1800 Southern Boulevard

BRONX, NEW YORK

Final Engineering Report

NYSDEC Site Number: C203046

Prepared for:

SB1800 LLC

100 Park Avenue, Suite 1600

New York, NY 11717

Prepared by:

AMC Engineering PLLC

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Jericho, NY 11753

DECEMBER 2011

CERTIFICATIONS

I, Ariel Czemerinski, am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Remedial Action Work Plan was implemented and that all construction activities were completed in substantial conformance with the Department-approved Remedial Action Work Plan.

I certify that the data submitted to the Department with this Final Engineering Report demonstrates that the remediation requirements set forth in the Remedial Action Work Plan and in all applicable statutes and regulations have been or will be achieved in accordance with the time frames, if any, established in for the remedy.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Ariel Czemerinski, of AMC Engineering PLLC, 99 Jericho Turnpike, Jericho, NY, am certifying as Owner's Designated Site Representative for the site.

076508	12/12/11	
NYS Professional Engineer #	Date	Signature

CERTIFICATIONS

I, Ariel Czemerinski, am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Remedial Action Work Plan was implemented and that all construction activities were completed in substantial conformance with the Department-approved Remedial Action Work Plan.

I certify that the data submitted to the Department with this Final Engineering Report demonstrates that the remediation requirements set forth in the Remedial Action Work Plan and in all applicable statutes and regulations have been or will be achieved in accordance with the time frames, if any, established in for the remedy.

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NYS Professional Engineer #	Date	Signature

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LIST OF ACRONYMS

Acronym	Definition
AMC	AMC Engineering
AWQS	Ambient Water Quality Standards
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
BTEX	Benzene, Toluene, Ethylbenzene and Xylene
CQMP	Construction Quality Management Plan
EBC	Environmental Business Consultants
FER	Final Engineering Report
IRM	Interim Remedial Measure
LPH	Liquid Phase Hydrocarbons
NYC	New York City
NYCDEP	New York City Department of Environmental Protection
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
QEP	Qualified Environmental Professional
RAO	Remedial Action Objectives
RAWP	Remedial Action Work Plan
RE	Remedial Engineer
RI	Remedial Investigation
SCG	Standards, Criteria, and Guidelines
SCO	Soil Cleanup Objectives
SMMP	Soil/Materials Management Plan
SSO	Site Safety Officer
SWPPP	Stormwater Pollution Prevention Plan
SVOCs	Semi-Volatile Organic Compounds
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds

1.0 BACKGROUND AND SITE DESCRIPTION

SB 1800 LLC (the Volunteer) entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) in May 2009, to investigate and remediate a 0.27-acre property located in the Bronx, New York. The property was remediated to unrestricted use, and will be used for the construction of a new ten story mixed-use building that will include ground level retail space over the entire footprint of the property. The project will provide affordable housing to 68 moderate income households, as well as 12,579 square feet of commercial space and 4,922 square feet of community facility space. An electronic copy of this FER with all supporting documentation is included as **Appendix A**.

The site is located at 1800 Southern Boulevard in the County of the Bronx, New York (see **Figure 1**) and is identified as Block 2984, Lot 1 on the New York City Tax Map. The site is situated on an approximately 0.27-acre area (11,927 sf) bounded by a commercial property (self-storage) to the north, the intersection of Southern Boulevard, Boston Road and 174th Street to the south, Boston Road to the east, and Southern Boulevard to the west (see **Figures 2 and 3**). The boundaries of the site are fully described in **Appendix B**: Survey Map, Metes and Bounds.

Historically the Site has been used as a filling station, auto repair facility and car wash beginning sometime between 1927 and 1940. The car wash operation closed in 1993 and the service station closed in 2003. BP-Amoco was operating the station at the time of closure in 2003.

In July of 2003, BP arranged for the removal of four 4,000-gallon underground storage tanks (USTs), five dispensers and associated piping. During the excavation approximately 226 tons of contaminated soils were removed from the site for off-site disposal. BP's consultant Delta Environmental Consultants collected 10 post-excavation verification samples from the UST excavation, 5 from the dispenser areas and 3 from the piping run areas to determine if petroleum had contaminated the Site. The results indicated that 14 of 18 post excavation samples exceeded NYSDEC TAGM 4046 soil cleanup objectives. An investigation performed by Delta prior to the UST removal, confirmed that groundwater was significantly impacted with constituents of gasoline as well (Delta, 2003). The results of this investigation resulted in the assignment of NYSDEC Spill Number 02-12264.

A remedial investigation performed by Roux Associates in 2008 (RIR 8/2008) confirmed that soil, groundwater and soil vapors were contaminated with petroleum-related VOCs in excess of the NYSDEC remedial objectives and groundwater standards. In addition off-site groundwater was impacted as well. After reviewing the RIR, the New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) determined that the Site posed a significant threat to human health and the environment.

2.0 SUMMARY OF SITE REMEDY

2.1 REMEDIAL ACTION OBJECTIVES

Based on the results of the Remedial Investigation, the following Remedial Action Objectives (RAOs) were identified for this site.

2.1.1 Groundwater RAOs

RAOs for Public Health Protection

- Prevent contact with, or inhalation of, volatiles emanating from contaminated groundwater.

RAOs for Environmental Protection

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

2.1.2 Soil RAOs

RAOs for Public Health Protection

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

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

2.2 DESCRIPTION OF SELECTED REMEDY

The site was remediated in accordance with the remedy selected by the NYSDEC in the Decision Document dated August 19, 2009. The factors considered during the selection of the remedy are those listed in 6NYCRR 375-1.8. The following are the components of the selected remedy:

1. Excavation of soil/fill in the upper 15 feet of the site, plus limited excavation of soils exceeding the protection of groundwater Soil Cleanup Objectives (SCOs) to 20 feet in the area surrounding boring S8-106.
2. Groundwater remediation during construction activities consisting of excavation, dewatering, pretreatment and off-site disposal.
3. Site Monitoring of airborne VOCs and particulates in accordance with a NYSDEC and NYSDOH approved Community Air Monitoring Plan (CAMP) for a all intrusive and soil handling activities.
4. Implementation of proper dust and odor suppression techniques for all intrusive and soil handling activities.
5. Import of materials to be used for backfill and cover in compliance with: (1) Sub-part375-6(d); and (2) all Federal, State and local rules and regulations for handling and transport of material.
6. Implementation of a Soil Erosion and Sediment Control Plan.
7. Screening for indications of contamination (by visual means, odor, and monitoring with PID) of all excavated soil during any intrusive Site work.
8. Collection and analysis of post-excavation end-point soil samples to evaluate the performance of the remedy with respect to attainment of Track2 residential SCOs.
9. Appropriate off-site disposal of all material removed from the Site in accordance with all Federal, State and local rules and regulations for handling, transport, and disposal.
10. If post excavation soil sampling demonstrates that the remedial action objectives have not been met, the Department may require limited treatment using In-situ chemical Oxidation (ISCO). The operation of the components of the remedy would continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.
11. Imposition of an institutional control in the form of an environmental easement that would require (a) limiting the use and development of the property to residential use, which would also permit commercial use; (b) compliance with the approved site management plan; (c) restricting the use of groundwater resource of potable or process water, without necessary water quality treatment as determined by NYSDOH;

and (d) the property owner to complete and submit to the Department a periodic certification of institutional and engineering controls.

12. Development of a site management plan which would include the following institutional and engineering controls: (a) evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (b) monitoring of groundwater; (c) identification of any use restrictions on the site; (d) provisions for the continued proper operation and maintenance of the components of the remedy
13. The property owner would provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal would: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

3.0 INTERIM REMEDIAL MEASURES, OPERABLE UNITS AND REMEDIAL CONTRACTS

The remedy for this site was performed as a single project, and no interim remedial measures, operable units or separate construction contracts were performed.

4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED

Remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved Remedial Action Work Plan (RAWP) for the 1800 Southern Boulevard site (August 2009). All deviations from the RAWP are noted below.

4.1 GOVERNING DOCUMENTS

4.1.1 Site Specific Health & Safety Plan (HASP)

The Health and Safety Plan for the implementation of remedial actions at the site was included as Appendix B of the Remedial Action Work Plan (RAWP) approved by the NYSDEC.

All remedial work performed under this Remedial Action was in full compliance with governmental requirements, including Site and worker safety requirements mandated by Federal OSHA. The Health and Safety Plan (HASP) was complied with for all remedial and invasive work performed at the Site.

4.1.2 Quality Assurance Project Plan (QAPP)

The QAPP was included as Appendix C of the Remedial Action Work Plan (RAWP) approved by the NYSDEC. The QAPP describes the specific policies, objectives, organization, functional activities and quality assurance/ quality control activities designed to achieve the project data quality objectives.

4.1.3 Construction Quality Assurance Plan (CQAP)

The Construction Quality Assurance Plan(s) (CQAPs) managed performance of the Remedial Action tasks through designed and documented QA/QC methodologies applied in the field and in the lab. The CQAP provided a detailed description of the observation and testing activities that were used to monitor construction quality and confirm that remedial construction was in conformance with the remediation objectives and specifications.

The following organizations and key personnel were involved in the implementation of the remedy:

Name	Title	Organization	Responsibilities
Carmen Cofrancesco	Construction Manager	Joy Construction	Scheduling and oversight of subcontractors and for implementation of the construction program.
Kevin Brussee	Environmental Project Manager	EBC	Coordination and oversight of day to day field activities, soil disposal, materials importation and UST removal. Preparation of daily and monthly status reports and updates to the RE.
Kevin Waters	QEP / SSO	EBC	On-site soil screening, health and safety oversight and air monitoring.
Ariel Czemerinski P.E.	Remedial Engineer	AMC Engineering	Overall responsibility for implementation of the remedial plan.

All intrusive and soil disturbance activities were monitored by a QEP who recorded observations in the site field book and kept a photographic log of the daily activities. The QEP provided daily updates to the Environmental Project Manager and Remedial Engineer who both made periodic visits to the site as needed to assure construction quality.

Since the site was excavated to the bedrock surface, sampling activities were limited to initial testing of the dewatering treatment system and waste characterization for the disposal of excavated soil. Soil and water samples were collected by the QEP who was on-site daily during all soil disturbance activities. Sample collection, analysis and frequency were made in accordance with the requirements of the disposal facility (Clean Earth of Carteret). Corrective measures, if required, were to be made in direct consultation with the representative of the selected disposal facility.

Project coordination meetings were generally held in the on-site construction trailer on a weekly basis and supplemented as conditions required. Meeting attendees over the course of the project varied according to need and may have included the following personnel:

- Construction Manager
- QEP/SSO
- Site Foreman / Supervisor
- Architect of Record
- Structural Engineer
- Environmental Project Manager
- Environmental Project Director
- Remedial Engineer

Daily status reports were prepared by the Environmental Project Manager in consultation with the QEP, and distributed to the project contact list via email. Copies of waste manifests, chain of custody documentation and air monitoring reports were placed in appropriately labeled binders which were kept in the job site trailer. Photographic documentation was performed on a daily basis and periodically uploaded to the digital project file at the EBC office.

4.1.4 Soil/Materials Management Plan (S/MMP)

A Soil/Materials Management Plan (S/MMP) was included in the RAWP for excavation, handling, storage, transport and disposal of all soils/materials that were disturbed at the Site. The S/MMP provided detailed plans for managing all soils/materials that were disturbed at the Site, including excavation, handling, storage, transport and disposal. It also included all of the controls that were applied to these efforts to assure effective, nuisance free performance in compliance with all applicable Federal, State and local laws and regulations. Key elements of the S/MMP were depicted on the Site Logistics Plan (**Appendix C** of this FER) which was distributed to the construction/remediation team and to the NYSDEC prior to the start of work.

The S/MMP specified the following methods to meet the performance objectives:

- Soil Screening Methods - Visual, olfactory and PID soil screening and assessment was performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (Residual Contamination Zone).

- Stockpile Methods - Stockpiles were kept covered at all times with appropriately anchored tarps and inspected daily to ensure the covers are maintained and fugitive dust emissions do not occur. In general stockpiling was kept to a minimum on this project due to limited space on-site. For the most part this dictated a “load and go” approach with excavated soils directly loaded into trucks on a daily basis. Stockpiles when generated were located within the excavation pit.

- Materials Excavation and Load Out - The QEP under the supervision of the RE was on-site on a daily basis to oversee all invasive work and the excavation and load-out of all excavated material. Loaded vehicles leaving the Site were appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State and local requirements. A truck pad was located at the egress points of the site and all outbound trucks were inspected and cleaned, as required to remove loose soils before leaving the Site. The adjacent streets were inspected and cleaned as needed with respect to Site -derived materials.

- Materials Transport Offsite - All transport of materials was performed by licensed haulers in accordance with appropriate local, State, and Federal regulations. Truck transport routes were determined prior to construction and a map of the route was posted at the egress points of the site. All trucks loaded with Site materials exited the vicinity of the Site using the approved truck routes. The identified route was selected to limit transport through residential areas and past sensitive sites and comply with City-mapped truck routes.

- Materials Disposal Offsite - All soil/fill excavated and removed from the Site was treated as a contaminated and regulated material and was disposed in accordance with all local, State and Federal regulations. Non-hazardous waste manifests were used to track and document the offsite movement of non-hazardous wastes and contaminated soils. Waste characterization was performed for offsite disposal accordance with the requirements of the receiving facility and in conformance with applicable permits. Waste characterization data was provided to the receiving facility and approved in writing by the facility prior to

off-site shipment. A summary of waste characterization sampling is provided in Table 3 and a summary of waste characterization results are provided in Table 4a-4f. Waste disposal manifests are provided in Appendix M.

- Fluids Management - Construction wastewater generated from surface runoff was minimized and directed back toward the interior of the site and the excavation. Construction wastewater and groundwater which was encountered at a depth of approximately 10 feet below the surface were routed to an on-site treatment system and discharged to the municipal sewer system under a sewer discharge permit issued by the New York City Department of Environmental Protection (NYCDEP).

- Backfill from Offsite Sources - Clean fill in the form of recycled concrete aggregate was used for on- site backfill. In accordance with DER-10, this material was exempt from chemical analysis. All materials proposed for import onto the Site were previously approved by the Remedial Engineer and the NYSDEC in accordance with the S/MMP.

- Stormwater Pollution Prevention - The S/MMP specified the use and periodic inspection of barriers and hay bales to prevent sediments from leaving the site during storm events. A plank shoring system extended around the entire perimeter of the property and the entire property area was excavated to the property boundaries. The two egress points to the site were stabilized with gravel and sloped back to the interior of the site.

- Contingency Plan - The contingency plan specified procedures to document and notify the NYSDEC in the event that underground tanks or other previously unidentified contaminant sources were found during on-site remedial excavation or development related construction. Nine underground storage tanks related to rinse water from the car wash were encountered during remedial excavation. The NYSDEC Project Manager was notified and the tanks were removed in accordance with the DER-10 and NYSDEC PBS procedures and protocols.

- Community Air Monitoring Plan - The S/MMP specified air monitoring during each implementation during each component of the Remedial Action to provide a measure of protection for the downwind community from potential airborne contaminant releases as a direct result of investigative or remedial work activities. As described in section 4.1.6 the project QEP performed daily monitoring around the perimeter of the property for volatile organic compounds and dust particulates. No exceedances in CAMP action levels were recorded during the remedial action.

- Odor, Dust and Nuisance Control Plan - The S/MMP specified that dust would be controlled by spraying a water mist over the work area if perimeter action levels established in the CAMP are exceeded. In addition a foam unit was to be placed on-site to be used if needed to suppress vapors and odors generated during soil excavation.

4.1.5 Storm-Water Pollution Prevention Plan (SWPPP)

This document addressed requirements of New York State Storm-Water Management Regulations including physical methods to control and/or divert surface water flows and to limit the potential for erosion and migration of Site soils, via wind or water.

The erosion and sediment controls for all remedial construction were performed in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control and the site-specific Storm Water Pollution Prevention Plan.

Typical measures that were utilized at various stages of the project to limit the potential for erosion and migration of soil included the use of temporary stabilized construction entrances/exits and dust control measures. Shoring, which consisted of wood lagging, extended around the perimeter of the site as the entire area was excavated to the boundaries of the property. The two temporary construction entrances were stabilized with a gravel base and sloped back toward the interior of the lot. In this case all stormwater was retained on site and directed toward the interior of the site where it was removed via the dewatering operations.

4.1.6 Community Air Monitoring Plan (CAMP)

The Community Air Monitoring Plan (CAMP) provided measures for the protection of the surrounding and downwind community (i.e., off-site receptors including residences, businesses, and on-site workers not directly involved in the remedial work) from potential airborne contaminant releases resulting from remedial activities. The action levels specified required increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that the remedial work did not spread contamination off-site through the air. The primary concerns for this site were VOC vapors, nuisance odors and dust particulates

To comply with the requirements of the CAMP, the project QEP performed daily monitoring around the perimeter of the property for volatile organic compounds and dust particulates. Instruments used for CAMP monitoring included two IonScience Procheck 1000/3000EX photoionization detectors and two MIE pDR-1000 data ram dust meters. No exceedances in CAMP action levels were recorded during the remedial action. Daily CAMP monitoring data sheets are included in **Appendix F**.

4.1.7 Contractors Site Operations Plans (SOPs)

The Remedial Engineer reviewed all plans and submittals for this remedial project (i.e. those listed above plus contractor and subcontractor submittals) and confirmed that they were in compliance with the RAWP. All remedial documents were submitted to NYSDEC and NYSDOH in a timely manner and prior to the start of work.

4.1.8 Citizen Participation Plan (CPP)

The approved Citizen Participation Plan for this project specified the following document repository for all applicable project documents for the duration of the project:

New York Public Library
West Farms Branch
2085 Honeywell Avenue,
Bronx, NY 10460
(718) 367-5376

Hours:
Mon., Tues. 10 am to 6 pm
Weds., Thurs. 10 am to 7 pm
Fri., Sat. 10 am to 5 pm
Sun. Closed

Fact sheets notifying the public of the availability of milestone documents for review and comment were sent to the site contact list in accordance with the Citizen Participation requirements of the NYS Brownfield Cleanup Program.

Remaining citizen participation elements will include the distribution of a fact sheet to the site contact list that announces that cleanup action has been completed and that summarizes the Final Engineering Report. If the Certificate of Completion (COC) will be issued within a short time following DEC approval of the Final Engineering Report, the FER fact sheet will also announce issuance of the COC. If the time span between these two milestones is longer, then a separate fact sheet for the COC may be distributed.

4.2 REMEDIAL PROGRAM ELEMENTS

4.2.1 Contractors and Consultants

- Joy Construction
  - General Contractor
  - Perform All Excavation Work
  - Supervise, schedule and coordinate subcontractors
  - Project Budgeting
- Environmental Business Consultants
  - Environmental Consultant
  - Qualified Environmental Professional
  - Perform Health and Safety and CAMP Monitoring
  - Perform Soil Screening and Waste Characterization Sampling
  - Document Remedial Program
  - Reporting (Daily, Monthly)
- AMC Engineering

- Remedial Engineer
- Perform Periodic Inspections of Work /Methods
- Assure Compliance with RAWP and Associated Plans

4.2.2 Site Preparation

Site preparation began on August 23, 2010 with excavating and capping the sewer lines and water lines in the sidewalk adjacent to the property in preparation for demolition work. This effort was followed by the construction of stabilized entrance / egress pads along southern boulevard and test pit sampling of soil for waste characterization and disposal facility acceptance.

Mobilization occurred during the last week of August and the first week of September, 2010 and included the construction of a wooden fence around the perimeter of the property, delivery and set-up of an office trailer, wash station and portable lavatory, the delivery of dewatering / treatment equipment and the delivery of heavy equipment and jobsite tools. Demolition, which was limited to the former S/S canopy, kiosk and free standing masonry wall (which separated the gas station property from the car wash property), began on September 8, 2010. Shallow (0-3 ft) soil excavation also began at this time.

The NYSDEC formally approved the Remedial Action Work Plan by letter dated August 20, 2009. After reviewing the approved RAWP, the New York City Office of Environmental Remediation (OER) issued a Notice to Proceed (NTP) to the Bronx Borough Commissioner of the NYC Department of Buildings (DOB) on August 28, 2009. Issuance and receipt of the NTP is required before building permits are released by the DOB.

The following permits were issued for this project.

Permit	*Permit Number*	*Originating Agency*	*Issued*	*Expires*
Demo (Construction Equip Fence)	220068995-01-EQ-FN	NYC Dept of Buildings	9/3/2010	9/3/2011
Demo (Off Site Fill)	220077958-01-DM	NYC Dept of Buildings	9/7/2010	9/7/2011
Sewer Discharge	581468	NYCDEP	9/17/2010	9/17/2011
Alteration Type 2 - Plumbing	220127716-01-PL	NYC Dept of Buildings	7/23/2011	7/24/2012
Alteration Type 2 - Sprinkler	220127716-01-EW-SP	NYC Dept of Buildings	7/25/2011	7/25/2012
Alteration Type 2 - Standpipe	220127716-01-EW-SD	NYC Dept of Buildings	7/25/2011	7/24/2012
Alteration Type 3 - Scaffolding	220122150-01-EQ-SF	NYC Dept of Buildings	8/15/2011	8/14/2012
Alteration Type 2 - Excavation	220064944-01-EW-OT	NYC Dept of Buildings	9/9/2011	6/24/2012
Plumbing - New Building	210058088-04-PL	NYC Dept of Buildings	3/9/2011	3/8/2012
New Building - Construction Equipment fence	210058088-02-EQ-FN	NYC Dept of Buildings	9/9/2011	9/8/2012
New Building - 7 Story Mixed Use w/Cellar	210058088-01-NB	NYC Dept of Buildings	9/9/2011	9/8/2012
Alteration Type 3 - Sidewalk Shed	220123523-01-EQ-SH	NYC Dept of Buildings	6/9/2011	4/1/2012

A pre-construction meeting was held with NYSDEC, Joy Construction, EBC and AMC Engineering on July 2, 2010.

Documentation of agency approvals required by the RAWP is included in **Appendix D**. Other non-agency permits relating to the remediation project are provided in **Appendix E**.

All SEQRA requirements and all substantive compliance requirements for attainment of applicable natural resource or other permits were achieved during this Remedial Action. A NYSDEC-approved project sign was erected at the project entrance and remained in place during all phases of the Remedial Action.

4.2.3 General Site Controls

Security of the Site was maintained by a wood construction fence which surrounded the property, and chain link gates at the 2 entrance / egress points which were locked at the end of each work day. Job site record keeping included a daily sign-in sheet, daily air monitoring logs, waste manifests, accident reports, field notes and photographic documentation. All project forms, logs and reciepts were filed on-site in dedicated binders kept in the construction trailer. Field notes and observations were recorded in a project-dedicated field book which remained on-site in the construction trailer. Photogaphic documentation was up-loaded on a daily basis to a laptop computer which remained in the possesion of the QEP.

Erosion and sediment controls included a silt fence stabled to the inside of the wood lagging around the perimeter of the site and the two truck pads located at the entrance and egress points of the site. The truck pads were inspected following useage and storm events and regraded and maintained as needed.

Due to the small size of the site and the full excavation of the property, on-site equipment which came in contact with affected soil was limited to two track excavators which were decontaminated following the removal of soil to the bedrock surface. Trucks delivering materials and transporting soil from the property did not enter the site beyond the truck pad. All trucks were inspected and dry-brushed as needed before leaving the truck pad. Following the removal of all soil from th property to the bedrock surface, additional equipment entered the site for building construction. The dewatering treatment system was decontaminated at the end of the project by cleaning, removing and disposing of sediment and sludge which had accumulated in the frac-tank.

Soil screening was performed during excavation of affected soil to identify areas of petroleum contamination and potentially segregate soils for disposal at seperate facilities. However, due to elevated levels of metals and extensive petroleum contamination, segregation was not a viable option and all soils were shipped to the same disposal facility (Clean Eart of Carteret).

Soil stockpiling was largely limited to assembling a soil volume twice per day which was equal to the number of trucks / trips scheduled for that day. For example, if 5 trucks were scheduled with 2 trips to the facility each (10 truck loads), the excavator would assemble a 100 cubic yard stockpile for the morning loads followed by a second 100 cubic yard stockpile for the afternoon loads. In most cases these stockpiles would be formed and removed the same day. In some cases a stockpile would remain overnight or over a weekend. In all cases these stockpiles would be located within the excavation pit and would be securely covered if left overnight or longer.

4.2.4 Nuisance controls

The S/MMP specified that dust would be controlled by spraying a water mist over the work area if perimeter action levels established in the CAMP are exceeded. In addition a foam unit was to

be placed on-site to be used if needed to suppress vapors and odors generated during soil excavation.

Dust generation was minimal during most of the excavation work as historic fill and petroleum impacted soul had a high moisture content overall. This was due to the shallow water table and the drainage pattern which eliminated surface runoff by collecting and retaining precipitation on-site within the excavation area. When conditions and work activities resulted in visible dust (bedrock excavation, etc.) within the excavation pit, it was minimized through wetting with a fine water spray.

The truck pads at the entrance / egress paoints were maintained by regrading and adding stone ballast as needed to maintain a clean condition. Since trucks delivering materials to the site and trasnporting excavated materials from the site remained in the street or on the truck pad, there was very little tracking of on-site soil to the truck pads or to street (Southern Boulevard) in front of the site. Nevertheless, these areas were inspected following truck departure and broom swept as needed to maintain a clean condition.

Odors, primarily related to nuisance odors from temporarily stockpiled soils and during loading operations, were minimized by covering stockpiled soils when such piles remained overnight or longer and by loading technique which minimized the vertical distance that soil was dumped within the truck bed.

The selected truck route minimized traffic on neighborhood streets by directing truck to Interstate 95 via 174th Street and the Bronx River Avenue on/off ramp. The truck route map was enlarged and mounted at both site access gates to notify all drivers.

4.2.5 CAMP results

Air monitoring was performed on a daily basis at the site boundaries for dust and VOCs in accordance with the community Air Monitoring Plan. No exceedances for either dust or volatiles were reported in the action levels as established in the plan. Nuisance odors were occasionally

observed during loading activities, however, the duration was brief and there were no public receptors in the immediate area of the site.

Copies of all field data sheets relating to the CAMP are provided in electronic format in **Appendix F**.

4.2.6 Reporting

In accordance with the approved RAWP, daily status reports were prepared and submitted to the NYSDEC and the project team. Daily reports included a listing of contractors, personnel and equipment on-site, description of activities performed by contractors, CAMP monitoring results, materials imported/exported to/from the site and planned activities for the following day.

Monthly project status reports were prepared by the EBC Project Manager and distributed to the NYSDEC and project team. Monthly reports included a summary of the activities performed during the month and those anticipated during the next month, a summary of materials transported on to and off the site during the month, sampling results and delays in the schedule.

All daily and monthly reports are included in electronic format in **Appendix G**. The digital photo log required by the RAWP is included in electronic format in **Appendix H**.

4.3 MATERIALS REMOVAL

Materials removed from the site during the remediation project included concrete from walls, footings and structures associated with the former service station, underground storage tanks related to the car wash operation, historic fill and petroleum contaminated soils, and boulder/rock debris.

The approved RAWP anticipated a Track 2 cleanup to restricted residential criteria by excavating the entire site to 15 feet below surface with a small area in the center of the site to 20 feet below surface. However, in order to meet a soil cleanup objective protective of groundwater additional excavation beyond the 15 foot depth would be required in other areas of the Site.

Therefore a decision was made to excavate the entire site to the bedrock surface and achieve a Track 1 unrestricted use cleanup.

A list of the Track 1 unrestricted soil cleanup objectives (SCOs) for the contaminants of concern for this project is provided in **Table 1**. A figure of the location of original sources and areas where excavations were performed is shown in **Figure 4**.

4.3.1 Underground Storage Tank Removal

On September 8, 2010, nine undocumented 550 gallon underground storage tanks (USTs) were encountered in the northeast corner of the site (grid sections D2 and D3) during excavation on the former car wash lot. Each of the tanks was filled with water. The water was pumped from the tanks on September 9, 2010 and the tanks were removed and disposed of off-site on September 10, 2010 by A.L. Eastmond and Sons. On October 15 a tenth 550 gallon tank was encountered in the northwestern portion of the site (section C1). This tank was also filled with water. The water was pumped from the tank the same day and the tank removed on October 18, 2010.

Three additional 550 gallon USTs were encountered on November 8th, 2010, while excavating in the southern tip of the property (grid section A5). All three tanks were encased in concrete and filled with water. The water was removed from the 3 tanks on November 9th. Two additional 550 gallon USTs were found in this same area the following day on November 9th. Both tanks were encased in concrete but only one contained water. Four of the five tanks were removed and disposed of on November 9th. The water from the fifth tank was pumped on November 10th and the tank removed on November 22nd.

On March 8, 2011, two more 550 gallon USTs were discovered in the extreme southern tip of the property. The tanks were in a vertical position and were also filled with water. The water was pumped from the tanks on March 8th and disposed of off-site on March 9th.

A total of seventeen 550 gallon undocumented USTs were encountered and removed during the course of this project. The tanks were numbered 005 through 021 and registered to the Site as an

initial listing under a modified PBS facility form in which the status was for each tank was shown as closed-removed.

The completed and filed PBS form and cover letter is attached in **Appendix I**. Disposal receipts for the water removed from the tanks along with scrap metal receipts disposal of the tanks and the tank removal affidavits filed with the NYCFD are included under **Appendix J**. The location and orientation of the USTs is provided in **Figure 5**.

4.3.1.1 Tank Disposal Details

With the exception of one of the tanks discovered in the southern part of the site, all of the tanks were filled with water. A total of 8,000 gallons of water was pumped from the tanks by A.L. Eastmond and Sons and disposed of at the Clean Water of New York facility in Staten Island. After the tanks were removed and cleaned, they were disposed of as scrap metal at the Metal Depot Corp. at 341 Hallock Street in the Bronx, NY. The disposal manifests for the water and the weight tickets for the tanks are attached in **Appendix J.**

4.3.2 Excavation and Disposal of Concrete and Bedrock

Uncontaminated concrete related to foundation structures, the USTs and from a 6 foot high retaining wall separating the lots, was removed along with a small amount of bedrock during the course of the project and transported to the Tilcon materials recycling facility located at 980 East 149th Street, in the Bronx, NY. A total of 80 cubic yards of material was transported to the Tilcon facility during the course of the project. Transportation of concrete and rock to the Tilcon facility was provided by DePino Transportation (Part 364 Waste Transported Permit # 2A-604) of the Bronx, NY. The transportation tickets for the concrete and bedrock materials are attached in **Appendix K.**

4.3.2.1 On-Site Reuse

All concrete, boulders and rock were removed from the site and sent to an off-site materials recycling facility. No excavated soil, concrete or rock materials were reused on-site.

4.3.3 Excavation and Disposal of Petroleum Contaminated Soil and Historic Fill

All overburden soil was removed from the Site in accordance with the procedures outlined under the approved RAWP. The excavation of overburden soil began on August 25, 2010 and continued through March 10, 2011. Overburden soil varied in thickness from approximately 12 feet below surface in the northeastern portion of the site along Southern Boulevard to 20 feet along the Boston Road property line to more than 25 feet in the northeast corner of the site.

Overburden soil was characterized as historic fill materials with elevated levels of metals and SVOCs and as petroleum contaminated soil with elevated gasoline-related VOCs. Based on the nature and concentration of historic fill and / or petroleum contaminants all excavated soil was disposed of at the Clean Earth of Carteret facility located in 24 Middlesex Avenue in Carteret, NJ as petroleum contaminated non-hazardous material. In total 16,518.05 tons of contaminated soil was disposed of at the Clean Earth of Carteret facility.

Soil excavation was performed with two track-mounted bucket excavators and loaded directly on to 10-wheel dump trucks provided by the disposal facility. In accordance with the RAWP, gravel reinforced truck pads were constructed and maintained, as needed, at the site egress points to minimize dust generation and eliminate off-site tracking of site soil. Two laborers inspected and brushed off the wheels and undercarriage of each truck before it exited the site and periodically swept the street in front of the site along Southern Boulevard during soil transportation days.

The Soil Cleanup Objectives for this Site are listed in **Table 1**. Since all soil was removed from the site to the bedrock surface, the Site has achieved a Track 1 unrestricted cleanup. A contour map showing the thickness of all cuts and fills is included in **Figure 6**.

4.3.3.1 Disposal Details

The excavation of overburden soil began on August 25, 2010 and continued through March 10, 2011. All excavated soil was disposed of as non-hazardous waste at the Clean Earth of Carteret facility (CEC) located in Carteret, NJ. The CEC facility (ID# 13231) is a Class B Recycling Center operating under permit No. CBG060003 (expiration date 3/7/12) issued by the New

Jersey Department of Environmental Protection (NJDEP). A total of 16,518.05 of soil excavated from the site was disposed of at the CEC facility during this project.

The transportation of all historic fill and petroleum contaminated soil to the CEC facility was provided by DePino Transportation (Part 364 Waste Transported Permit # 2A-604) of the Bronx, NY.

Waste characterization sampling was performed in-situ to facilitate a "load and go" approach and to minimize stockpiling. To simplify the process and provide a better representation of the soil, the Site was divided into a south and north section which were designated as sections A and B respectively (see **Figure 7**). In each section, a five-point composite sample was collected from a 3 to 4 foot soil horizon which would be representative of an 800 cubic yard volume in accordance with the frequency as required by the CEC facility. Composite samples were designated as A1, B1 for the initial 0-3 foot interval A2, B2 for the next interval (3 ft -7 ft) and so on. Sample results for the initial interval of sections A and B were then submitted to CEC for approval. When approved this, material was then excavated and shipped to the facility and samples collected using the same procedure for the next 3 to 4 foot interval. Laboratory analysis was performed in accordance with the requirements of CEC and an alternate facility and included VOCs (grab), SVOCs, pesticides/herbicides, PCBs, TAL metals and Full TCLP.

Table 2 shows the total quantities of each category of material removed from the site and the disposal locations. A summary of the samples collected to characterize the waste is provided in **Table 3**. A summary of the analytical results of the waste characterization samples is provided in **Tables 4a through 4f**. Letters from Applicants to disposal facility owners and acceptance letters from disposal facility owners are attached in **Appendix L.** Manifests and bills of lading are included in electronic format in **Appendix M**. Waste hauler permit certificates area included in **Appendix N**.

4.3.3.2 On-Site Reuse

All of the soil at the site was excavated to the bedrock surface and transported to an off-site disposal facility. All concrete, boulders and rock were removed from the site and sent to an off-

site materials recycling facility. No excavated soil, concrete or rock materials were reused on-site.

4.3.4 Excavation Dewatering

With groundwater present at approximately 9 to 10 feet below the surface, dewatering was required to facilitate excavate below this depth and also to manage the accumulation of water from rain and snow. Due to the low recharge rate of groundwater into the excavation, dewatering was accomplished through the use of sloping and drainage channels to direct water toward a gravel lined pit which was continually evacuated with a submersible pump. Pumping rates were initially 15 gallons per minute to evacuate the excavation with maintenance flow generally less than 3 gallons per minute.

4.3.4.1 Disposal Details

A sewer discharge permit was filed with the New York City Department of Environmental Protection (NYCDEP) on August 3, 2010 to allow the discharge of up to 7,500 gallons per day into the combined sewer manhole located near the northwest corner of the Site along Southern Boulevard. The permit was approved by the NYCDEP on September 17, 2010. Dewatering operations consisted of pumping water out of the excavation and into an 8,500 gallon "frac" tank to remove fine suspended materials through settling. Water from this holding tank was then pumped through four 200 pound activated carbon drums connected in parallel, and into the open sewer manhole within the fenced area of the property. Dewatering of the excavation continued on an as-needed basis from September 2010 through April 2011. Approximately 240,000 gallons of water was treated and discharged to the sewer system during the project.

EBC collected a waste characterization sample from the sediment contained within the holding tank an April 29th. In May 2011 the holding tank was cleaned and the sediment and carbon drums were disposed of off-site.

A copy of the sewer discharge permit, permit application package and treatment system design specifications are provided in **Appendix O**.

4.4 IMPORTED BACKFILL

Imported fill materials were needed to backfill above bedrock and raise the base level to the required construction elevation of the basement slab. Backfill materials consisted of two types, bluestone gravel and tunnel rock gravel, all virgin-mined sources, from three different locations as follows:

Material Type	**Volume (cy)**	**Weight (tons)**	**Source**
¾-inch Bluestone gravel		2,193.50	Bound Brook Quarry Bound Brook, NJ
¾-inch Bluestone gravel		651.21	Eastern Concrete Materials Hamburg Stone Quarry
¾-Tunnel Rock Gravel	1,645		MTA East Side Access Tunnel

Since this material was confirmed to be gravel from a mined source with less than 10% fines it was exempt from chemical testing as per DER-10 Section 5.4e as follows:

5. *The following material may be imported, without chemical testing, to be used as backfill beneath pavement, buildings or as part of the final site cover, provided that it contains less than 10% by weight material which would pass through a size 80 sieve and consists of:*

    i. gravel, rock or stone, consisting of virgin material from a permitted mine or quarry; or ii. recycled concrete or brick from a DEC registered construction and demolition debris processing facility if the material conforms to the requirements of Section 304 of the New York State Department of Transportation Standard Specifications Construction and Materials Volume 1 (2002).

This exemption was confirmed with the DEC project manager prior to the importation of the materials to the site. A table of all sources of imported backfill with quantities for each source is shown in **Table 5**. A figure showing the site locations where backfill was used at the site is shown in **Figure 6**. Transportation tickets for imported materials are provided in **Appendix P**.

4.5 CONTAMINATION REMAINING AT THE SITE

No contamination remains at the Site.

4.6 DEVIATIONS FROM THE REMEDIAL ACTION WORK PLAN

Cleanup Track

Original Requirement: The RAWP contemplated a Track 2 cleanup of the site with soils meeting Restricted Residential Cleanup Objectives. The selected remedial alternative (alternative 2) specified the removal of all soils above restricted residential criteria to a maximum depth of 15 feet below the surface. This alternative also specified that additional excavation to a depth of 20 feet below surface would be required within a 15 x 15 foot area for site soils to meet the protection of groundwater standard.

Deviation: The extent of soil contamination above the protection of groundwater standard was found to be considerably more extensive than the small area as assumed in the RAWP. Contaminated soil covered most of the site and with the exception of a small area in the northeastern part of the site, extended to the bedrock surface. Since the protection of groundwater standard for most VOCs is equal to the unrestricted cleanup objective, only a small area of additional excavation was required to meet a Track 1 cleanup. The intention to upgrade the remediation to a Track 1 cleanup was discussed with and approved by the DEC Project Manager.

Environmental Easement

Original Requirement: Since a Track 2 cleanup was contemplated, the RAWP anticipated that an institutional control in the form of an environmental easement would be required to manage the contamination which would have remained on-site above unrestricted criteria.

Deviation: In meeting a track 1 cleanup, the environmental easement was no longer necessary. Omitting the environmental easement was discussed with and approved by the DEC Project Manager.

Site Management Plan and Post Remedial Groundwater Monitoring

Original Requirement: Since a Track 2 cleanup was contemplated, the RAWP anticipated that a Site Management Plan would be required to specify a post remedial groundwater monitoring program and annual recertification of institutional and engineering controls.

Deviation: In meeting a track 1 cleanup, A Site Management Plan and post remedial monitoring program were no longer necessary. Eliminating the post remedial Site Management and the monitoring program were discussed with and approved by the DEC Project Manager.

TABLES

Table 1
1800 Southern Boulevard, Bronx, New York
Soil Cleanup Objectives for the Project

Unrestricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Unrestricted Use
Metals		
Arsenic	7440-38-2	13 [c]
Barium	7440-39-3	350 [c]
Beryllium	7440-41-7	7.2
Cadmium	7440-43-9	2.5 [c]
Chromium, hexavalent [e]	18540-29-9	1[b]
Chromium, trivalent [e]	16065-83-1	30 [c]
Copper	7440-50-8	50
Total Cyanide [e, f]		27
Lead	7439-92-1	63 [c]
Manganese	7439-96-5	1600 [c]
Total Mercury		0.18 [c]
Nickel	7440-02-0	30
Selenium	7782-49-2	3.9[c]
Silver	7440-22-4	2
Zinc	7440-66-6	109 [c]
PCBs/Pesticides		
2,4,5-TP Acid (Silvex) [f]	93-72-1	3.8
4,4'-DDE	72-55-9	0.0033 [b]
4,4'-DDT	50-29-3	0.0033 [b]
4,4'-DDD	72-54-8	0.0033 [b]
Aldrin	309-00-2	0.005 [c]
alpha-BHC	319-84-6	0.02
beta-BHC	319-85-7	0.036
Chlordane (alpha)	5103-71-9	0.094

Table 375-6.8(a):Unrestricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Unrestricted Use
delta-BHC [g]	319-86-8	0.04
Dibenzofuran [f]	132-64-9	7
Dieldrin	60-57-1	0.005 [c]
Endosulfan I [d, f]	959-98-8	2.4
Endosulfan II [d, f]	33213-65-9	2.4
Endosulfan sulfate [d, f]	1031-07-8	2.4
Endrin	72-20-8	0.014
Heptachlor	76-44-8	0.042
Lindane	58-89-9	0.1
Polychlorinated biphenyls	1336-36-3	0.1
Semivolatile organic compounds		
Acenaphthene	83-32-9	20
Acenapthylene [f]	208-96-8	100 [a]
Anthracene [f]	120-12-7	100 [a]
Benz(a)anthracene [f]	56-55-3	1 [c]
Benzo(a)pyrene	50-32-8	1 [c]
Benzo(b)fluoranthene [f]	205-99-2	1 [c]
Benzo(g,h,i)perylene [f]	191-24-2	100
Benzo(k)fluoranthene [f]	207-08-9	0.8 [c]
Chrysene [f]	218-01-9	1 [c]
Dibenz(a,h)anthracene [f]	53-70-3	0.33 [b]
Fluoranthene [f]	206-44-0	100 [a]
Fluorene	86-73-7	30
Indeno(1,2,3-cd)pyrene [f]	193-39-5	0.5 [c]
m-Cresol [f]	108-39-4	0.33 [b]
Naphthalene [f]	91-20-3	12
o-Cresol [f]	95-48-7	0.33 [b]

Table 375-6.8(a):Unrestricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Unrestricted Use
p-Cresol [f]	106-44-5	0.33 [b]
Pentachlorophenol	87-86-5	0.8 [b]
Phenanthrene [f]	85-01-8	100
Phenol	108-95-2	0.33 [b]
Pyrene [f]	129-00-0	100
Volatile organic compounds		
1,1,1-Trichloroethane [f]	71-55-6	0.68
1,1-Dichloroethane [f]	75-34-3	0.27
1,1-Dichloroethene [f]	75-35-4	0.33
1,2-Dichlorobenzene [f]	95-50-1	1.1
1,2-Dichloroethane	107-06-2	0.02 [c]
cis -1,2-Dichloroethene [f]	156-59-2	0.25
trans-1,2-Dichloroethene [f]	156-60-5	0.19
1,3-Dichlorobenzene [f]	541-73-1	2.4
1,4-Dichlorobenzene	106-46-7	1.8
1,4-Dioxane	123-91-1	0.1 [b]
Acetone	67-64-1	0.05
Benzene	71-43-2	0.06
n-Butylbenzene [f]	104-51-8	12
Carbon tetrachloride [f]	56-23-5	0.76
Chlorobenzene	108-90-7	1.1
Chloroform	67-66-3	0.37
Ethylbenzene [f]	100-41-4	1
Hexachlorobenzene [f]	118-74-1	0.33[b]
Methyl ethyl ketone	78-93-3	0.12
Methyl tert-butyl ether [f]	1634-04-4	0.93
Methylene chloride	75-09-2	0.05

Table 375-6.8(a):Unrestricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Unrestricted Use
n - Propylbenzene [f]	103-65-1	3.9
sec-Butylbenzene [f]	135-98-8	11
tert-Butylbenzene [f]	98-06-6	5.9
Tetrachloroethene	127-18-4	1.3
Toluene	108-88-3	0.7
Trichloroethene	79-01-6	0.47
1,2,4-Trimethylbenzene [f]	95-63-6	3.6
1,3,5-Trimethylbenzene[f]	108-67-8	8.4
Vinyl chloride[f]	75-01-4	0.02
Xylene (mixed)	1330-20-7	0.26

All soil cleanup objectives (SCOs) are in parts per million (ppm).

Footnotes

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

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

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

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

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

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

Table 2
1800 Southern Boulevard, Bronx, New York
Offsite Soil/Waste Disposal Summary

Waste Disposal Facility	Type of Waste	Shipping Date (October 2010)	Quantity (Tons)	Shipping Date (November 2010)	Quantity (Tons)	Shipping Date (December 2010)	Quantity (Tons)	Shipping Date (January 2010)	Quantity (Tons)	Shipping Date (February 2010)	Quantity (Tons)	Shipping Date (March 2010)	Quantity (Tons)
Clean Earth, Inc.	Non-Hazardous Petroleum	14-Oct-10	327.31	11-Nov-10	320.90	1-Dec-10	668.00	4-Jan-11	452.03	16-Feb-11	213.61	4-Mar-11	234.83
Clean Earth of Carteret	Contaminated Soil	18-Oct-10	307.24	12-Nov-10	309.56	3-Dec-10	727.79	5-Jan-11	465.46	17-Feb-11	168.69	8-Mar-11	50.88
24 Middlesex Avenue		19-Oct-10	423.57	15-Nov-10	426.14	6-Dec-10	891.84	6-Jan-11	281.50	18-Feb-11	272.17	9-Mar-11	97.04
Carteret, New Jersey 07008		20-Oct-10	372.07	16-Nov-10	316.60	7-Dec-10	595.46	7-Jan-11	421.14	21-Feb-11	160.98		
		21-Oct-10	26.99	17-Nov-10	544.20	21-Dec-10	562.34	11-Jan-11	133.82	22-Feb-11	361.06		
		22-Oct-10	253.23	18-Nov-10	642.44	22-Dec-10	799.24			23-Feb-11	245.32		
		25-Oct-10	282.32	19-Nov-10	505.59	23-Dec-10	488.06			24-Feb-11	279.19		
	TOTAL	27-Oct-10	213.42	23-Nov-10	177.92	29-Dec-10	591.47						
	16518.05 tons	28-Oct-10	136.26	30-Nov-10	747.27	30-Dec-10	588.90						
		29-Oct-10	434.20										

Waste Disposal Facility	Type of Waste	Quantity of Drums sent for Regeneration
Seamans Water Treatment 118 Park Road Darlington, PA 16115	55-gallon or larger steel drums with spent activated carbon	8

Waste Disposal Facility	Type of Waste	Shipping Date	Quantity (Gallons)
Clean Water of New York 3249 Richmond Terrace Staten Island, NY 10303	Oily Water	12/6/2010	2,000
			2,500
	TOTAL	3/10/2011	2,000
	5,500 gallons		2,500

Waste Disposal Facility	Type of Waste	Shipping Date	Quantity (Tons)
Clean Earth of North Jersey, Inc. 115 Jacobus Avenue South Kearny, NJ 07032	Non-Hazardous Frac Tank Sludge	6/2/2011	3.38
			7.50
	TOTAL		
	10.88 tons		

Table 3
1800 Southern Boulevard Bronx, New York
Waste Characterization Sampling Summary

	Soil Sample ID	Date Collected	York Analytical Laboratories, Inc. Sample ID	Type of Sample	Soil Interval Represented by Sample	TCLP RCRA List VOCs EPA 5030B/8260B	TCLP RCRA List SVOCs EPA 3510C/8270C	Semi-Volatiles, NJDEP Target List EPA 3550B/8270C	TCLP RCRA List Pesticides EPA 3510C/8081	Pesticides, NJDEP Target List EPA 3550B/8081	TCLP Target List Herbicides EPA 3535A/8151	Herbicides, Target List EPA 3550B/8151B	TCLP RCRA List Metals EPA 3010A/6010B	Total Metals, Target Analyte EPA 3050B/6010B	Total Hexavalent Chromium EPA 3060/7196A	Total Cyanide EPA 9013A/9010C	Polychlorinated Biphenyls (PCBs) EPA 3550B/8082	RCRA Characteristics	TPH by NJ QAM-025	Volatile Organic, NJDEP Target List EPA 5035B/8260B
Gas Station - Lot 1	A 5pt Grab Composite	25-Aug-10	10H0917-01	Composite	0 to 3 feet bgs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Grab A	25-Aug-10	10H0917-03	Grab	0 to 3 feet bgs															x
	A2 5pt Grab Composite	15-Sep-10	10I0660-01	Composite	3 to 7 feet bgs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Grab A2	15-Sep-10	10I0660-03	Grab	3 to 7 feet bgs															x
	A3 5pt Grab Composite	6-Oct-10	10J0316-01	Composite	7 to 11 feet bgs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Grab A3	6-Oct-10	10J0315-02	Grab	7 to 11 feet bgs															x
	A4 5pt Grab Composite	22-Nov-10	10K0747-01	Composite	11 to 15 feet bgs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Grab A4	22-Nov-10	10K0747-02	Grab	11 to 15 feet bgs															x
	A5 5pt Grab Composite	22-Nov-10	10K0747-03	Composite	15 to 20 feet bgs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Grab A5	22-Nov-10	10K0747-04	Grab	15 to 20 feet bgs															x
Car Wash - Lot 7	B 5pt Grab Composite	25-Aug-10	10H0917-02	Composite	0 to 3 feet bgs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Grab B	25-Aug-10	10H0917-04	Grab	0 to 3 feet bgs															x
	B2 5pt Grab Composite	15-Sep-10	10I0660-02	Composite	3 to 7 feet bgs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Grab B2	15-Sep-10	10I0660-04	Grab	3 to 7 feet bgs															x
	B3 5pt Grab Composite	14-Oct-10	10J0622-01	Composite	7 to 11 feet bgs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Grab B3	14-Oct-10	10J0622-02	Grab	7 to 11 feet bgs															x
	B4 5pt Grab Composite	15-Nov-10	10K0511-01	Composite	11 to 15 feet bgs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Grab B4	15-Nov-10	10K0511-02	Grab	11 to 15 feet bgs															x
	B5 5pt Grab Composite	13-Dec-10	10L0404-01	Composite	15 to 20 feet bgs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Grab B5	13-Dec-10	10L0404-02	Grab	15 to 20 feet bgs															x

Table 4A
1800 Southern Boulevard Bronx, New York
Waste Characterization Results - Volatile Organic Compounds

VOLATILE ORGANIC COMPOUNDS	NYSDEC Part 375.6 Unrestricted Use Soil Cleanup Objectives	GRAB A1 25-Aug-10 µg/Kg	GRAB A2 15-Sep-10 µg/Kg	GRAB A3 6-Oct-10 µg/Kg	GRAB A4 22-Nov-10 µg/Kg	GRAB A5 22-Nov-11 µg/Kg	GRAB B1 25-Aug-10 µg/Kg	GRAB B2 15-Sep-10 µg/Kg	GRAB B3 14-Oct-10 µg/Kg	GRAB B4 15-Nov-10 µg/Kg	GRAB B5 13-Dec-10 µg/Kg	Frac Tank 29-Apr-11 µg/Kg
1,1,1-Trichloroethane	680	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	270	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloropropylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	1,100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	20	ND	ND	**8.7** J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	2,400	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	1,800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone		ND	ND	ND	ND	**7.1** J	ND	ND	ND	ND	**22** J	ND
2-Hexanone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Isopropyltoluene		ND	ND	**6.4** J	ND	ND	ND	ND	ND	ND	ND	ND
Acetone		ND	**54** B	**100** B	**4.1** JB	**89** B	ND	ND	**43** B	**6.4** JB	**28** B	**130**
Acrolein		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	60	ND	ND	ND	ND	**5.7** J	ND	ND	ND	ND	ND	**35**
Bromodichloromethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	760	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	1,100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	370	ND	ND	ND	**920** J	ND	ND	ND	ND	ND	ND	ND
Chloromethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.8** J
cis-1,3-Dichloropropylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1,000	ND	ND	ND	**36,000**	ND	ND	ND	ND	**220** J	ND	**270**
Hexachlorobutadiene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene		ND	ND	ND	**5,400** J	ND	ND	ND	ND	**220** J	ND	**71**
Methyl acetate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	930	ND	ND	**59**	ND	**7.3** J	ND	ND	ND	ND	ND	**70**
Methylene chloride	50	**11** JB	**18** B	**16** JB	**4.7** JB	**20** JB	**12** JB	**17** JB	**15** JB	**6.5** JB	**7.3** JB	**12** B
o-Xylene	260	ND	ND	**5.2** J	**27,000**	**14**	ND	ND	ND	ND	ND	ND
p-&m-Xylenes	260	ND	ND	ND	**130,000**	**2.4** J	ND	ND	ND	**270** J	**4.6** J	**610**
p-Isopropyltoluene		ND	ND	**6.4** J	**1,500** J	ND	ND	ND	ND	**140** J	ND	-
Styrene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butyl achohol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**7.9** J
Toluene		ND	ND	ND	**2,600** J	**3.6** J	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

* - 6 NYCRR Part 375-6 Remedial Program Soil Cleanup Objectives

ND - Not-detected

Bold/highlighted- Indicated exceedance of the NYSDEC UUSCO Guidance Value

Table 4B
1800 Southern Boulevard Bronx, New York
Waste Characterization Results
Semi-Volatile Organic Compounds

SEMI-VOLATILE ORGANIC COMPOUNDS	NYSDEC Part 375.6 Unrestricted Use Soil Cleanup Objectives*	A1 5pt Grab Composite 25-Aug-10 µg/Kg	A2 5pt Grab Composite 15-Sep-10 µg/Kg	A3 5pt Grab Composite 6-Oct-10 µg/Kg	A4 5pt Grab Composite 22-Nov-10 µg/Kg	A5 5pt Grab Composite 22-Nov-11 µg/Kg	B1 5pt Grab Composite 25-Aug-10 µg/Kg	B2 5pt Grab Composite 15-Sep-10 µg/Kg	B3 5pt Grab Composite 14-Oct-10 µg/Kg	B4 5pt Grab Composite 15-Nov-10 µg/Kg	B5 5pt Grab Composite 13-Dec-10 µg/Kg	Frac Tank 29-Apr-11 µg/Kg
1,1-Biphenyl		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
1,2,4-Trichlorobenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
2,4,5-Trichlorophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,-Chlorophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene		ND	ND	**516**	**553**	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	20,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	100,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetophenone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene		**285**	ND	**65.6** J	ND	ND	**144** J	ND	ND	ND	ND	ND
Atrazine		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzaldehyde		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzidine		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	1,000	**569**	ND	**189** J	ND	ND	**552**	**95.5** J	**98.6** J	ND	ND	ND
Benzo(a)pyrene	1,000	**503**	ND	**201**	ND	ND	**771**	**104** J	**140** J	ND	ND	ND
Benzo(b)fluoranthene	1,000	**295**	ND	**192** J	ND	ND	**509**	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	100,000	**131** J	ND	ND	ND	ND	**114** J	ND	**69.1** J	ND	ND	ND
Benzo(k)fluoranthene	800	**292**	ND	**146** J	ND	ND	**437**	ND	**96.5** J	ND	ND	ND
Benzyl butyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroethyl)ether		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroisopropyl)ether		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate		ND	ND	**253**	ND	ND	ND	ND	ND	ND	ND	ND
Caprolactam		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	1,000	647	ND	**203**	ND	ND	**735**	**120** J	**105** J	ND	ND	ND
Dibenzo(a,h)anthracene	330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethylphthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butylphthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octylphthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	100,000	**842**	ND	**327**	ND	ND	**981**	ND	**177** J	ND	ND	**60** J
Fluorene	30,000	**59.7** J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	500	**135** J	ND	ND	ND	ND	**166** J	ND	ND	ND	ND	ND
Isophorone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	12,000	ND	ND	**371**	**237**	ND	ND	ND	ND	347	ND	ND
Nitrobenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodimethylamine		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodi-n-propylamine		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	100,000	**1,290**	ND	**241**	ND	ND	**607**	ND	**82.8** J	ND	ND	ND
Phenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	100,000	**1,460**	ND	**311**	ND	ND	**1,070**	**193** J	**187** J	ND	ND	**59** J

Notes:

* - 6 NYCRR Part 375-6 Remedial Program Soil Cleanup Objectives

ND - Not-detected

Bold/highlighted- Indicated exceedance of the NYSDEC UUSCO Guidance Value

Table 4C
1800 Southern Boulevard Bronx, New York
Waste Characterization Results - Pesticides, Herbicides and PCBs

	PESTICIDES, HERBICIDES & PCBS	NYSDEC Part 375.6 Unrestricted Use Soil Cleanup Objectives*	A1 25-Aug-10 µg/Kg	A2 15-Sep-10 µg/Kg	A3 6-Oct-10 µg/Kg	A4 22-Nov-10 µg/Kg	A5 22-Nov-11 µg/Kg	B1 25-Aug-10 µg/Kg	B2 15-Sep-10 µg/Kg	B3 14-Oct-10 µg/Kg	B4 15-Nov-10 µg/Kg	B5 13-Dec-10 µg/Kg
Pesticides	**4,4-DDD**	3.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	4,4-DDE	3.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	4,4-DDT	3.3	ND	ND	ND	ND	ND	**10.4**	ND	ND	ND	ND
	Aldrin	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	alpha-BHC	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	alpha-chlordane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	beta-BHC	36	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Dieldrin	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Endosulfan I	2,400	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Endosulfan II	2,400	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Endosulfan Sulfate	2,400	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Endrin	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	gamma-BHC (Lindane)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	gamma-Chlordane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Heptachlor	42	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Heptachlor epoxide		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Methoxychlor		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Toxaphene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HBs	**2,4,5-T**		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2,4,5-TP (Silvex)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2,4-D		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCBs	**Aroclor 1016**	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Aroclor 1221		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Aroclor 1232		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Aroclor 1242		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Aroclor 1248		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Aroclor 1254		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Aroclor 1260		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Aroclor 1262		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Aroclor 1268		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

* - 6 NYCRR Part 375-6 Remedial Program Soil Cleanup Objectives

ND - Not-detected

Bold/highlighted - Indicated exceedance of the NYSDEC UUSCO Guidance Value

Table 4D
1800 Southern Boulevard Bronx, New York
Waste Characterization Results Metals

METALS	NYSDEC Part 375.6 Unrestricted Use Soil Cleanup Objectives*	A1 25-Aug-10 µg/Kg	A2 15-Sep-10 µg/Kg	A3 6-Oct-10 µg/Kg	A4 22-Nov-10 µg/Kg	A5 22-Nov-11 µg/Kg	B1 25-Aug-10 µg/Kg	B2 15-Sep-10 µg/Kg	B3 14-Oct-10 µg/Kg	B4 15-Nov-10 µg/Kg	B5 13-Dec-10 µg/Kg	Frac Tank 29-Apr-11 µg/Kg
Aluminum		10,700	13,000	9,420	8,520	11 ,700	12,700	9,270	11,100	9,020	10,200	22,600
Antimony		107	724	ND	1.27	15.8	38.9	169	22.2	ND	ND	ND
Arsenic	13	5.87	18.2	2.21	1.81	5.02	8.56	13.8	5.10	2.03	1.95	3.1
Barium	350	294	411	99.9	85.9	124	226	491	151	87.0	85.5	157
Beryllium	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	2.5 c	ND	ND	ND	ND	ND	ND	0.979	ND	ND	ND	ND
Calcium		9,680	3,550	2,150	2,060	1,430	5,770	4,210	3,660	2,530	2,420	14,000
Chromium	30 c	14.9	22.7	23.7	26.8	33.7	31.0	41.3	36.2	23.9	34.9	44.2
Hexavalent Chromium	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Cobalt		10.5	9.86	15.4	14.3	16.1	11.4	11.0	12.5	11.3	15.1	ND
Copper	50	620	831	45.6	30.4	57.8	436	1,650	203	35.7	37.6	85.6
Cyanide	27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Iron		21,900	24,900	20,000	19,100	24,100	36,200	39,200	23,800	19,500	17,600	33,800
Lead	63 c	905	1,350	10.8	11.8	33.8	993	1,500	296	21.2	7.38	31.4
Magnesium		5,010	2,970	3,900	4,620	5,720	3,900	3,530	4,110	3,830	6,390	9,230
Manganese	1600 c	388	409	159	214	407	413	242	253	205	324	587
Mercury	0.18 c	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.03
Nickel	30	17.7	22	43.5	29.2	19.3	31.6	33.1	36.0	30.9	36.1	38.9
Potassium		1,080	1,070	3,430	3,710	6,610	1,950	2,240	2,500	3,020	2,820	7,140
Selenium	3.9c	2.45	3.10	1.23	4.56	4.89	3.60	3.80	2.72	1.36	ND	0.629 J
Silver	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sodium		536	332	347	436	477	259	291	259	265	544	615
Thallium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.22
Vanadium		40.1	32.0	35.7	33.7	45.5	41.3	35.6	36.7	29.7	36.4	57.4
Zinc	109 c	375	343	54.1	44.4	56.9	447	685	201	50.6	44.0	146.0

Notes:

* - 6 NYCRR Part 375-6 Remedial Program Soil Cleanup Objectives

ND - Not-detected

Bold/highlighted - Indicated exceedance of the NYSDEC UUSCO Guidance Value

Table 4E
1800 Southern Boulevard Bronx, New York
Waste Characterization Soil Sample Analytical Results
All TCLP Results - Composite Samples

	COMPOUND	TCLP Regulatory Limit* (mg/L)	A1 25-Aug-10	A2 15-Sep-10	A3 6-Oct-10	A4 22-Nov-10	A5 22-Nov-11	B1 25-Aug-10	B2 15-Sep-10	B3 14-Oct-10	B4 15-Nov-10	B5 13-Dec-10
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
TCLP SVOCs	1,4-Dichlorobenzene	7.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2,4,5-Trichlorophenol	400	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2,4,6-Trichlorophenol	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2,4-Dinitrotoluene	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2-Methylphenol	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	4-Methylphenol	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Cresol (total)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Hexachlorobenzene	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Hexachlorobutadiene	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Hexachloroethane	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Nitrobenzene	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Pentachlorophenol	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Pyridine	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TCLP VOCs	1,1-Dichloroethene	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,2-Dichloroethane	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,4-Dichlorobenzene	7.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2-Butanone	200	ND	ND	ND	ND	ND	ND	ND	ND	**0.0083** J	ND
	Benzene	0.5	ND	ND	ND	ND	**0.00094** J	ND	ND	ND	ND	ND
	Carbon Tetrachloride	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Chlorobenzene	100.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Chloroform	6.0	ND	ND	ND	**0.011**	**0.0008** J	**0.00087** J	ND	ND	**0.0026** J	ND
	Tetrachloroethene	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethene	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Vinyl Chloride	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TCLP Pesticides	Chlordane	0.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Endrin	0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	gamma-BHC	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Heptachlor	0.008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Heptachlor Epoxide	0.008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Methoxychlor	10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Toxaphene	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TCLP HBs	2,4,5-TP	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2,4-Dinitrotoluene	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TCLP Metals	Arsenic	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Barium	100	**1.78**	**0.522**	**1.36**	**0.978**	**2.34**	**0.824**	**1.25**	**0.984**	**0.869**	**1.50**
	Cadmium	1.0	**0.007**	ND	ND	ND	ND	**0.012**	**0.003**	**0.006**	ND	ND
	Chromium	5.0	**0.005**	ND	ND	ND	ND	ND	ND	ND	ND	**0.006**
	Lead	5.0	**4.04**	**0.309**	**0.036**	**0.08**	**0.017**	**1.50**	**0.633**	**1.33**	**0.104**	**0.023**
	Selenium	1.0	ND	ND	ND	**0.010** B	ND	ND	ND	ND	ND	ND
	Silver	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Mercury	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

* - Toxicity Characteristic Leaching Procedure

ND - Not-detected

Bold/highlighted- Indicated exceedance of the TCLP Regulatory Limit

Table 4F
1800 Southern Boulevard Bronx, New York
Waste Characterization Results
RCRA Characteristics

Test/Procedure	Hazardous Levels	A1 25-Aug-10	A2 15-Sep-10	A3 6-Oct-10	A4 22-Nov-10	A5 22-Nov-11	B1 25-Aug-10	B2 15-Sep-10	B3 14-Oct-10	B4 15-Nov-10	B5 13-Dec-10
Ignitability / Flash Point	<140	Non-Ignit.	Non-Ignit.	Non-Ignit.	Non-Ignit.	Non-Ignit.	Non-Ignit.	Non-Ignit.	Non-Ignit.	Non-Ignit.	Non-Ignit.
Soil pH	≤2.0 or ≥12.5	9.39	8.21	9.01	9.18	7.88	9.03	7.81	7.52	8.05	9.29
Reactivity Cyanide	<250	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Reactivity Sulfide	<500	ND	ND	ND	48.0 mg/kg	ND	ND	ND	ND	ND	ND
TPH by NJ QAM-025		240 mg/kg	340 mg/kg	ND	-	-	210 mg/kg	360 mg/kg	ND	-	-

Notes:

ND - Not-detected

NA - Not Applicable

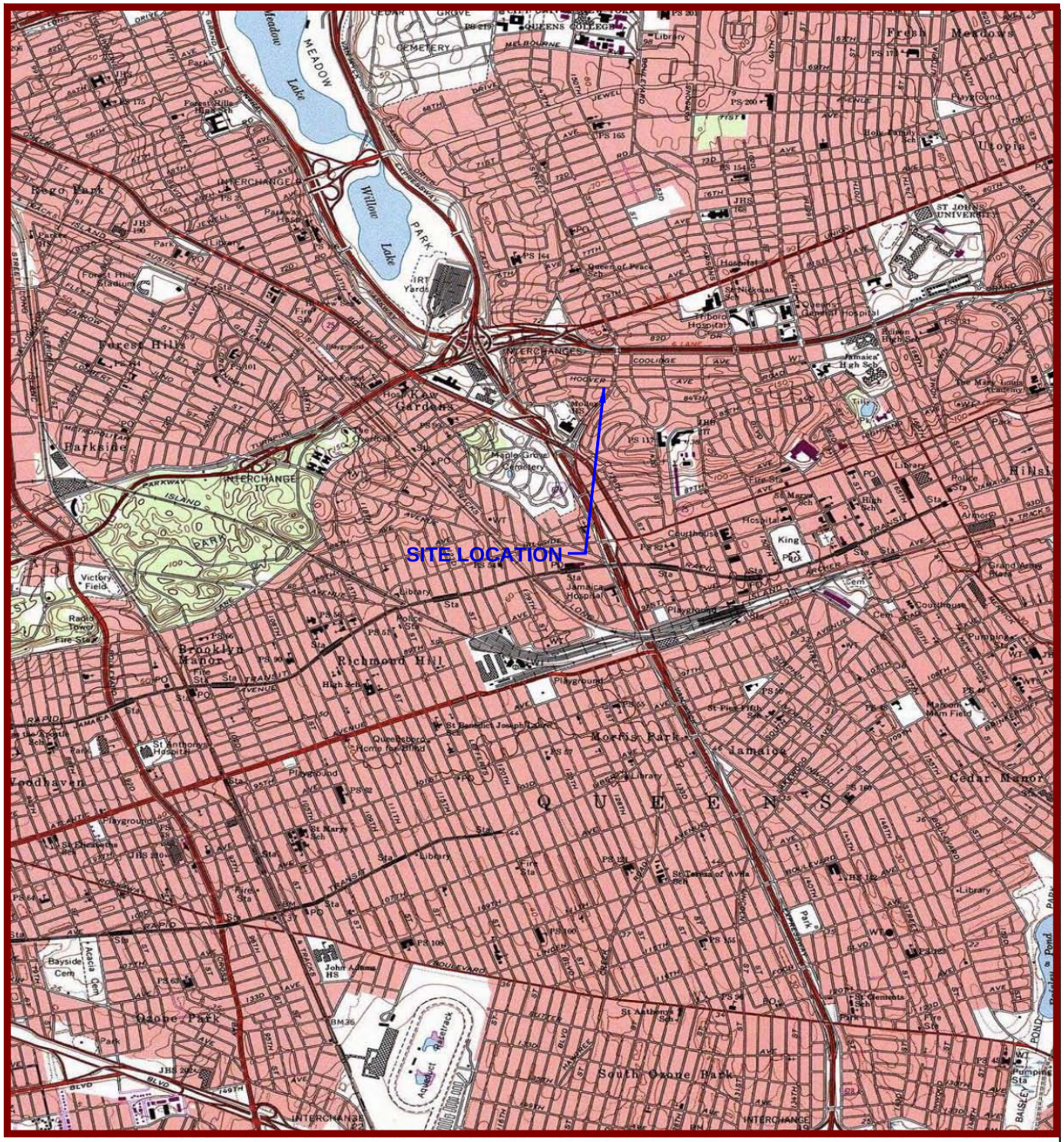
Table 5
1800 Southern Boulevard Bronx, New York
Backfill Quantities and Sources

Source	Type of Backfill	Date Delivered	Tons Delivered	Date Delivered	Tons Delivered	Date Delivered	Tons Delivered	Date Delivered	Tons Delivered
Eastern Concrete Materials, Inc	3/4" Stone	10/20/2010	20.28	2/18/2011	26.28	2/22/2011	22.96	3/2/2011	23.99
Hamburg Stone Quarry	Generated from Long Island City	10/20/2010	21.56	2/18/2011	24.37	2/22/2011	24.35	3/2/2011	18.46
3620 Route 23 North	12th Avenue Sewer Project	10/21/2010	20.33	2/18/2011	26.18	2/23/2011	25.59	3/4/2011	21.01
Hamburg , New Jersey 07419		10/21/2010	21.34	2/18/2011	26.04	2/23/2011	23.35	3/4/2011	22.26
		10/21/2010	19.98	2/18/2011	27.66	2/23/2011	23.04		
TOTAL	651.21 tons	10/21/2010	21.73	2/22/2011	23.51	2/24/2011	21.62		
		2/18/2011	24.42	2/22/2011	22.70	2/24/2011	24.85		
		2/18/2011	26.11	2/22/2011	22.85	2/24/2011	24.39		

Source	Type of Backfill	Date Delivered	Tons Delivered	Date Delivered	Tons Delivered	Date Delivered	Tons Delivered	Date Delivered	Tons Delivered	Date Delivered	Tons Delivered	Date Delivered	Tons Delivered
Stavola Construction Materials	3/4" Virgin Bluestone	11/3/2010	22.52	3/4/2011	23.57	3/10/2011	23.86	3/11/2011	24.64	3/14/2011	24.77	3/24/2011	21.63
Bound Brook Quarry		11/3/2010	22.98	3/4/2011	23.52	3/10/2011	24.50	3/11/2011	25.14	3/14/2011	23.69	3/24/2011	25.45
810 Thompson Avenue		3/2/2011	24.50	3/4/2011	25.30	3/10/2011	24.45	3/11/2011	25.19	3/14/2011	24.63	3/24/2011	24.62
Bound Brook, New Jersey 08805		3/2/2011	23.98	3/4/2011	24.01	3/11/2011	25.18	3/11/2011	23.23	3/14/2011	24.92	3/24/2011	25.60
		3/2/2011	24.95	3/4/2011	24.73	3/11/2011	24.45	3/11/2011	23.07	3/15/2011	24.88	3/30/2011	25.18
		3/2/2011	24.61	3/10/2011	25.02	3/11/2011	24.39	3/11/2011	24.87	3/15/2011	22.95		
		3/3/2011	23.81	3/10/2011	25.32	3/11/2011	24.85	3/11/2011	24.25	3/15/2011	25.50		
		3/3/2011	22.39	3/10/2011	24.14	3/11/2011	24.80	3/11/2011	24.23	3/15/2011	24.60		
		3/3/2011	23.50	3/10/2011	24.23	3/11/2011	25.18	3/11/2011	23.05	3/16/2011	25.99		
		3/3/2011	20.84	3/10/2011	24.50	3/11/2011	24.45	3/11/2011	25.22	3/16/2011	23.28		
		3/3/2011	24.63	3/10/2011	24.45	3/11/2011	24.39	3/11/2011	24.70	3/16/2011	24.62		
		3/3/2011	24.35	3/10/2011	23.41	3/11/2011	24.15	3/11/2011	22.77	3/16/2011	26.21		
		3/3/2011	25.31	3/10/2011	24.40	3/11/2011	25.11	3/11/2011	24.40	3/16/2011	25.32		
		3/3/2011	25.02	3/10/2011	23.87	3/11/2011	25.34	3/11/2011	23.86	3/16/2011	26.22		
		3/4/2011	23.19	3/10/2011	24.59	3/11/2011	24.41	3/11/2011	24.55	3/17/2011	24.03		
		3/4/2011	22.87	3/10/2011	25.06	3/11/2011	25.45	3/11/2011	24.85	3/17/2011	24.62		
TOTAL	2,193.50 tons	3/4/2011	24.18	3/10/2011	24.64	3/11/2011	24.78	3/11/2011	24.80	3/24/2011	23.84		

Source	Type of Backfill	Date Delivered	Quantity Delivered (yd^3)	Date Delivered	Quantity Delivered (yd^3)	Date Delivered	Quantity Delivered (yd^3)	Date Delivered	Quantity Delivered (yd^3)	Date Delivered	Quantity Delivered (yd^3)
DTA Industries	3/4" Stone	11/3/2010	35	12/13/2010	35	12/22/2010	35	1/3/2011	35	1/25/2011	35
Frog Hollow, Yaphank, New York	Generated from Long Island City,	11/3/2010	35	12/13/2010	35	12/29/2010	35	1/3/2011	35	1/25/2011	35
	Eastside Access Tunnel	11/10/2010	35	12/21/2010	35	12/29/2010	35	1/3/2011	35	1/25/2011	35
		11/11/2010	35	12/21/2010	35	12/30/2011	35	1/3/2011	35	2/23/2011	35
		11/13/2010	35	12/21/2010	35	12/30/2011	35	1/3/2011	35	2/23/2011	35
		11/13/2010	35	12/21/2010	35	1/3/2011	35	1/10/2011	35	2/24/2011	35
		11/18/2010	35	12/22/2010	35	1/3/2011	35	1/10/2011	35	2/24/2011	35
		11/18/2010	35	12/22/2010	35	1/3/2011	35	1/10/2011	35		
		11/24/2010	35	12/22/2010	35	1/3/2011	35	1/10/2011	35		
TOTAL	1,645 cubic yards	11/24/2010	35	12/22/2010	35	1/3/2011	35	1/20/2011	35		

FIGURES



USGS Jamaica Quadrangle 1994, Contour Interval = 10 feet

0 .5 1 MILES
1000 0 1000 2000 3000 4000 5000 FEET
1 .5 0 KILOMETERS 1
1000 0 METERS 1000

MN
13°
10/19/10

EBC
ENVIRONMENTAL BUSINESS CONSULTANTS
Phone 631.504.6000
Fax 631. 924 .2870

FORMER AMOCO SERVICE STATION & CAR WASH
1800 SOUTHERN BOULEVARD, BRONX, NY

FIGURE 1 SITE LOCATION MAP

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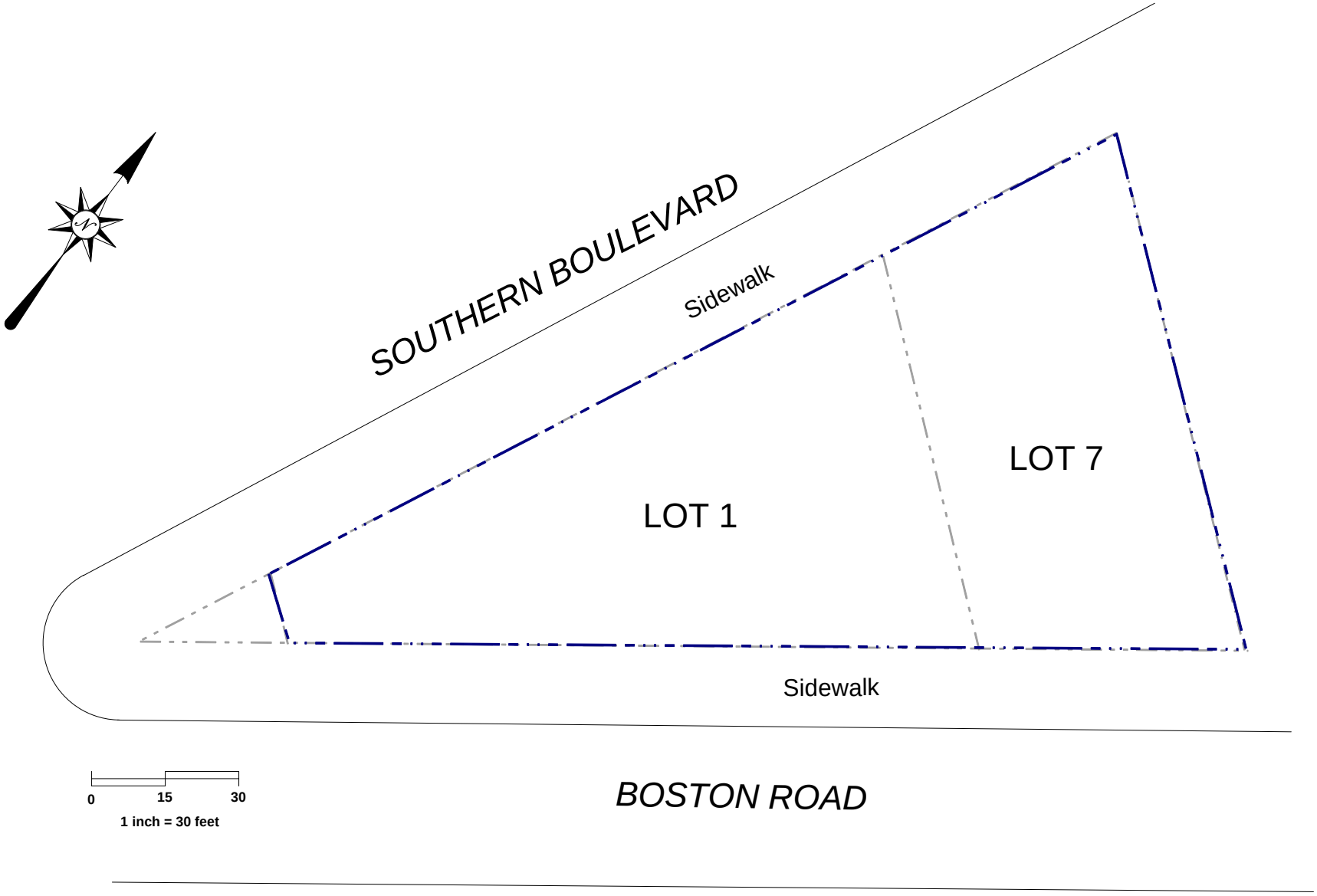
Fax: 631.924.2780

1800 SOUTHERN BOULEVARD
BRONX, NY

FIGURE 2 PROJECT SITE AND ADJACENT PROPERTIES



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1800 Southern Boulevard
Bronx, NY

FIGURE 3 Site Plan

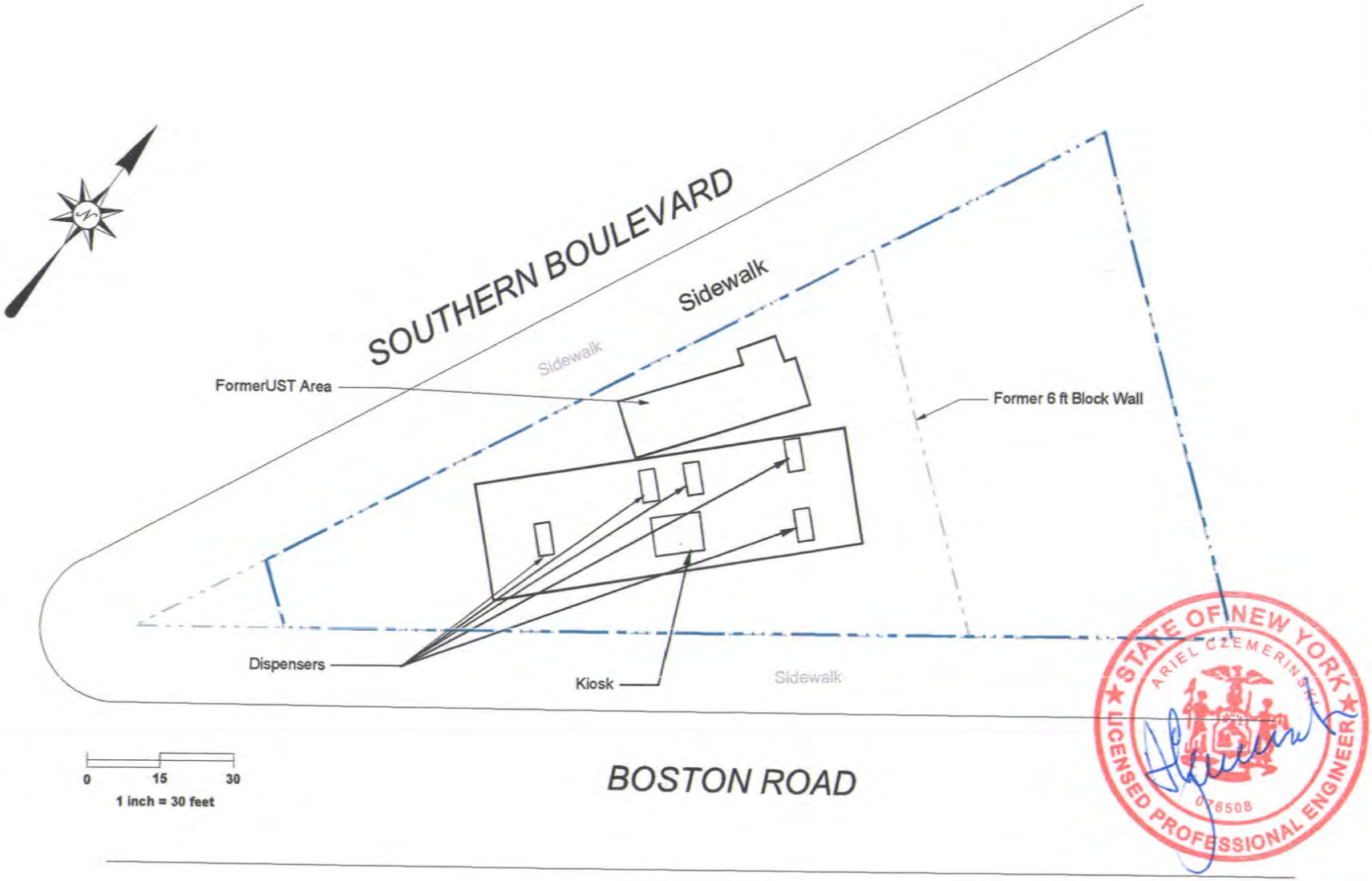

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FIGURE 4 LOCATION OF FORMER SOURCE AREAS

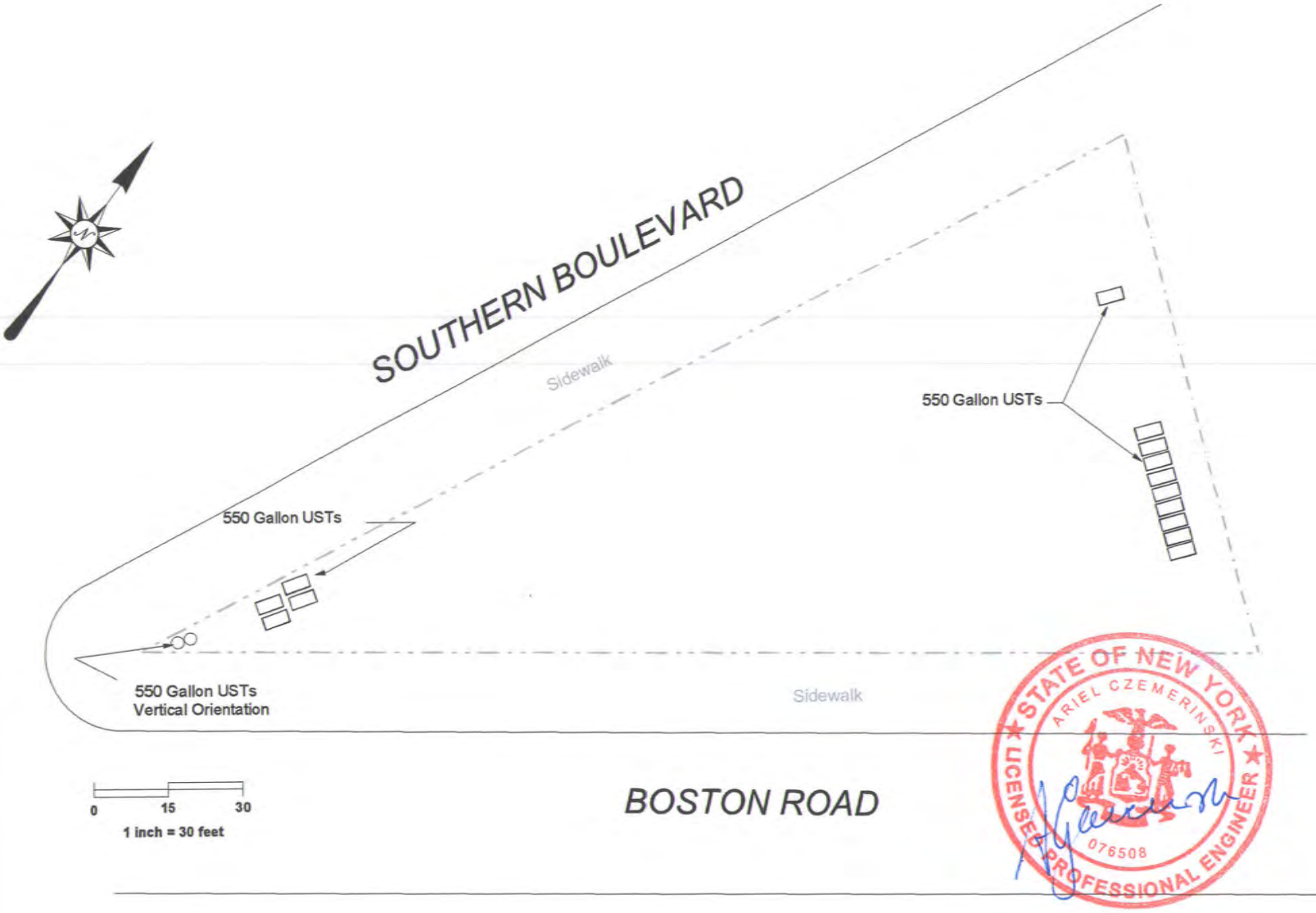

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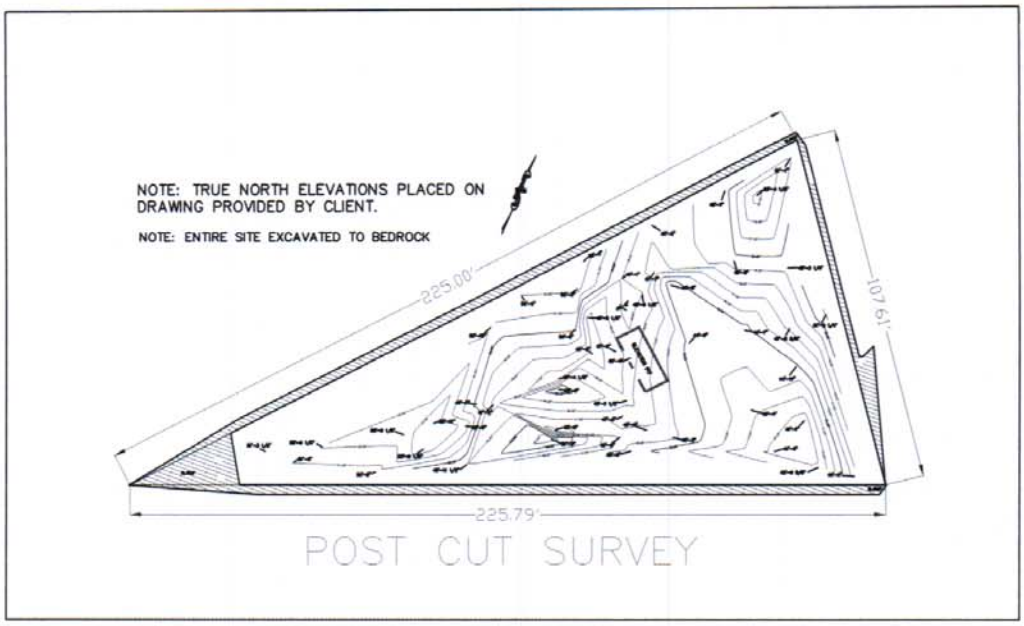
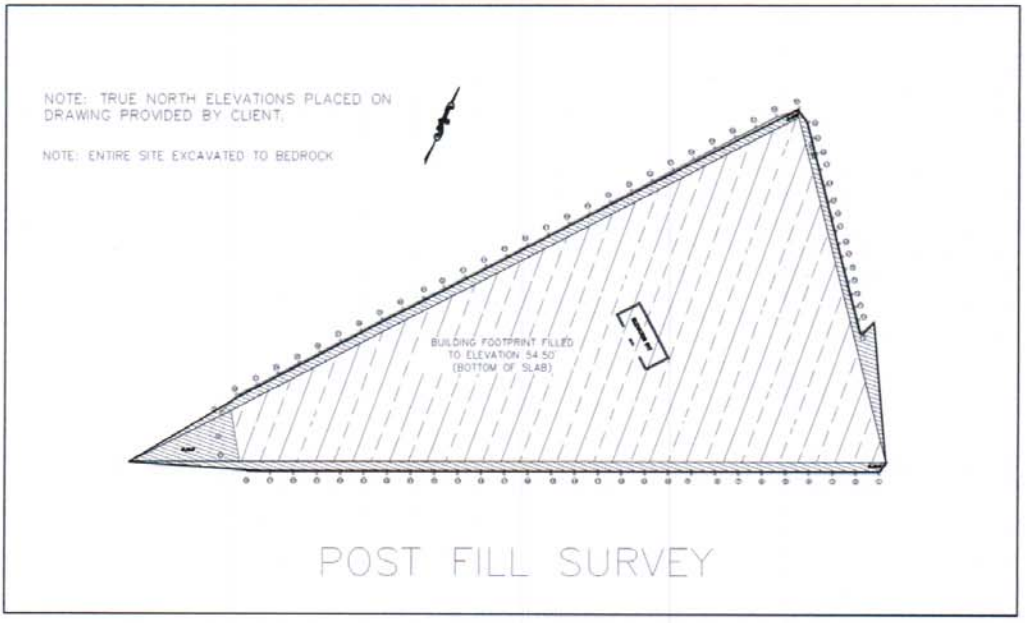
FIGURE 5 USTs REMOVED DURING REMEDIAL ACTION





EARTHWORK FILL VOLUME: 23,639.75 cu.ft.

I CERTIFY TO:
JOY CONSTRUCTION
THAT THIS SURVEY WAS PREPARED AND REVIEWED UNDER MY SUPERVISION IN THE OFFICE AND THE FIELD.

FILL MAP
LOCATED IN
THE BOROUGH OF THE BRONX
CITY OF NEW YORK
STATE OF NEW YORK

1800 SOUTHERN BOULEVARD PROJECT

True North Surveyors, P.C.

John J.Vida N.Y.S.L.S. Lic. No.

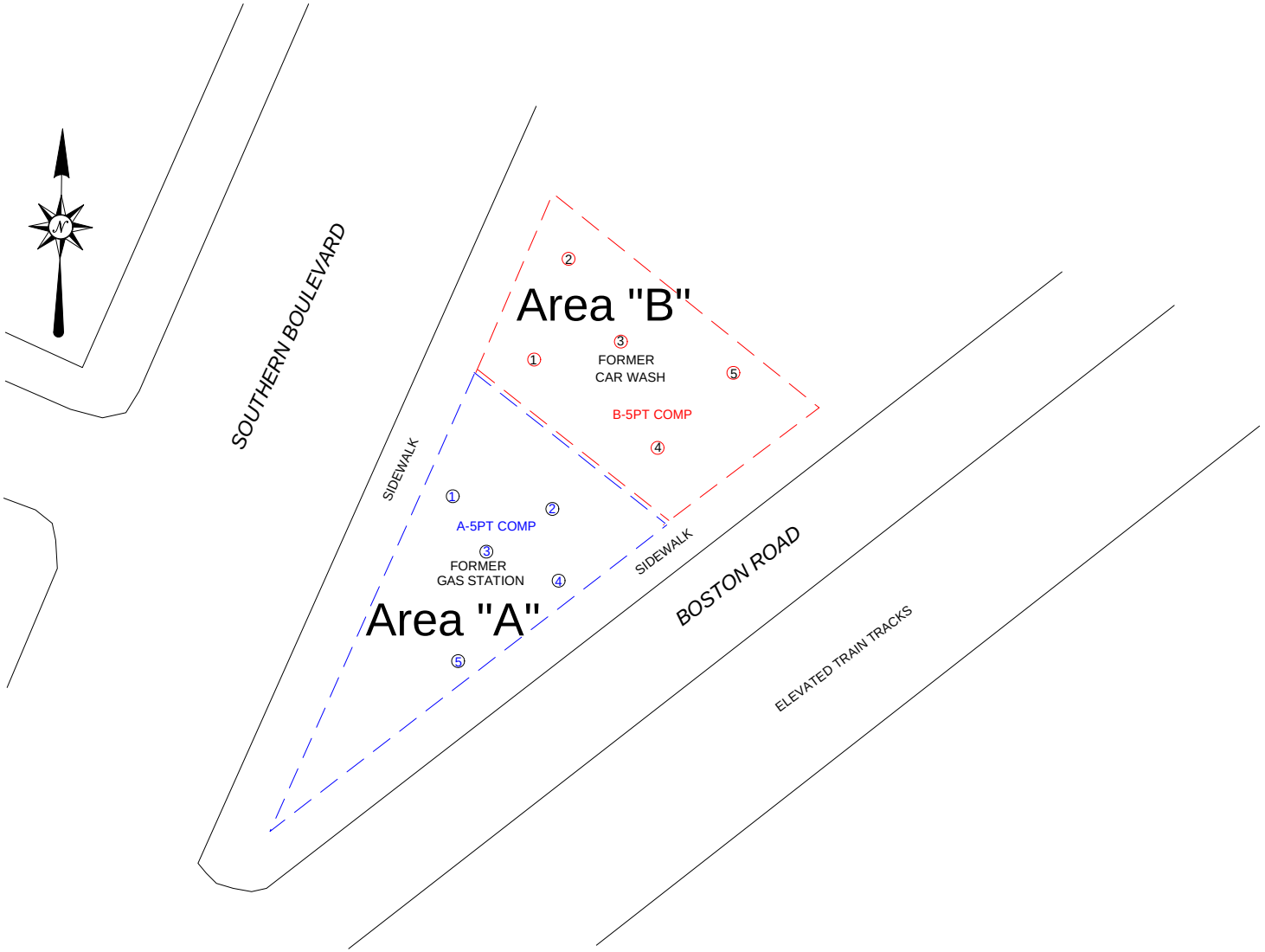


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FIGURE 7 WASTE CHARACTERIZATION SAMPLING PLAN