138th Street to the south of the Site.

History of Site Use, Investigation, and Cleanup

Both lots were in the past operated as commercial uses. Lot 1 is a vacant former Kentucky Fried Chicken fast food restaurant, and before that, a gas station. Lot 2 is a vacant gas station/auto repair and paint shop. Both lots have a documented history of leaking underground storage tanks. Petroleum, chlorinated solvents, and the metals lead, chromium, copper and mercury are known to be present in the soil and groundwater. Lacquer paint is suspected to also be present in the soil and groundwater. Petroleum and chlorinated solvents are suspected to be present in soil gas.

Three Phase I Environmental Site Assessments, three Phase II reports, one Remedial Action Work Plan, two Underground Storage Tank (UST) Closure Reports, and two geophysical reports were included in the initial Brownfield Cleanup Program application. The reports date from October 1998 to 2010. While the tanks have been removed, and some contaminated petroleum soil source material has also been removed, residual contamination in both soil and groundwater remains present requiring remediation.

5. Investigation and Cleanup Process

Application

The Applicant has applied for and been accepted into New York's Brownfield Cleanup Program as a Volunteer. This means that the Applicant was not responsible for the disposal or discharge of the contaminants or whose ownership or operation of the site took place after the discharge or disposal of contaminants. The Volunteer must fully characterize the nature and extent of contamination onsite, and must conduct a "qualitative exposure assessment," a process that characterizes the actual or potential exposures of people, fish and wildlife to contaminants on the site and to contamination that has migrated from the site.

The Applicant in its Application proposes that the site will be used for unrestricted residential purposes.

To achieve this goal, the Applicant will conduct investigation and cleanup activities at the site with oversight provided by NYSDEC. The Brownfield Cleanup Agreement executed by NYSDEC and the Applicant sets forth the responsibilities of each party in conducting these activities at the site.

Investigation

The Applicant will conduct an investigation of the site officially called a “remedial investigation” (RI). This investigation will be performed with NYSDEC oversight. The Applicant must develop a remedial investigation workplan, which is subject to public comment.

The site investigation has several goals:

- 1) define the nature and extent of contamination in soil, surface water, groundwater and any other parts of the environment that may be affected;
- 2) identify the source(s) of the contamination;
- 3) assess the impact of the contamination on public health and the environment; and
- 4) provide information to support the development of a proposed remedy to address the contamination or the determination that cleanup is not necessary.

When the investigation is complete, the Applicant will prepare and submit a report that summarizes the results. This report also will recommend whether cleanup action is needed to address site-related contamination. The investigation report is subject to review and approval by NYSDEC.

NYSDEC will use the information in the investigation report to determine if the site poses a significant threat to public health or the environment. If the site is a “significant threat,” it must be cleaned up using a remedy selected by NYSDEC from an analysis of alternatives prepared by the Applicant and approved by NYSDEC. If the site does not pose a significant threat, the Applicant may select the remedy from the approved analysis of alternatives.

Remedy Selection

When the investigation of the site has been determined to be complete, the project likely would proceed in one of two directions:

1. The Applicant may recommend in its investigation report that no action is necessary at the site. In this case, NYSDEC would make the investigation report available for public comment for 45 days. NYSDEC then would complete its review, make any necessary revisions, and, if appropriate, approve the investigation report. NYSDEC would then issue a “Certificate of Completion” (described below) to the Applicant.

or

2. The Applicant may recommend in its investigation report that action needs to be taken to address site contamination. After NYSDEC approves the investigation report, the Applicant may then develop a cleanup plan, officially called a “Remedial Work Plan”. The Remedial Work Plan describes the Applicant’s proposed remedy for addressing contamination related to the site.

When the Applicant submits a proposed Remedial Work Plan for approval, NYSDEC would announce the availability of the proposed plan for public review during a 45-day public comment period.

Cleanup Action

NYSDEC will consider public comments, and revise the draft cleanup plan if necessary, before approving the proposed remedy. The New York State Department of Health (NYSDOH) must concur with the proposed remedy. After approval, the proposed remedy becomes the selected remedy.

The Applicant may then design and perform the cleanup action to address the site contamination. NYSDEC and NYSDOH oversee the activities. When the Applicant completes cleanup activities, it will prepare a final engineering report that certifies that cleanup requirements have been achieved or will be achieved within a specific time frame. NYSDEC will review the report to be certain that the cleanup is protective of public health and the environment for the intended use of the site.

Certificate of Completion

When NYSDEC is satisfied that cleanup requirements have been achieved or will be achieved for the site, it will approve the final engineering report. NYSDEC then will issue a Certificate of Completion (COC) to the Applicant. The COC states that cleanup goals have been achieved, and relieves the Applicant from future liability for site-related contamination, subject to certain conditions. The Applicant would be eligible to redevelop the site after it receives a COC.

Site Management

Site management is the last phase of the site cleanup program. This phase begins when the COC is issued. Site management may be conducted by the Applicant under NYSDEC oversight, if contamination will remain in place. Site management incorporates any institutional and engineering controls required to ensure that the remedy implemented for the site remains protective of public health and the environment. All significant activities are detailed in a Site Management Plan.

An institutional control is a non-physical restriction on use of the site, such as a deed restriction that would prevent or restrict certain uses of the property. An institutional control may be used when the cleanup action leaves some contamination that makes the site suitable for some, but not all uses.

An engineering control is a physical barrier or method to manage contamination. Examples include: caps, covers, barriers, fences, and treatment of water supplies.

Site management also may include the operation and maintenance of a component of the remedy, such as a system that is pumping and treating groundwater. Site management continues until NYSDEC determines that it is no longer needed.

Appendix A

Project Contacts and Locations of Reports and Information

Project Contacts

For information about the site's investigation and cleanup program, the public may contact any of the following project staff:

New York State Department of Environmental Conservation (NYSDEC):

Ms. Dana Kaplan, Project Manager
NYSDEC Region 2 Office
One Hunters Point Plaza
47-40 21st Street
Long Island City, NY 11101
(718) 482-7541
dpkaplan@gw.dec.state.ny.us

Thomas V. Panzone
Regional Citizen Participation Specialist
NYSDEC, Region 2
Division of Public Affairs & Education
47-40 21st Street
Long Island City, NY 11101
tvpanzon@gw.dec.state.ny.us
718-482-4900

New York State Department of Health (NYSDOH):

Steven Bates
NYSDOH
Bureau of Env. Exposure Investigation
Flanigan Square
547 River Street
Troy, NY 12180-2216
smb02@health.state.ny.us
518-402-7860

Locations of Reports and Information

The facilities identified below are being used to provide the public with convenient access to important project documents:

Mott Haven Library
321 East 140th Street
Bronx, NY 10454
Attn: Jeanine Thomas Cross
Phone: (718)665-4878
Hours: Mon and Thurs 10:00am to 6:00pm
Tues and Wed 10:00am to 7:00pm
Fri and Sat 10:00am to 5:00pm
Sunday closed

NYSDEC Region 2 Office
One Hunters Point Plaza
47-40 21st Street
Long Island City, NY 11101
Attn: Ms. Dana Kaplan
Phone: (718) 482-7541
Hours: Monday – Friday 9-5
(call for appointment)

Appendix B Site Contact List

Elected/Government Officials:

Hon. Michael Bloomberg
Mayor of the City of New York
City Hall
New York, NY 10007

Daniel Walsh
Director, New York City Office
of Environmental Remediation
253 Broadway ,14th Floor
New York NY 10007

John Liu
NYC Comptroller
1 Centre Street
New York NY 10007
Email: press@comptroller.nyc.gov

Bill De Blasio
Public Advocate
1 Centre Street, 15th Floor
New York NY 10007
Email: mwing@pubadvocate.nyc.gov

John Wuthenow
Office of Environmental Planning
& Assessment, NYCDEP
96-05 Horace Harding Expressway
Flushing NY 11373

Charles Schumer
U.S. Senator
757 Third Avenue, Suite 17-02
New York NY 10017

Kirsten Gillibrand
U.S. Senator
780 Third Avenue, Suite 2601
New York NY 10017

Luis M. Diaz
Bronx County Clerk's Office
851 Grand Concourse, Room 118
Bronx NY 10451

Maria Del Carmen Arroyo
NYC Councilmember
384 E. 149th Street
3rd Avenue, Suite 300
Bronx NY 10455
Phone: 212-788-7384
Fax: 212-788-8920

Jose M. Serrano
NYS Senator
157 East 104th Street
New York NY 10029
Email: serrano@senate.state.ny.us
Phone: 212-828-5829
Fax: 212-828-2420

Carmen E. Arroyo
NYS Assembly Member
384 E. 149th Street
3rd Avenue, Suite 301
Bronx NY 10455

Jose E. Serrano
U.S. House of Representatives
1231 Lafayette Avenue,
4th Floor Bronx
NY 10474
Phone: 718-620-0084
Fax: 718-620-0658

Hon. Rubin Diaz, Jr.
Office of the Bronx Borough Pres.
851 Grand Concourse, 3rd Floor
Bronx, NY 10451

Hon. Amanda M. Burden, Chair
City Planning Commission
22 Reade Street
New York, NY 10007-1216

Caswell, Holloway, Commissioner
Dept of Environmental Protection
Bureau of Water & Sewer Operations
59-17 Junction Blvd.
Flushing, NY 11373

John Wuthenow
Office of Environmental Planning & Assessment,
NYCDEP
96-05 Horace Harding Expressway
Flushing, NY 11373

James Rausse AICP
Director of Budget & Housing
Office of the Bronx Borough Pres.
851 Grand Concourse, 3rd Floor
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Hon. George Rodriguez, Chairperson
Bronx Community Board 1
3024 Third Avenue
Bronx, NY 10455
Email: brxcb1@optonline.net

Cedric Loftin, District Manager
Bronx Community Board 1
3024 Third Avenue
Bronx, NY 10455
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Simon Bacchus
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110 William St., 10th Floor
New York, NY 10038

Dana Kaplan, Project Manager
NYSDEC, Region 2
email: dpkaplan@gw.dec.state.ny.us

Robert Cozzy, Director
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email: rjcozzy@gw.dec.state.ny.us

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Ben Conlon
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email: bxconlon@gw.dec.state.ny.us

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Megan Joplin, Esq. (Regional Counsel)
NYSDEC
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Steve Bates
NYSDOH
email: smb02@health.state.ny.us

Local Media Outlets:

Bronx 12 News
930 Soundview Avenue
Bronx, NY 10473

NY1 News
75 Ninth Avenue
New York, NY 10011
Email: ny1news@ny1.com

New York Daily News
450 W. 33rd Street
New York, NY 10001

New York Post
1211 Avenue of the Americas
New York, NY 10036

El Diario La Prensa
1 Metrotech Center, 18th Floor
Brooklyn, NY 11201

Bronx Times Reporter
900 East 132nd Street
Bronx, NY 10454

Bronx News
135 Dreiser Loop
Bronx, NY 10475

Mott Haven Herald
c/o Bronx News Network
3400 Reservoir Oval
Bronx, NY 10467

Hunts Point Express
c/o Bronx News Network
3400 Reservoir Oval
Bronx, NY 10467

Bronx News Network
3400 Reservoir Oval
Bronx, NY 10467

Inner City Press
PO Box 580188
Mount Carmel Station
Bronx, NY 10458

Civic/Community/Religious:

Lenny Caro
Bronx Chamber of Commerce
1200 Waters Place, Suite 106
Bronx, NY 10461

Shira Gidding, Project Manager and
Philip Morrow
SoBRO, Real Estate Dev & Environmental Planning
555 Bergen Ave., 3rd Floor
Bronx, NY 10455

Father Gustavo Nieto
St. Jerome's Church
230 Alexander Avenue
Bronx, NY 10454
Email: gustavonieto@ive.org

Centor Christiano Emanuel
2612 Third Ave
Bronx, NY 10454

Third Spanish Baptist Church
322 Alexander Avenue
Bronx, NY 10454

Erica Packard
Bronx Land Trust
232 East 11th Street
Bronx, NY 10454
Email: erica_packard@yahoo.com

Green Worker Cooperatives
461 Timpson Place
Bronx, NY 10454
Email: info@greenworker.coop

Luis Rojas
For a Better Bronx
199 Lincoln Avenue, Suite 214
Bronx, NY 10454
Email: rojasiguamo@aol.com

Mitchel Community Center, Director
210 Alexander Avenue
Bronx, NY 10454

Mott Haven Community Center
375 East 143rd Street
Bronx, NY 10454

Andre Pabon
Abraham House
340 Willis Avenue
Bronx, NY 10454
Email: apabon@abrahamhouse.org

Executive Director
ASPIRA of NY
520 8th Avenue, 22nd Floor
New York, NY 10018

Adjacent Property Owners:

270 Rider Avenue LLC
c/o Yorkville Van & Storage Co. Inc.
1587 Third Avenue
New York, NY 10028

Patterson House (NYCHA)
301 East 143rd Street
Bronx, NY 10451

Peter Standish
East Side House Settlement
337 Alexander Avenue
Bronx, NY 10454
Email: inquiries@eastsidehouse.org

Gilberto Chavez
1850 Loring Pl S
Bronx, NY 10453-5204

243 East 138th Street LLC
c/o Yorkville Van & Storage Co. Inc.
1587 Third Avenue
New York, NY 10028

Borinquen Court Housing Dev Fund Corp.
271 East 138th Street
Bronx, NY 10454

US Dept of Housing & Urban Dev't.
5 Points Plaza
40 Marietta Street
Atlanta, GA 30303

138th Street Realty LLC
579 Grand Concourse
Bronx, NY 10451

Adfia Realty LLC
573 Grand Concourse
Bronx, NY 10451

East 138th Street Bronx Realty Corp
535 East 14th Street
New York, NY 10009-3012

The Bank of New York Mellon
Cust. for the NYCTL 1999-1 Trust
101 Barclay Street, 4W
New York, NY 10286

Mitchel Houses
225 Alexander Avenue
Bronx, NY 10454

Mott Haven Houses
373 East 141st Street
Bronx, NY 10454

250 East 139th Street LLC
c/o Bradford N. Swett Management LLC
1536 Third Avenue, 3rd Floor
New York, NY 10028

Third Avenue/138th Street LLC
c/o Bradford N. Swett Management LLC
1536 Third Avenue
New York, NY 10028-2167

Schools/ Daycare Facilities:

Darlene Morris
St. Jerome's School
222 Alexander Avenue
Bronx, NY 10454
Email: DGMorris@stjeromebronx.org

William Hewlett Jr.
Middle School
203 339 Morris Avenue
Bronx NY 10451
Phone: 718-292-1052
Fax: 718-292-5765

Rosa Nieves Greene
Public School
68 339 Morris Avenue
Bronx NY 10451
Phone: 718-585-2100
Fax: 718-585-8315

Anna Hall
Bronx Academy of Letters
339 Morris Avenue
Bronx NY 10451
Phone: 718-401-4891
Fax: 718-401-6626

East Side House
Settlement Day Care Facilities
210 Alexander Street
Bronx NY 10454

East Side House
Settlement Day Care Facilities
414 Morris Avenue
Bronx NY 10454

Director
Winifred Wheeler Nursery School
200 Alexander Avenue
Bronx NY 10454

Principal
Bronx Elementary School
49 383 East 139th Street
Bronx NY 10454
Phone: 718-292-4623

Principal
South Bronx Charter School
for International Cultures & Arts
383 East 139th Street Bronx
NY 10454
Email: information@sbsica.org
Phone: 718-401-9216
Fax: 718-401-9219

Marsha Elliot
P.S. 154 Jonathan Hyatt
333 East 135th Street
Bronx NY 10454
Phone: 718-292-4742
Fax: 718-292-4721

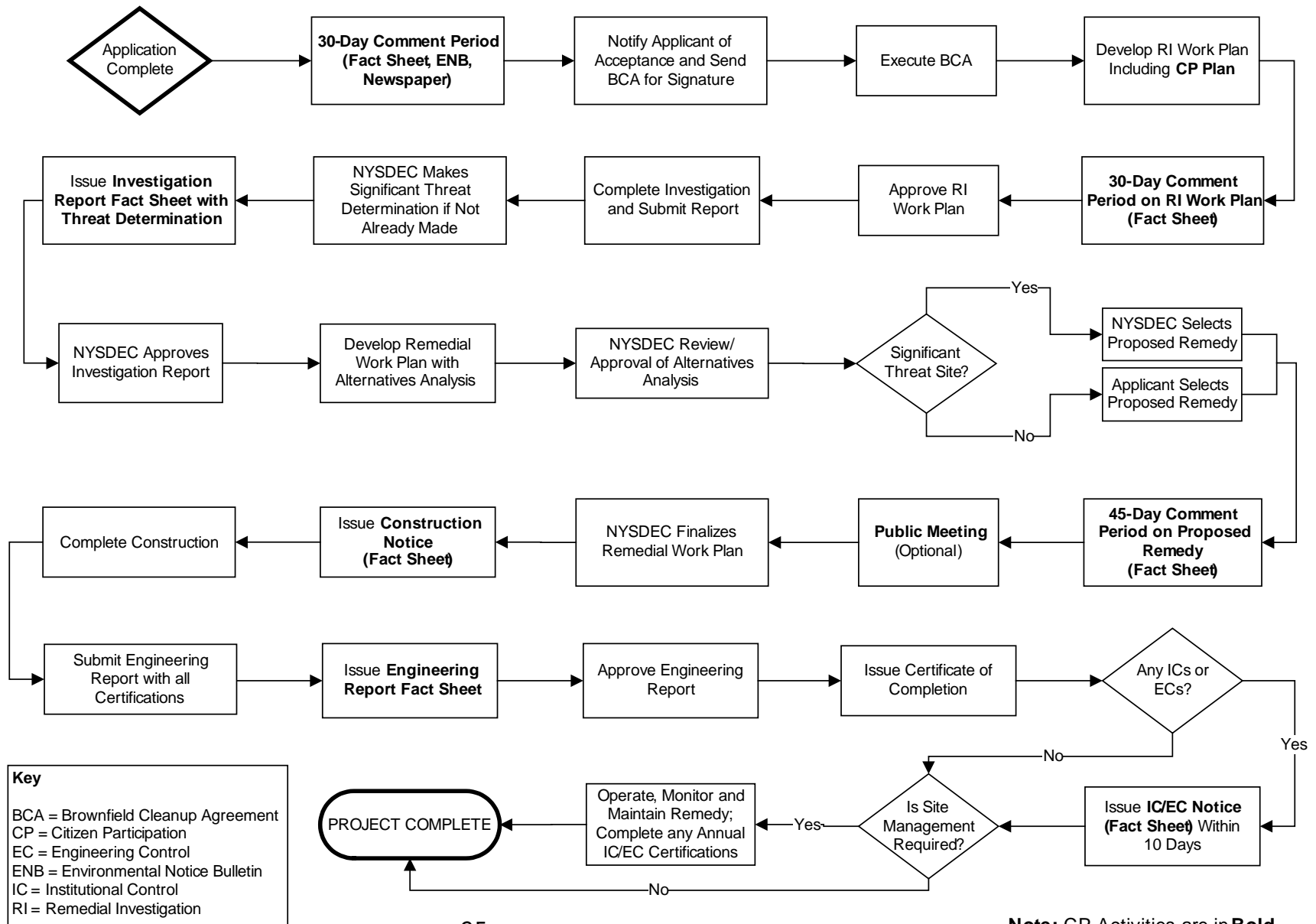
Appendix C Site Location Map



LEGEND

- SITE BOUNDARY

Appendix D– Brownfield Cleanup Program Process





New York State Department of Environmental Conservation
Division of Environmental Remediation

Remedial Programs
Scoping Sheet for Major Issues of Public Concern (see instructions)

Remedial Party: East 138th Street, LLC

Site Name: Former G & C Services

Site Number: C203057

Site County: Bronx County

Note: For parts 1.-3., the individuals, groups, organizations, businesses and units of government identified should be added to the site contact list as appropriate.

Part 1. List major issues of public concern and information the community wants. Identify individuals, groups, organizations, businesses and/or units of government related to the issue(s) and/or information. **Use this information as an aid to prepare or update the Major Issues of Public Concern section of the site Citizen Participation Plan.**

There are no known major issues of public concern and/or information the community wants at this time. The applicant believes the community is in support of this project and received a number of letters of support for the project including one from the South Bronx Overall Economic Development Corp. (SoBRO), the local community based organization working on a Brownfield Opportunity Area (BOA) designation for this neighborhood. The low income housing project for this site is consistent with the evolving BOA plan for the community. However, as work proceeds on the Site, the public will be kept informed through Fact Sheets describing the work to be performed before the work begins.

Based on the demographic information for this area, which includes a large Hispanic minority population, this Site is in an environmental justice area. As such, the Volunteer will make all possible efforts to be sensitive to the needs of the community and ensure that community members are aware of activities at the Site. Once the cleanup of the Site begins, there will be truck traffic generated as contaminated soil is excavated from the Site. All effected groups and parties are listed in this Scoping Sheet and in the Citizen Participation Plan. Before such work occurs, a Fact Sheet will be sent to all adjacent property owners and parties on the site contact list, including SoBRO, informing them that the trucks entering and existing the Site traveling along 138th Street will contain contaminated material. Flagmen are used for all truck operations. Trucks are loaded with an excavator. Trucks will be typically on-site for approximately 10 minutes and are hosed down as required before they leave the site. If soil is removed from the site for the entire day, then each truck makes two rounds, one at 7 AM and another around 1 PM. Because the community has a large Hispanic population, fact sheets will also be translated into Spanish by State representatives.

How were these issues and/or information identified?

See response above.

Part 2. List important information needed **from** the community, if applicable. Identify groups, organizations, businesses and/or units of government related to the needed information.

If there are issues, the community should bring them to the attention of the DEC and/or DOH site contacts found in the Site Contact List for this Site.

How were these information needs identified?

See response above.

Part 3. List major issues and information that need to be communicated to the community. Identify groups, organizations, businesses and/or units of government related to the issue(s) and/or information.

See response to Part 1. Since the BCP Applicant has elected to attempt to achieve the highest level of cleanup, known as Track 1, a significant amount of contaminated soil will be excavated and removed from the site, which will generate temporary truck traffic. In addition, sometimes despite the best intentions and attempts to remove all the contamination soil, Track 1 cannot be achieved. The Applicant will keep the public informed as the final cleanup progresses regarding to whether Track 1 has been achieved.

How were these issues and/or information identified?

These issues have not occurred yet, but when they do, the issues will be described to the public in Fact Sheet documents so the public knows what to expect during and after the remediation.

Part 4. Identify the following characteristics of the affected/interested community. This knowledge will help to identify and understand issues and information important to the community, and ways to effectively develop and implement the site citizen participation plan (mark all that apply):

a. Land use/zoning around site:

☒ Residential ☐ Agricultural ☐ Recreational ☒ Commercial ☐ Industrial

b. Residential type around site: ☒ Urban ☐ Suburban ☐ Rural

c. Population density around site: ☒ High ☐ Medium ☐ Low

d. Community Economic status: ☐ High ☐ Medium ☒ Low
Median Household Income \$20,307

e. Water supply of nearby residences: ☒ High ☐ Medium ☐ Low

f. Other environmental issues significantly impacting affected community? (yes/No) No

Explain if "Yes" _____

g. Special considerations: ☐ Language ☐ Age ☐ Transportation ☐ Other

Explain marked categories in g.: **The population is approximately 71% Hispanic; therefore, Spanish is spoken in this community. The next highest population category is African American at approximately 26% of the population. Therefore, fact sheets will be translated into Spanish.**

Part 5. The site contact list must include, at a minimum, the individuals, groups and organizations identified in the instructions for **Part 5**. Are other individuals, groups and organizations affected by, or interested in, the site, or its remedial program? (Mark and identify all that apply, then adjust the site contact list as appropriate) **See attached site contact list, which has been adjusted to include appropriate organizations.**

■ Adjacent Residents/Property Owners: **NORTH - Liquor Store (Gilberto Sanchez), Vacant Retail with Offices (Bradford Swett Management); Former Factory and now auto body shop on ground floor and apartments above (Bradford Swett Management); WEST – Former Factory and now warehouse facility for Yorkville Van & Storage; EAST – Borinquen Court Senior Housing (Borinquen Court Housing Development Fund Corp. & U.S. HUD); SOUTH – Warehouse (East 138th Bronx Realty Corp.); Retail with Offices (138th Street Realty LLC & Adfia Realty LCC); Abandoned Gas Station now unlicensed parking lot (The Bank of New York Mellon Custodian for the NYCTL 1999-1 Trust, 101); See also Exhibit G Adjacent Use Map and Exhibit M Site Contact List for Adjacent Owners in the BCP Application.**

■ Local Officials: **Mayor Michael R. Bloomberg; Hon. Amanda M. Burden (City Planning Chair); Dr. Robert Kulikowski (City OER); Hon. Caswell Holloway, Commissioner NYC Dept of Environmental Protection; Simon Bacchus, New York City Housing Development Corporation; Hon. Rubin Diaz Jr. & James Rausse AICP, Director of Budget & Housing; Office of the Bronx Borough President; Maria del Carmen Arroyo, New York City Council Member – District 17; Hon. George Rodriguez, Chairperson, Bronx Community Board 1; Shira Gidding, South Bronx Overall Economic Development Corporation (SoBRO), Real Estate Development and Environmental Planning, Project Manager (Harlem River BOA) See also Exhibit M Site Contact List in the BCP Application.**

■ Media: **NY 1 News; New York Daily News; Bronx News 12; Bronx Times Reporter; Bronx News; Mott Haven Herald; Hunts Point Express; Bronx News Network; Inner City Press; New York Post; El Diario La Prensa.**

■ Business/Commercial Interests (Adjacent): **Liquor Store; HUD Borinquen Senior Housing Project; Yorkville Van & Storage Co., Inc.**

□ Labor Group(s)/Employees: **N/A**

□ Indian Nation: **N/A**

■ Citizens/Community Group(s): **Bronx Community Board #1; See also Civic Groups listed in Site Contact List.**

■ Environmental Justice Group(s): **See groups listed in Site Contact List.**

■ Environmental Group(s): **See groups listed in Site Contact List.**

■ Civic Group(s): **South Bronx Overall Economic Development Corporation (SoBRO)**

■ Recreational Group(s): **None**

■ Other(s): **Schools & Daycares: Please see the Site Contact List for the nearby schools and daycare centers.**

Date Completed:
August 10, 2011

Prepared By:
Knauf Shaw LLP

Reviewed by:
Thomas V. Panzone, DEC

Site Contact List

Instructions:
1. Enter Site name and ID No. in cells A10 and C10 and the date of the list in E10.
2. Each contact list must include the site property owner(s), adjacent property owner(s)/resident(s), the municipal CEO, public water supplier for the area, and any other interested parties for sites in counties where there is not a functional list serve.
3. Items in red with an asterisk are required. Items in blue with no asterisk are optional. "Titles" are typically for elected officials (e.g., "Senator," "Mayor," "Supervisor").
4. Row 13 shows the expected format of the cells and should be deleted once actual information is entered.
5. To enter data, it is convenient to select the Excel option where keying "Enter" moves the cell one to the right (Office Button, Excel Options, Advanced, Direction, select "right").
6. If a notice comes back indicating that an individual at a residence has moved, the "last name" should be replaced with "Resident" and the first name deleted.

Site Name		Site ID No.		List Last Updated									
Former G & C Services		C203057		7/21/11									
Last Name*	First Name*	Title	Address 1*	Address 2	Address 3	Address 4	Category	City*	State*	Zip*	Email	Phone	Fax
		270 Rider Avenue LLC c/o Yorkville Van & Storage Co. Inc.	1587 Third Avenue				Adjacent Property Owners	New York	NY	10028			
Bloomberg	Michael	NYC Mayor	City Hall				Elected/Government Officials	New York	NY	10007			
Walsh	Daniel	Director, New York City Office of Envir	253 Broadway - 14th Floor				Elected/Government Officials	New York	NY	10007			
Liu	John	NYC Comptroller	1 Centre Street				Elected/Government Officials	New York	NY	10007	press@comptroller.nyc.gov		
de Blasio	Bill	Public Advocate	1 Centre Street, 15th Floor				Elected/Government Officials	New York	NY	10007	mwing@pubadvocate.nyc.gov		
Wuthenow	John	Office of Environmental Planning & Asse	96-05 Horace Harding Expressway				Elected/Government Officials	Flushing	NY	11373			
Schumer	Charles	U.S. Senator	757 Third Avenue, Suite 17-02				Elected/Government Officials	New York	NY	10017			
Gillibrand	Kirsten	U.S. Senator	780 Third Avenue, Suite 2601				Elected/Government Officials	New York	NY	10017			
Diaz	Luis M.	Bronx County Clerk's Office	851 Grand Concourse, Room 118				Elected/Government Officials	Bronx	NY	10451			
Diaz Jr.	Ruben	Bronx Borough President	851 Grand Concourse, 3rd Floor				Elected/Government Officials	Bronx	NY	10451	webmail@bronxbp.nyc.gov		
Arroyo	Maria del Carmen	NYC Councilmember	384 E. 149th Street 3rd Avenue, Suite 300				Elected/Government Officials	Bronx	NY	10455		212-788-7384	212-788-8920
Serrano	Jose M.	NYS Senator	157 East 104th Street				Elected/Government Officials	New York	NY	10029	serrano@senate.state.ny.us	212-828-5829	212-828-2420
Arroyo	Carmen E.	NYS Assemblymember	384 E. 149th Street 3rd Avenue, Suite 301				Elected/Government Officials	Bronx	NY	10455			
Serrano	Jose E.	U.S. House of Representatives	1231 Lafayette Avenue, 4th Floor				Elected/Government Officials	Bronx	NY	10474		718-620-0084	718-620-0658
		News 12 Bronx	930 Soundview Avenue				Local Media Outlets	Bronx	NY	10473			
		New York 1 News	75 Ninth Avenue				Local Media Outlets	New York	NY	10011	ny1news@ny1.com		
		New York Daily News	450 West 33rd Street				Local Media Outlets	New York	NY	10001			
		New York Post	1211 Avenue of the Americas				Local Media Outlets	New York	NY	10036			
		El Diario La Prensa	1 MetroTech Center, 18th Floor				Local Media Outlets	Brooklyn	NY	11201		212-807-4785	
Caro	Lenny	Bronx Chamber of Commerce	1200 Waters Place, Suite 106				Civic/Community/Religious	Bronx	NY	10461		718-828-3900	718-409-3748
Wuthenow	John	Office of Environmental Planning & Asse	96-05 Horace Harding Expressway				Elected/Government Officials	Flushing	NY	11373			
		Patterson Houses (NYCHA)	301 East 143rd Street				Adjacent Property Owners	Bronx	NY	10451		718-292-5800	718-665-4354
Standish	Peter	East Side House Settlement	337 Alexander Avenue				Adjacent Property Owners	Bronx	NY	10454	inquiries@eastsidehouse.org	718-665-5250	718-585-1433
Hewlett Jr.	William	Middle School 203	339 Morris Avenue				School/Daycare Facilities	Bronx	NY	10451		718-292-1052	718-292-5765
Nieves-Greene	Rosa	Public School 168	339 Morris Avenue				School/Daycare Facilities	Bronx	NY	10451		718-585-2100	718-585-8315
Hall	Anna	Bronx Academy of Letters	339 Morris Avenue				School/Daycare Facilities	Bronx	NY	10451		718-401-4891	718-401-6626
Chavez	Gilberto		1850 Loring Place South				Resident/Owner	Bronx	NY	10453			
		243 East 138 th Street Llc/o Yorkville Van & Storage Co. Inc.	1587 Third Avenue				Adjacent Property Owners	New York	NY	10028			
		Borinquen Court Housing Dev Fund Corp.	271 East 138 th Street				Civic/Community/Religious	Bronx	NY	10454			
		US Dept of Housing & Urban Dev't.	5 Points Plaza				Elected/Government Officials	Atlanta	GA	30303			
		138 th Street Realty LLC	579 Grand Concourse				Adjacent Property Owners	Bronx	NY	10451			
		Adfia Realty LLC	573 Grand Concourse				Adjacent Property Owners	Bronx	NY	10451			
		East 138 th Street Bronx Realty Corp	535 East 14 th Street				Adjacent Property Owners	New York	NY	10009			
		The Bank of New York Cust. for the NYCTL 1999-1 Trust	101 Barclay Street, 4W				Adjacent Property Owners	New York	NY	10286			
Burden	Amanda	Commissioner, New York City Dept. of C	22 Reade Street				Elected/Government Officials	New York	NY	10007			
Holloway	Caswell	Commissioner, New York City Dept. of E	59-17 Junction Boulevard				Elected/Government Officials	Flushing	NY	11373			
		Bronx Times Reporter	900 East 132nd				Local Media Outlets	Bronx	NY	10454			
		Bronx News	135 Dreiser Loop				Local Media Outlets	Bronx	NY	10475			
		Mott Haven Herald	3400 Reservoir Oval				Local Media Outlets	Bronx	NY	10467			
		Hunts Point Express	3400 Reservoir Oval				Local Media Outlets	Bronx	NY	10467			
		Bronx News Network	3400 Reservoir Oval				Local Media Outlets	Bronx	NY	10467			
		Inner City Press	PO Box 580188				Local Media Outlets	Bronx	NY	10458			
Rausse AICP	James	Director of Budget & Housing, Office of	1851 Grand Concourse, 3 rd Floor				Elected/Government Officials	Bronx	NY	10451			
Rodriguez	George	Chairperson, Bronx Community Board 1	3024 Third Avenue				Elected/Government Officials	Bronx	NY	10455	brxcb1@optonline.net	718-585-7117	718-292-0558
Loftin	Cedric	District Manager, Bronx Community Boar	3024 Third Avenue				Elected/Government Officials	Bronx	NY	10455	brxcb1@optonline.net	718-585-7117	718-292-0558
Gidding	Shira	Project Manager, SoBRO, Real Estate Dev	555 Bergen Avenue, 3rd Floor				Civic/Community/Religious	Bronx	NY	10455			
Bacchus	Simon	NYC Housing Dev. Corp.	110 William St., 10 th Floor				Elected/Government Officials	New York	NY	10038			
Kaplan	Dana	NYSDEC, Project Manager	47-40 21st Street				Elected/Government Officials	Long Island City	NY	11101	dpkaplan@gw.dec.state.ny.us		
Cozyzy	Bob	NYSDEC, Director	625 Broadway				Elected/Government Officials	Albany	NY	12233	rjcozyy@gw.dec.state.ny.us		

[illegible]



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