498 LEONARD STREET

BROOKLYN, NEW YORK

Remedial Action Work Plan

BLOCK 2698, LOT 11
NYC VCP Number: 13CVCP144K
NYC E-Designation Site Number: 13EHAZ197K

Prepared for:

Mr. Jack Fung
(917) 663-3803

Prepared by:

GRANT engineering

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JULY 31, 2013

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LIST OF ACRONYMS

Acronym	Definition
AOC	Area of Concern
AS/SVE	Air Sparging/Soil Vapor Extraction
BOA	Brownfield Opportunity Area
CAMP	Community Air Monitoring Plan
C/D	Construction/Demolition
COC	Certificate of Completion
CQAP	Construction Quality Assurance Plan
CSOP	Contractors Site Operation Plan
DCR	Declaration of Covenants and Restrictions
ECs/ICs	Engineering and Institutional Controls
HASP	Health and Safety Plan
IRM	Interim Remedial Measure
VCA	Voluntary Cleanup Agreement
MNA	Monitored Natural Attenuation
NOC	Notice of Completion
NYC VCP	New York City Voluntary Cleanup Program
NYC DEP	New York City Department of Environmental Protection
NYC DOHMH	New York State Department of Health and Mental Hygiene
NYCRR	New York Codes Rules and Regulations
NYC OER	New York City Office of Environmental Remediation
NYS DEC	New York State Department of Environmental Conservation
NYS DEC DER	New York State Department of Environmental Conservation Division of Environmental Remediation
NYS DOH	New York State Department of Health
NYS DOT	New York State Department of Transportation
ORC	Oxygen-Release Compound
OSHA	United States Occupational Health and Safety Administration
PE	Professional Engineer

PID	Photo Ionization Detector
QEP	Qualified Environmental Professional
QHHEA	Qualitative Human Health Exposure Assessment
RAOs	Remedial Action Objectives
RAR	Remedial Action Report
RAWP	Remedial Action Work Plan or Plan
RCA	Recycled Concrete Aggregate
RD	Remedial Design
RI	Remedial Investigation
RMZ	Residual Management Zone
SCOs	Soil Cleanup Objectives
SCG	Standards, Criteria and Guidance
SMP	Site Management Plan
SPDES	State Pollutant Discharge Elimination System
SVOC	Semi-Volatile Organic Compound
USGS	United States Geological Survey
UST	Sub-grade Storage Tank
VOC	Volatile Organic Compound

CERTIFICATION

I, Stephen A. Morse, am a Professional Engineer licensed in the State of New York. I have primary direct responsibility for implementation of the remedial action for the 498 Leonard Street.

I certify that this Remedial Action Work Plan (RAWP) has a plan for handling, transport and disposal of soil, fill, fluids and other materials removed from the property in accordance with applicable City, State and Federal laws and regulations. Importation of all soil, fill and other material from off-Site will be in accordance with all applicable City, State and Federal laws and requirements. This RAWP has provisions to control nuisances during the remediation and all invasive work, including dust and odor suppression.

Stephen A. Morse

Name

083918

NYS PE License Number

Signature

7/31/2013

Date

Stephen A. Morse

QEP Name

QEP Signature

7/31/2013

Date

EXECUTIVE SUMMARY

Mr. Jack Fung is proposing to enroll in the New York City Voluntary Cleanup Program (NYC VCP) to investigate and remediate a 7,400-square foot site located in the Greenpoint section in Brooklyn, New York. A remedial investigation (RI) was performed to compile and evaluate data and information necessary to develop this Remedial Action Work Plan (RAWP). The remedial action described in this document provides for the protection of public health and the environment consistent with the intended property use, complies with applicable environmental standards, criteria and guidance and conforms with applicable laws and regulations.

Site Location and Current Usage

The Site is located at 498 Leonard Street in the Greenpoint section of Brooklyn, New York and is identified as Block 2698 and Lot 11 on the New York City Tax Map. Figure 1 shows the Site location. The Site is 7,400-square feet and is bounded by a 1-story structure commercial property to the north, Leonard Street to the west, a 2-story commercial property to the south, and a 2-story commercial property to the east. Figure 1 shows the Site location. Currently, the Site contains one (1), 2-story commercial building and a paved lot with an underground storage tank (UST) present in the southwest portion of the property. A map of the site boundary is shown in Figure 2. It is understood that the Site's current use is for factory and industrial purposes and that the current owner is Mr. John Huey.

Summary of Proposed Redevelopment Plan

Mr. Jack Fung plans to acquire the Site and intends to develop the Site with a multi-story residential building. Redevelopment engineering plans are not in place for the Site at the time of this report and the applicant will submit a final development plan to OER prior to the start of the remedial action. It is anticipated that the footprint of the planned residential structure will comprise the majority of the Site. The proposed plan is to demolish the existing structure and construct a multi-story residential building that is expected to include a 65' x 74' cellar. The proposed building is planned to be constructed starting from the property line along the length of Leonard Street and extending east. The Site is located in a mixed-use district, containing both manufacturing and residential lots, designated as M1-2/R61 by zoning map 13a. There is a mixture of manufacturing and residential buildings in the immediate vicinity of the Site.

Summary of Past Uses of Site and Areas of Concern

Past Uses and Ownership

A review of the Phase I Environmental Site Assessment (ESA) dated February 12, 2013 indicates that the Site has historically been utilized for industrial purposes.

The Site assessment was conducted by GRANT on February 5, 2013 and recorded surficial conditions only. The assessment included a walk-through of the site and surroundings. The Phase I ESA included a review of regulatory agency databases and historical documents and visual observations of the Site and adjoining properties.

Review of the regulatory agency database indicated that the Site is listed as E-Designation for hazardous materials and is considered a REC.

A leaking underground petroleum storage tank of No. 2 fuel oil on Site resulted in a NYSDEC Spill Case Number 1206982 opened on October 16, 2012. A spill from a leaking 5,000 gallon underground storage tank occurred on August 20, 2012 and resulted in a NYSDEC Spill Case Number 0212132. A spill of No. 2 fuel oil from a tank test failure occurred on Site in 2003 (NYSDEC Spill Case Number 0212132) and was closed in 2006. The leaking UST may have impacted soil, groundwater and/or soil vapor at the Site. All spills were identified at Brumar Sheet Metal Inc. located at 498 Leonard Street (the Site). The issue has yet to be reconciled and the tank is still listed as an open case in the LTANKS database and is considered a REC.

The Site was listed on the New York City Department of City Planning (NYCDCP) list of e-designated properties. The NYC Office of Environmental Remediation (OER) is required to review and approve environmental investigation and environmental mitigation measures in order for a Certificate of Occupancy (COO) to be issued by New York City Department of Buildings (NYCDOB).

Previous Investigations

- Phase I ESA, dated February 12, 2013, prepared by GRANT engineering.

- Phase II Environmental Site Investigation conducted by Hydro Tech Environmental Corporation (HTE) dated October 2012.

Site Inspection

A site inspection for the Phase I ESA was conducted on February 5, 2013 by Betsy Gillard, EIT of GRANT. A site inspection for the RIR was conducted on January 17, 2013 by Mr. Stephen Morse and Ms. Liza Billings, EIT of GRANT. Mr. Stephen Morse was the Qualified Environmental Professional (QEP) evaluating potential areas of concern. The site inspection revealed that the Site is currently developed with the same existing structures described in the Phase I ESA.

Areas of Concern

The Phase I identified RECs associated with the historic usage of the Site and surrounding properties. The Phase II conducted by HTE in October 2012 identified the presence of elevated SVOCs, metals and pesticides in surficial soil samples collected from the depth of 0-2 ftbg and elevated VOCs, SVOCs, metals, and pesticides in soil samples collected from 10-12 ftbg. The HTE Phase II also identified elevated VOCs, SVOCs, metals and pesticides in groundwater and elevated VOCs in soil vapor. Therefore, AOCs are identified for this site.

1. One (1) underground storage tank (UST) present in the southwest portion of the Site with two open NYSDEC Spill Case numbers 1206982 and 0212132.
2. Petroleum contaminated soil located throughout the Site from approximately 12 to 30 ft bg.

Summary of the Work Performed under the Remedial Investigation

GRANT performed the following scope of work:

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e. structures, buildings, etc.);

2. In February 2013, installed five (5) soil borings (SB-01 to SB-05) surrounding the underground storage tank in the southwest potion of the Site. In April 2013, installed seven (7) soil borings (SB-06 to SB-12) across the entire project Site, and collected

nineteen (19) soil samples for chemical analysis, and seven (7) of those samples had further finger printing analysis for determination of soil quality;

3. In April 2013, installed three (3) groundwater monitoring wells (TWP-01, TWP-02, and TWP-03) throughout the Site to establish groundwater flow and collected three (3) groundwater samples for chemical analysis to evaluate groundwater quality; and

4. Installed three (3) soil vapor probes (SVP-01, SV-02, and SVP-03) around the proposed future site perimeter and collected three (3) samples for chemical analysis.

Figure 3 depicts the locations of the soil borings, temporary well points and soil vapor samples that were advanced during the RI.

Summary of Environmental Findings

1. Depth to groundwater was present at approximately ten (10) feet below grade at the Site during the RIR. HTE installed 13 monitoring wells on the Site and adjacent sidewalk in October 2012. The monitoring wells were surveyed and groundwater table elevations were measured between 14.77 and 15.71.

2. Groundwater flow direction is generally from the south towards the north.

3. Bedrock was not encountered during the RI.

4. The stratigraphy of the site from the surface down consists of a layer of historic fill material from approximately 0 to 12 feet below grade (ftbg), sand, gravel and silt with heavy petroleum impacts from 12-16 ft bg, visible petroleum staining from 16-30 ft bg in the area of the UST and an impacted layer of highly compressible organic peat, clay and silt from 16-28 ft bg throughout the remainder of the Site and a highly compressible layer of clay/silt that appears to function as an hydraulic barrier at approximately 28-34 ft bg.

5. Soils during Phase 2: Five SVOC (all PAH) exceeded both Track 1 Unrestricted Use SCOs and Track 2 Restricted Residential SCOs in two of 13 shallow soil samples. The maximum concentration of these exceedences was 1.440 ppm. Seven SVOCs, all PAH, exceeded Track 2 Restricted Residential Use SCOs in up to eight of 15 deep soil samples. A variety of petroleum derived VOCs were detected but were below Track 1 SCOs in shallow soil samples. Four VOC, all petroleum derived compounds, exceeded Track 1

Unrestricted Use SCOs in deep soil samples but did not exceed Track 2 Restricted Residential Use SCOs. Maximum concentration of these exceedences was 57.1 ppm. One pesticide (dieldrin; maximum concentration 255 ppb) was detected above Track 2 Restricted Residential SCOs and three pesticides were also detected only above Track 1 Unrestricted SCOs in 2 to 4 shallow soil samples. Two pesticides were detected above Track 1 SCOs in deep samples but did not exceed Track 2 Restricted Residential Use SCOs. The following metals were detected above Track 2 Restricted Residential SCOs: arsenic (2 shallow samples, maximum 59 ppm; 5 deep samples, maximum 41.5 ppm), barium (1 shallow sample, maximum 777 ppm; 3 deep samples, maximum 879 ppm), cadmium (9 shall samples, maximum 6.85 ppm; 6 deep samples, maximum 3.75 ppm), lead (9 shall samples, maximum 2020 ppm; 6 deep samples, maximum 5730 ppm), mercury (3 shallow samples, maximum 25.3 ppm; 4 deep samples, maximum 5.12 ppm). Chromium, copper and zinc also exceeded Track 1 Unrestricted Use SCOs but not Track 2 Restricted Residential SCOs in both shallow and deep soil samples.

6. Soils during RI: PCBs were not detected in soil samples collected during the Remedial Investigation. One VOC, acetone was detected in two (2) samples (at 160 µg/kg and 404 µg/kg), above the Unrestricted Use SCO but well below Restricted Residential Use SCO. SVOCs were detected in one sample (12-16 feet) above the Restricted Residential Use SCOs. They include benzo(a)anthracene (11,600 µg/kg), benzo(a)pyrene (11,700 µg/kg), benzo(b)fluoranthene (9,840 µg/kg), chrysene (9,670 µg/kg), dibenzo(a,h)anthracene (1,900 µg/kg) and indeno(1,2,3-cd)pyrene (5,910 µg/kg). Elevated levels of metals including arsenic, copper, lead, mercury, vanadium, and zinc were detected above the Unrestricted Use Soil Cleanup Objectives (SCOs), and of these, arsenic (74 mg/kg), lead (1,440 mg/kg) and mercury (31 mg/kg) also detected above Restricted Residential Use SCOs. One pesticide 4,4-DDD was detected (11-13 feet) at 54.9 µg/kg,above the Unrestricted Use SCO but below the Restricted Residential Use SCO. The Gas Chromatograph (GC) fingerprint analysis conducted on seven borings did not identify the presence of any compounds with the exception of mineral spirits. Soil sample results are provided in Table 1.

GW during Phase 2: Thirteen groundwater samples collected during the Phase II showed 13 VOC's, all petroleum derivatives, above groundwater quality standards (GQS). All were below 50 ppb except benzene derivatives, which had a maximum concentration of 544 ppb. Seven SVOC, all PAH compounds, were observed above GQS. The maximum concentration was for Phenanthrene at 503 ppb. Five groundwater samples showed arsenic (3 samples, maximum 193 ppb), barium (3 samples, maximum 1900 ppb and lead (4 samples, maximum 84 ppb), and iron, manganese, magnesium and sodium above GWS. One pesticide, dieldrin, exceeded GQS (1 sample, 50 ppb).

7. Groundwater samples collected during the RI showed that SVOCs, pesticides and PCBs were not detected in the groundwater samples. Eight VOCs including 1,2,4-trimethylbenzene (7.7 ug/l), 1,2,4,5-trimethylbenzene (135 ug/l), tert-butylbenzene (43 ug/l), isopropylbenzene (70 ug/l), n-propylbenzene (121 ug/l), n-butylbenzene (63 ug/l), and sec-butylbenzene (160 ug/l)were detected above GQS of 5 ppb. Three metals including arsenic (25 ppb), lead (36 ppb), and mercury (1.6 ppb) were detected above GQS. Groundwater sample results are provided in Table 2.

8. Phase 2: One chlorinated VOC was detected in one of four soil vapor samples (PCE, 30 ug/m^3). TCE, 111-TCA and carbon tetrachloride were not detected. These findings were below State DOH monitor levels. Five petroleum derivatives were also detected with maximum concentrations of up to 61 ug/m^3.

9. RI: Soil vapor samples collected during the RI showed a variety of VOCs, including petroleum hydrocarbons and chlorinated VOCs. Petroleum hydrocarbons including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, acetone, cyclobenzene, cyclohexane, ethyl benzene, methylene chloride, n-hexane, o-xylene, m&p-xylene, and toluenewere detected. Chlorinated VOCs including 1,1,1-trichloroethane (40 ug/m^3), carbon tetrachloride (23 ug/m^3), tetrachloroethylene (50 ug/m^3), and trichloroethylene (20 ug/m^3) were at concentrations that are below the monitoring level ranges established within the State DOH soil vapor guidance matrix. Soil vapor results are provided in Table 3.

Summary of the Remedy

The proposed remedial action achieves protection of public health and the environment for the intended use of the property. The proposed remedial action achieves all of the remedial action objectives established for the project and addresses applicable standards, criterion, and guidance; is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants; is cost effective and implementable; and uses standards methods that are well established in the industry.

The preferred remedial action alternative is a Track 4 remedial action. The preferred remedial action alternative achieves protection of public health and the environment for the intended use of the property. The preferred remedial action alternative will achieve all of the remedial action objectives established for the project and addresses applicable SCGs. The preferred remedial action alternative is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants. The preferred remedial action alternative is cost effective and implementable and uses standards methods that are well established in the industry.

The proposed remedial action will consist of:

1. Preparation of a Community Protection Statement and performance of all required NYC BCP citizen participation activities according to an approved Citizen Participation Plan (CPP);

2. Performance of a Community Air Monitoring Plan (CAMP) for particulates and VOCs.

3. Establishment of Track 4 Soil Cleanup Objectives (SCOs). Excavation and removal of soil/fill exceeding SCOs. Removal of arsenic and mercury hotspots;

4. Collection and analysis of end-point samples to evaluate the performance of the remedy with respect to attainment of SCOs;

5. Removal of the 5,000 gallon on site underground storage tank (UST) containing No. 2 fuel oil and any other unknown sub-grade storage tanks that may be present and closure of the associated open petroleum spills (NYSDEC Spill Case numbers 1206982 and 0212132) under the authority of NYSDEC and in compliance with applicable local, State and Federal laws and regulations.

6. Sampling of groundwater monitoring wells and treatment of groundwater under the authority of NYS DEC to address petroleum contamination;

7. Capping with concrete building slab in all developed areas and with two feet of certified clean fill in landscaped areas to prevent human exposure to residual soil/fill remaining under the Site;

8. Installation of a vapor barrier system beneath the proposed cellar floor and walls of the Site building and an active sub-slab depressurization system to address migration of off-site soil vapors. Submittal of a Design Report for the vapor barrier system and sub slab depressurization system for OER approval prior to the start of development;

9. Demarcation of residual soil/fill;

10. Import of materials to be used for backfill and cover, as needed, in compliance with OER approved plan and in accordance with applicable Federal, State and City laws and regulations;

11. Transportation and off-Site disposal of all soil/fill material at permitted facilities in accordance with all applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media onsite;

12. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID;

13. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas;

14. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations;

15. Performance of all activities required for the remedial action, including permitting requirements and pretreatment requirements, in compliance with applicable laws and regulations;

16. Groundwater treatment to address the petroleum spill under NYS DEC authority;

17. Performance of groundwater sampling from all remaining monitoring wells after remediation is completed consistent with NYSDEC requirements for spill closure. If needed, additional means of groundwater remediation for may be required as determined by NYSDEC;

18. Submission of a Remedial Action Report (RAR) that describes the remedial activities certifies including any changes from this RAWP, certifies that the remedial requirements have been achieved, defines the Site boundaries, and describes all engineering and institutional controls to be implemented at the Site, and lists any changes from this RAWP;

19. Submission of an approved Site Management Plan (SMP) in the RAR for long-term management of residual contamination, including plans for operation, maintenance, monitoring, inspection and certification of engineering and institutional controls and reporting at a specified frequency; and

20. Continued registration with an E-Designation at the NYC Buildings Department. Establishment of Engineering Controls and Institutional Controls and management of these controls in compliance with an approved SMP. Institutional controls will include prohibition of the following: (1) vegetable gardening and farming; (2) use of groundwater without treatment rendering it safe for the intended use; (3) disturbance of residual contaminated material unless it is conducted in accordance with the SMP; and (4) higher level of land usage without OER-approval.

COMMUNITY PROTECTION STATEMENT

The Office of Environmental Remediation created the New York City Voluntary Cleanup Program (NYC VCP) to provide governmental oversight for the cleanup of contaminated property in NYC. This Remedial Action Work Plan ("cleanup plan") describes the findings of prior environmental studies that show the location of contamination at the site, and describes the plans to clean up the site to protect public health and the environment.

This cleanup plan provides a very high level of protection for neighboring communities. This cleanup plan also includes many other elements that address common community concerns, such as community air monitoring, odor, dust and noise controls, hours of operation, good housekeeping and cleanliness, truck management and routing, and opportunities for community participation. The purpose of this Community Protection Statement is to explain these community protection measures in non-technical language to simplify community review.

Remedial Investigation and Cleanup Plan. Under the NYC VCP, a thorough cleanup study of this property (called a remedial investigation) has been performed to identify past property usage, to sample and test soils, groundwater and soil vapor, and identify contaminant sources present on the property. The cleanup plan has been designed to address all contaminant sources that have been identified during the study of this property.

Identification of Sensitive Land Uses. Prior to selecting a cleanup, the neighborhood was evaluated to identify sensitive land uses nearby, such as schools, day care facilities, hospitals and residential areas. The cleanup program was then tailored to address the special conditions of this community.

Qualitative Human Health Exposure Assessment. An important part of the cleanup planning for the Site is the performance of a study to find all of the ways that people might come in contact with contaminants at the Site now or in the future. This study is called a Qualitative Human Health Exposure Assessment (QHHEA).

Health and Safety Plan. This cleanup plan includes a Health and Safety Plan that is designed to protect community residents and on-Site workers. The elements of this plan are in compliance with safety requirements of the United States Occupational Safety and Health Administration. This plan includes many protective elements including those discussed below.

Site Safety Coordinator. This project has a designated Site safety coordinator to implement the Health and Safety Plan. The safety coordinator maintains an emergency contact sheet and protocol for management of emergencies. The Site safety coordinator is Mr. Zack Leeser, of GRANT and can be reached at (212) 464-8689 or (415) 686 2017.

Worker Training. Workers participating in cleanup of contaminated material on this project are required to be trained in a 40-hour hazardous waste operators training course and to take annual refresher training. This pertains to workers performing specific tasks including removing contaminated material and installing cleanup systems in contaminated areas.

Community Air Monitoring Plan. Community air monitoring will be performed during this cleanup project to ensure that the community is properly protected from contaminants, dust and odors. Air samples will be tested in accordance with a detailed plan called the Community Air Monitoring Plan or CAMP. Results will be regularly reported to the NYC Office of Environmental Remediation. This cleanup plan also has a plan to address any unforeseen problems that might occur during the cleanup (called a 'Contingency Plan').

Odor, Dust and Noise Control. This cleanup plan includes actions for odor and dust control. These actions are designed to prevent off-Site odor and dust nuisances and includes steps to be taken if nuisances are detected. Generally, dust is managed by application of physical covers and by water sprays. Odors are controlled by limiting the area of open excavations, physical covers, spray foams and by a series of other actions (called operational measures). The project is also required to comply with NYC noise control standards. If you observe problems in these areas, please contact NYC Office of Environmental Remediation Project Manager Mr. William Wong at (212) 341-0659 or via email to wiwong@dep.nyc.gov.

Quality Assurance. This cleanup plan requires that evidence be provided to illustrate that all cleanup work required under the plan has been completed properly. This evidence will be summarized in the final report, called the Remedial Action Report. This report will be submitted to the NYC Office of Environmental Remediation and will be thoroughly reviewed.

Storm-Water Management. To limit the potential for soil erosion and discharge, this cleanup plan has provisions for storm-water management. The main elements of the storm water

management include physical barriers such as tarp covers and erosion fencing, and a program for frequent inspection.

Hours of Operation. The hours for operation of cleanup will comply with the NYC Department of building construction code requirements or according to specific variances issued by that agency. For this cleanup project, the hours of operation are 7 AM to 6 PM.

Signage. While the cleanup is in progress, a placard will be prominently posted at the main entrance of the property with a laminated project Fact Sheet that states that the project is in the NYC Brownfield Cleanup Program, provides project contact names and numbers, and locations of project documents can be viewed.

Complaint Management. The contractor performing this cleanup is required to address all complaints. If you have any complaints, you can call the NYC Office of Environmental Remediation Project Manager Mr. William Wong at (212) 341-0659 or via email to wiwong@dep.nyc.gov, or call 311 and mention the Site is in the NYC Brownfield Cleanup Program.

Utility Mark-outs. To promote safety during excavation in this cleanup, the contractor is required to first identify all utilities and must perform all excavation and construction work in compliance with NYC Department of Buildings regulations.

Soil and Liquid Disposal. All soil and liquid material removed from the Site as part of the cleanup will be transported and disposed of in accordance with all applicable City, State and Federal regulations and required permits will be obtained.

Soil Chemical Testing and Screening. All excavations will be supervised by a trained and properly qualified environmental professional. In addition to extensive sampling and chemical testing of soils on the Site, excavated soil will be screened continuously using hand-held instruments, by sight, and by smell to ensure proper material handling and management, and community protection.

Stockpile Management. Soil stockpiles will be kept covered with tarps to prevent dust, odors and erosion. Stockpiles will be frequently inspected. Damaged tarp covers will be promptly

replaced. Stockpiles will be protected with silt fences. Hay bales will be used, as needed to protect storm water catch basins and other discharge points.

Trucks and Covers. Loaded trucks leaving the Site will be covered in compliance with applicable laws and regulations to prevent dust and odor. Trucks will be properly recorded in logs and records and placarded in compliance with applicable City, State and Federal laws, including those of the New York State Department of Transportation. If loads contain wet material that can leak, truck liners will be used. All transport of materials will be performed by licensed truckers and in compliance with all laws and regulations.

Imported Material. All fill materials proposed to be brought onto the Site will comply with rules outlined in this cleanup plan and will be inspected and approved by a qualified worker located on-Site. Waste materials will not be brought onto the Site. Trucks entering the Site with imported clean materials will be covered in compliance with applicable laws and regulations.

Equipment Decontamination. All equipment used for cleanup work will be inspected and washed, if needed, before it leaves the Site. Trucks will be cleaned at a truck inspection station on the property before leaving the Site.

Housekeeping. Locations where trucks enter or leave the Site will be inspected every day and cleaned regularly to ensure that they are free of dirt and other materials from the Site.

Truck Routing. Truck routes have been selected to: (a) limit transport through residential areas and past sensitive nearby properties; (b) maximize use of city-mapped truck routes; (c) limit total distance to major highways; (d) promote safety in entry to highways; (e) promote overall safety in trucking; and (f) minimize off-Site line-ups (queuing) of trucks entering the property. Operators of loaded trucks leaving the Site will be instructed not to stop or idle in the local neighborhood.

Final Report. The results of all cleanup work will be fully documented in a final report (called a Remedial Action Report) that will be available for you to review in the public document repositories located at BrooklynPublic Library Greenpoint Branch located at107 Norman Avenue at Leonard Street.

Long-Term Site Management. To provide long-term protection after the cleanup is complete, the property owner will be required to comply with an ongoing Site Management Plan that calls for continued inspection of protective controls, such as Site covers. The Site Management Plan is evaluated and approved by the NYC Office of Environmental Remediation. Requirements that the property owner must comply with are defined in the property's deed. A certification of continued protectiveness of the cleanup will be required from time to time to show that the approved cleanup is still effective.

REMEDIAL ACTION WORK PLAN

1.0 SITE BACKGROUND

Mr. Jack Fung has proposed to enroll in the New York City Voluntary Cleanup Program (NYC VCP) to investigate and remediate a 7,400-square foot site located in the Greenpoint section in Brooklyn, New York. A remedial investigation (RI) was performed to compile and evaluate data and information necessary to develop this Remedial Action Work Plan (RAWP). The remedial action described in this document provides for the protection of public health and the environment consistent with the intended property use, complies with applicable environmental standards, criteria and guidance and conforms with applicable laws and regulations.

1.1 SITE LOCATION AND CURRENT USAGE

The Site is located at 498 Leonard Street in the Greenpoint section of Brooklyn, New York and is identified as Block 2698 and Lot 11 on the New York City Tax Map. Figure 1 shows the Site location. The Site is 7,400-square feet and is bounded by a 1-story structure commercial property to the north, Leonard Street to the west, a 2-story commercial property to the south, and a 2-story commercial property to the east. Figure 1 shows the Site location. Currently, the Site contains one (1), 2-storycommercial building and a paved lot with an underground storage tank (UST) present in the southwest portion of the property. A map of the site boundary is shown in Figure 2. It is understood that the Site's current use is for factory and industrial purposes and that the current owner is Mr. John Huey.

1.2 PROPOSED REDEVELOPMENT PLAN

Mr. Jack Fung plans to acquire the Site and intends to develop the Site with a multi-story residential building. Redevelopment engineering plans are not in place for the Site at the time of this report and the applicant will submit a final development plan to OER prior to the start of the remedial action. It is anticipated that the footprint of the planned residential structure will comprise the majority of the Site. The proposed plan is to demolish the existing structure and construct a multi-story residential building that is expected to include a 65' x 74' cellar. The proposed building is planned to be constructed starting from the property line along the length of

Leonard Street and extending east. The Site is located in a mixed-use district, containing both manufacturing and residential lots, designated as M1-2/R61 by zoning map 13a. There is a mixture of manufacturing and residential buildings in the immediate vicinity of the Site.

The remedial action contemplated under this RAWP may be implemented independently of the proposed redevelopment plan.

1.3 DESCRIPTION OF SURROUNDING PROPERTY

The current usage and nature of immediate surrounding properties includes multistory apartment buildings, commercial storefronts, an auto repair shop, and an industrial / manufacturing facility. As of present day, none of these adjacent land uses are suspected of using hazardous materials in quantities that if released, might have the potential to impact the environmental status of the subject property.

The Site is located at 498 Leonard Street, Brooklyn New York and is comprised of Block 2698 and Lot 11. The Site is 7,400-square feet and is bounded by a 1-story structure commercial property to the north, Leonard Street to the west, a 2-story commercial property to the south, and a 2-story commercial property to the east. A map of the site boundary is shown in Figure 2.

1.4 REMEDIAL INVESTIGATION

A site investigation was performed and the results are documented in a companion document called "*Remedial Investigation Report for 498 Leonard Street*", dated May 28, 2013 (RIR).

Summary of Past Uses of Site and Areas of Concern

Past Uses and Ownership

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The Site assessment was conducted by GRANT on February 5, 2013 and recorded surficial conditions only. The assessment included a walkthrough of the site and surroundings. The Phase I ESA included a review of regulatory agency databases and historical documents and visual observations of the Site and adjoining properties.

Review of the regulatory agency database indicated that the Site is listed as E-Designation for hazardous materials and is considered a REC.

A leaking underground petroleum storage tank of No. 2 fuel oil on Site resulted in a NYSDEC Spill Case Number 1206982 opened on October 16, 2012. A spill from a leaking 5,000 gallon underground storage tank occurred on August 20, 2012 and resulted in a NYSDEC Spill Case Number 0212132. A spill of No. 2 fuel oil from a tank test failure occurred on Site in 2003 (NYSDEC Spill Case Number 0212132) and was closed in 2006. The leaking UST may have impacted soil, groundwater and/or soil vapor at the Site. All spills were identified at Brumar Sheet Metal Inc. located at 498 Leonard Street (the Site). The issue has yet to be reconciled and the tank is still listed as an open case in the LTANKS database and is considered a REC.

Since the Site was listed on the New York City Department of City Planning (NYCDCP) list of e-designated properties. Therefore, the Office of Environmental Remediation (OER) is required to review and approve environmental investigation and environmental mitigation measures in order for a Certificate of Occupancy (COO) to be issued by New York City Department of Buildings (NYCDOB).

Previous Investigations

- Phase I ESA, dated February 12, 2013, prepared by GRANT engineering.
- Phase II Environmental Site Investigation conducted by Hydro Tech Environmental Corporation (HTE)dated October 2012.

Site Inspection

A site inspection for the Phase I ESA was conducted on February 5, 2013 by Betsy Gillard, EIT of GRANT. A site inspection for the RIR was conducted on January 17, 2013 by Mr. Stephen Morse and Ms. Liza Billings, EIT of GRANT. Mr. Stephen Morse was the Qualified Environmental Professional (QEP) evaluating potential areas of concern. The site inspection revealed that the Site is currently developed with the same existing structures described in the Phase I ESA.

Areas of Concern

The Phase I identified RECs associated with the historic usage of the Site and surrounding properties. The Phase II conducted by HTE in October 2012 identified the presence of elevated SVOCs, metals and pesticides in surficial soil samples collected from the depth of 0-2 ftbg and elevated VOCs, SVOCs, metals, and pesticides in soil samples collected from 10-12 ftbg. The HTE Phase II also identified elevated VOCs, SVOCs, metals and pesticides in groundwater and elevated VOCs in soil vapor. Therefore, AOCs are identified for this site.

1. One (1) underground storage tank (UST) present in the southwest portion of the Site with two open NYSDEC Spill Case numbers 1206982 and 0212132.
2. Petroleum contaminated soil located throughout the Site from approximately 12 to 30 ftbg.
3. Evidence of fill varying from 2 to 12 feet.

Summary of the Work Performed under the Remedial Investigation

GRANT performed the following scope of work:

1 Conducted a Site inspection to identify AOCs and physical obstructions (i.e. structures, buildings, etc.);

2 In February 2013, installed five (5) soil borings (SB-01 to SB-05) surrounding the underground storage tank in the southwest portion of the Site. In April 2013, installed seven (7) soil borings (SB-06 to SB-12) across the entire project Site, and collected nineteen (19) soil samplesfor chemical analysis, and seven (7) of those samples had further finger printing analysis for determination of soil quality;

3 In April 2013, installed three (3) groundwater monitoring wells (TWP-01, TWP-02, and TWP-03) throughout the Site to establish groundwater flow and collected three (3) groundwater samples for chemical analysis to evaluate groundwater quality; and

4 Installed three (3) soil vapor probes (SVP-01, SV-02, and SVP-03) around the proposed future site perimeter and collected three (3) samples for chemical analysis.

Figure 3 depicts the locations of the soil borings, temporary well points and soil vapor samples that were advanced during the RI.

Summary of Environmental Findings

1. Depth to groundwater was present at approximately ten (10) feet below grade at the Site during the RIR. HTE installed 13 monitoring wells on the Site and adjacent sidewalk in October 2012. The monitoring wells were surveyed and groundwater table elevations were measured between 14.77 and 15.71.

2. Groundwater flow direction is generally from the south towards the north.

3. Bedrock was not encountered during the RI.

4. The stratigraphy of the site from the surface down consists of a layer of historic fill material from approximately 0 to 12 feet below grade (ft bg), sand, gravel and silt with heavy petroleum impacts from 12-16 ft bg, visible petroleum staining from 16-30 ft bg in the area of the UST and an impacted layer of highly compressible organic peat, clay and silt from 16-28 ft bg throughout the remainder of the Site and a highly compressible layer of clay/silt that appears to function as an hydraulic barrier at approximately 28-34 ft bg.

5. Soils during Phase 2: Five SVOC (all PAH) exceeded both Track 1 Unrestricted Use SCOs and Track 2 Restricted Residential SCOs in two of 13 shallow soil samples. The maximum concentration of these exceedences was 1.440 ppm. Seven SVOCs, all PAH, exceeded Track 2 Restricted Residential Use SCOs in up to eight of 15 deep soil samples. A variety of petroleum derived VOCs were detected but were below Track 1 SCOs in shallow soil samples. Four VOC, all petroleum derived compounds, exceeded Track 1 Unrestricted Use SCOs in deep soil samples but did not exceed Track 2 Restricted Residential Use SCOs. Maximum concentration of these exceedences was 57.1 ppm. One pesticide (dieldrin; maximum concentration 255 ppb) was detected above Track 2 Restricted Residential SCOs and three pesticides were also detected only above Track 1 Unrestricted SCOs in 2 to 4 shallow soil samples. Two pesticides were detected above Track 1 SCOs in deep samples but did not exceed Track 2 Restricted Residential Use SCOs. The following metals were detected above Track 2 Restricted Residential SCOs: arsenic (2 shallow samples, maximum 59 ppm; 5 deep samples, maximum 41.5 ppm), barium (1 shallow sample, maximum 777 ppm; 3 deep samples, maximum 879 ppm), cadmium (9 shall samples, maximum 6.85 ppm; 6 deep samples, maximum 3.75 ppm),

lead (9 shall samples, maximum 2020 ppm; 6 deep samples, maximum 5730 ppm), mercury (3 shallow samples, maximum 25.3 ppm; 4 deep samples, maximum 5.12 ppm). Chromium, copper and zinc also exceeded Track 1 Unrestricted Use SCOs but not Track 2 Restricted Residential SCOs in both shallow and deep soil samples.

6. Soils during RI: PCBs were not detected in soil samples collected during the Remedial Investigation. One VOC, acetone was detected in two (2) samples (at 160 µg/kg and 404 µg/kg), above the Unrestricted Use SCO but well below Restricted Residential Use SCO. SVOCs were detected in one sample (12-16 feet) above the Restricted Residential Use SCOs. They include benzo(a)anthracene (11,600 µg/kg), benzo(a)pyrene (11,700 µg/kg), benzo(b)fluoranthene (9,840 µg/kg), chrysene (9,670 µg/kg), dibenzo(a,h)anthracene (1,900 µg/kg) and indeno(1,2,3-cd)pyrene (5,910 µg/kg). Elevated levels of metals including arsenic, copper, lead, mercury, vanadium, and zinc were detected above the Unrestricted Use Soil Cleanup Objectives (SCOs), and of these, arsenic (74 mg/kg), lead (1,440 mg/kg) and mercury (31 mg/kg) also detected above Restricted Residential Use SCOs. One pesticide 4,4-DDD was detected (11-13 feet) at 54.9 µg/kg,above the Unrestricted Use SCO but below the Restricted Residential Use SCO. The Gas Chromatograph (GC) fingerprint analysis conducted on seven borings did not identify the presence of any compounds with the exception of mineral spirits. Soil sample results are provided in Table 1.
   GW during Phase 2: Thirteen groundwater samples collected during the Phase II showed 13 VOC's, all petroleum derivatives, above groundwater quality standards (GQS). All were below 50 ppb except benzene derivatives, which had a maximum concentration of 544 ppb. Seven SVOC, all PAH compounds, were observed above GQS. The maximum concentration was for Phenanthrene at 503 ppb. Five groundwater samples showed arsenic (3 samples, maximum 193 ppb), barium (3 samples, maximum 1900 ppb and lead (4 samples, maximum 84 ppb), and iron, manganese, magnesium and sodium above GWS. One pesticide, dieldrin, exceeded GQS (1 sample, 50 ppb).

7. Groundwater samples collected during the RI showed that SVOCs, pesticides and PCBs were not detected in the groundwater samples. Eight VOCs including 1,2,4-trimethylbenzene (7.7 ug/l), 1,2,4,5-trimethylbenzene (135 ug/l), tert-butylbenzene (43

ug/l), isopropylbenzene (70 ug/l), n-propylbenzene (121 ug/l), n-butylbenzene (63 ug/l), and sec-butylbenzene (160 ug/l)were detected above GQS of 5 ppb. Three metals including arsenic (25 ppb), lead (36 ppb), and mercury (1.6 ppb) were detected above GQS. Groundwater sample results are provided in Table 2.

8. Phase 2: One chlorinated VOC was detected in one of four soil vapor samples (PCE, 30 ug/m^3). TCE, 111-TCA and carbon tetrachloride were not detected. These findings were below State DOH monitor levels. Five petroleum derivatives were also detected with maximum concentrations of up to 61 ug/m^3.

9. RI: Soil vapor samples collected during the RI showed a variety of VOCs, including petroleum hydrocarbons and chlorinated VOCs.Petroleum hydrocarbons including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, acetone, cyclobenzene, cyclohexane, ethyl benzene, methylene chloride, n-hexane, o-xylene, m&p-xylene, and toluenewere detected. Chlorinated VOCs including 1,1,1-trichloroethane (40 ug/m^3), carbon tetrachloride (23 ug/m^3), tetrachloroethylene (50 ug/m^3), and trichloroethylene (20 ug/m^3) were at concentrations that are below the monitoring level ranges established within the State DOH soil vapor guidance matrix. Soil vapor results are provided in Table 3.

2.0 REMEDIAL ACTION OBJECTIVES

Based on the results of the RI, the following Remedial Action Objectives (RAOs) have been identified for this Site:

Groundwater

- Remove contaminant sources causing impact to groundwater.
- Prevent direct exposure to contaminated groundwater.
- Prevent exposure to contaminants volatilizing from contaminated groundwater.
- Prevent contaminants volatilizing from groundwater from migrating into dwelling and other occupied structures.

Soil

- Prevent direct contact with contaminated soil.
- Prevent exposure to contaminants volatilizing from contaminated soil.
- Prevent migration of contaminants that would result in groundwater contamination.

Soil Vapor

- Prevent exposure to contaminants in soil vapor.
- Prevent migration of soil vapor into dwelling and other occupied structures.

3.0 REMEDIAL ALTERNATIVES ANALYSIS

The goal of the remedy selection process under is to select a remedy that is protective of human health and the environment taking into consideration the current, intended and reasonably anticipated future use of the property. The remedy selection process begins by establishing RAOs for media in which chemical constituents were found in exceedence of applicable standards, criteria and guidance values (SCGs). A remedy is then developed based on the following ten criteria:

- Protection of human health and the environment;
- Compliance with SCGs;
- Short-term effectiveness and impacts;
- Long-term effectiveness and permanence;
- Reduction of toxicity, mobility, or volume of contaminated material;
- Implementability;
- Cost effectiveness;
- Community Acceptance;
- Land use; and
- Sustainability.

The following is a detailed description of the alternatives analysis and remedy selection to address impacted media at the Site. As required, a minimum of two remedial alternatives (including a Track 1 scenario) are evaluated, as follows:

Alternative 1 involves:

- Establishment of Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs).
- Removal of all soil/fill exceeding Track 1 Unrestricted Use SCOs throughout the Site and confirmation that Track 1 Unrestricted Use SCOs has been achieved with post-excavation endpoint sampling. Based on the results of the Remedial Investigation, it is expected that this alternative would require excavation across the entire Site to a depth of approximately to 16 feet to removal all fill. Excavation for construction of the new

building's cellar level is anticipated to take place to a depth of approximately 10-12 feet over 70% (4,800 sf) of the Site. Additional excavation will be required in setback areas to achieve Track 1.

- No Engineering or Institutional Controls are required for a Track 1 cleanup. However, remedial action is required to address the residual soil vapor observed on site and thus a Track 1 remedial action is not feasible on this basis. A vapor barrier and sub slab depressurization system would be installed beneath the basement foundation and behind foundation sidewalls of the new building to prevent any potential future exposures from off-Site soil vapor. Further, groundwater impacts are in excess of the GQS will require future monitoring and treatment under the authority of NYS DEC.

Alternative 2 involves

- Establishment of Track 4 Site-Specific SCOs.
- Removal of all soil/fill exceeding Track 4 Site-Specific SCOs, including hotspots for arsenic and mercury, and confirmation that Track 4 Site-Specific SCOs have been achieved with post-excavation endpoint sampling. Anticipated excavation for construction of the new building's cellar level would take place to a depth of approximately 10-12 feet for the 70% (4,800 sf) of the Site. Therefore, if soil/fill containing analytes at concentrations above Track 4 Site-Specific SCOs is still present at the base of the excavation after removal of all soil required for construction of the new building is complete, additional excavation will be performed to meet Track 4 Site-Specific SCOs.
- Placement of a final cover over the entire Site to prevent exposure to remaining soil/fill;
- Installation of a soil vapor barrier/waterproofing system beneath the building slab and along foundation side walls to prevent any potential future exposures from off-Site soil vapor;
- Installation of an active SSDS system beneath the building slab;
- Establishment of use restrictions including prohibitions on the use of groundwater from the Site; prohibitions of sensitive Site uses, such as farming or vegetable

gardening, to prevent future exposure pathways; and prohibition of a higher level of land use without OER approval;

- Establishment of an approved Site Management Plan (SMP) to ensure long-term management of these Engineering and Institutional Controls including the performance of periodic inspections and certification that the controls are performing as they were intended. SMP will note that the property owner and property owner's successors and assigns must comply with the approved SMP;
- The property will continue to be registered with an E-Designation at the NYC Buildings Department; and
- Groundwater treatment to address the petroleum spill under NYS DEC authority and other actions required by NYS DEC.

3.1 THRESHOLD CRITERIA

Protection of Public Health and the Environment

This criterion is an evaluation of the remedy's ability to protect public health and the environment, and an assessment of how risks posed through each existing or potential pathway of exposure are eliminated, reduced or controlled through removal, treatment, and implementation of Engineering Controls or Institutional Controls. Protection of public health and the environment must be achieved for all approved remedial actions.

Alternative 1 would be protective of human health and the environment by removing contaminated soil/fill exceeding Track 1 Unrestricted Use SCOs and groundwater protection standards, thus eliminating potential for direct contact with contaminated soil/fill once construction is complete and eliminating the risk of contamination leaching into groundwater. Soil vapor management would address the risk of vapor migration into the building. Additional work performed under the authority of NYSDEC would address groundwater contamination from the petroleum spill. Formal attainment of Track 1 status is not currently feasible.

Alternative 2 would achieve comparable protections of human health and the environment by excavating the historic fill at the Site and by ensuring that remaining soil/fill on-Site meets Track 4 Site-Specific SCOs, as well as by placement of Institutional and Engineering controls,

including a composite cover system. The composite cover system would prevent direct contact with any remaining on-Site soil/fill. Implementing Institutional Controls including a Site Management Plan and continued “E” designation of property would ensure that the composite cover system remains intact and protective. Establishment of Track 4 Site-Specific SCOs would minimize the risk of contamination leaching into groundwater.

For both Alternatives, potential exposure to contaminated soils or groundwater during construction would be minimized by implementing a Construction Health and Safety Plan, an approved Soil/Materials Management Plan and Community Air Monitoring Plan (CAMP). Potential contact with contaminated groundwater would be prevented as its use is prohibited by city laws and regulations. Potential future migration of off-Site soil vapors into the new building would be prevented by installing a vapor barrier/waterproofing system below the new building's basement slab and continuing the vapor barrier around foundation walls.

3.2. BALANCING CRITERIA

Compliance with Standards, Criteria and Guidance (SCGs)

This evaluation criterion assesses the ability of the alternative to achieve applicable standards, criteria and guidance.

Alternative 1 would achieve compliance with the remedial goals, chemical-specific SCGs and RAOs for soil through removal of soil to achieve Track 1 Unrestricted Use SCOs and Groundwater Protection Standards. Compliance with SCGs for soil vapor would also be achieved by installing a vapor barrier/waterproofing system below the new building's basement slab and continuing the vapor barrier around foundation walls, as part of development, in addition to installation of an active sub slab depressurization system.

Alternative 2 would achieve compliance with the remedial goals, chemical-specific SCGs and RAOs for soil through removal of soil to meet Track 4 Site-Specific SCOs. Compliance with SCGs for soil vapor would also be achieved by installing a vapor barrier/waterproofing system below the new building's basement slab and continuing the vapor barrier around foundation walls

in addition to installation of an active sub slab depressurization system. A Site Management Plan would ensure that these controls remained protective for the long term.

Health and safety measures contained in the CHASP and Community Air Monitoring Plan (CAMP) that comply with the applicable SCGs shall be implemented during Site redevelopment under this RAWP. For both Alternatives, focused attention on means and methods employed during the remedial action would ensure that handling and management of contaminated material would be in compliance with applicable SCGs. These measures will protect on-site workers andthe surrounding community from exposure to Site-related contaminants.

Short-term effectiveness and impacts

This evaluation criterion assesses the effects of the alternative during the construction and implementation phase until remedial action objectives are met. Under this criterion, alternatives are evaluated with respect to their effects on public health and the environment during implementation of the remedial action, including protection of the community, environmental impacts, time until remedial response objectives are achieved, and protection of workers during remedial actions.

Both Alternative 1 and 2 have similar short-term effectiveness during their respective implementations, as each requires excavation of historic fill material. Both alternatives would result in short-term dust generation impacts associated with excavation, handling, load out of materials, and truck traffic. Short term impacts would potentially be higher for Alternative 1 because excavation of greater amounts of historical fill material. However, focused attention to means and methods during the remedial action during the removal action, including community air monitoring and appropriate truck routing, would minimize or negate the overall impact of these activities.

An additional short-term adverse impact and risks to the community associated with both remedial alternatives is increased truck traffic. Approximately 160, 25-ton capacity truck trips would be necessary to transport fill and soil excavated during Site development. Truck traffic will be routed on the most direct course using major thoroughfares where possible and flaggers will be used to protect pedestrians at Site entrances and exits.

Both alternatives would employ appropriate measures to prevent short term impacts, including a Construction Health and Safety Plan, a Community Air Monitoring Plan (CAMP) and a Soil/Materials Management Plan (SMMP), during all on-Site soil disturbance activities and would minimize the release of contaminants into the environment. Both alternatives provide short term effectiveness in protecting the surrounding community by decreasing the risk of contact with on-Site contaminants. Construction workers operating under appropriate management procedures and a Construction Health and Safety Plan (CHASP) will be protected from on-Site contaminants (personal protective equipment would be worn consistent with the documented risks within the respective work zones).

Long-term effectiveness and permanence

This evaluation criterion addresses the results of a remedial action in terms of its permanence and quantity/nature of waste or residual contamination remaining at the Site after response objectives have been met, such as permanence of the remedial alternative, magnitude of remaining contamination, adequacy of controls including the adequacy and suitability of ECs/ICs that may be used to manage contaminant residuals that remain at the Site and assessment of containment systems and ICs that are designed to eliminate exposures to contaminants, and long-term reliability of Engineering Controls.

Alternative 1 would achieve long-term effectiveness and permanence related to on-Site contamination by permanently removing all impacted soil/fill, thereby reducing contaminants in groundwater, and enabling unrestricted usage of the property. Additional engineering and institutional controls would be required to address soil vapor migration risks and additional remedial activity under the authority of NYS DEC would be required to address remaining groundwater contamination from the petroleum spill.

Alternative 2 would provide long-term effectiveness by removing most on-Site contamination and attaining Track 4 Site-Specific SCOs, and establishing Engineering Controls including a composite cover system across the Site, a vapor barrier and SSDS; establishing Institutional Controls to ensure long-term management including use restrictions, a Site Management Plan and maintaining registration of the E-Designation for the property to memorialize these controls for the long term. The SMP would ensure long-term effectiveness of all ECs and ICs by

requiring periodic inspection and certification that these controls and restrictions continue to be in place and are functioning as they were intended assuring that protections designed into the remedy will provide continued high level of protection in perpetuity. Additional remedial activity under the authority of NYS DEC would be required to address remaining groundwater contamination from the petroleum spill.

Both alternatives would result in removal of soil contamination exceeding the SCOs providing a high level, effective, and permanent remedy over the long-term and would address contaminated soil and minimize any leaching to groundwater.

Reduction of toxicity, mobility, or volume of contaminated material

This evaluation criterion assesses the remedial alternative's use of remedial technologies that permanently and significantly reduce toxicity, mobility, or volume of contaminants as their principal element. The following is the hierarchy of source removal and control measures that are to be used to remediate a Site, ranked from most preferable to least preferable: removal and/or treatment, containment, elimination of exposure and treatment of source at the point of exposure. It is preferred to use treatment or removal to eliminate contaminants at a Site, reduce the total mass of toxic contaminants, cause irreversible reduction in contaminants mobility, or reduce of total volume of contaminated media.

Alternative 1 would permanently eliminate the toxicity, mobility, and volume of contaminants from on-Site soil by removing all soil in excess of Track 1 Unrestricted Use SCOs. Residual groundwater contamination would be treated under NYS DEC authority to further reduce contaminant loads. Alternative 1 would eliminate a greater total mass of contaminants on Site.

Alternative 2 would permanently eliminate most of the toxicity, mobility, and volume of contaminants from on-site soil by removing soil in excess of Track 4 Site-Specific SCOs. Residual groundwater contamination would be treated under NYS DEC authority to further reduce contaminant loads.

Implementability

This evaluation criterion addresses the technical and administrative feasibility of implementing an alternative and the availability of various services and materials required during its implementation, including technical feasibility of construction and operation, reliability of the selected technology, ease of undertaking remedial action, monitoring considerations, administrative feasibility (e.g. obtaining permits for remedial activities), and availability of services and materials.

Both Alternatives are feasible and implementable. The techniques, materials and equipment to implement Alternatives 1 and 2 are readily available and have been proven effective in remediating the contaminants associated with the Site. They use standard materials and services that are well established. The reliability of both alternatives is high. The Track 1 alternative requires shoring and creates potential structural issues by removing and replacing more than 13 feet of soil beneath the propose basement level of the building.

Cost effectiveness

This evaluation criterion addresses the cost of alternatives, including capital costs (such as construction costs, equipment costs, and disposal costs, engineering expenses) and site management costs (costs incurred after remedial construction is complete) necessary to ensure the continued effectiveness of a remedial action.

The capital costs associated with the Alternative 1 are higher than Alternative 2 in that a higher volume of soil/fill will be excavated for off-site disposal to achieve a Track 1 status over the entire site. In both cases, appropriate public health and environmental protections are achieved.

Both alternatives satisfy the threshold balancing criterion and other criterion listed here, and each is fully protective of public health and the environment, will control migration of contaminants, will comply with SCGs, are effective for the short-term and long-term, are implementable, and reduces both mobility and toxicity.

Community Acceptance

This evaluation criterion addresses community opinion and support for the remedial action. Observations here will be supplemented by public comment received on the RAWP.

Based on the overall goals of the remedial program and initial observations by the project team, both of the alternatives for the Site are acceptable to the community. This RAWP will be subject to and undergo public review under the NYC VCP and will provide the opportunity for detailed public input on the remedial alternatives and the selected remedial action. This public comment will be considered by OER prior to approval of this plan.

Land use

This evaluation criterion addresses the proposed use of the property. This evaluation has considered reasonably anticipated future uses of the Site and takes into account: current use and historical and/or recent development patterns; applicable zoning laws and maps; NYS Department of State's Brownfield Opportunity Areas (BOA) pursuant to section 970-r of the general municipal law; applicable land use plans; proximity to real property currently used for residential use, and to commercial, industrial, agricultural, and/or recreational areas; environmental justice impacts, Federal or State land use designations; population growth patterns and projections; accessibility to existing infrastructure; proximity of the Site to important cultural resources and natural resources, potential vulnerability of groundwater to contamination that might emanate from the Site, proximity to flood plains, geography and geology; and current Institutional Controls applicable to the Site.

Alternative 1 provides a remedial action that is beneficial to the surrounding community and is consistent with the goals of the City for remediating and redeveloping brownfield sites. Alternative 2 also provides environmental and public health protection for the intended use. This alternative would allow the use of engineering controls and institutional controls that would provide protections against of site vapor migration.

The proposed redevelopment of the Site is compatible with its current zoning and is consistent with recent development patterns. Following remediation, the Site will meet either Track 1 Unrestricted Use SCOs or Track 4 Site-Specific SCOs, which are appropriate for its planned residential use. Improvements in the current brownfield condition of the property achieved by

both alternatives are also consistent with the City's goals for cleanup of contaminated land, making them safer and bringing such properties into productive reuse. Both alternatives are equally protective of natural resources and cultural resources.

Sustainability of the Remedial Action

This criterion evaluates the overall sustainability of the remedial action alternatives and the degree to which sustainable means are employed to implement the remedial action including those that take into consideration NYC's sustainability goals defined in *PlaNYC: A Greener, Greater New York*. Sustainability goals may include: maximizing the recycling and reuse of non-virgin materials; reducing the consumption of virgin and non-renewable resources; minimizing energy consumption and greenhouse gas emissions; improving energy efficiency; and promotion of the use of native vegetation and enhancing biodiversity during landscaping associated with Site development.

Both remedial alternatives are comparable with respect to the opportunity to achieve sustainable remedial action. While Alternative 2 would potentially result in lower energy usage based on reducing the volume of material transported off-Site, both remedial alternatives are comparable with respect to the opportunity to achieve sustainable remedial action.The remedial plan would take into consideration the shortest trucking routes during off-Site disposal of historic fill and other soils, which would reduce greenhouse gas emissions and conserve energy used to fuel trucks. New York City Clean Soil Bank program may be utilized for reuse of native soils. To the extent practicable, energy efficient building materials, appliances, and equipment will be utilized to complete the development. A complete list of green remedial activities considered as part of the NYC VCP is included in the Sustainability Statement, included as Appendix C.

4.0 REMEDIAL ACTION

4.1 SUMMARY OF PREFERRED REMEDIAL ACTION

The preferred remedial action alternative is Alternative 2, the Track 4 alternative. The preferred remedial action alternative achieves protection of public health and the environment for the intended use of the property. The preferred remedial action alternative will achieve all of the remedial action objectives established for the project and addresses applicable SCGs. The preferred remedial action alternative is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants. The preferred remedial action alternative is cost effective and implementable and uses standards methods that are well established in the industry.

The proposed remedial action will consist of:

1. Preparation of a Community Protection Statement and performance of all required NYC BCP citizen participation activities according to an approved Citizen Participation Plan (CPP);
2. Performance of a Community Air Monitoring Plan (CAMP) for particulates and VOCs.
3. Establishment of Track 4 Soil Cleanup Objectives (SCOs). Excavation and removal of soil/fill exceeding SCOs. Removal of arsenic and mercury hotspots;
4. Collection and analysis of end-point samples to evaluate the performance of the remedy with respect to attainment of SCOs;
5. Removal of the 5,000 gallon on site underground storage tank (UST) containing No. 2 fuel oil and any other unknown sub-grade storage tanks that may be present and closure of the associated open petroleum spills (NYSDEC Spill Case numbers 1206982 and 0212132) under the authority of NYSDEC and in compliance with applicable local, State and Federal laws and regulations.
6. Sampling of groundwater monitoring wells and treatment of groundwater under the authority of NYS DEC to address petroleum contamination;

7. Capping with concrete building slab in all developed areas and with two feet of certified clean fill in landscaped areas to prevent human exposure to residual soil/fill remaining under the Site;

8. Installation of a vapor barrier system beneath the proposed cellar floor and walls of the Site building and an active sub-slab depressurization system to address migration of off-site soil vapors. Submittal of a Design Report for the vapor barrier system and sub slab depressurization system for OER approval prior to the start of development;

9. Demarcation of residual soil/fill;

10. Import of materials to be used for backfill and cover, as needed, in compliance with OER approved plan and in accordance with applicable Federal, State and City laws and regulations;

11. Transportation and off-Site disposal of all soil/fill material at permitted facilities in accordance with all applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media onsite;

12. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID;

13. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas;

14. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations;

15. Performance of all activities required for the remedial action, including permitting requirements and pretreatment requirements, in compliance with applicable laws and regulations;

16. Groundwater treatment to address the petroleum spill under NYS DEC authority;

17. Performance of groundwater sampling from all remaining monitoring wells after remediation is completed consistent with NYS DEC requirements for spill closure. If

needed, additional means of groundwater remediation for may be required as determined by NYS DEC;

18. Submission of a Remedial Action Report (RAR) that describes the remedial activities certifies including any changes from this RAWP, certifies that the remedial requirements have been achieved, defines the Site boundaries, and describes all engineering and institutional controls to be implemented at the Site, and lists any changes from this RAWP;

19. Submission of an approved Site Management Plan (SMP) in the RAR for long-term management of residual contamination, including plans for operation, maintenance, monitoring, inspection and certification of engineering and institutional controls and reporting at a specified frequency; and

20. Continued registration with an E-Designation at the NYC Buildings Department. Establishment of Engineering Controls and Institutional Controls and management of these controls in compliance with an approved SMP. Institutional controls will include prohibition of the following: (1) vegetable gardening and farming; (2) use of groundwater without treatment rendering it safe for the intended use; (3) disturbance of residual contaminated material unless it is conducted in accordance with the SMP; and (4) higher level of land usage without OER-approval.

4.2 SOIL CLEANUP OBJECTIVES AND SOIL/FILL MANAGEMENT

Track 4 Site-Specific Soil Cleanup Objectives (SCOs) are proposed for this project.

The Soil Cleanup Objectives for the Site are:

Contaminant	**SCO**
SVOCs	250 ppm
Arsenic	24 ppm
Barium	800 ppm
Lead	1000 ppm
Mercury	2.5 ppm

Soil and materials management on-Site and off-Site, including excavation, handling and disposal, will be conducted in accordance with the Soil/Materials Management Plan Appendix 3.

Discrete contaminant sources (such as hotspots) identified during the remedial action will be identified by GPS or surveyed. This information will be provided in the Remedial Action Report.

Estimated Soil/Fill Removal Quantities

Hotspot areas will be excavated under this remedial action including arsenic and mercury hotspots identified in the Remedial Investigation and end point remedial performance samples will be collected as discussed below. The total quantity of soil/fill expected to be excavated and disposed off-Site in the area of the proposed cellar (65'x74'x10') is approximately 1,782 cubic yards or 2,673 tons. Soil excavation below the water table is anticipated for the area surrounding the UST to be closed and removed in the southwest portion of the Site. The area of petroleum impacted soil may be excavated until no visual evidence of petroleum impacts are present and laboratory analysis confirms the required end point samples taken meet regulatory requirements. Based on the borings advanced during the RI, the area surrounding the on-site UST to be remediated is estimated at up to approximately (40' x 50') 2,000 square feet. The proposed building footprint and cellar will occupy the present area of the UST. Therefore, petroleum impacted material is estimated to be excavated from 10 feet below grade up to 30 feet below grade or until non-impacted material is observed. Therefore, a maximum of (40' x 50' x 20') approximately 1,482 cubic yards or 2,223 tons of petroleum impacted material may be removed at the Site.

Disposal facilities will be reported to OER when they are identified and prior to the start of remedial action.

End-Point Sampling

Removal actions under this plan will be performed in conjunction with confirmation end-point sampling. Post-excavation end-point sampling and testing will be performed promptly following materials removal and completed prior to Site development activities. To evaluate attainment of Track 4–Site Specific SCOs, samples will be collected and analyzed for trigger compounds and elements established on the Track 4 Site-Specific SCO list. The approximate collection location

of the six endpoint soil samples is shown on Figure 6. The end-point sampling and testing will be performed promptly following excavation and be completed prior to any site development activities.

In addition, hotspot removal actions will be performed in conjunction with remedial end point sampling at a frequency will consist of the following:

1. For excavations less than 20 feet in total perimeter, at least one bottom sample and one sidewall sample biased in the direction of surface runoff.
2. For excavations 20 to 300 feet in perimeter:
    - For surface removals, one sample from the top of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
    - For subsurface removals, one sample from each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
3. For sampling of volatile organics, bottom samples should be taken within 24 hours of excavation, and should be taken from the zero to six-inch interval at the excavation floor. Samples taken after 24 hours should be taken at six to twelve inches.
4. For contaminated soil removal, post remediation soil samples for laboratory analysis should be taken immediately after contaminated soil removal. If the excavation is enlarged horizontally, additional soil samples will be taken pursuant to bullets 1-3 above.

Per discussion with OER, after excavation activities are completed four (4) end point samples will be collected and analyzed for Track 4 acceptable levels of the following: Total SVOCs, Arsenic, Barium, Lead and Mercury. The first two samples will be collected at bottom excavation of the grass area and the next two samples will be collected from the bottom of the proposed building footprint. If the levels are not acceptable for Track 4 SCOs, the excavation will continue until an acceptable level is reached.

Post-remediation sample locations and depth will be biased towards the areas and depths of highest contamination identified during previous sampling episodes unless field indicators such as field instrument measurements or visual contamination identified during the remedial action indicate that other locations and depths may be more heavily contaminated. In all cases, post-remediation samples should be biased toward locations and depths of the highest expected contamination.

New York State ELAP certified labs will be used for all end-point sample analyses. Labs for end-point sample analyses will be reported in the RAR. The RAR will provide a tabular and map summary of all end-point sample results and will include all data including non-detects and applicable standards and/or guidance values. End-point samples will be analyzed for trigger analytes (those for which SCO exceedances are identified) utilizing the following methodology:

Soil analytical methods will include:

- Volatile organic compounds by EPA Method 8260;
- Semi-volatile organic compounds by EPA Method 8270;
- Target Analyte List metals; and
- Pesticides/Herbicides/PCBs by EPA Method 8081/8321/8082.

If either LNAPL and/or DNAPL are detected, appropriate samples will be collected for characterization and "finger print analysis" and required regulatory reporting (i.e. spills hotline) will be performed.

Quality Assurance/Quality Control

One (1) duplicate sample will be collected for each of 20 samples collected and at least one (1) field and one (1) lab blank samples or more will be collected to sufficiently asses sampling and lab artifacts.

Import and Reuse of Soils

Import of soils onto the property and reuse of soils already onsite will be performed in conformance with the Soil/Materials Management Plan in Appendix 3. The estimated quantity of

soil to be imported into the Site for backfill and cover soil is zero tons. The estimated quantity of onsite soil/fill expected to be reused/relocated on Site is zero tons.

4.2.1 CLOSURE OF NYSDEC SPILLS

Spill remediation (Numbers 12069824 and 0212132) will be performed independent of this RAWP and under NYSDEC authority. The NYSDEC approved Spill Remedial Action Work Plan including groundwater treatment and monitoring will be performed under NYSDEC authority. Documents are attached as Attachment F of this RAWP.

4.3 ENGINEERING CONTROLS

The excavation required for the proposed Site development will achieve Track 4 Site Specific SCOs. The following elements will be incorporated into the foundation design as part of the development: composite cover system and soil vapor barrier to address residual contamination remaining at the site. Engineering Controls for this Site are:

- Composite cover system consisting of clean fill/ landscaping consisting of two (2) feet of certified clean fill in landscaped areas or pavement to be used to cap in all areas of the Site not occupied by the building footprint. Concrete slab below the cellar level occupying the entire proposed building footprint 4,800 square feet extending from the western most property line along the length of Leonard Street and extending east;
- Vapor barrier/waterproofing system for the Site cellar floor and walls;
- Active sub-slab depressurization system; and
- Groundwater treatment and monitoring under the authority of NYS DEC.

Composite Cover System

Exposure to residual soil/fill will be prevented by an engineered, composite cover system to be built on the Site. This composite cover system is comprised of the slab below the cellar level beneath the entire cellar footprint, 2 feet of clean soil in landscaped areas, and pavement in other areas.

The composite cover system would be a permanent engineering control for the Site. The system will be inspected and reported at specified intervals as required by this RAWP and the SMP. A Soil Management Plan will be included in the Site Management Plan and will outline the procedures to be followed in the event that the composite cover system and underlying residual soil/fill is disturbed after the remedial action is complete. Maintenance of this composite cover system will be described in the Site Management Plan in the RAR. One or more of the following designs will be used to cap the entire Site during proposed construction:

- Building Foundation System – Minimum of eight inches of ¾" clean stone and eight inches of concrete;
- Pavement – Four to six inches of ¾" quarry process stone and 1.5 to 2 inches of bituminous asphalt;
- Concrete – Four inches of ¾" clean stone and four inches of concrete; and
- Grass Area – A highly visible demarcation barrier (i.e., orange construction fence/landscape fabric/geosynthetic membrane or equivalent) must be installed beneath 18 inches of clean fill, and 6 inches of a vegetative top soil medium.

Top soil cover is expected to be used on Site. If used, the imported clean fill and top soil cover material will not be comprised of any construction and demolition (C&D) debris or other solid waste. It will be segregated at the approved facility or source prior to characterization sampling. Representative samples will be collected by qualified environmental personnel at a frequency of one (1) sample for every 250 cubic yards of cover material and sent to a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified laboratory for analysis. Samples will be analyzed for TCL VOCs, TCL SVOCs, TAL Metals, PCBs and Pesticides and then compared to Part 375 soil cleanup objectives. The location of the various types engineering controls will conform to the proposed building development plans. The NYC Clean Soil bank may be used for imported clean soil.

Vapor Barrier

Migration of soil vapor will be mitigated with a combination of building slab, vapor barrier system and sub slab depressurization system. The vapor barrier shall be installed beneath the building slab and outside foundation side walls to grade.

The vapor barrier will consist of a 20-mil polyethylene vapor barrier placed over 6" gas permeable layer of clean coarse aggregate. VaporBlock Plus or approved equivalent will be

utilized and will be installed in accordance with the manufacturer instructions. A non-woven geotextile fabric will be placed directly under the vapor barrier to help protect the barrier from damage due to possible sharp coarse aggregate. The vapor barrier will be unrolled running the longest dimension parallel with the direction of the pour and all folds should be pulled open to full width. The vapor barrier will be placed over the footings and sealed with Raven Butyl Seal tape or approved equal at the footing-wall connections. Joints will be overlapped a minimum of 12" and sealed between overlaps with 2-sided Raven Butyl Seal Tape and then VaporBondPlus Tape. VaporBlock Plus is a seven-layer co-extruded barrier made from polyethylene and barrier resins to provide impact strength as well as resistance to gas and moisture transmission. VaporBlock Plus is a highly resilient under-slab/vertical wall barrier designed to restrict gases from migrating through the ground and concrete slab. VaporBlock Plus is more than 50 times less permeable than typical high performance polyethylene vapor retarders against Methane, Radon and other harmful VOCs. VaporBlock Plus is effective for under-slab barriers in the building industry exceeding ASTM E- 1745 (Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs) Class A, B and C requirements. VaporBlock Plus is produced within guidelines of the ISO 9001:2000 Certified Management System. The type of vapor barrier system, manufacturer and warranty will be confirmed by the design team prior to construction and submitted to OER.

Sub-Slab Depressurization System

The VOCs in sub-slab soil vapor will be mitigated by constructing the Site cellar with an active sub-slab depressurization system (SSDS) as described in the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006. The Sub-Slab Depressurization Plan Detail and Cross Section will be generated by the design team prior to construction and submitted in the Design Report to be provided to OER for approval prior to construction.

Groundwater Treatment and Monitoring

Groundwater treatment and monitoring sampling will be performed under the authority of NYS DEC and will comply with all NYS DEC requirements.

4.4 INSTITUTIONAL CONTROLS

Institutional Controls (IC) have been incorporated in this remedial action to manage residual soil/fill and other media and render the Site protective of public health and the environment. Institutional Controls are listed below. Long-term employment of EC/ICs will be established and will be implemented under a site-specific Site Management Plan (SMP) that will be included in the RAR. This RAWP includes a description of IC's and summarizes the requirements of the Site Management Plan which will note that the property owner and property owner's successors and assigns must comply with the approved SMP.

Institutional Controls for this remedial action are:

- Continued registration of the E-Designation for the property;
- Establishment of a Site Management Plan in the RAR for approval by OER that provides procedures for appropriate operation, maintenance, monitoring, inspection, reporting and certification of ICs and ECs. SMP will require that the property owner and property owner's successors and assigns will submit to OER a periodic written statement that certifies that: (1) controls employed at the Site are unchanged from the previous certification or that any changes to the controls were approved by OER; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. OER retains the right to enter the Site in order to evaluate the continued maintenance of any controls. This certification shall be submitted monthly and will comply with RCNY §43-1407(l)(3).
- Vegetable gardens and farming on the Site are prohibited;
- Use of groundwater underlying the Site is prohibited without treatment rendering it safe for its intended use;
- All future activities on the Site that will disturb residual material must be conducted pursuant to the soil management provisions in an approved SMP;
- The Site will be used for restricted residential use and will not be used for a higher level of use without prior approval by OER.

4.5 SITE MANAGEMENT PLAN

Site Management is the last phase of remediation and begins with the approval of the Remedial Action Report and issuance of the Notice of Completion (NOC) for the Remedial Action. The Site Management Plan (SMP) describes appropriate methods and procedures to ensure implementation of all ECs and ICs that are required by the DCR and this RAWP. The Site Management Plan is submitted as part of the RAR but will be written in a manner that allows its use as an independent document. Site Management continues until terminated in writing by OER. The property owner is responsible to ensure that all Site Management responsibilities defined in the Site Management Plan are implemented.

The SMP will provide a detailed description of the procedures required to manage residual soil/fill left in place following completion of the remedial action in accordance with the Brownfield Cleanup Agreement with OER. This includes a plan for: (1) implementation of EC's and ICs; (2) operation and maintenance of EC's; and (3) inspection and certification of EC's.

Site management activities, reporting, and EC/IC certification will be scheduled on a periodic basis to be established in the SMP and will be subject to review and modification by OER. The Site Management Plan will be based on a calendar year and certification reports will be due for submission to OER by March 31 of the year following the reporting period.

4.6 QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT

Investigations reported in the Remedial Investigation Report (RIR) are sufficient to complete a Qualitative Human Health Exposure Assessment (QHHEA). As part of the BCP process, a QHHEA was performed to determine whether the Site poses an existing or future health hazard to the Site's exposed or potentially exposed population. The sampling data from the RI were evaluated to determine whether there is any health risk by characterizing the exposure setting, identifying exposure pathways, and evaluating contaminant fate and transport. This EA was prepared in accordance with Appendix 3B and Section 3.3 (b) 8 of the NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation.

Known and Potential Sources

Based on the results of the RIR the contaminants of concern are:

Soil:

- SVOCs including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene exceeing Restricted Residential SCOs.
- metals including arsenic (74 mg/kg), lead (1,440 mg/kg) and mercury (31 mg/kg) detected above Restricted Residential Use SCOs.
- One pesticide 4,4-DDD was identified in soil but did not exceed Restricted Residential Use SCO.

Groundwater:

- VOCs consisting of 1,2,4-Trimethylbenzene, 1,2,4,5-Trimethylbenzene, tert-butylbenzene, isopropylbenzene, n-propylbenzene, n-butylbenzene, and sec-butylbenzene detected in groundwater samples above GQS.
- Dissolved phase metals arsenic, lead and mercury detected above their GQS.

Soil Vapor:

1. Chlorinated VOCs including 1,1,1-trichloroethane, carbon tetrachloride, tetrachloroethylene, and trichloroethylene detected above monitoring level ranges established within the State DOH soil vapor guidance matrix.

2. Petroleum hydrocarbons including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, acetone, cyclobenzene, cyclohexane, ethyl benzene, methylene chloride, n-hexane, o-xylene, m&p-xylene, and toluene were detected at low levels.

Nature, Extent, Fate and Transport of Contaminants

Soil: A layer of fill material is present at the Site to a maximum depth of approximately 12 feet. Based on the results of the RI, metals and SVOCs are present throughout the Site in historical fill and petroleum contamination extends to depths of 28-34 ft bg, including contaminants above Track 2 Restricted Residential Use SCOs. Figure 4 identifies VOC contamination in soil at the Site. Figure 5 identifies SVOC contamination in soil at the Site. Figure 6 identified metals contamination in soil at the Site. Figure 7 identifies pesticide contamination in soil at the Site.

Groundwater: Metals arsenic, lead and mercury were found in dissolved phase groundwater samples above TOGS during the RI, indicating that the property may be contributing low level

groundwater contamination. VOCs are present in groundwater throughout the Site. Based on the results of the RI, the VOCs 1,2,4-Trimethylbenzene, 1,2,4,5-Trimethylbenzene, tert-butylbenzene, isopropylbenzene, n-propylbenzene, n-butylbenzene, and sec-butylbenzene are present above TOGS standards. Based on the results of the HTE Phase II, the VOCs benzene, sec-butylbenzene, n-butylbenzene, ethylbenzene, isopropylbenzene, methyl-t-butyl-ether (MTBE), 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, o-xylene, m,p-xylene are present above TOGS standards. The elevated VOCs in groundwater may likely be the result of the active spills from the on-site UST in the southwest portion of the Site. Figure 8 identifies VOC, SVOC and pesticide contamination in the groundwater at the Site. Figure 9 identifies metals contamination in groundwater at the Site.

Soil Vapor: Chlorinated VOCs including 1,1,1-trichloroethane, carbon tetrachloride, tetrachloroethylene, and trichloroethylene detected above monitoring level ranges established within the State DOH soil vapor guidance matrix. Petroleum hydrocarbons including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, acetone, cyclobenzene, cyclohexane, ethyl benzene, methylene chloride, n-hexane, o-xylene, m&p-xylene, and toluene were detected at low levels. Figure 10 identifies VOC contamination in soil vapor at the Site. Figure 11 includes a legend of all symbols and references for Figure 4 through 10 in this report.

Potential Routes of Exposure

The five elements of an exposure pathway are: (1) a contaminant source; (2) contaminant release and transport mechanisms; (3) a point of exposure; (4) a route of exposure; and (5) a receptor population. An exposure pathway is considered complete when all five elements of an exposure pathway are documented. A potential exposure pathway exists when any one or more of the five elements comprising an exposure pathway cannot be documented. An exposure pathway may be eliminated from further evaluation when any one of the five elements comprising an exposure pathway has not existed in the past, does not exist in the present, and will never exist in the future. Three potential primary routes exist by which chemicals can enter the body:

- Ingestion of water, fill or soil;
- Inhalation of vapors and particulates; and
- Dermal contact with water, fill, soil or building materials.

Existence of Human Health Exposure

Current Conditions

As the site is currently capped with asphalt and concrete, there are no potential exposure pathways from soil/ fill. Groundwater is not exposed at the site, and because the site is served by the public water supply, groundwater is not used at the site. Potential pathways for soil vapor exposure could exist under current conditions, however the site is vacant and there is not opportunity for vapor intrusion into structures.

Construction/ Remediation Activities

Potential exposure pathways to onsite contamination exist for ingestion, dermal, or inhalation exposure by onsite workers and dust release offsite during the remedial action. During the remedial action, on-site exposure pathways will be minimized by preventing access to the site, through implementation of soil/materials management, stormwater pollution prevention, and dust controls, employment of a community air monitoring plan, and implementation of a Construction Health and Safety Plan.

Proposed Future Conditions

Under future remediated conditions, the site will be fully capped, limiting potential direct exposure to soil and groundwater remaining in place, and engineering controls will prevent potential for migration of soil vapors into the building. After the remedial action is complete, there are no plausible off-site pathways for oral, inhalation, or dermal exposure to contaminants derived from the site.

Receptor Populations

On-Site Receptors -The Site is currently vacant and secured; therefore, there are no human receptors under current conditions. During construction and remediation activities, receptors will include construction and remediation workers and people in the immediate vicinity of the site. Under future conditions, receptors will include residents and employees of the proposed residence.

Off-Site Receptors - Potential off-site receptors within a 0.25-mile radius of the Site include: adult and child residents, and commercial and construction workers, pedestrians, trespassers, and cyclists, based on the following:

1. Commercial Businesses (up to 0.25 mile) – existing and future
2. Residential Buildings (up to 0.25 mile) – existing and future
3. Building Construction/Renovation (up to 0.25 mile) – existing and future
4. Pedestrians, Trespassers, Cyclists (up to .25 mile) – existing and future
5. Schools (up to .25 mile) – existing and future

Overall Human Health Exposure Assessment

Complete on-site exposure pathways appear to be present only during the construction and remediation phase. During the remedial action, on-site exposure pathways will be minimized by preventing access to the site, through implementation of soil/ materials management, stormwater pollution prevention, and dust controls, employment of a community air monitoring plan, and implementation of a Construction Health and Safety Plan.

5.0 REMEDIAL ACTION MANAGEMENT

5.1 PROJECT ORGANIZATION AND OVERSIGHT

Principal personnel who will participate in the remedial action include the following representatives from GRANT:

- Senior Engineer, Mr. Stephen A. Morse, PE, LEED AP

- Site Safety Officer, Mr. Zack Leeser

Principal personnel who will be determined once the construction contractor is chosen.

The Professional Engineer (PE) for this project is Mr. Stephen A. Morse of GRANT.

5.2 SITE SECURITY

Site access will be controlled by gated entrances to the fenced property.

5.3 WORK HOURS

The hours for operation of remedial construction will conform to the New York City Department of buildings construction code requirements or according to specific variances issued by that agency.

5.4 CONSTRUCTION HEALTH AND SAFETY PLAN

The Construction Health and Safety Plan (CHASP) is included in Appendix 4. The Site Safety Coordinator will be Mr. Zack Leeser of GRANT. Remedial work performed under this RAWP will be in full compliance with applicable health and safety laws and regulations, including Site and OSHA worker safety requirements and HAZWOPER requirements. Confined space entry, if any, will comply with OSHA requirements and industry standards and will address potential risks. The parties performing the remedial construction work will ensure that performance of work is in compliance with the HASP and applicable laws and regulations. The HASP pertains to remedial and invasive work performed at the Site until the issuance of the Notice of Completion.

All field personnel involved in remedial activities will participate in training required under 29 CFR 1910.120, including 40-hour hazardous waste operator training and annual 8-hour refresher training. Site Safety Officer will be responsible for maintaining workers training records.

Personnel entering any exclusion zone will be trained in the provisions of the HASP and be required to sign an HASP acknowledgment. Site-specific training will be provided to field personnel. Additional safety training may be added depending on the tasks performed. Emergency telephone numbers will be posted at the site location before any remedial work begins. A safety meeting will be conducted before each shift begins. Topics to be discussed include task hazards and protective measures (physical, chemical, environmental); emergency procedures; PPE levels and other relevant safety topics. Meetings will be documented in a log book or specific form.

An emergency contact sheet with names and phone numbers is included in the HASP. That document will define the specific project contacts for use in case of emergency.

5.5 COMMUNITY AIR MONITORING PLAN

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 OER Project Manager and included in the Daily Report.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuousbasis 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.

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 OER personnel to review.

5.6 AGENCY APPROVALS

All permits or government approvals required for remedial construction have been or will be obtained prior to the start of remedial construction. Applicant and contractors are solely responsible for the safe execution of this RAWP and in particular, are responsible for identifying subsurface utilities and safeguarding the structural integrity of any excavations, buildings, utilities and other structures both on- and off-site that may be adversely affected by the work. The Applicant/contractors must obtain any local, state or federal permits or approvals that may be required to perform this work, and are responsible for the implementation of all appropriate

health and safety measures during the performance of this work. Approval of this RAWP by OER does not constitute satisfaction of these requirements and will not be a substitute for any required permit.

5.7 SITE PREPARATION

Pre-Construction Meeting

OER will be invited to attend the pre-construction meeting at the Site with all parties involved in the remedial process prior to the start of remedial construction activities.

Mobilization

Mobilization will be conducted as necessary for each phase of work at the Site. Mobilization includes field personnel orientation, equipment mobilization (including securing all sampling equipment needed for the field investigation), marking/staking sampling locations and utility mark-outs. Each field team member will attend an orientation meeting to become familiar with the general operation of the Site, health and safety requirements, and field procedures.

Utility Marker Layouts, Easement Layouts

The presence of utilities and easements on the Site will be fully investigated prior to the performance of invasive work such as excavation or drilling under this plan by using, at a minimum, the One-Call System (811). Sub-grade utilities may pose an electrocution, explosion, or other hazard during excavation or drilling activities. All invasive activities will be performed incompliance with applicable laws and regulations to assure safety. Utility companies and other responsible authorities will be contacted to locate and mark the locations, and a copy of the Markout Ticket will be retained by the contractor prior to the start of drilling, excavation or other invasive subsurface operations. Overhead utilities may also be present within the anticipated work zones. Electrical hazards associated with drilling in the vicinity of overhead utilities will be prevented by maintaining a safe distance between overhead power lines and drill rig masts.

Proper safety and protective measures pertaining to utilities and easements, and compliance with all laws and regulations will be employed during invasive and other work contemplated under

this RAWP. The integrity and safety of on-Site and off-Site structures will be maintained during all invasive, excavation or other remedial activity performed under the RAWP.

Equipment and Material Staging

Equipment and materials will be stored and staged in a manner that complies with applicable laws and regulations. The location of proposed material staging areas will be provided prior to construction as part of the Soil Management Plan.

Stabilized Construction Entrance

Steps will be taken to ensure that trucks departing the site will not track soil, fill or debris off-Site. Such actions may include use of cleaned asphalt or concrete roads or use of stone or other aggregate-based egress paths between the truck inspection station and the property exit. Measures will be taken to ensure that adjacent roadways will be kept clean of project related soils, fill and debris.

Truck Inspection Station

An outbound-truck inspection station will be set up close to the Site exit. Before exiting the NYC BCP Site, trucks will be required to stop at the truck inspection station and will be examined for evidence of contaminated soil on the undercarriage, body, and wheels. Soil and debris will be removed. Brooms, shovels and potable water will be utilized for the removal of soil from vehicles and equipment, as necessary.

5.8 TRAFFIC CONTROL

Drivers of trucks leaving the NYC BCP Site with soil/fill will be instructed to proceed without stopping in the vicinity of the site to prevent neighborhood impacts. The planned route on local roads for trucks leaving the site is provided will be provided prior to construction in the Soil Management Pan.

5.9 DEMOBILIZATION

Demobilization will include:

- As necessary, restoration of temporary access areas and areas that may have been disturbed to accommodate support areas (e.g., staging areas, decontamination areas, storage areas, temporary water management areas, and access area);
- Removal of sediment from erosion control measures and truck wash and disposal of materials in accordance with applicable laws and regulations;
- Equipment decontamination, and;
- General refuse disposal.

Equipment will be decontaminated and demobilized at the completion of all field activities. Investigation equipment and large equipment (*e.g.*, soil excavators) will be washed at the truck inspection station as necessary. In addition, all investigation and remediation derived waste will be appropriately disposed.

5.10 REPORTING AND RECORD KEEPING

Daily Reports

Daily reports providing a general summary of activities for each day of *active remedial work* will be emailed to the OER Project Manager by the end of the following day. Those reports will include:

- Project number and statement of the activities and an update of progress made and locations of work performed;
- Quantities of material imported and exported from the Site that day and an updated record of the total quantity of material imported and exported;
- Status of on-Site soil/fill stockpiles;
- A summary of all citizen complaints, with relevant details (basis of complaint; actions taken; etc.);
- A summary of CAMP excursions, if any;

- Photograph of notable Site conditions and activities.

The frequency of the reporting period may be revised in consultation with OER project manager based on planned project tasks. Daily email reports are not intended to be the primary mode of communication for notification to OER of emergencies (accidents, spills), requests for changes to the RAWP or other sensitive or time critical information. However, such information will be included in the daily reports. Emergency conditions and changes to the RAWP will be communicated directly to the OER project manager by personal communication. Daily reports will be included as an Appendix in the Remedial Action Report.

Record Keeping and Photo-Documentation

Job-site record keeping for all remedial work will be performed. These records will be maintained on-Site during the project and will be available for inspection by OER staff. Representative photographs will be taken of the Site prior to any remedial activities and during major remedial activities to illustrate remedial program elements and contaminant source areas. Photographs will be submitted at the completion of the project in the RAR in digital format (i.e. jpeg files).

5.11 COMPLAINT MANAGEMENT

All complaints from citizens will be promptly reported to OER. Complaints will be addressed and outcomes will also be reported to OER in daily reports. Notices to OER will include the nature of the complaint, the party providing the complaint, and the actions taken to resolve any problems.

5.12 DEVIATIONS FROM THE REMEDIAL ACTION WORK PLAN

All changes to the RAWP will be reported to the OER Project Manager and will be documented in daily reports and reported in the Remedial Action Report. The process to be followed if there are any deviations from the RAWP will include a request for approval for the change from OER noting the following:

- Reasons for deviating from the approved RAWP;

- Effect of the deviations on overall remedy; and
- Determination that the remedial action with the deviation(s) is protective of public health and the environment.

5.13 DATA USABILITY SUMMARY REPORT

The primary objective of a Data Usability Summary Report (DUSR) is to determine whether or not data meets the site specific criteria for data quality and data use. The DUSR provides an evaluation of analytical data without third party data validation. The DUSR for post-remedial samples collected during implementation of this RAWP will be included in the Remedial Action Report (RAR).

6.0 REMEDIAL ACTION REPORT

A Remedial Action Report (RAR) will be submitted to OER following implementation of the remedial action defined in this RAWP. The RAR will document that the remedial work required under this RAWP has been completed and has been performed in compliance with this plan. The RAR will include:

- Information required by this RAWP;
- As-built drawings for all constructed remedial elements, required certifications, manifests and other written and photographic documentation of remedial work performed under this remedy;
- Site Management Plan;
- Description of any changes in the remedial action from the elements provided in this RAWP and associated design documents;
- Tabular summary of all end point sampling results and all material characterization results, QA/QC results for end-point sampling, and other sampling and chemical analysis performed as part of the remedial action and DUSR;
- Test results or other evidence demonstrating that remedial systems are functioning properly;
- Account of the source area locations and characteristics of all contaminated material removed from the Site including a map showing source areas;
- Account of the disposal destination of all contaminated material removed from the Site. Documentation associated with disposal of all material will include transportation and disposal records, and letters approving receipt of the material.
- Account of the origin and required chemical quality testing for material imported onto the Site.
- Recorded Declaration of Covenants and Restrictions.
- Reports and supporting material will be submitted in digital form.

Remedial Action Report Certification

The following certification will appear in front of the Executive Summary of the Remedial Action Report. The certification will include the following statements:

I, Stephen A. Morse, am currently a professional engineer licensed by the State of New York. I had primary direct responsibility for implementation of the remedial program for the 498 Leonard Street Site.

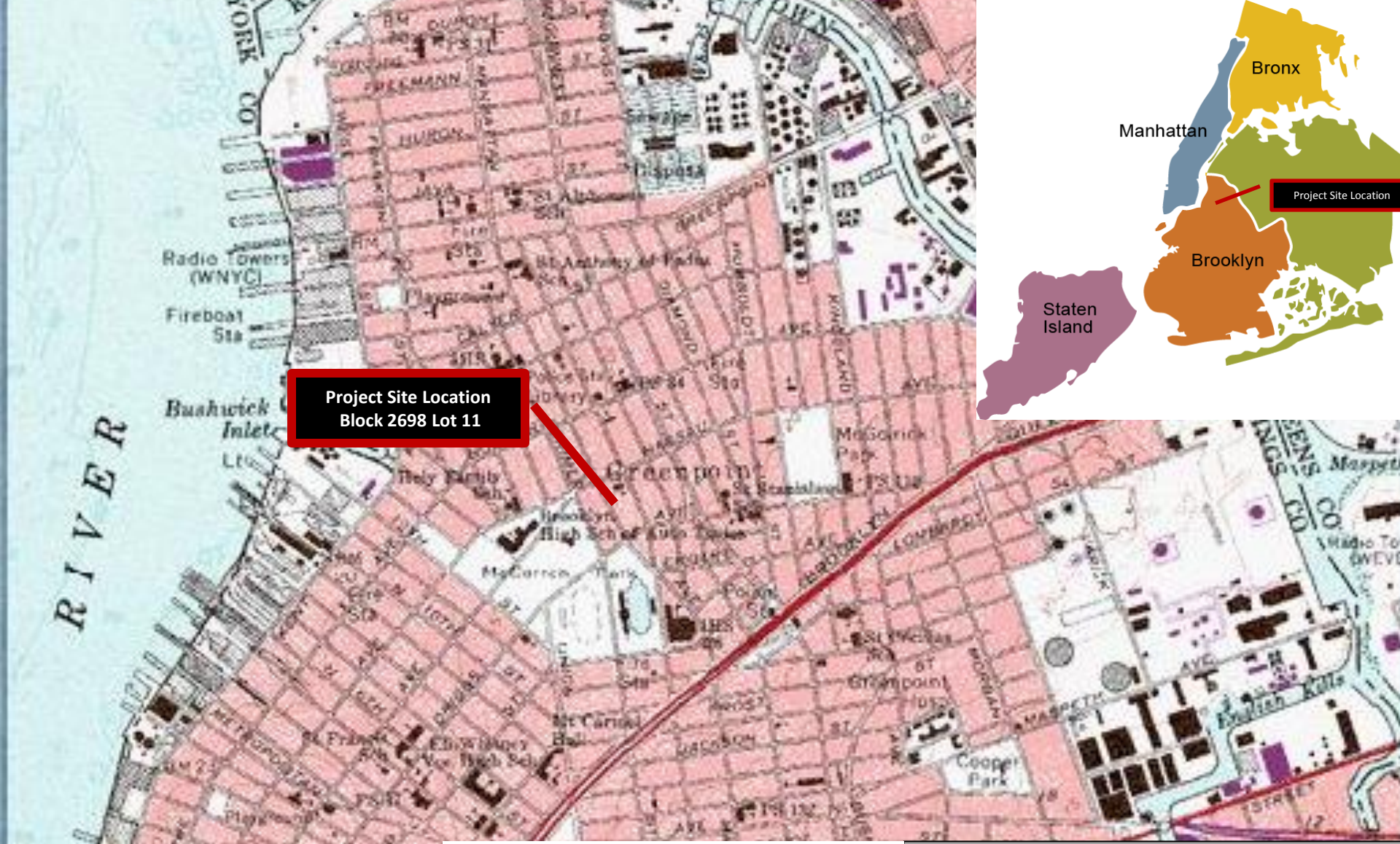
I certify that the OER-approved Remedial Action Work Plan dated May 2013were implemented and that all requirements in those documents have been substantively complied with. I certify that contaminated soil, fill, liquids or other material from the property were taken to facilities licensed to accept this material in full compliance with applicable laws and regulations.

7.0 SCHEDULE

The table below presents a schedule for the proposed remedial action and reporting. If the schedule for remediation and development activities changes, it will be updated and submitted to OER. Currently, an approximate6month remediation period is anticipated.

Schedule Milestone	Weeksfrom Remedial Action Start	Duration (weeks)
OER Approval of RAWP	0	-
Fact Sheet 2 announcing start of remedy	0	-
Mobilization	0	3
Remedial Excavation and Shoring	24	21
Footing and Foundation	44	20
StructuralWork	52	52
HVAC, Electrical and Plumbing and Interior Renovations	62	26
Site Work and Maintenance	74	26
Inspections	94	5
Punch-list	98	4
Temporary Certificate of Occupancy	100	4
Submit Remedial Action Report	104	1

The entire construction project is estimated to occur from approximately September 2013 to September 2015.



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498 Leonard Street Brooklyn NY
REMEDIAL INVESTIGATION REPORT

Figure 1
Site Map

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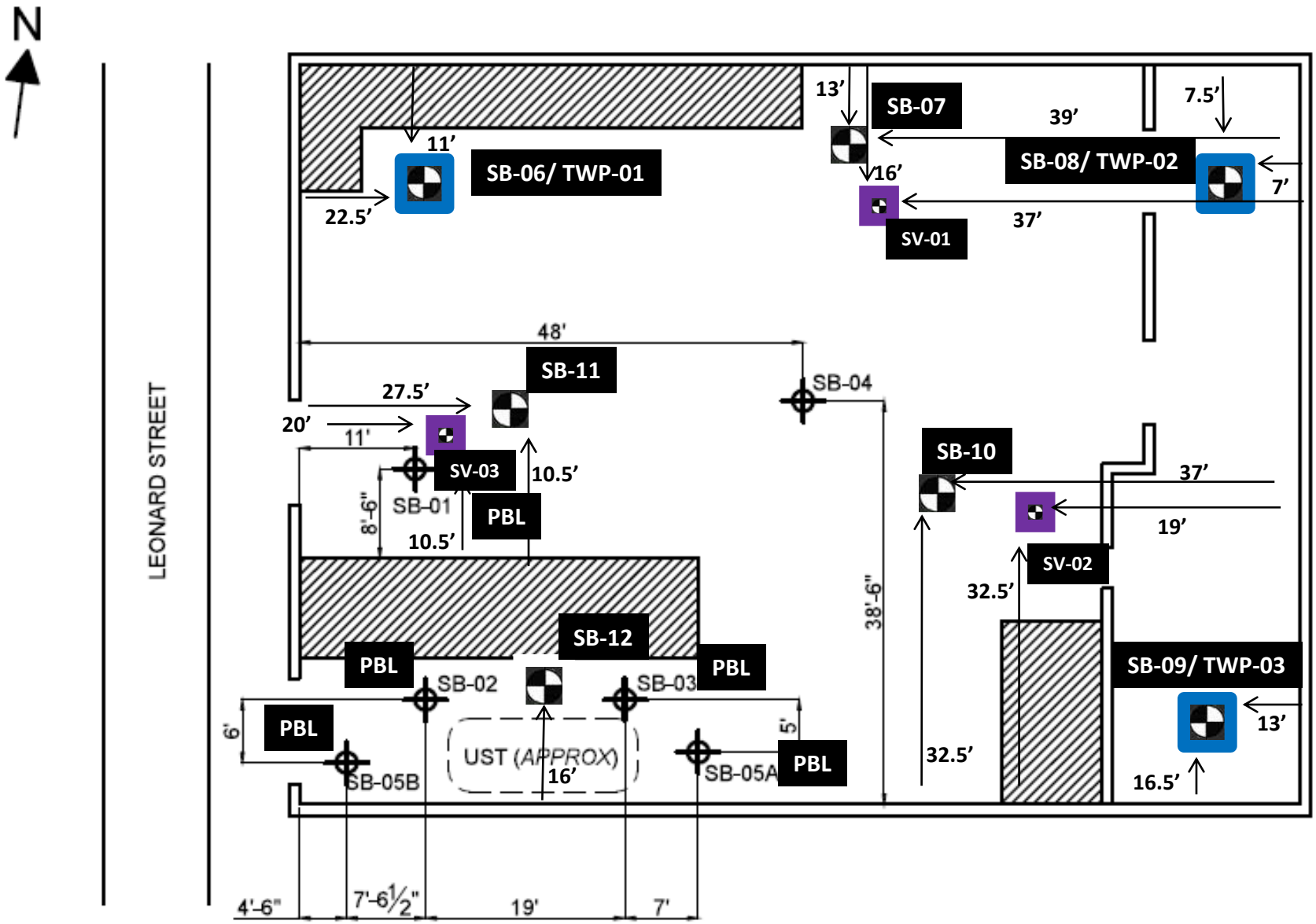
498 Leonard Street Brooklyn NY
REMEDIAL INVESTIGATION REPORT

Figure 2
Site Location Plan



Legend

- Soil Boring and Temporary Well Location
- Soil Boring
- Soil Vapor Location
- PBL — Previous Boring Location Completed in February 2013

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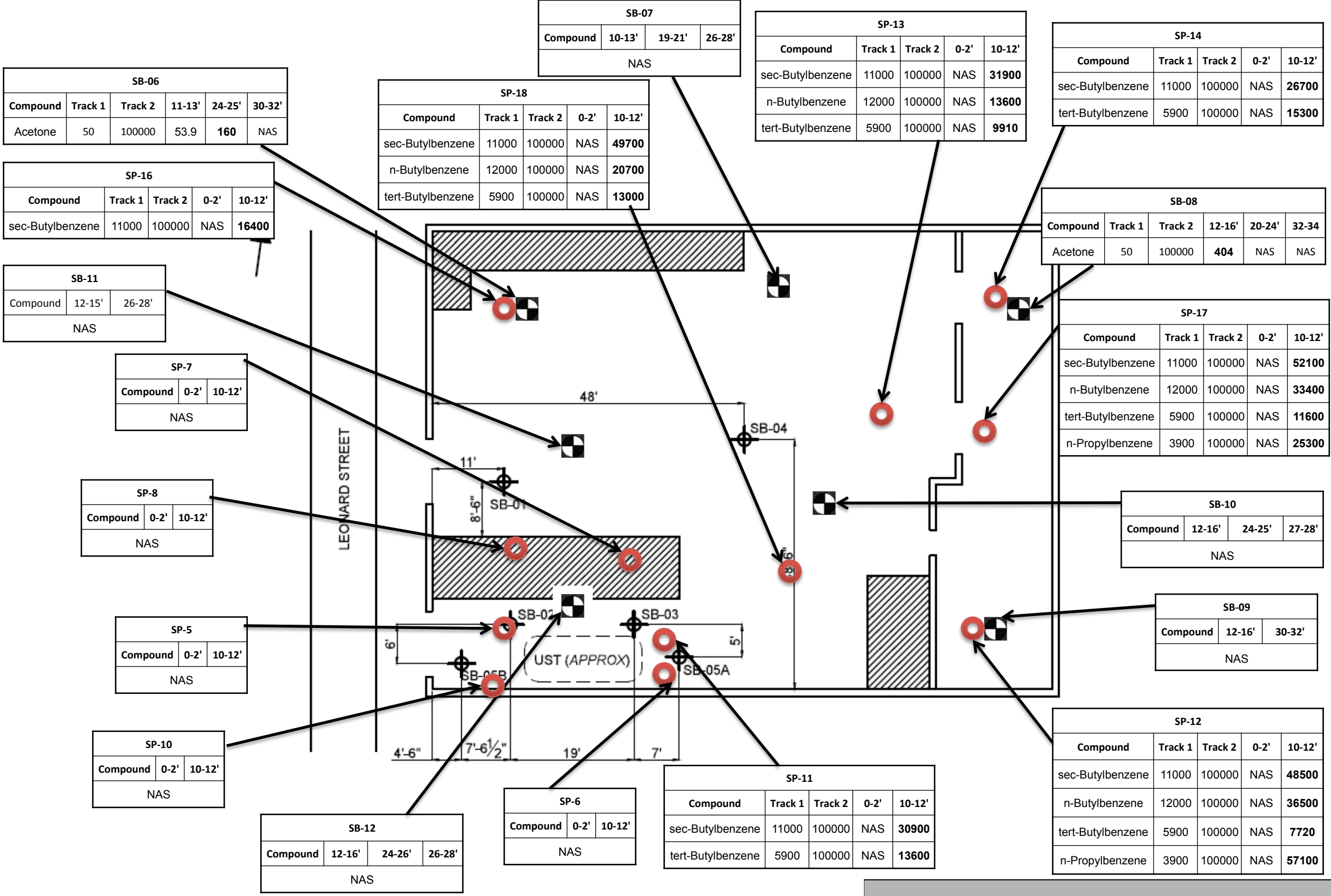
498 Leonard Street Brooklyn NY
BORING LOCATION PLAN
REMEDIAL INVESTIGATION REPORT

Figure 3



SB-06					
Compound	**Track 1**	**Track 2**	**11-13'**	**24-25'**	**30-32'**
Acetone	50	100000	53.9	**160**	NAS

SP-16				
Compound	**Track 1**	**Track 2**	**0-2'**	**10-12'**
sec-Butylbenzene	11000	100000	NAS	**16400**

SB-11		
Compound	12-15'	26-28'
NAS		

SP-7		
Compound	**0-2'**	**10-12'**
NAS		

SP-8		
Compound	**0-2'**	**10-12'**
NAS		

SP-5		
Compound	**0-2'**	**10-12'**
NAS		

SP-10		
Compound	**0-2'**	**10-12'**
NAS		

SB-12			
Compound	**12-16'**	**24-26'**	**26-28'**
NAS			

SB-07			
Compound	**10-13'**	**19-21'**	**26-28'**
NAS			

SP-18				
Compound	**Track 1**	**Track 2**	**0-2'**	**10-12'**
sec-Butylbenzene	11000	100000	NAS	**49700**
n-Butylbenzene	12000	100000	NAS	**20700**
tert-Butylbenzene	5900	100000	NAS	**13000**

SP-6		
Compound	**0-2'**	**10-12'**
NAS		

SP-11				
Compound	**Track 1**	**Track 2**	**0-2'**	**10-12'**
sec-Butylbenzene	11000	100000	NAS	**30900**
tert-Butylbenzene	5900	100000	NAS	**13600**

SP-13				
Compound	**Track 1**	**Track 2**	**0-2'**	**10-12'**
sec-Butylbenzene	11000	100000	NAS	**31900**
n-Butylbenzene	12000	100000	NAS	**13600**
tert-Butylbenzene	5900	100000	NAS	**9910**

SP-14				
Compound	**Track 1**	**Track 2**	**0-2'**	**10-12'**
sec-Butylbenzene	11000	100000	NAS	**26700**
tert-Butylbenzene	5900	100000	NAS	**15300**

SB-08					
Compound	**Track 1**	**Track 2**	**12-16'**	**20-24'**	**32-34**
Acetone	50	100000	**404**	NAS	NAS

SP-17				
Compound	**Track 1**	**Track 2**	**0-2'**	**10-12'**
sec-Butylbenzene	11000	100000	NAS	**52100**
n-Butylbenzene	12000	100000	NAS	**33400**
tert-Butylbenzene	5900	100000	NAS	**11600**
n-Propylbenzene	3900	100000	NAS	**25300**

SB-10			
Compound	**12-16'**	**24-25'**	**27-28'**
NAS			

SB-09		
Compound	**12-16'**	**30-32'**
NAS		

SP-12				
Compound	**Track 1**	**Track 2**	**0-2'**	**10-12'**
sec-Butylbenzene	11000	100000	NAS	**48500**
n-Butylbenzene	12000	100000	NAS	**36500**
tert-Butylbenzene	5900	100000	NAS	**7720**
n-Propylbenzene	3900	100000	NAS	**57100**

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498 Leonard Street Brooklyn NY
VOC Contamination in Soil
VOCs in ug/kg - See Figure 11 for legend

Figure 4

SB-06			
Compound	11-13'	24-25'	30-32'
NAS			

SB-07			
Compound	10-13'	19-21'	26-28'
NAS			

SP-13				
Compound	Track 1	Track 2	0-2'	10-12'
Benzo(b)fluoranthene	1000	1000	*1250*	NAS
Ideno (1,2,3,-cd) Pyrene	500	500	NAS	*606*

SB-08					
Compound	Track 1	Track 2	12-16'	20-24'	32-34'
Benzo(a)anthracene	1000	1000	*11600*	NAS	NAS
Benzo(a)pyrene	1000	1000	*11700*		
Benzo(b)fluoranthene	1000	1000	*9840*		
Chrysene	1000	3900	*9670*		
Dibenz(a,h)anthracene	330	330	*1900*		
Indeno(1,2,3-cd)pyrene	500	500	*5910*		

SP-16		
Compound	0-2'	10-12'
NAS		

SP-14		
Compound	0-2'	10-12'
NAS		

SP-7					
Compound	Track 1	Track 2	0-2'	6-8'	10-12'
Benzo(a)anthracene	1000	1000	*1170*	NAS	*1320*
Benzo(a)pyrene	1000	1000	*1100*		*1490*
Benzo(b)fluoranthene	1000	1000	*1370*		*1510*
Chrysene	1000	1000	*1440*		*1550*
Dibenz(a,h)anthracene	330	330	NAS		*959*
Indeno(1,2,3-cd)pyrene	500	500	*858*	*584*	*1100*

SB-11		
Compound	12-15'	26-28'
NAS		

SP-18		
Compound	0-2'	10-12'
NAS		

SP-17				
Compound	Track 1	Track 2	0-2'	10-12'
Benzo(a)anthracene	1000	1000	NAS	*1830*
Benzo(a)pyrene	1000	1000		*1230*
Benzo(b)fluoranthene	1000	1000		*1500*
Chrysene	1000	3900		*1710*
Indeno(1,2,3-cd)pyrene	500	500		*558*

SP-8		
Compound	0-2'	10-12'
NAS		

SB-12			
Compound	12-16'	24-26'	26-28'
NAS			

SP-5				
Compound	Track 1	Track 2	0-2'	10-12'
Ideno (1,2,3,-cd) Pyrene	500	500	NAS	*519*

SB-10			
Compound	12-16'	24-25'	27-28'
NAS			

SP-10		
Compound	0-2'	10-12'
NAS		

SP-9				
Compound	Track 1	Track 2	0-2'	10-12'
Ideno (1,2,3,-cd) Pyrene	500	500	NAS	*529*

SP-6				
Compound	Track 1	Track 2	0-2'	10-12'
Benzo(a)anthracene	1000	1000	NAS	*1870*
Benzo(a)pyrene	1000	1000		*2310*
Benzo(b)fluoranthene	1000	1000		*2210*
Benzo(k)fluoranthene	800	1000		*1350*
Chrysene	1000	1000		*1850*
Indeno(1,2,3-cd)pyrene	500	500		*1450*

SP-11				
Compound	Track 1	Track 2	0-2'	6-8'
Dibenz(a,h)anthracene	330	330	NAS	*565*
Indeno(1,2,3-cd)pyrene	500	500		*830*

SB-09		
Compound	12-16'	30-32'
NAS		

SP-12		
Compound	0-2'	10-12'
NAS		

N

LEONARD

48'

11'

8'-6"

6'

5'

6'

4'-6"

7'-6½"

19'

7'

SB-01

SB-02

SB-03

SB-04

SB-05A

SB-05B

UST (APPROX)

0 10 25 50

SCALE IN FEET – 1" = 16'

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498 Leonard Street Brooklyn NY
SVOC Contamination in Soil
SVOCs in ug/kg – see Figure 11 for legend

Figure 5

SB-11				
Compound	Track 1	Track 2	12-15'	26-28'
Lead	63	400	**259**	NAS
Mercury	0.18	0.81	*2.49*	
Zinc	109	10000	**124**	

SP-16				
Compound	Track 1	Track 2	0-2'	10-12'
Arsenic	13	16	**15.1**	*16.3*
Cadmium	2.5	2.5	*2.8*	*3.11*
Copper	50	270	**211**	**88.9**
Lead	63	400	*806*	*527*
Zinc	109	2200	**1040**	**346**

SB-06					
Compound	Track 1	Track 2	11-13'	24-25'	30-32'
Copper	50	270	**225**	NAS	NAS
Lead	63	400	*414*	NAS	
Mercury	0.18	0.81	*3.77*	*0.3*	
Zinc	109	10000	**951**	NAS	

SP-13				
Compound	Track 1	Track 2	0-2'	10-12'
Arsenic	13	16	NAS	*40.6*
Barium	350	350	NAS	*879*
Copper	50	270	156	*407*
Lead	63	400	590	*2660*
Mercury	0.18	0.81	NAS	NAS
Zinc	109	2200	385	*2080*

SP-14				
Compound	Track 1	Track 2	0-2'	10-12'
Arsenic	13	16	*18.2*	*34.8*
Cadmium	2.5	2.5	*3.88*	*3.75*
Copper	50	270	**127**	**120**
Lead	63	400	*1150*	*3000*
Mercury	0.18	0.81	NAS	**0.207**
Zinc	109	2200	**1400**	**664**

SP-7				
Compound	Track 1	Track 2	0-2'	10-12'
Chromium Trivalent	30	36	*43.9*	*82.4*
Arsenic	13	16	*59*	*16.1*
Barium	350	350	*777*	*818*
Cadmium	2.5	2.5	*3.46*	NAS
Chromium Hexavalent	1	22	*43.9*	NAS
Copper	50	270	**148**	**113**
Lead	63	400	*2020*	*1650*
Manganese	1600	2000	**1970**	NAS
Mercury	0.18	0.81	**25.3**	*2.67*
Zinc	109	2200	**500**	**379**

SB-07					
Compound	Track 1	Track 2	10-13'	19-21'	26-28'
Arsenic	13	16	*17.6*	NAS	NAS
Copper	50	270	**87.7**		
Lead	63	400	*1440*		
Zinc	109	10000	**174**		

SB-08					
Compound	Track 1	Track 2	12-16'	20-24'	32-34
Lead	63	400	**332**	NAS	NAS
Zinc	109	10000	**135**		

SP-17				
Compound	Track 1	Track 2	0-2'	10-12'
Cadmium	2.5	2.5	*2.98*	NAS
Copper	50	270	**59.9**	
Lead	63	400	*188*	
Mercury	0.18	0.81	0.52	
Zinc	109	2200	**132**	

SB-10					
Compound	Track 1	Track 2	12-16'	24-25'	27-28'
Arsenic	13	16	*74.5*	NAS	NAS
Copper	50	270	**160**	NAS	NAS
Lead	63	400	*605*	NAS	NAS
Mercury	0.18	0.81	*6.16*	*31.5*	**0.19**
Zinc	109	10000	**211**	NAS	NAS

SP-8				
Compound	Track 1	Track 2	0-2'	10-12'
Cadmium	2.5	2.5	**2.79**	NAS
Copper	50	270	NAS	*283*
Lead	63	400	**135**	*5730*
Mercury	0.18	0.81	*1.05*	**0.6657**
Zinc	109	2200	**290**	**619**

SB-09				
Compound	Track 1	Track 2	12-16'	30-32'
Lead	63	400	**126**	NAS

SP-9				
Compound	Track 1	Track 2	0-2'	10-12'
Cadmium	2.5	2.5	NAS	*2.85*
Lead	63	400	*400*	**373**
Mercury	0.18	0.81	*1.04*	*1.35*
Zinc	109	2200	**113**	NAS

SP-18				
Compound	Track 1	Track 2	0-2'	10-12'
Cadmium	2.5	2.5	*5*	NAS
Copper	50	270	**177**	NAS
Lead	63	400	*919*	**83.5**
Mercury	0.18	0.81	**0.524**	**0.317**
Zinc	109	2200	**1340**	NAS

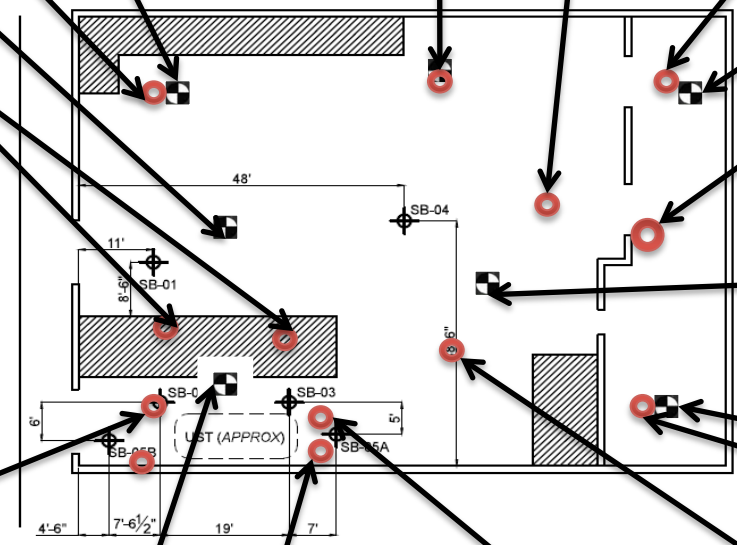
SP-12				
Compound	Track 1	Track 2	0-2'	10-12'
Cadmium	2.5	2.5	*6.85*	NAS
Copper	50	270	**82.5**	NAS
Lead	63	400	*626*	**136**
Mercury	0.18	0.81	**0.368**	NAS
Zinc	109	2200	**384**	NAS

SP-5				
Compound	Track 1	Track 2	0-2'	10-12'
Arsenic	13	16	NAS	*41.5*
Barium	350	350	NAS	*450*
Cadmium	2.5	2.5	2.82	*2.8*
Copper	50	270	NAS	**51.4**
Lead	63	400	NAS	**283**
Mercury	0.18	0.81	NAS	*5.12*
Zinc	109	2200	296	**166**

SB-12					
Compound	Track 1	Track 2	12-16'	24-26'	26-28'
Arsenic	13	16	*23.5*	NAS	NAS
Copper	50	270	**66.4**	NAS	
Lead	63	400	*625*	NAS	
Mercury	0.18	0.81	*2.09*	0.18	
Zinc	109	10000	**154**	NAS	

SP-11					
Compound	Track 1	Track 2	0-2'	6-8'	10-12'
Arsenic	13	16	**14.5**	NAS	NAS
Cadmium	2.5	2.5	*4.02*	NAS	*2.88*
Copper	50	270	**77.5**	NAS	**73.6**
Lead	63	400	*523*	*247*	*467*
Mercury	0.18	0.81	**0.189**	NAS	NAS
Zinc	109	2200	**642**	**269**	**141**

SP-6				
Compound	Track 1	Track 2	0-2'	10-12'
Barium	350	350	NAS	NAS
Lead	63	400	**320**	NAS
Mercury	0.18	0.81	*0.435*	*2.10*
Zinc	109	2200	**538**	NAS



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SCALE IN FEET

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498 Leonard Street Brooklyn NY
Metals Contamination in Soil
Metals in mg/kg – See Figure 11 for legend

Figure 6

SB-06					
Compound	Track 1	Track 2	11-13'	12-25'	30-32'
4,4'-DDD	3.3	13000	**54.9**	**0.6**	NAS

SB-07			
Compound	10-13'	19-21'	26-28'
NAS			

SP-13				
Compound	Track 1	Track 2	0-2'	10-12'
4,4'-DDE	3.3	1800	NAS	**16.3**

SP-14				
Compound	Track 1	Track 2	0-2'	10-12'
4,4'-DDD	3.3	2600	NAS	**8.86**
4,4'-DDE	3.3	1800		**13**

SP-16				
Compound	Track 1	Track 2	0-2'	10-12'
4,4'-DDD	3.3	2600	**816**	NAS
4,4'-DDE	3.3	1800	**28.5**	
4,4'-DDT	3.3	1700	**80.7**	
Dieldrin	5	39	*255*	

SP-18				
Compound	Track 1	Track 2	0-2'	10-12'
4,4'-DDD	3.3	2600	**8.31**	NAS

SB-08			
Compound	12-16'	20-24'	32-34
NAS			

SB-11		
Compound	12-15'	26-28'
NAS		

SP-17				
Compound	Track 1	Track 2	0-2'	10-12'
4,4'-DDD	3.3	2600	**329**	**37.8**
4,4'-DDE	3.3	1800	**35.2**	**8.71**
4,4'-DDT	3.3	1700	**9.12**	NAS

SP-7		
Compound	0-2'	10-12'
NAS		

SP-8		
Compound	0-2'	10-12'
NAS		

SB-10			
Compound	12-16'	24-25'	27-28'
NAS			

SP-5		
Compound	0-2'	10-12'
NAS		

SB-09		
Compound	12-16'	30-32'
NAS		

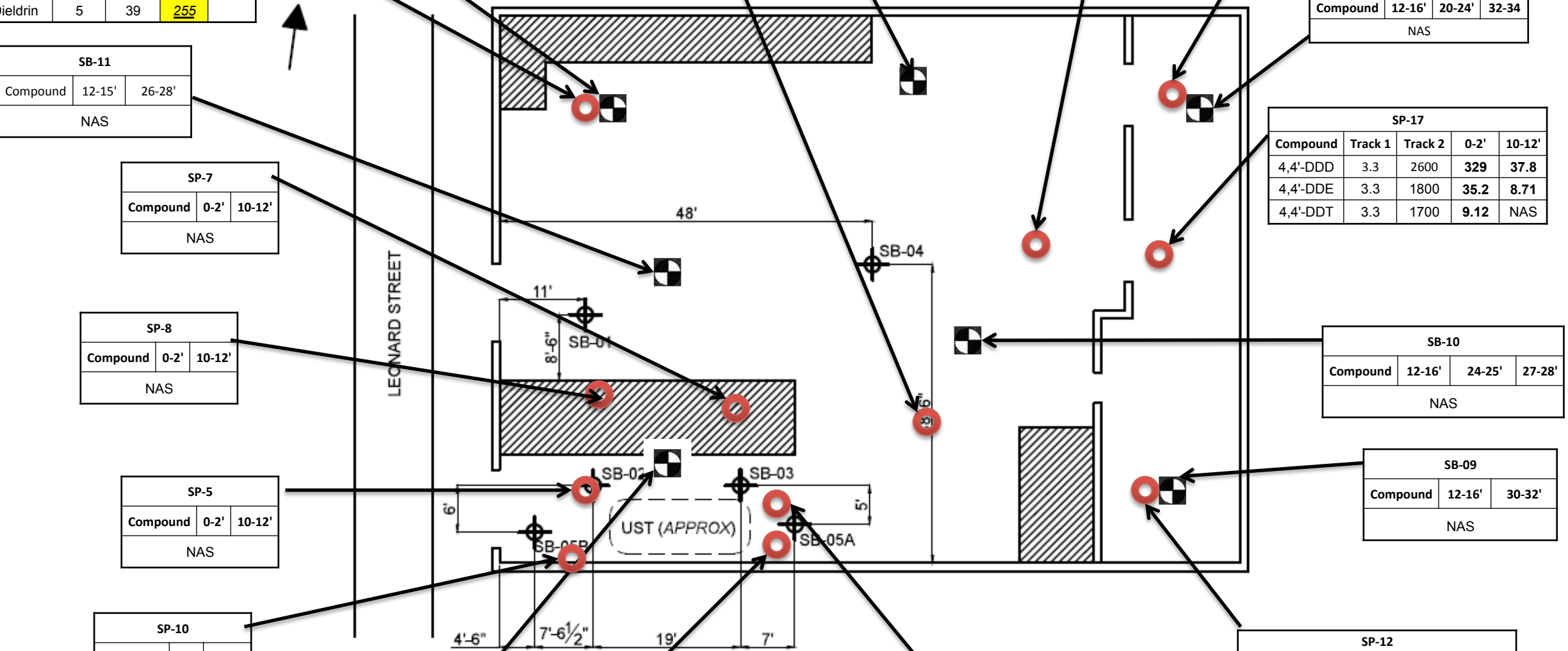
SP-10		
Compound	0-2'	10-12'
NAS		

SP-12				
Compound	Track 1	Track 2	0-2'	10-12'
4,4'-DDD	3.3	2600	**16.6**	**7.87**
4,4'-DDE	3.3	1800	**7.01**	**8.11**

SP-6				
Compound	Track 1	Track 2	0-2'	10-12'
4,4'-DDD	3.3	2600	NAS	**10.4**

SP-11					
Compound	Track 1	Track 2	0-2'	6-8'	10-12'
4,4'-DDD	3.3	13000	NAS		
4,4'-DDE	3.3	1800	NAS	**6.93**	**9.79**

SB-12			
Compound	12-16'	24-26'	26-28'
NAS			



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498 Leonard Street Brooklyn NY
Pesticide Contamination in Soil
Pesticides in ug/kg – See Figure 11 for legend

Figure 7

TWP-01			
		Total	TOGS
VOCs	1,2,4,5-Tetramethylbenzene	90.9	5
	tert-Butylbenzene	43.5	5
	Isopropylbenzene	33.7	5
	n-Propylbenzene	8.99	5
	n-Butylbenzene	63.4	5
	sec-Butylbenzene	160	5

MW-11			
		ug/L	TOGS
VOCs	sec-Butylbenzene	206	5
	n-Butylbenzene	53.2	5
	tert-Butylbenzene	65	5
	Isopropylbenzene	6.9	5
Pesticides	Dieldrin	0.05	0.004

MW-3			
		ug/L	TOGS
VOCs	sec-Butylbenzene	53.3	5
	n-Butylbenzene	15.8	5
	tert-Butylbenzene	15.4	5
	Isopropylbenzene	8.1	5
	4-Isopropyltoluene	27.8	5

MW-9			
		ug/L	TOGS
VOCs	sec-Butylbenzene	24.2	5
	tert-Butylbenzene	12.6	5

MW-13			
		ug/L	TOGS
VOCs	sec-Butylbenzene	389	5
	n-Butylbenzene	194	5
	tert-Butylbenzene	106	5
	Isopropylbenzene	35.5	5

TWP-02			
		Total	TOGS
VOCs	1,2,4-Trimethylbenzene	1.85	5
	1,2,4,5-Tetramethylbenzene	135	5
	tert-Butylbenzene	43.7	5
	Isopropylbenzene	9.2	5
	n-Butylbenzene	31.4	5
	sec-Butylbenzene	92.2	5

MW-1			
		ug/L	TOGS
VOCs	Benzene	12.6	1
	sec-Butylbenzene	23.8	5
	n-Butylbenzene	11.2	5
	Ethylbenzene	51.3	5
	Isopropylbenzene	25.8	5
	Methyl t-butyl ether	16.2	10
	1,2,4-Trimethylbenzene	30.8	5
	1,3,5-Trimethylbenzene	7.25	5
	o-xylene	12.6	5
	m,p-xylene	11.4	5
SVOCs	Acenaphthene	62.2	20
	Fluoranthene	63.1	50
	Fluorene	92.2	50
	Naphthalene	63	10
	Phenanthrene	226	50
	Pyrene	68.2	50

MW-6			
		ug/L	TOGS
VOCs	sec-Butylbenzene	41.2	5
	tert-Butylbenzene	13	5
SVOCs	Indeno(1,2,3-cd)pyrene	2.34	10

MW-12			
		ug/L	TOGS
VOCs	sec-Butylbenzene	544	5
	n-Butylbenzene	350	5
	tert-Butylbenzene	105	5
	Isopropylbenzene	307	5

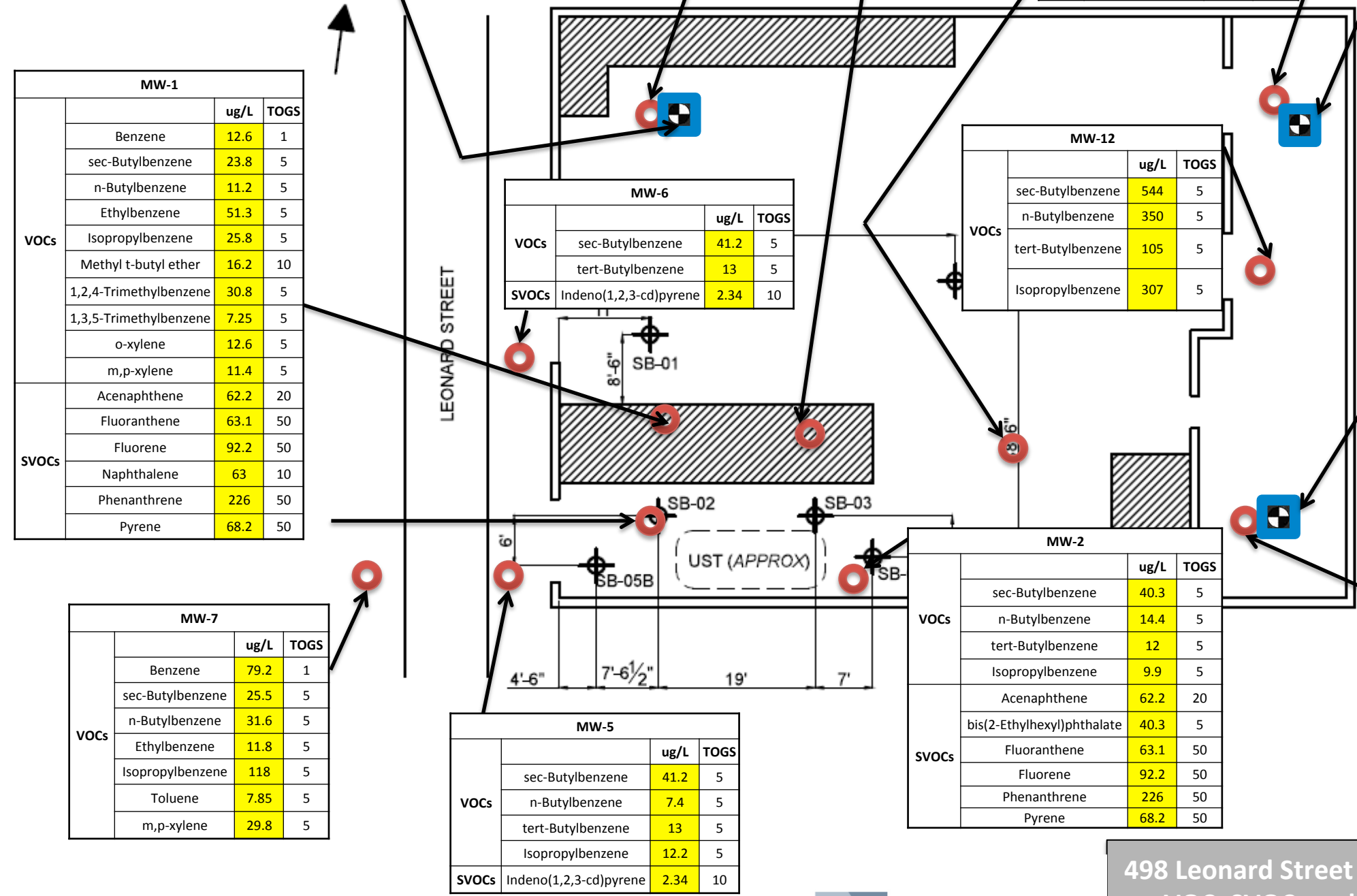
TWP-03			
		Total	TOGS
VOCs	1,2,4-Trimethylbenzene	7.78	5
	1,2,4,5-Tetramethylbenzene	49.5	5
	tert-Butylbenzene	19.8	5
	Isopropylbenzene	70.7	5
	4-Isopropyltoluene	5.02	5
	n-Propylbenzene	121	5
	n-Butylbenzene	42	5
	sec-Butylbenzene	90	5

MW-7			
		ug/L	TOGS
VOCs	Benzene	79.2	1
	sec-Butylbenzene	25.5	5
	n-Butylbenzene	31.6	5
	Ethylbenzene	11.8	5
	Isopropylbenzene	118	5
	Toluene	7.85	5
	m,p-xylene	29.8	5

MW-2			
		ug/L	TOGS
VOCs	sec-Butylbenzene	40.3	5
	n-Butylbenzene	14.4	5
	tert-Butylbenzene	12	5
	Isopropylbenzene	9.9	5
SVOCs	Acenaphthene	62.2	20
	bis(2-Ethylhexyl)phthalate	40.3	5
	Fluoranthene	63.1	50
	Fluorene	92.2	50
	Phenanthrene	226	50
	Pyrene	68.2	50

MW-10			
		ug/L	TOGS
VOCs	sec-Butylbenzene	100	5
	n-Butylbenzene	53	5
	tert-Butylbenzene	27.6	5
	Isopropylbenzene	35.4	5

MW-5			
		ug/L	TOGS
VOCs	sec-Butylbenzene	41.2	5
	n-Butylbenzene	7.4	5
	tert-Butylbenzene	13	5
	Isopropylbenzene	12.2	5
SVOCs	Indeno(1,2,3-cd)pyrene	2.34	10



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498 Leonard Street Brooklyn NY

VOC, SVOC, and Pesticide Contamination in Groundwater

in ug/kg – See Figure 11 for legend

Figure 8

MW-11			
	Total	Dissolved	TOGS
Arsenic	0.183	0.08	0.025
Barium	5.16	1.91	1
Beryllium	0.006	NAS	0.003
Cadmium	0.024		0.005
Chromium	0.126		0.05
Trivalent Chromium	0.126		0.05
Copper	0.881		0.2
Iron	157	88.6	0.3
Lead	8.71	0.77	0.025
Manganese	13.3	3.1	0.3
Mercury	0.0872	NAS	0.0007
Nickel	0.164		0.1
Sodium	62.8	63.9	20
Zinc	6.03	NAS	5

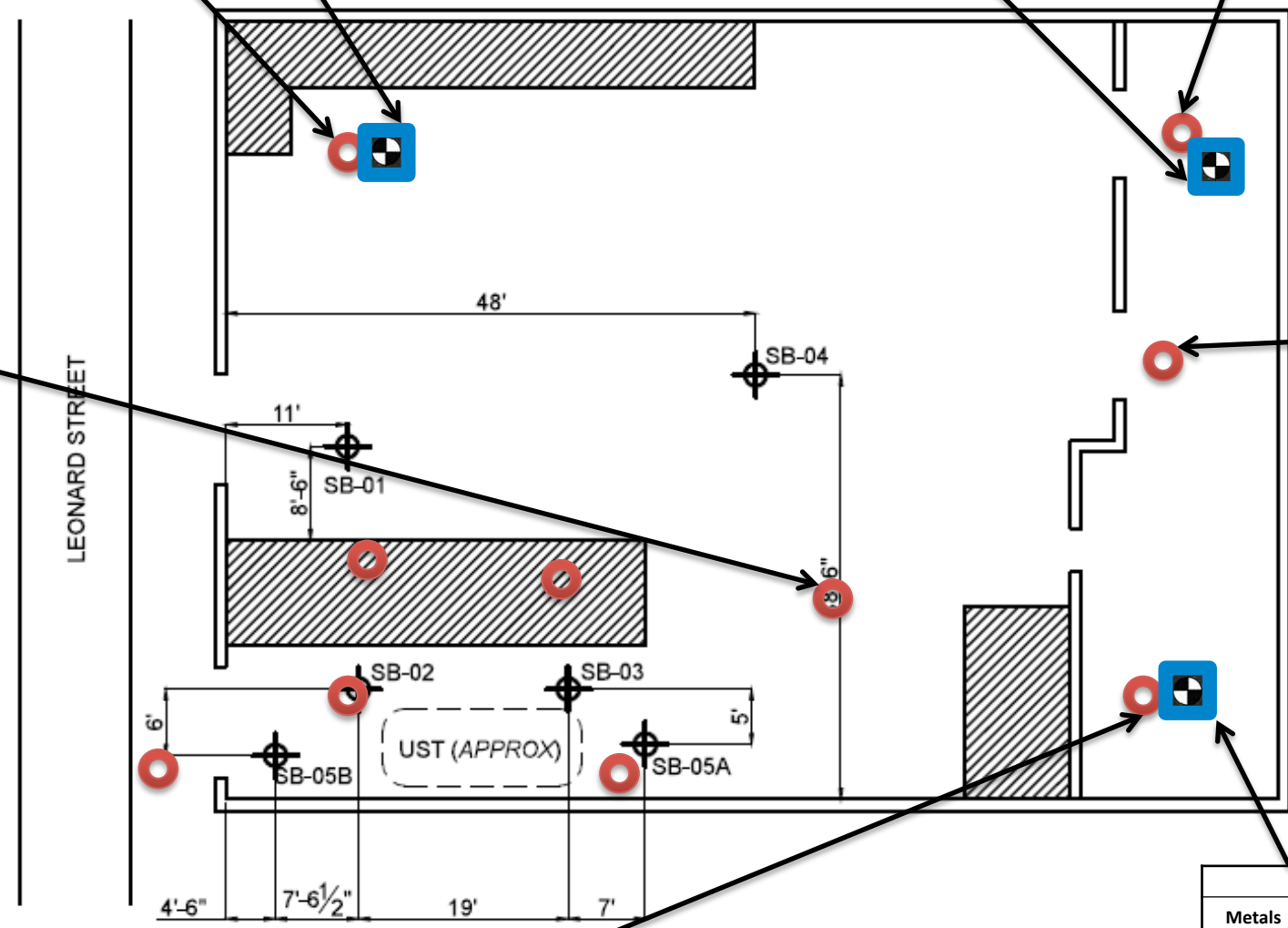
TWP-01				
Metals (Dissolved)		Total	Dissolved	TOGS
	Arsenic	0.027	0.025	0.03
	Mercury	0.003	0.0016	0.007

TWP-02				
Metals (Dissolved)		Total	Dissolved	TOGS
	Lead	0.049	0.036	0.03

MW-9			
	Total	Dissolved	TOGS
Arsenic	0.097	NAS	0.025
Barium	1.89		1
Chromium	0.123		0.05
Trivalent Chromium	0.123		0.05
Copper	0.723		0.2
Iron	125	37.4	0.3
Lead	4.99	0.84	0.025
Magnesium	36.3	NAS	35
Manganese	2.74	2.54	0.3
Mercury	0.187	NAS	0.0007
Nickel	0.114		0.1
Sodium	68.6	68.4	20

MW-13			
	Total	Dissolved	TOGS
Arsenic	0.991	0.176	0.025
Barium	11.9	1.04	1
Beryllium	0.012	NAS	0.003
Cadmium	0.045		0.005
Chromium	0.71		0.05
Trivalent Chromium	0.71		0.05
Copper	2.54		0.2
Iron	402	44.1	0.3
Lead	51.3	0.062	0.025
Magnesium	35.4	NAS	35
Manganese	5.06	3.7	0.3
Mercury	0.852	NAS	0.0007
Nickel	0.391		0.1
Zinc	8.26		5

MW-12			
	Total	Dissolved	TOGS
Arsenic	0.141	NAS	0.025
Barium	4.26		1
Beryllium	0.007		0.003
Cadmium	0.021		0.005
Chromium	0.122		0.05
Trivalent Chromium	0.122		0.05
Copper	1.12		0.2
Iron	179	29.4	0.3
Lead	9.09	NAS	0.025
Manganese	3.2	2.13	0.3
Mercury	0.0694	NAS	0.0007
Nickel	0.168		0.1
Sodium	38.8	36	20



TWP-03				
Metals (Dissolved)		Total	Dissolved	TOGS
	Lead	0.086	-	0.03

MW-10							
	Total	Dissolved	TOGS		Total	Dissolved	TOGS
Arsenic	1.16	0.193	0	Lead	5	0.044	0.025
Barium	1.74	1.31	1	Magnesium	NAS	36.9	35
Chromium	0.06	NAS	0.1	Manganese	1.7	5.05	0.3
Trivalent Chromium	0.06		0.1	Mercury	172	NAS	7E-04
Copper	0.43		0.2	Nickel	0.1	NAS	0.1
Iron	77.9	59.6	0.3	Sodium	109	120	20

0 10 25 50

SCALE IN FEET – 1" = 16'

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Metals Contamination in Groundwater

Metals in mg/kg – See Figure 11 for legend

Figure 9

SV-3		
VOCs	ug/m3	BS-Indoor Air
1,1,1-Trichloroethane	16	0.25
Acetone	14	10
Chloroform	33	0.25
Ethyl Benzene	12	0.41
o-Xylene	19	0.39
p- & m- Xylenes	48	0.5
Toluene	29	3.5

SV-01			
VOC	Result	DOH	DOH Matrix Recommendation
1,1,1-Trichloroethane	ND	<100	NFA / Reasonable Action
Carbon Tetrachloride		<5	NFA / Reasonable Action
Tetrachloroethylene	**20**	<100	NFA / Reasonable Action
Trichloroethylene	ND	<5	NFA / Reasonable Action

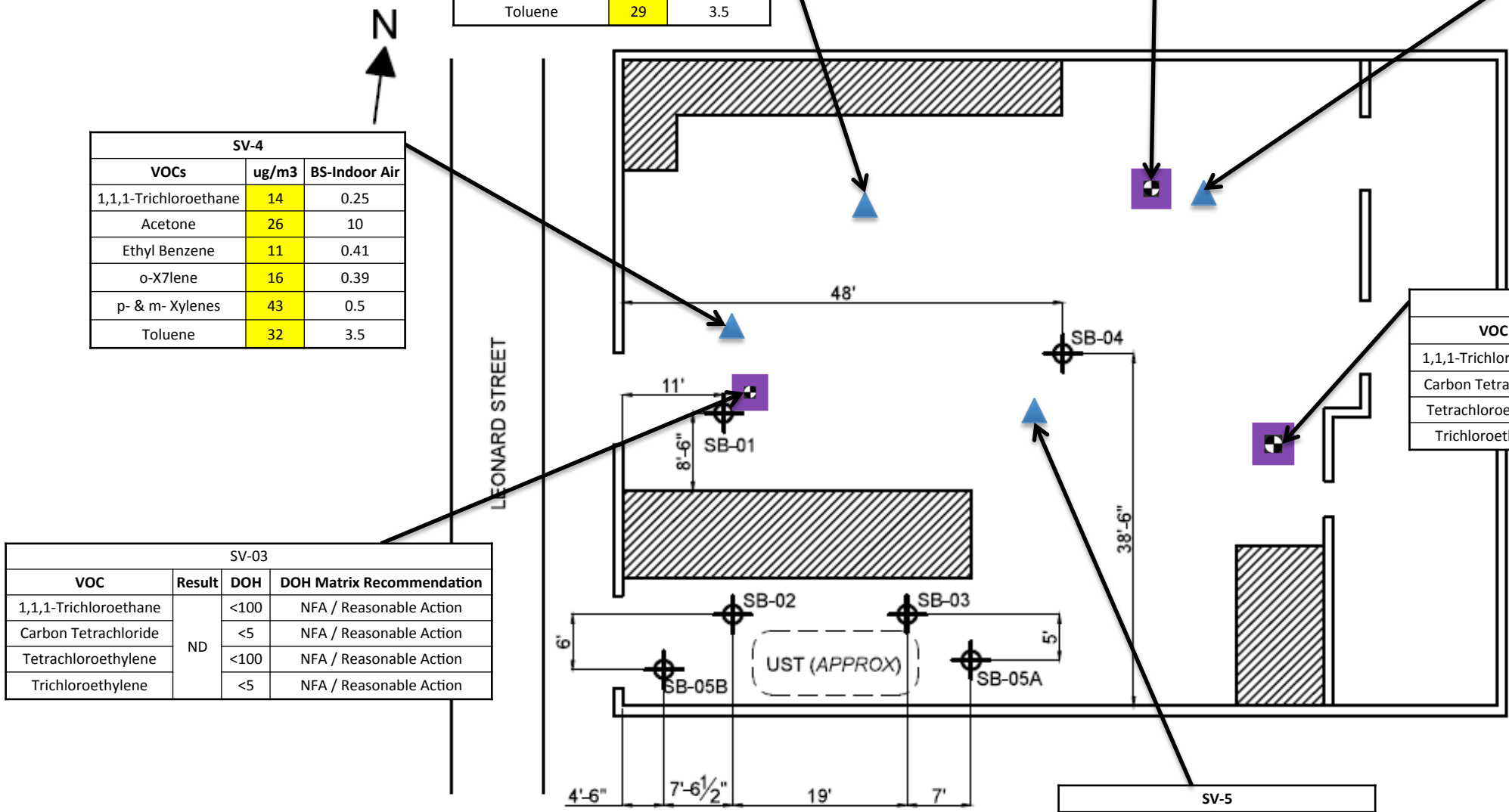
SV-2		
VOCs	ug/m3	BS-Indoor Air
1,1,1-Trichloroethane	24	0.25
1,2,4-Trimethylbenzene	61	0.69
1,3,5-Trimethylbenzene	24	0.27
Acetone	17	10
Ethyl Benzene	12	0.41
o-Xylene	25	0.39
p- & m- Xylenes	53	0.5
Tetrachloroethylene	30	0.25
Toluene	22	3.2

SV-4		
VOCs	ug/m3	BS-Indoor Air
1,1,1-Trichloroethane	14	0.25
Acetone	26	10
Ethyl Benzene	11	0.41
o-X7lene	16	0.39
p- & m- Xylenes	43	0.5
Toluene	32	3.5

SV-02			
VOC	Result	DOH	DOH Matrix Recommendation
1,1,1-Trichloroethane	ND	<100	NFA / Reasonable Action
Carbon Tetrachloride		<5	NFA / Reasonable Action
Tetrachloroethylene		<100	NFA / Reasonable Action
Trichloroethylene		<5	NFA / Reasonable Action

SV-03			
VOC	Result	DOH	DOH Matrix Recommendation
1,1,1-Trichloroethane	ND	<100	NFA / Reasonable Action
Carbon Tetrachloride		<5	NFA / Reasonable Action
Tetrachloroethylene		<100	NFA / Reasonable Action
Trichloroethylene		<5	NFA / Reasonable Action

SV-5		
VOCs	ug/m3	BS-Indoor Air
Acetone	500	10



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SCALE IN FEET – 1” = 16’

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498 Leonard Street Brooklyn NY
VOCs Contamination in Soil Vapor
VOCs in ug/kg – See Figure 11 for legend

Figure 10

FIGURE 11 – LEGEND FOR FIGURES 4 THROUGH 10

Track 1 = NYSDEC Unrestricted Use Soil Cleanup Objectives

Track 2 = NYSDEC Restricted Use Soil Cleanup Objectives

Soil values that are **bold** exceed Track 1 SCOs

Soil values that are *underlined, highlighted, and italicized* exceed Track 2 SCOs

Groundwater values that are highlighted exceed TOGS Groundwater Quality Standards (GQS)

Soil Vapor values that are **bold** do not exceed 2006 NYSDOH Guidance Levels

Soil Vapor values that are highlighted exceed Background Standards for Indoor Air

GRANT engineering Soil Boring locations

GRANT engineering Temporary Well Point (TWP) locations

GRANT engineering Soil Vapor test points

Hydro Tech Environmental Corp. soil boring or monitoring well locations – sampled October 2012

Hydro Tech Environmental Corp. test points – sampled October 2012

NAS = Not Above Standard

ND = Not Detected

NFA = No Further Action

Table 3
Soil Sample Results
498 Leonard St, Brooklyn, NY

SampleID LabID Sampling Date ClientMatrix		NYSDEC Part 375 Unrestricted Use SCOs Soil	NYSDEC Part 375 Restricted Residential Use SCOs Soil	SB-06A 11-13' 1304263-2 04/23/2013 Soil		SB-06B 24-25' 1304263-3 04/23/2013 Soil		SB-06C 30-32' 1304263-4 04/23/2013 Soil		SB-07A 10-13' 1304262-1 04/22/2013 Soil		SB-07B 19-21' 1304262-2 04/22/2013 Soil		SB-07C 26-28' 1304262-3 04/22/2013 Soil		SB-08A 12-16' 1304262-4 04/22/2013 Soil		SB-08B 20-24' 1304262-5 04/22/2013 Soil		SB-08C 32-34' 1304262-6 04/22/2013 Soil		SB-09A 12-16' 1304262-7 04/22/2013 Soil		SB-09B 30-32' 1304262-8 04/22/2013 Soil		SB-10A 12-16' 1304262-9 04/23/2013 Soil		SB-10B 24-25' 1304262-10 04/23/2013 Soil		SB-10C 27-28' 1304263-1 04/23/2013 Soil		SB-11A 12-15' 1304263-5 04/23/2013 Soil		SB-11B 26-28' 1304263-6 04/23/2013 Soil	
Compound	**CASNumber**			**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
Volatile Organics, TCL (Target Compound List)		ug/kg dry	ug/kg dry	ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry	
Acetone	67-64-1	50	100000	53.9	U	**160**		8.37	U	46.2	U	17.5	U	7.63	U	**404**		8.23	U	8.71	U	48.6	U	7.97	U	43.5	U	26.9	U	7.63	U	45.6	U	8.37	U
Carbon Tetrachloride	56-23-5	760	2400	14.5	U	2.41	U	2.24	U	12.4	U	4.69	U	2.05	U	13.1	U	2.21	U	2.33	U	13	U	2.14	U	11.7	U	7.2	U	2.05	U	12.2	U	2.24	U
Chloroform	67-66-3	370	49000	16.1	U	2.69	U	2.5	U	13.8	U	5.23	U	2.28	U	14.6	U	2.46	U	2.61	U	14.5	U	2.38	U	13	U	8.04	U	2.28	U	13.6	U	2.5	U
Benzene	71-43-2	60	4800	14.9	U	2.49	U	2.32	U	12.8	U	4.84	U	2.11	U	13.5	U	2.28	U	2.41	U	**16.6**	J	2.21	U	**24.2**	J	7.44	U	2.11	U	12.6	U	2.32	U
1,1,1-Trichloroethane	71-55-6	680	100000	14.5	U	2.42	U	2.26	U	12.5	U	4.71	U	2.06	U	13.2	U	2.22	U	2.35	U	13.1	U	2.15	U	11.7	U	7.24	U	2.06	U	12.3	U	2.26	U
Bromomethane	74-83-9	~	~	16.1	U	2.67	U	2.49	U	13.8	U	5.21	U	2.27	U	14.6	U	2.45	U	2.59	U	14.5	U	2.37	U	12.9	U	8	U	2.27	U	13.6	U	2.49	U
Chloromethane	74-87-3	~	~	11.9	U	1.98	U	1.85	U	10.2	U	3.86	U	1.68	U	10.8	U	1.82	U	1.92	U	10.7	U	1.76	U	9.6	U	5.93	U	1.68	U	10.1	U	1.85	U
Dibromomethane	74-95-3	~	~	12.8	U	2.13	U	1.98	U	11	U	4.14	U	1.81	U	11.6	U	1.95	U	2.06	U	11.5	U	1.89	U	10.3	U	6.37	U	1.81	U	10.8	U	1.98	U
Bromochloromethane	74-97-5	~	~	15.8	U	2.63	U	2.46	U	13.6	U	5.13	U	2.24	U	14.3	U	2.42	U	2.55	U	14.3	U	2.34	U	12.8	U	7.88	U	2.24	U	13.4	U	2.46	U
Chloroethane	75-00-3	~	~	16	U	2.66	U	2.48	U	13.7	U	5.18	U	2.26	U	14.5	U	2.44	U	2.58	U	14.4	U	2.36	U	12.9	U	7.96	U	2.26	U	13.5	U	2.48	U
Vinyl Chloride	75-01-4	20	900	17.6	U	2.93	U	2.73	U	15.1	U	5.7	U	2.49	U	15.9	U	2.68	U	2.84	U	15.8	U	2.6	U	14.2	U	8.76	U	2.49	U	14.9	U	2.73	U
Methylene Chloride	75-09-2	50	100000	15	U	2.5	U	2.33	U	12.9	U	4.87	U	2.12	U	13.6	U	2.29	U	2.43	U	13.5	U	2.22	U	12.1	U	7.48	U	2.12	U	12.7	U	2.33	U
Carbon disulfide	75-15-10	2700	100000	10.5	U	1.74	U	1.62	U	8.97	U	**9.95**	J	1.48	U	9.48	U	1.6	U	1.69	U	9.43	U	**3.12**	J	**24**	J	5.21	U	1.48	U	**13.2**		1.62	U
Bromoform	75-25-2	~	~	7.27	U	1.21	U	1.13	U	6.23	U	2.36	U	1.03	U	6.59	U	1.11	U	1.17	U	6.55	U	1.07	U	5.86	U	3.62	U	1.03	U	6.14	U	1.13	U
Bromodichloromethane	75-27-4	~	~	9.91	U	1.65	U	1.54	U	8.49	U	3.21	U	1.4	U	8.98	U	1.51	U	1.6	U	8.93	U	1.46	U	7.99	U	4.94	U	1.4	U	8.37	U	1.54	U
1,1-Dichloroethane	75-34-3	270	26000	12.8	U	2.13	U	1.98	U	11	U	4.14	U	1.81	U	11.6	U	1.95	U	2.06	U	11.5	U	1.89	U	10.3	U	6.37	U	1.81	U	10.8	U	1.98	U
1,1-Dichloroethene	75-35-4	330	100000	15.1	U	2.51	U	2.34	U	12.9	U	4.9	U	2.14	U	13.7	U	2.31	U	2.44	U	13.6	U	2.23	U	12.2	U	7.52	U	2.14	U	12.8	U	2.34	U
Tertiary butyl alcohol	75-65-0	~	~	121	U	20.1	U	18.7	U	103	U	39.1	U	17.1	U	109	U	18.4	U	19.5	U	109	U	17.8	U	97.2	U	60.1	U	17.1	U	102	U	18.7	U
Trichlorofluoromethane	75-69-4	~	~	15.3	U	2.54	U	2.37	U	13.1	U	4.95	U	2.16	U	13.8	U	2.33	U	2.46	U	13.8	U	2.25	U	12.3	U	7.6	U	2.16	U	12.9	U	2.37	U
Dichlorodifluoromethane	75-71-8	~	~	8.31	U	1.38	U	1.29	U	7.12	U	2.69	U	1.18	U	7.53	U	1.27	U	1.34	U	7.49	U	1.23	U	6.7	U	4.14	U	1.18	U	7.02	U	1.29	U
1,1,2-Trichlorotrifluoroethane (113 Freon)	76-13-1	6000	100000	13.7	U	2.29	U	2.13	U	11.8	U	4.45	U	1.94	U	12.5	U	2.1	U	2.22	U	12.4	U	2.03	U	11.1	U	6.85	U	1.94	U	11.6	U	2.13	U
1,2-Dichloropropane	78-87-5	~	~	16.1	U	2.69	U	2.5	U	13.8	U	5.23	U	2.28	U	14.6	U	2.46	U	2.61	U	14.5	U	2.38	U	13	U	8.04	U	2.28	U	13.6	U	2.5	U
2-Butanone	78-93-3	300	100000	29	U	4.83	U	4.5	U	24.9	U	9.4	U	4.1	U	**116**		4.43	U	4.68	U	26.1	U	4.28	U	23.4	U	14.4	U	4.1	U	24.5	U	4.5	U
1,1,2-Trichloroethane	79-00-5	~	~	15.3	U	2.54	U	2.37	U	13.1	U	4.95	U	2.16	U	13.8	U	2.33	U	2.46	U	13.8	U	2.25	U	12.3	U	7.6	U	2.16	U	12.9	U	2.37	U
Trichloroethene	79-01-6	470	21000	13.9	U	2.31	U	2.16	U	11.9	U	4.51	U	1.97	U	12.6	U	2.12	U	2.24	U	12.5	U	2.05	U	11.2	U	6.93	U	1.97	U	11.7	U	2.16	U
1,1,2,2-Tetrachloroethane	79-34-5	600	35000	15.9	U	2.65	U	2.47	U	13.6	U	5.15	U	2.25	U	14.4	U	2.43	U	2.57	U	14.3	U	2.35	U	12.8	U	7.92	U	2.25	U	13.4	U	2.47	U
1,2,3-Trichlorobenzene	87-61-6	20000	~	14.1	U	2.34	U	2.18	U	12.1	U	4.56	U	1.99	U	12.7	U	2.15	U	2.27	U	12.7	U	2.08	U	11.3	U	7	U	1.99	U	11.9	U	2.18	U
Hexachlorobutadiene	87-68-3	~	~	14.4	U	2.39	U	2.23	U	12.3	U	4.66	U	2.03	U	13	U	2.2	U	2.32	U	13	U	2.12	U	11.6	U	7.16	U	2.03	U	12.1	U	2.23	U
Naphthalene	91-20-3	12000	100000	11.1	U	1.85	U	1.72	U	9.52	U	3.6	U	1.57	U	10.1	U	1.7	U	1.79	U	**708**		1.64	U	**46.4**		5.53	U	1.57	U	9.38	U	1.72	U
o-xylene	95-47-6	~	~	17.5	U	2.91	U	2.72	U	15	U	**14**		**6.17**		15.9	U	**6.72**		**7.03**		**66.1**		2.58	U	14.1	U	8.72	U	2.47	U	14.8	U	2.72	U
2-Chlorotoluene	95-49-8	~	~	18.5	U	3.07	U	2.86	U	15.8	U	5.98	U	2.61	U	16.7	U	2.82	U	2.98	U	16.6	U	2.73	U	14.9	U	9.19	U	2.61	U	15.6	U	2.86	U
1,2-Dichlorobenzene	95-50-1	1100	100000	16.6	U	2.77	U	2.58	U	14.2	U	5.39	U	2.35	U	15.1	U	2.54	U	2.68	U	15	U	2.45	U	13.4	U	8.28	U	2.35	U	14	U	2.58	U
1,2,4-Trimethylbenzene	95-63-6	3600	52000	17.4	U	2.9	U	2.7	U	14.9	U	5.65	U	2.46	U	15.8	U	2.66	U	2.81	U	**8710**	E	2.57	U	14	U	8.68	U	2.46	U	14.7	U	2.7	U
1,2,4,5-Tetramethylbenzene	95-93-2	~	~	**1320**	E	**28.5**		1.96	U	**956**		4.09	U	**6.35**		**532**		**7.37**		**7.73**		**2130**	E	1.86	U	**1440**	E	**36.2**		1.79	U	**1490**	E	1.96	U
1,2-Dibromo-3-chloropropane	96-12-8	~	~	8.07	U	1.34	U	1.25	U	6.92	U	2.62	U	1.14	U	7.31	U	1.23	U	1.3	U	7.27	U	1.19	U	6.5	U	4.02	U	1.14	U	6.82	U	1.25	U
1,2,3-Trichloropropane	96-18-4	340	80000	14.4	U	2.39	U	2.23	U	12.3	U	4.66	U	2.03	U	13	U	2.2	U	2.32	U	13	U	2.12	U	11.6	U	7.16	U	2.03	U	**693**		2.23	U
tert-Butylbenzene	98-82-8	5,900	100000	**2980**	E	**16.1**		2.58	U	**1540**	E	5.39	U	**4.55**	J	**264**		**5.12**		2.68	U	**494**		2.45	U	**583**		**31.7**		2.35	U	**1020**		2.58	U
Isopropylbenzene	98-82-8	2,300	100,000	**994**		**11**		2.63	U	14.5	U	5.49	U	2.4	U	**55.2**		2.59	U	2.73	U	2070	U	2.5	U	**162**		**25.9**		2.4	U	**234**		2.63	U
p-Isopropyltoluene	99-87-6	10000	~	17.2	U	2.86	U	2.67	U	14.7	U	5.57	U	2.43	U	15.6	U	2.62	U	2.77	U	1220	U	2.54	U	13.8	U	8.56	U	2.43	U	14.5	U	2.67	U
Ethylbenzene	100-41-4	1000	41000	14.1	U	2.35	U	2.19	U	12.1	U	4.58	U	2	U	12.8	U	2.16	U	2.28	U	**231**		2.09	U	**14.4**	J	7.04	U	2	U	11.9	U	2.19	U
Styrene	100-42-5	300000	~	14.5	U	2.41	U	2.24	U	12.4	U	4.69	U	2.05	U	13.1	U	2.21	U	2.33	U	13	U	2.14	U	11.7	U	7.2	U	2.05	U	12.2	U	2.24	U
n-Propylbenzene	103-65-1	3900	100000	15.6	U	2.59	U	2.42	U	13.4	U	5.05	U	2.2	U	14.1	U	2.38	U	2.52	U	**3530**	E	2.3	U	**102**		7.76	U	2.2	U	**207**		2.42	U
n-Butylbenzene	104-51-8	12000	100000	**2630**	E	**22.3**		2.67	U	**1280**	E	5.57	U	2.43	U	**121**		2.62	U	2.77	U	15.5	U	2.54	U	**306**		**12.1**		2.43	U	**1490**	E	2.67	U
p-Diethylbenzene	105-05-5	~	~	**8770**	E	2.63	U	2.46	U	**4890**	E	5.13	U	2.24	U	**183**		**6.58**		2.55	U	4010	E	2.34	U	**1730**	E	**29.8**		2.24	U	13.4	E	2.46	U
4-Chlorotoluene	106-43-4	~	~	16.5	U	2.75	U	2.57	U	14.2	U	5.36	U	2.34	U	15	U	2.53	U	2.67	U	14.9	U	2.44	U	13.3	U	8.24	U	2.34	U	14	U	2.57	U
1,4-Dichlorobenzene	106-46-7	1800	13000	16.9	U	2.82	U	2.63	U	14.5	U	5.49	U	2.4	U	15.3	U	2.59	U	2.73	U	15.3	U	2.5	U	13.7	U	8.44	U	2.4	U	14.3	U	2.63	U
1,2-Dibromoethane	106-93-4	~	~	14.9	U	2.49	U	2.32	U	12.8	U	4.84	U	2.11	U	13.5	U	2.28	U	2.41	U	13.5	U	2.21	U	12	U	7.44	U	2.11	U	12.6	U	2.32	U
1,2-Dichloroethane	107-06-2	20	3100	16.1	U	2.67	U	2.49	U	13.8	U	5.21	U	2.27	U	14.6	U	2.45	U	2.59	U	14.5	U	2.37	U	12.9	U	8	U	2.27	U	13.6	U	2.49	U
Acrylonitrile	107-13-1	~	~	31.1	U	5.17	U	4.82	U	26.6	U	10.1	U	4.4	U	28.2	U	4.75	U	5.02	U	28	U	4.59	U	25.1	U	15.5	U	4.4	U	26.3	U	4.82	U
4-Methyl-2-pentanone	108-10-1	1000	~	38.8	U	6.46	U	6.03	U	33.3	U	12.6	U	5.49	U	35.2	U	5.93	U	6.27	U	35	U	5.73	U	31.3	U	19.3	U	5.49	U	32.8	U	6.03	U
m,p-xylene	1330-20-7P/M	~	~	33.4	U	5.56	U	5.18	U	28.6	U	10.8	U	4.72	U	30.3	U	5.1	U	5.39	U	**1400**		4.93	U	26.9	U	16.6	U	4.72	U	28.2	U	5.18	U
1,3,5-Trimethylbenzene	108-67-8	8400	52000	17.3	U	2.87	U	2.68	U	14.8	U	5.59	U	2.44	U	15.6	U	2.64	U	2.79	U	15.6	U	2.55	U	13.9	U	8.6	U	2.44	U	14.6	U	2.68	U
Bromobenzene	108-86-1	~	~	17.3	U	2.89	U	2.69	U	14.9	U	5.62	U	2.45	U	15.7	U	2.65	U	2.8	U	15.6	U	2.56	U	14	U	8.64	U	2.45	U	14.6	U	2.69	U
Toluene	108-88-3	700	100000	**195**		**47.8**		2.36	U	**309**		**9.72**	J	**14.2**		**135**		**16.2**		**9.5**		**29.6**	J	**18.7**		**184**		7.56	U	2.15	U	**24.7**		**2.39**	
Chlorobenzene	108-90-7	1100	100000	17.1	U	2.85	U	2.65	U	14.7	U	5.54	U	2.42	U	15.5	U	2.61	U	2.76	U	15.4	U	2.53	U	13.8	U	8.52	U	2.42	U	14.4	U	2.65	U
2-Chloroethylvinylether	110-75-8	~	~	23	U	3.83	U	3.57	U	19.7	U	7.46	U	3.25	U	20.9	U	3.51	U	3.72	U	20.7	U	3.4	U	18.5	U	11.5	U	3.25	U	19.4	U	3.57	U
1,2,4-Trichlorobenzene	120-82-1	20000	~	14.9	U	2.47	U	2.31	U	12.7	U	4.82	U	2.1	U	13.5	U	2.27	U	2.4	U	13.4	U	2.19	U	12	U	7.4	U	2.1	U	12.6	U	2.31	U
Dibromochloromethane	124-48-1	~	~	9.51	U	1.58	U	1.48	U	8.15	U	3.08	U	1.34	U	8.62	U	1.45	U	1.54	U	8.57	U	1.4	U	7.66	U	4.74	U	1.34	U	8.03	U	1.48	U
Tetrachloroethene	127-18-4	1300	19000	17.1	U	2.85	U	2.65	U	14.7	U	5.54	U	2.42	U	15.5	U	2.61	U	2.76	U	15.4	U	2.53	U	13.8	U	8.52	U	2.42	U	14.4	U	2.65	U
sec-Butylbenzene	135-98-8	11000	100000	17.4	U	**59.2**		2.7	U	14.9	U	5.65	U	2.46	U	15.8	U	2.66	U	2.81	U	15.7	U	2.57	U	14	U	**50**		2.46	U	14.7	U	2.7	U
1,3-Dichloropropane	142-28-9	300	~	17.5	U	2.91	U	2.72	U	15	U	5.67	U	2.47	U	15.9	U	2.67	U	2.83	U	15.8	U	2.58	U	14.1	U	8.72	U	2.47	U	14.8	U	2.72	U
c-1,2-Dichloroethene	156-59-2	250	100000	14.8	U	2.46	U	2.29	U	12.7	U	4.79	U	2.09	U	13.4	U	2.26	U	2.39	U	13.3	U	2.18	U	11.9	U	7.36	U	2.09	U	12.5	U	2.29	U
t-1,2-Dichloroethene	156-60-5	190	100000	14.5	U	2.42	U	2.26	U	12.5	U	4.71	U	2.06	U	13.2	U	2.22	U	2.35	U	13.1	U	2.15	U	11.7	U	7.24	U	2.06	U	12.3	U	2.26	U
1,3-Dichlorobenzene	541-73-1	2400	49000	16.2	U	2.7	U	2.52	U	13.9	U	5.26	U	2.29	U	14.7	U	2.48	U	2.62	U	14.6	U	2.4	U	13.1	U	8.08	U	2.29	U	13.7	U	2.52	U
1,1-Dichloropropene	563-58-6	~	~	14	U	2.33	U	2.17	U	12	U	4.53	U	1.98	U	12.7	U	2.13	U	2.26	U	12.6	U	2.07	U	11.3	U	6.97	U	1.98	U	11.8	U	2.17	U
2,2-Dichloropropane	590-20-7	~	~	13.8	U	2.3	U	2.15	U	11.9	U	4.48	U	1.95	U	12.5	U	2.11	U	2.23	U	12.5	U	2.04	U	11.1	U	6.89	U	1.95	U	11.7	U	2.15	U
2-Hexanone	591-78-6	~	~	25.6	U	4.27	U	3.98	U	22	U	8.31	U	3.63	U	23.2	U	3.92	U	4.14	U	23.1	U	3.79	U	20.7	U	12.8	U	3.63	U	21.7	U	3.98	U
p-Ethyltoluene	622-96-8	~	~	17.1	U	2.85	U	2.65	U	14.7	U	5.54	U	2.42	U	15.5	U	2.61	U	2.76	U	**3360**	E	2.53	U	13.8	U	8.52	U	2.42	U	14.4	U	2.65	U
1,1,1,2-Tetrachloroethane	630-20-6	~	~	14.9	U	2.47	U	2.31	U	12.7	U	4.82	U	2.1	U	13.5	U	2.27	U	2.4	U	13.4	U	2.19	U	12	U	7.4	U	2.1	U	12.6	U	2.31	U
TAME	994-05-08	~	~	14.1	U	2.34	U	2.18	U	12.1	U	4.56	U	1.99	U	12.7	U	2.15	U	2.27	U	12.7	U	2.08	U	11.3	U	7	U	1.99	U	11.9	U	2.18	U
Methyl t-butyl ether	1634-04-4	930	100000	13.7	U	2.29	U	2.13	U	11.8	U	4.45	U	1.94	U	12.5	U	2.1	U	2.22	U	12.4	U	2.03	U	11.1	U	6.85	U	1.94	U	11.6	U	2.13	U
c-1,3-Dichloropropene	10061-01-05	~	~	15.5	U	2.58	U	2.41	U	13.3	U	5.02	U	2.19	U	14	U	2.37	U	2.5	U	14	U	2.29	U	12.5	U	7.72	U	2.19	U	13.1	U	2.41	U
t-1,3-Dichloropropene	10061-02-6	~	~	11.6	U	1.93	U	1.8	U	9.93	U	3.76	U	1.64	U	10.5	U	1.77	U	1.87	U	10.4	U	1.71	U	9.34	U	5.77	U	1.64	U	9.79	U	1.8	U

Table 3
Soil Sample Results
498 Leonard St, Brooklyn, NY

SampleID LabID Sampling Date ClientMatrix		NYSDEC Part 375 Unrestricted Use SCOs Soil	NYSDEC Part 375 Restricted Residential Use SCOs Soil	SB-06A 11-13' 1304263-2 04/23/2013 Soil		SB-06B 24-25' 1304263-3 04/23/2013 Soil		SB-06C 30-32' 1304263-4 04/23/2013 Soil		SB-07A 10-13' 1304262-1 04/22/2013 Soil		SB-07B 19-21' 1304262-2 04/22/2013 Soil		SB-07C 26-28' 1304262-3 04/22/2013 Soil		SB-08A 12-16' 1304262-4 04/22/2013 Soil		SB-08B 20-24' 1304262-5 04/22/2013 Soil		SB-08C 32-34' 1304262-6 04/22/2013 Soil		SB-09A 12-16' 1304262-7 04/22/2013 Soil		SB-09B 30-32' 1304262-8 04/22/2013 Soil		SB-10A 12-16' 1304262-9 04/23/2013 Soil		SB-10B 24-25' 1304262-10 04/23/2013 Soil		SB-10C 27-28' 1304263-1 04/23/2013 Soil		SB-11A 12-15' 1304263-5 04/23/2013 Soil		SB-11B 26-28' 1304263-6 04/23/2013 Soil	
Compound	**CASNumber**			**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
Semi-Volatiles, EPA TCL List		ug/kg dry	ug/kg dry	ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry	
1,2,4-Trichlorobenzene	120-82-1	~	~	63.1	U	52.4	U	48.9	U	54.1	U	102	U	44.5	U	57.2	U	48.1	U	51	U	56.9	U	46.7	U	50.8	U	157	U	44.8	U	53.3	U	48.9	U
1,2-Dichlorobenzene	95-50-1	1100	100000	51.1	U	42.4	U	39.7	U	43.8	U	82.9	U	36.1	U	46.3	U	38.9	U	41.3	U	46.1	U	37.8	U	41.2	U	127	U	36.3	U	43.2	U	39.6	U
1,2-Diphenylhydrazine	122-66-7	~	~	57.8	U	48	U	44.9	U	49.6	U	93.8	U	40.8	U	52.4	U	44	U	46.7	U	52.2	U	42.8	U	46.6	U	144	U	41	U	48.9	U	44.8	U
1,3-Dichlorobenzene	541-73-1	2400	49000	51.6	U	42.8	U	40	U	44.2	U	83.7	U	36.4	U	46.7	U	39.3	U	41.7	U	46.5	U	38.2	U	41.6	U	129	U	36.6	U	43.6	U	40	U
1,4-Dichlorobenzene	106-46-7	1800	13000	45.8	U	38.1	U	35.6	U	39.3	U	74.4	U	32.4	U	41.5	U	34.9	U	37	U	41.4	U	33.9	U	36.9	U	114	U	32.5	U	38.7	U	35.5	U
2,3,4,6-Tetrachlorophenol	58-90-2	~	~	58	U	48.1	U	45	U	49.7	U	94	U	40.9	U	52.5	U	44.2	U	46.8	U	52.3	U	42.9	U	46.7	U	145	U	41.2	U	49	U	44.9	U
2,4,5-Trichlorophenol	95-95-4	100	100000	24.1	U	20	U	18.7	U	20.7	U	39.1	U	17	U	21.9	U	18.4	U	19.5	U	21.8	U	17.8	U	19.4	U	60.2	U	17.1	U	20.4	U	18.7	U
2,4,6-Trichlorophenol	88-06-2	10000	~	47.8	U	39.7	U	37.1	U	41	U	77.5	U	33.7	U	43.3	U	36.4	U	38.6	U	43.1	U	35.3	U	38.5	U	119	U	33.9	U	40.4	U	37	U
2,4-Dichlorophenol	120-83-2	~	~	48.2	U	40.1	U	37.4	U	41.4	U	78.2	U	34	U	43.7	U	36.7	U	39	U	43.5	U	35.7	U	38.9	U	120	U	34.2	U	40.8	U	37.4	U
2,4-Dimethylphenol	105-67-9	~	~	51.8	U	43	U	40.1	U	44.4	U	83.9	U	36.5	U	46.9	U	39.4	U	41.8	U	46.7	U	38.3	U	41.7	U	129	U	36.7	U	43.7	U	40.1	U
2,4-Dinitrophenol	51-28-5	~	~	1600	U	1330	U	1240	U	1370	U	2590	U	1130	U	1450	U	1220	U	1290	U	1440	U	1180	U	1290	U	3980	U	1130	U	1350	U	1240	U
2,4-Dinitrotoluene	121-14-2	~	~	52.1	U	43.2	U	40.4	U	44.7	U	84.5	U	36.8	U	47.2	U	39.7	U	42.1	U	47	U	38.5	U	42	U	130	U	37	U	44	U	40.3	U
2,6-Dinitrotoluene	606-20-2	~	~	46.6	U	38.7	U	36.2	U	40	U	75.6	U	32.9	U	42.3	U	35.5	U	37.7	U	42.1	U	34.5	U	37.6	U	116	U	33.1	U	39.4	U	36.1	U
2-Chloronaphthalene	91-58-7	~	~	47.3	U	39.3	U	36.7	U	40.5	U	76.7	U	33.4	U	42.8	U	36	U	38.2	U	42.7	U	35	U	38.1	U	118	U	33.6	U	39.9	U	36.6	U
2-Chlorophenol	95-57-8	800	100000	60.7	U	50.4	U	47.1	U	52.1	U	98.4	U	42.8	U	55	U	46.2	U	49	U	54.8	U	44.9	U	48.9	U	151	U	43.1	U	51.3	U	47	U
2-Methylnaphthalene	91-57-6	410	410	49.8	U	41.4	U	38.7	U	42.7	U	80.8	U	35.2	U	45.2	U	38	U	40.3	U	45	U	36.9	U	40.2	U	124	U	35.4	U	42.1	U	38.6	U
2-Methylphenol (o cresol)	95-48-7	330	100000	46.2	U	38.3	U	35.8	U	39.6	U	74.9	U	32.6	U	41.8	U	35.2	U	37.3	U	41.6	U	34.2	U	37.2	U	115	U	32.8	U	39	U	35.8	U
2-Nitroaniline	88-74-4	~	~	20.9	U	17.4	U	16.2	U	17.9	U	33.9	U	14.8	U	19	U	15.9	U	16.9	U	18.9	U	15.5	U	16.9	U	52.2	U	14.9	U	17.7	U	16.2	U
2-Nitrophenol	88-75-5	300	~	21.1	U	17.5	U	16.4	U	18.1	U	34.2	U	14.9	U	19.1	U	16.1	U	17	U	19	U	15.6	U	17	U	52.6	U	15	U	17.8	U	16.3	U
3+4-Methylphenol	100-01-6	~	~	52.6	U	43.6	U	40.8	U	45.1	U	85.2	U	37.1	U	47.6	U	40	U	42.5	U	47.4	U	38.9	U	42.3	U	131	U	37.3	U	44.4	U	40.7	U
3,3'-Dichlorobenzidine	91-94-1	~	~	101	U	84.1	U	78.6	U	86.8	U	164	U	71.5	U	91.8	U	77.1	U	81.8	U	91.4	U	74.9	U	81.6	U	253	U	71.9	U	85.6	U	78.5	U
3-Nitroaniline	99-09-2	~	~	77.6	U	64.5	U	60.2	U	66.6	U	126	U	54.8	U	70.3	U	59.1	U	62.7	U	70	U	57.4	U	62.5	U	194	U	55.1	U	65.6	U	60.1	U
4,6-Dinitro-2-methylphenol	534-52-1	~	~	127	U	106	U	98.6	U	109	U	206	U	89.7	U	115	U	96.8	U	103	U	115	U	94.1	U	102	U	317	U	90.2	U	107	U	98.5	U
4-Bromophenyl phenyl ether	101-55-3	~	~	45.8	U	38.1	U	35.6	U	39.3	U	74.4	U	32.4	U	41.5	U	34.9	U	37	U	41.4	U	33.9	U	36.9	U	114	U	32.5	U	38.7	U	35.5	U
4-Chloro-3-methylphenol	59-50-7	~	~	46	U	38.2	U	35.7	U	39.5	U	74.6	U	32.5	U	41.7	U	35	U	37.2	U	41.5	U	34	U	37.1	U	115	U	32.7	U	38.9	U	35.6	U
4-Chloroaniline	106-47-8	220	100000	69	U	57.3	U	53.5	U	59.2	U	112	U	48.7	U	62.5	U	52.6	U	55.7	U	62.2	U	51.1	U	55.6	U	172	U	49	U	58.3	U	53.5	U
4-Chlorophenyl phenyl ether	7005-72-3	~	~	34	U	28.2	U	26.4	U	29.2	U	55.2	U	24	U	30.8	U	25.9	U	27.5	U	30.7	U	25.2	U	27.4	U	84.9	U	24.1	U	28.7	U	26.4	U
4-Nitroaniline	100-02-7	~	~	61.2	U	50.8	U	47.5	U	52.5	U	99.2	U	43.2	U	55.4	U	46.6	U	49.4	U	55.2	U	45.3	U	49.3	U	153	U	43.4	U	51.7	U	47.4	U
4-Nitrophenol	56-57-5	100	~	60.7	U	50.4	U	47.1	U	52.1	U	98.4	U	42.8	U	55	U	46.2	U	49	U	54.8	U	44.9	U	48.9	U	151	U	43.1	U	51.3	U	47	U
Acenaphthene	83-32-9	20000	100000	41.1	U	34.1	U	31.8	U	35.2	U	66.6	U	29	U	37.2	U	31.3	U	33.2	U	37	U	30.4	U	33.1	U	102	U	29.1	U	34.7	U	31.8	U
Acenaphthylene	208-96-8	100000	100000	46.6	U	38.7	U	36.2	U	40	U	75.6	U	32.9	U	**179**	J	35.5	U	37.7	U	42.1	U	34.5	U	37.6	U	116	U	33.1	U	39.4	U	36.1	U
Aniline	62-53-3	330	100000	51.4	U	42.7	U	39.9	U	44.1	U	83.4	U	36.3	U	46.6	U	39.2	U	41.5	U	46.4	U	38.1	U	41.4	U	128	U	36.5	U	43.5	U	39.9	U
Anthracene	120-12-7	100000	100000	56.9	U	47.2	U	44.1	U	48.8	U	92.2	U	40.1	U	**7280**		43.3	U	45.9	U	51.3	U	42.1	U	45.8	U	142	U	40.4	U	48	U	44.1	U
Benzidine	92-87-5	~	~	1350	U	1120	U	1050	U	1160	U	2200	U	956	U	1230	U	1030	U	1090	U	1220	U	1000	U	1090	U	3380	U	961	U	1140	U	1050	U
Benzo(a)anthracene	56-55-3	1000	1000	75.7	U	62.9	U	58.7	U	64.9	U	123	U	53.4	U	***11600***		57.7	U	61.2	U	68.3	U	56	U	61	U	189	U	53.7	U	64	U	58.7	U
Benzo(a)pyrene	50-32-8	1000	1000	**193**	J	59.9	U	56	U	61.9	U	117	U	51	U	***11700***		55	U	58.3	U	**524**	J	53.4	U	58.2	U	180	U	51.2	U	**167**	J	55.9	U
Benzo(b)fluoranthene	205-99-2	1000	1000	**188**	J	58	U	54.2	U	59.9	U	113	U	49.3	U	***9840***		53.2	U	56.4	U	**461**	J	51.7	U	56.2	U	174	U	49.5	U	**185**	J	54.1	U
Benzo(g,h,i)perylene	191-24-2	100000	100000	**118**	J	42.6	U	39.8	U	44	U	83.2	U	36.2	U	**5830**		39.1	U	41.4	U	**285**	J	37.9	U	**50.2**		128	U	36.4		**89.1**	J	39.7	U
Benzo(k)fluoranthene	207-08-9	800	3900	108	U	89.4	U	83.5	U	92.3	U	175	U	76	U	**8260**		82	U	87	U	97.1	U	79.7	U	86.7	U	269	U	76.4	U	91	U	83.4	U
Benzoic acid	65-85-0	2700	100000	18400	U	15300	U	14300	U	15800	U	29800	U	13000	U	16600	U	14000	U	14800	U	16600	U	13600	U	14800	U	45800	U	13000	U	15500	U	14200	U
Benzyl alcohol	100-51-6	~	~	43.1	U	35.8	U	33.5	U	37	U	69.9	U	30.4	U	39.1	U	32.8	U	34.8	U	38.9	U	31.9	U	34.7	U	108	U	30.6	U	36.4	U	33.4	U
Butyl benzyl phthalate	85-68-7	122000	100000	82.1	U	68.2	U	63.7	U	70.4	U	133	U	57.9	U	74.4	U	62.5	U	66.3	U	74.1	U	60.8	U	66.2	U	205	U	58.3	U	69.4	U	63.6	U
Carbazole	86-74-8	~	~	92	U	76.4	U	71.4	U	78.9	U	149	U	64.9	U	83.4	U	70.1	U	74.3	U	83	U	68.1	U	74.1	U	229	U	65.3	U	77.7	U	71.3	U
Chrysene	218-01-9	1000	3900	71.2	U	59.2	U	55.3	U	61.1	U	116	U	50.3	U	***9670***		54.3	U	57.5	U	64.3	U	52.7	U	57.4	U	178	U	50.6	U	60.2	U	55.2	U
Cresols		330	100000	98.8	U	81.9	U	76.6	U	84.7	U	160	U	69.7	U	89.4	U	75.2	U	79.8	U	89	U	73.1	U	79.5	U	246	U	70.1	U	83.4	U	76.5	U
Di-n-butyl phthalate	84-74-2	~	~	70.4	U	58.5	U	54.6	U	60.4	U	114	U	49.7	U	63.8	U	53.6	U	56.9	U	63.5	U	52.1	U	56.8	U	176	U	50	U	59.5	U	54.6	U
Di-n-octyl phthalate	117-84-0	~	~	62.8	U	**92.8**		**94.2**		53.8	U	102	U	44.3	U	56.9	U	47.8	U	50.7	U	56.6	U	46.5	U	50.6	U	157	U	44.6	U	53	U	**89.1**	
Dibenz(a,h)anthracene	53-70-3	330	330	58.8	U	48.8	U	45.6	U	50.4	U	95.3	U	41.5	U	***1900***		44.8	U	47.5	U	**135**	J	43.5	U	47.4	U	147	U	41.7	U	49.7	U	45.5	U
Dibenzofuran	132-64-9	~	~	40.9	U	34	U	31.7	U	35.1	U	66.3	U	28.9	U	37	U	31.1	U	33	U	36.9	U	30.3	U	32.9	U	102	U	29	U	34.5	U	31.7	U
Diethyl phthalate	84-66-2	7100	100000	67.7	U	56.2	U	52.5	U	58.1	U	110	U	47.8	U	61.4	U	51.6	U	54.7	U	61.1	U	50.1	U	54.6	U	169	U	48.1	U	57.2	U	52.5	U
Dimethyl phthalate	131-11-3	~	~	54.6	U	45.4	U	42.4	U	46.8	U	88.6	U	38.6	U	49.5	U	41.6	U	44.1	U	49.3	U	40.4	U	44	U	136	U	38.8	U	46.2	U	42.3	U
Fluoranthene	206-44-0	100000	100000	**419**		59.9	U	56	U	**89**		117	U	51	U	**11200**		**88.8**		58.3	U	**754**		53.4	U	**69.5**		180	U	51.2		**385**	J	55.9	U
Fluorene	86-73-7	30000	100000	47	U	39	U	36.4	U	40.3	U	76.2	U	33.1	U	42.5	U	35.8	U	37.9	U	42.4	U	34.8	U	37.8	U	117	U	33.3	U	39.7	U	36.4	U
Hexachlorobenzene	118-74-1	330	410	56.2	U	46.7	U	43.6	U	48.2	U	91.2	U	39.7	U	50.9	U	42.8	U	45.4	U	50.7	U	41.6	U	45.3	U	140	U	39.9	U	47.5	U	43.6	U
Hexachlorobutadiene	87-68-3	~	~	55.3	U	45.9	U	42.9	U	47.4	U	89.6	U	39	U	50.1	U	42.1	U	44.6	U	49.9	U	40.9	U	44.5	U	138	U	39.2	U	46.7	U	42.8	U
Hexachlorocyclopentadiene	77-47-4	~	~	16.8	U	13.9	U	13	U	14.4	U	27.2	U	11.8	U	15.2	U	12.8	U	13.5	U	15.1	U	12.4	U	13.5	U	41.8	U	11.9	U	14.2	U	13	U
Hexachloroethane	67-72-1	~	~	57.3	U	47.6	U	44.5	U	49.2	U	93	U	40.5	U	52	U	43.7	U	46.3	U	51.7	U	42.4	U	46.2	U	143	U	40.7	U	48.4	U	44.4	U
Indeno(1,2,3-cd)pyrene	193-39-5	500	500	**92.7**		46.9	U	43.9	U	48.5	U	91.7	U	39.9	U	***5910***		43.1	U	45.7	U	**269**		41.8	U	45.6	U	141	U	40.1	U	**83.7**		43.8	U
Isophorone	78-59-1	4400	100000	46.2	U	38.3	U	35.8	U	39.6	U	74.9	U	32.6	U	41.8	U	35.2	U	37.3	U	41.6	U	34.2	U	37.2	U	115	U	32.8	U	39	U	35.8	U
N-Nitrosodi-n-propylamine	621-64-7	~	~	63.9	U	53.1	U	49.6	U	54.8	U	104	U	45.1	U	57.9	U	48.7	U	51.6	U	57.6	U	47.3	U	51.5	U	159	U	45.4	U	54	U	49.5	U
N-Nitrosodimethylamine	62-75-9	~	~	115	U	95.2	U	89	U	98.4	U	186	U	80.9	U	104	U	87.3	U	92.6	U	103	U	84.9	U	92.4	U	286	U	81.4	U	96.9	U	88.9	U
N-Nitrosodiphenylamine	86-30-6	~	~	69.5	U	57.7	U	53.9	U	59.6	U	113	U	49	U	63	U	52.9	U	56.1	U	62.7	U	51.4	U	56	U	173	U	49.3	U	58.7	U	53.8	U
Naphthalene	91-20-3	12000	100000	**1560**		56.2	U	52.5	U	58.1	U	110	U	47.8	U	61.4	U	51.6	U	54.7	U	61.1	U	50.1	U	54.6	U	169	U	48.1	U	57.2	U	52.5	U
Nitrobenzene	98-95-3	3700	15000	43.3	U	35.9	U	33.6	U	37.1	U	70.2	U	30.6	U	39.2	U	33	U	35	U	39	U	32	U	34.9	U	108	U	30.7	U	36.6	U	33.5	U
Pentachlorophenol	87-86-5	800	6700	438	U	363	U	340	U	375	U	710	U	309	U	397	U	333	U	354	U	395	U	324	U	353	U	1090	U	311	U	370	U	339	U
Phenanthrene	85-01-8	100000	100000	66.6	U	55.3	U	51.7	U	57.1	U	108	U	47	U	**13100**		50.7	U	53.8	U	60.1	U	49.3	U	53.7	U	166	U	47.3	U	56.3	U	51.6	U
Phenol	108-95-2	330	100000	58.6	U	48.7	U	45.5	U	50.3	U	95.1	U	41.4	U	53.1	U	44.6	U	47.4	U	52.9	U	43.4	U	47.2	U	146	U	41.6	U	49.5	U	45.4	U
Pyrene	129-00-0	100000	100000	66.5	U	55.2	U	51.5	U	57	U	108	U	46.9	U	**35600**		50.6	U	53.7	U	59.9	U	49.2	U	53.5	U	166	U	47.2	U	56.1	U	51.5	U
Pyridine	110-86-1	~	~	54.8	U	45.5	U	42.5	U	47	U	88.9	U	38.7	U	49.6	U	41.7	U	44.3	U	49.4	U	40.5	U	44.1	U	137	U	38.9	U	46.3	U	42.5	U
bis(2-Chloroethoxy)methane	111-91-1	~	~	57.7	U	47.9	U	44.7	U	49.5	U	93.5	U	40.7	U	52.2	U	43.9	U	46.6	U	52	U	42.7	U	46.5	U	144	U	40.9	U	48.7	U	44.7	U
bis(2-Chloroethyl)ether	111-44-4	~	~	49.7	U	41.2	U	38.5	U	42.6	U	80.6	U	35.1	U	45	U	37.8	U	40.1	U	44.8	U	36.8	U	40	U	124	U	35.3	U	42	U	38.5	U
bis(2-Chloroisopropyl)ether	108-60-1	~	~	60.5	U	50.3	U	47	U	51.9	U	98.2	U	42.7	U	54.8	U	46.1	U	48.9	U	54.6	U	44.8	U	48.8	U	151	U	43	U	51.1	U	46.9	U
bis(2-Ethylhexyl)phthalate	117-81-7	~	~	86.9	U	72.1	U	67.4	U	74.5	U	141	U	61.3	U	78.7	U	66.2	U	70.2	U	78.4	U	64.3	U	70	U	217	U	61.7	U	73.4	U	67.3	U

Table 3
Soil Sample Results
498 Leonard St, Brooklyn, NY

SampleID		NYSDEC Part 375 Unrestricted Use SCOs	NYSDEC Part 375 Restricted Residential Use SCOs	SB-06A 11-13'		SB-06B 24-25'		SB-06C 30-32'		SB-07A 10-13'		SB-07B 19-21'		SB-07C 26-28'		SB-08A 12-16'		SB-08B 20-24'		SB-08C 32-34'		SB-09A 12-16'		SB-09B 30-32'		SB-10A 12-16'		SB-10B 24-25'		SB-10C 27-28'		SB-11A 12-15'		SB-11B 26-28'	
LabID				1304263-2		1304263-3		1304263-4		1304262-1		1304262-2		1304262-3		1304262-4		1304262-5		1304262-6		1304262-7		1304262-8		1304262-9		1304262-10		1304263-1		1304263-5		1304263-6	
Sampling Date				04/23/2013		04/23/2013		04/23/2013		04/22/2013		04/22/2013		04/22/2013		04/22/2013		04/22/2013		04/22/2013		04/22/2013		04/22/2013		04/23/2013		04/23/2013		04/23/2013		04/23/2013		04/23/2013	
ClientMatrix		SCOs Soil	Use SCOs Soil	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Compound	CASNumber			Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
PCBs, Pesticides, Herbicides EPA 8082/8081/8321 List		ug/kg dry	ug/kg dry	ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry	
Aroclor 1016	12674-11-2	~	~	25.4	U	21.1	U	19.7	U	21.8	U	41.2	U	17.9	U	23	U	19.3	U	20.5	U	22.9	U	18.8	U	20.5	U	63.3	U	18	U	21.5	U	19.7	U
Aroclor 1221	11104-28-2	~	~	25.4	U	21.1	U	19.7	U	21.8	U	41.2	U	17.9	U	23	U	19.3	U	20.5	U	22.9	U	18.8	U	20.5	U	63.3	U	18	U	21.5	U	19.7	U
Aroclor 1232	11141-16-5	~	~	25.4	U	21.1	U	19.7	U	21.8	U	41.2	U	17.9	U	23	U	19.3	U	20.5	U	22.9	U	18.8	U	20.5	U	63.3	U	18	U	21.5	U	19.7	U
Aroclor 1242	53469-21-9	~	~	25.4	U	21.1	U	19.7	U	21.8	U	41.2	U	17.9	U	23	U	19.3	U	20.5	U	22.9	U	18.8	U	20.5	U	63.3	U	18	U	21.5	U	19.7	U
Aroclor 1248	12672-29-6	~	~	25.4	U	21.1	U	19.7	U	21.8	U	41.2	U	17.9	U	23	U	19.3	U	20.5	U	22.9	U	18.8	U	20.5	U	63.3	U	18	U	21.5	U	19.7	U
Aroclor 1254	11097-69-1	~	~	25.4	U	21.1	U	19.7	U	21.8	U	41.2	U	17.9	U	23	U	19.3	U	20.5	U	22.9	U	18.8	U	20.5	U	63.3	U	18	U	21.5	U	19.7	U
Aroclor 1260	11096-82-5	~	~	17.7	U	14.7	U	13.8	U	15.2	U	28.8	U	12.5	U	16.1	U	13.5	U	14.3	U	16	U	13.1	U	14.3	U	44.2	U	12.6	U	15	U	13.7	U
Total PCBs	1336-36-3	100	1000	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
alpha-BHC	319-84-6	20	480	1.05	U	0.88	U	0.82	U	0.9	U	1.71	U	0.74	U	0.96	U	0.8	U	0.85	U	0.95	U	0.78	U	0.85	U	2.63	U	0.75	U	0.89	U	0.82	U
gamma-BHC (Lindane)	58-89-9	100	1300	1.33	U	1.1	U	1.03	U	1.14	U	2.15	U	0.94	U	1.2	U	1.01	U	1.07	U	1.2	U	0.98	U	1.07	U	3.31	U	0.94	U	1.12	U	1.03	U
beta-BHC	319-85-7	36	360	0.86	U	0.72	U	0.67	U	0.74	U	1.4	U	0.61	U	0.78	U	0.66	U	0.7	U	0.78	U	0.64	U	0.69	U	2.15	U	0.61	U	0.73	U	0.67	U
delta-BHC	319-86-8	40	100000	1.81	U	1.5	U	1.4	U	1.55	U	2.93	U	1.27	U	1.64	U	1.37	U	1.46	U	1.63	U	1.34	U	1.45	U	4.5	U	1.28	U	1.52	U	1.4	U
Heptachlor	76-44-8	42	2100	1.49	U	1.23	U	1.15	U	1.27	U	2.41	U	1.05	U	1.35	U	1.13	U	1.2	U	1.34	U	1.1	U	1.2	U	3.71	U	1.05	U	1.26	U	1.15	U
Aldrin	309-00-2	5	97	1.68	U	1.39	U	1.3	U	1.44	U	2.72	U	1.18	U	1.52	U	1.28	U	1.35	U	1.51	U	1.24	U	1.35	U	4.18	U	1.19	U	1.42	U	1.3	U
Heptachlor epoxide	1024-57-3	20	77	1.58	U	**3.63**	J	1.23	U	1.36	U	2.56	U	1.12	U	1.43	U	1.2	U	1.28	U	1.43	U	1.17	U	1.27	U	3.94	U	1.12	U	1.34	U	1.23	U
gamma-Chlordane	5103-74-2	540	540	1.69	U	**6.39**	J	1.31	U	1.45	U	2.75	U	1.2	U	1.53	U	1.29	U	1.37	U	1.53	U	1.25	U	1.36	U	4.22	U	1.2	U	1.43	U	1.31	U
alpha-Chlordane	5103-71-9	94	4200	1.42	U	**14.3**		1.1	U	1.22	U	2.31	U	1	U	1.29	U	1.08	U	1.15	U	1.28	U	1.05	U	1.15	U	3.55	U	1.01	U	1.2	U	1.1	U
4,4'-DDE	72-55-9	3.3	8900	1.71	U	1.42	U	1.33	U	1.47	U	2.77	U	1.21	U	1.55	U	1.3	U	1.38	U	1.54	U	1.26	U	1.38	U	4.26	U	1.21	U	1.44	U	1.32	U
Endosulfan I	959-98-8	2400	24000	1.63	U	1.35	U	1.26	U	1.4	U	2.64	U	1.15	U	1.48	U	1.24	U	1.32	U	1.47	U	1.21	U	1.31	U	4.06	U	1.16	U	1.38	U	1.26	U
Dieldrin	60-57-1	5	200	1.82	U	1.51	U	1.41	U	1.56	U	2.95	U	1.29	U	1.65	U	1.39	U	1.47	U	1.64	U	1.35	U	1.47	U	4.54	U	1.29	U	1.54	U	1.41	U
Endrin	72-20-8	14	11000	1.65	U	1.37	U	1.28	U	1.41	U	2.67	U	1.16	U	1.49	U	1.25	U	1.33	U	1.48	U	1.22	U	1.33	U	4.1	U	1.17	U	1.39	U	1.27	U
4,4'-DDD	72-54-8	3.3	13000	**54.9**		0.6	U	0.56	U	0.62	U	1.17	U	0.51	U	0.65	U	0.55	U	0.58	U	0.65	U	0.53	U	0.58	U	1.79	U	0.51	U	0.61	U	0.56	U
Endosulfan II	33213-65-9	2400	24000	1.29	U	1.07	U	1	U	1.11	U	2.1	U	0.91	U	1.17	U	0.99	U	1.05	U	1.17	U	0.96	U	1.04	U	3.23	U	0.92	U	1.09	U	1	U
4,4'-DDT	50-29-3	3.3	7900	0.86	U	0.72	U	0.67	U	0.74	U	1.4	U	0.61	U	0.78	U	0.66	U	0.7	U	0.78	U	0.64	U	0.69	U	2.15	U	0.61	U	0.73	U	0.67	U
Endosulfan sulfate	1031-07-8	2400	24000	1.15	U	0.95	U	0.89	U	0.99	U	1.87	U	0.81	U	1.04	U	0.88	U	0.93	U	1.04	U	0.85	U	0.93	U	2.87	U	0.82	U	0.97	U	0.89	U
Endrin Aldehyde	7421-93-4	~	~	1.2	U	0.99	U	0.93	U	1.03	U	1.94	U	0.85	U	1.09	U	0.91	U	0.97	U	1.08	U	0.89	U	0.97	U	2.99	U	0.85	U	1.01	U	0.93	U
Methoxychlor	72-43-5	1200	100000	1.41	U	1.17	U	1.09	U	1.21	U	2.28	U	0.99	U	1.27	U	1.07	U	1.14	U	1.27	U	1.04	U	1.13	U	3.51	U	1	U	1.19	U	1.09	U
Endrin ketone	53494-70-5	~	~	1.52	U	1.26	U	1.18	U	1.3	U	2.46	U	1.07	U	1.37	U	1.16	U	1.23	U	1.37	U	1.12	U	1.22	U	3.78	U	1.08	U	1.28	U	1.18	U
Toxaphene	8001-35-2	~	~	58.3	U	48.4	U	45.2	U	50	U	94.6	U	41.1	U	52.8	U	44.4	U	47.1	U	52.6	U	43.1	U	47	U	145	U	41.4	U	49.3	U	45.2	U
Chlordane	57-74-9	~	~	11.1	U	9.23	U	8.62	U	9.53	U	18	U	7.85	U	10.1	U	8.47	U	8.98	U	10	U	8.23	U	8.96	U	27.7	U	7.89	U	9.39	U	8.61	U
2,4-D	94-75-7	500	100000	160	U	133	U	124	U	137	U	259	U	113	U	145	U	122	U	129	U	144	U	118	U	129	U	398	U	113	U	135	U	124	U
2,4,5-T	93-76-5	1900	100000	160	U	133	U	124	U	137	U	259	U	113	U	145	U	122	U	129	U	144	U	118	U	129	U	398	U	113	U	135	U	124	U
Silvex(2,4,5-TP)	93-72-1	3800	100000	160	U	133	U	124	U	137	U	259	U	113	U	145	U	122	U	129	U	144	U	118	U	129	U	398	U	113	U	135	U	124	U
Metals, Target Analyte List		mg/kg dry	mg/kg dry	mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry	
Aluminum	7429-90-5	~	~	**3420**		**8210**		**4500**		**3620**		**6690**		**4780**		**5090**		**3550**		**4770**		**4730**		**3000**		**1870**		**4880**		**2900**		**1530**		**4270**	
Antimony	7440-36-0	~	~	0.73	U	0.45	U	0.58	U	0.63	U	1.15	U	0.31	U	0.7	U	0.46	U	0.53	U	0.63	U	0.4	U	0.54	U	1.62	U	0.38	U	0.65	U	0.53	U
Arsenic	7440-38-2	13	16	**10.8**		**1.5**		**0.26**		**17.6**		**3.08**		0.13	U	**5.79**		**1.29**		**0.6**		**4.29**		**1.38**		***74.5***		**2.2**		**3.29**		**2.75**		**0.55**	
Barium	7440-39-3	350	400	**268**		**38.1**		**35.2**		**220**		**102**		**41.5**		**166**		**16.3**		**38.4**		**90.9**		**16.6**		**272**		**206**		**18**		**85.4**		**33.3**	
Beryllium	7440-41-7	7.2	72	**0.36**		**0.43**		**0.17**		**0.35**		**0.96**		**0.29**		**0.23**		**0.25**		**0.2**		**0.34**		**0.21**		**0.16**		**0.58**		**0.21**		0.072	U	**0.3**	
Cadmium	7440-43-9	2.5	4.3	0.032		0.02	U	0.026	U	**0.13**		**0.4**		0.014	U	**0.055**		0.021	U	0.024	U	0.028	U	0.018	U	0.024	U	**0.13**		0.017	U	**0.29**		0.024	U
Calcium	7440-70-2	~	~	**8330**		**1260**		**7400**		**4870**		**8930**		**700**		**6470**		**616**		**10600**		**6720**		**1030**		**5920**		**24700**		**587**		**4530**		**1470**	
Chromium	7440-47-3	30	180	**28.9**		**13.2**		**12.5**		**8.86**		**13.7**		**11.2**		**9.61**		**9.51**		**14.6**		**11.6**		**7.84**		**21.2**		**20.9**		**13.4**		**8.09**		**21.7**	
Cobalt	7440-48-4	20	30	**13.4**		**5.93**		**4.88**		**5.33**		**2.03**		**3.99**		**3.09**		**4.76**		**5.19**		**4.3**		**2.96**		**4.09**		**0.9**		**3.86**		**6.73**		**6.13**	
Copper	7440-50-8	50	270	**225**		**22.3**		**15.3**		**87.7**		**46**		**13.8**		**36.8**		**9.33**		**15.8**		**24.6**		**7.73**		**160**		**17.5**		**8.82**		**27.7**		**15.8**	
Iron	7439-89-6	~	~	**115000**		**16900**		**12400**		**10500**		**9210**		**25100**		**10900**		**10100**		**14700**		**23000**		**9190**		**62200**		**5210**		**11600**		**5920**		**18400**	
Lead	7439-92-1	63	400	***414***		**15.7**		**3.66**		***1440***		**30.5**		**3.94**		**332**		**4.22**		**3.77**		**126**		**3.03**		***605***		**18.5**		**4.31**		**259**		**4.65**	
Magnesium	7439-95-4	~	~	**961**		**3400**		**5390**		**486**		**2240**		**771**		**784**		**1620**		**6050**		**3170**		**1080**		**568**		**3700**		**1370**		**566**		**2530**	
Manganese	7439-96-5	1600	2000	**233**		**88.7**		**151**		**128**		**60.3**		**149**		**152**		**43.5**		**126**		**203**		**34.6**		**120**		**20.3**		**40.3**		**54.3**		**89.1**	
Nickel	7440-02-0	30	310	**27.7**		**15**		**9.1**		**8.43**		**8.76**		**7.33**		**5.53**		**7.71**		**9.18**		**7.35**		**6.34**		**11.1**		**5.89**		**7.06**		**10.3**		**9.52**	
Potassium	7440-09-7	~	~	**674**		**984**		**1580**		**535**		**521**		**249**		**678**		**664**		**2070**		**1400**		**440**		**241**		**343**		**714**		**280**		**2180**	
Selenium	7782-49-2	3.9	180	0.52	U	0.32	U	0.41	U	0.45	U	0.82	U	0.22	U	0.5	U	0.33	U	0.38	U	0.45	U	0.29	U	0.39	U	1.16	U	0.27	U	0.46	U	0.38	U
Silver	7440-22-4	2	180	0.053	U	0.033	U	0.042	U	0.047	U	0.085	U	0.023	U	0.052	U	0.034	U	0.039	U	0.047	U	0.03	U	0.04	U	0.12	U	0.028	U	0.048	U	0.039	U
Sodium	7440-23-5	~	~	**285**		**95.9**		**198**		**243**		**329**		**79.7**		**317**		**74**		**201**		**185**		**95.9**		**103**		**525**		**72.6**		**93.9**		**124**	
Thallium	7440-28-0	~	~	0.41	U	0.25	U	0.32	U	0.35	U	0.64	U	0.17	U	0.39	U	0.26	U	0.3	U	0.35	U	0.22	U	0.3	U	0.9	U	0.21	U	0.36	U	0.3	U
Vanadium	7440-62-2	~	~	**42.8**		**17.3**		**20.4**		**21.6**		**24.5**		**14.3**		**19.5**		**19.4**		**25.4**		**19.1**		**14.9**		**25.5**		**24.4**		**18.2**		**15.4**		**24**	
Zinc	7440-66-6	109	10000	**951**		**36.7**		**23.7**		**174**		**34.3**		**14.4**		**135**		**23.8**		**26.8**		**89.7**		**16**		**211**		**6.14**		**20.8**		**124**		**35.8**	
Mercury by 7470/7471		mg/kg dry	mg/kg dry	mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry	
Mercury	7439-97-6	0.18	0.81	***3.77***		**0.3**		**0.012**		**0.13**		**0.17**		0.0066	U	**0.13**		**0.022**		**0.0072**		**0.063**		**0.012**		***6.16***		***31.5***		***0.19***		***2.49***		**0.0077**	
Total Solids		%	%	%		%		%		%		%		%		%		%		%		%		%		%		%		%		%		%	
% Solids	solids	~	~	62.6		75.4		80.7		73		38.6		88.7		69.1		82.2		77.5		69.4		84.6		77.7		25.1		88.2		74.1		80.8	
GC Fingerprint - EPA 310.14		mg/kg dry	mg/kg dry																																
Gasoline		~	~	16000	U	NT		NT		13700	U	NT		NT		14500	U	NT		NT		14400	U	NT		12900	U	NT		NT		13500		NT	
Lubricating Oils		~	~	16000	U	NT		NT		13700	U	NT		NT		14500	U	NT		NT		14400	U	NT		12900	U	NT		NT		13500		NT	
Kerosene/Jet Fuel		~	~	16000	U	NT		NT		13700	U	NT		NT		14500	U	NT		NT		14400	U	NT		12900	U	NT		NT		13500		NT	
#2 Fuel Oil/Diesel		~	~	16000	U	NT		NT		13700	U	NT		NT		14500	U	NT		NT		14400	U	NT		12900	U	NT		NT		13500		NT	
#4 Fuel Oil		~	~	16000	U	NT		NT		13700	U	NT		NT		14500	U	NT		NT		14400	U	NT		12900	U	NT		NT		13500		NT	
#6 Fuel Oil		~	~	16000	U	NT		NT		13700	U	NT		NT		14500	U	NT		NT		14400	U	NT		12900	U	NT		NT		13500		NT	
Dielectric Fluid		~	~	16000	U	NT		NT		13700	U	NT		NT		14500	U	NT		NT		14400	U	NT		12900	U	NT		NT		13500		NT	
Mineral Spirit		~	~	**10800000**		NT		NT		**5430000**		NT		NT		**1300000**		NT		NT		**2250000**		NT		**655000**		NT		NT		**521000**		NT	

NOTES:

BOLD=Compound detected above the method detection limit

Highlighted = Regulatory Exceedences above Unrestricted Use (Track 1) SCOs

Italicized and underline = Regulatory Exceedance above Restricted Residential (Track 2) SCOs

ND=Not Detected

NT=this indicates the analyte was not a target for this sample

Q is the Qualifier Column with definitions as follows:

U=analyte not detected at or above the level indicated

B=analyte found in the analysis batch blank

J=analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimatec

D=result is from an analysis that required a dilution

E=result is estimated and cannot be accurately reported due to levels encountered or interference:

~=this indicates that no regulatory limit has been established for this analyte

Table 3
Soil Sample Results
498 Leonard St, Brooklyn, NY

SampleID LabID Sampling Date ClientMatrix		NYSDEC Part 375 Unrestricted Use SCOs Soil	NYSDEC Part 375 Restricted Residential Use SCOs Soil	SB-06A 11-13' 1304263-2 04/23/2013 Soil		SB-06B 24-25' 1304263-3 04/23/2013 Soil		SB-06C 30-32' 1304263-4 04/23/2013 Soil		SB-07A 10-13' 1304262-1 04/22/2013 Soil	SB-12A 12-16' 1304263-7 04/23/2013 Soil		SB-12B 24-26' 1304263-8 04/23/2013 Soil		SB-12C 26-28' 1304263-9 04/23/2013 Soil	
Compound	**CASNumber**			**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
Volatile Organics, TCL (Target Compound List)		ug/kg dry	ug/kg dry	ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry	ug/kg dry		ug/kg dry		ug/kg dry	
Acetone	67-64-1	50	100000	53.9	U	**160**		8.37	U	46.2	53	U	102	U	8.44	U
Carbon Tetrachloride	56-23-5	760	2400	14.5	U	2.41	U	2.24	U	12.4	14.2	U	27.3	U	2.26	U
Chloroform	67-66-3	370	49000	16.1	U	2.69	U	2.5	U	13.8	15.9	U	30.5	U	2.53	U
Benzene	71-43-2	60	4800	14.9	U	2.49	U	2.32	U	12.8	14.7	U	28.2	U	2.34	U
1,1,1-Trichloroethane	71-55-6	680	100000	14.5	U	2.42	U	2.26	U	12.5	14.3	U	27.5	U	2.28	U
Bromomethane	74-83-9	~	~	16.1	U	2.67	U	2.49	U	13.8	15.8	U	30.4	U	2.51	U
Chloromethane	74-87-3	~	~	11.9	U	1.98	U	1.85	U	10.2	11.7	U	22.5	U	1.86	U
Dibromomethane	74-95-3	~	~	12.8	U	2.13	U	1.98	U	11	12.6	U	24.2	U	2	U
Bromochloromethane	74-97-5	~	~	15.8	U	2.63	U	2.46	U	13.6	15.5	U	29.9	U	2.47	U
Chloroethane	75-00-3	~	~	16	U	2.66	U	2.48	U	13.7	15.7	U	30.2	U	2.5	U
Vinyl Chloride	75-01-4	20	900	17.6	U	2.93	U	2.73	U	15.1	17.3	U	33.2	U	2.75	U
Methylene Chloride	75-09-2	50	100000	15	U	2.5	U	2.33	U	12.9	14.8	U	28.4	U	2.35	U
Carbon disulfide	75-15-10	2700	100000	10.5	U	1.74	U	1.62	U	8.97	10.3	U	19.8	U	1.64	U
Bromoform	75-25-2	~	~	7.27	U	1.21	U	1.13	U	6.23	7.14	U	13.7	U	1.14	U
Bromodichloromethane	75-27-4	~	~	9.91	U	1.65	U	1.54	U	8.49	9.73	U	18.7	U	1.55	U
1,1-Dichloroethane	75-34-3	270	26000	12.8	U	2.13	U	1.98	U	11	12.6	U	24.2	U	2	U
1,1-Dichloroethene	75-35-4	330	100000	15.1	U	2.51	U	2.34	U	12.9	14.8	U	28.5	U	2.36	U
Tertiary butyl alcohol	75-65-0	~	~	121	U	20.1	U	18.7	U	103	119	U	228	U	18.9	U
Trichlorofluoromethane	75-69-4	~	~	15.3	U	2.54	U	2.37	U	13.1	15	U	28.8	U	2.39	U
Dichlorodifluoromethane	75-71-8	~	~	8.31	U	1.38	U	1.29	U	7.12	8.16	U	15.7	U	1.3	U
1,1,2-Trichlorotrifluoroethane (113 Freon)	76-13-1	6000	100000	13.7	U	2.29	U	2.13	U	11.8	13.5	U	26	U	2.15	U
1,2-Dichloropropane	78-87-5	~	~	16.1	U	2.69	U	2.5	U	13.8	15.9	U	30.5	U	2.53	U
2-Butanone	78-93-3	300	100000	29	U	4.83	U	4.5	U	24.9	28.5	U	54.8	U	4.54	U
1,1,2-Trichloroethane	79-00-5	~	~	15.3	U	2.54	U	2.37	U	13.1	15	U	28.8	U	2.39	U
Trichloroethene	79-01-6	470	21000	13.9	U	2.31	U	2.16	U	11.9	13.7	U	26.3	U	2.17	U
1,1,2,2-Tetrachloroethane	79-34-5	600	35000	15.9	U	2.65	U	2.47	U	13.6	15.6	U	30	U	2.49	U
1,2,3-Trichlorobenzene	87-61-6	20000	~	14.1	U	2.34	U	2.18	U	12.1	13.8	U	26.6	U	2.2	U
Hexachlorobutadiene	87-68-3	~	~	14.4	U	2.39	U	2.23	U	12.3	14.1	U	27.2	U	2.25	U
Naphthalene	91-20-3	12000	100000	11.1	U	1.85	U	1.72	U	9.52	**435**		**409**		**5.48**	J
o-xylene	95-47-6	~	~	17.5	U	2.91	U	2.72	U	15	**108**		**142**		2.74	U
2-Chlorotoluene	95-49-8	~	~	18.5	U	3.07	U	2.86	U	15.8	18.1	U	34.9	U	2.89	U
1,2-Dichlorobenzene	95-50-1	1100	100000	16.6	U	2.77	U	2.58	U	14.2	16.3	U	31.4	U	2.6	U
1,2,4-Trimethylbenzene	95-63-6	3600	52000	17.4	U	2.9	U	2.7	U	14.9	**364**		**473**		2.72	U
1,2,4,5-Tetramethylbenzene	95-93-2	~	~	**1320**	E	**28.5**		1.96	U	**956**	**1820**	E	**763**		10.7	U
1,2-Dibromo-3-chloropropane	96-12-8	~	~	8.07	U	1.34	U	1.25	U	6.92	7.93	U	15.3	U	1.26	U
1,2,3-Trichloropropane	96-18-4	340	80000	14.4	U	2.39	U	2.23	U	12.3	14.1	U	27.2	U	2.25	U
tert-Butylbenzene	98-82-8	5,900	100000	**2980**	E	**16.1**		2.58	U	**1540**	**246**		**113**		2.6	U
Isopropylbenzene	98-82-8	2,300	100,000	**994**		**11**		2.63	U	14.5	**384**		**230**		2.65	U
p-Isopropyltoluene	99-87-6	10000	~	17.2	U	2.86	U	2.67	U	14.7	**86.3**		**130**		2.69	U
Ethylbenzene	100-41-4	1000	41000	14.1	U	2.35	U	2.19	U	12.1	**281**		**240**		2.21	U
Styrene	100-42-5	300000	~	14.5	U	2.41	U	2.24	U	12.4	14.2	U	27.3	U	2.26	U
n-Propylbenzene	103-65-1	3900	100000	15.6	U	2.59	U	2.42	U	13.4	**684**		**389**		2.44	U
n-Butylbenzene	104-51-8	12000	100000	**2630**	E	**22.3**		2.67	U	**1280**	**803**		**381**		2.69	U
p-Diethylbenzene	105-05-5	~	~	**8770**	E	2.63	U	2.46	U	**4890**	**370**		**234**		2.47	U
4-Chlorotoluene	106-43-4	~	~	16.5	U	2.75	U	2.57	U	14.2	16.2	U	31.3	U	2.59	U
1,4-Dichlorobenzene	106-46-7	1800	13000	16.9	U	2.82	U	2.63	U	14.5	16.6	U	32	U	2.65	U
1,2-Dibromoethane	106-93-4	~	~	14.9	U	2.49	U	2.32	U	12.8	14.7	U	28.2	U	2.34	U
1,2-Dichloroethane	107-06-2	20	3100	16.1	U	2.67	U	2.49	U	13.8	15.8	U	30.4	U	2.51	U
Acrylonitrile	107-13-1	~	~	31.1	U	5.17	U	4.82	U	26.6	30.5	U	58.7	U	4.86	U
4-Methyl-2-pentanone	108-10-1	1000	~	38.8	U	6.46	U	6.03	U	33.3	38.2	U	73.4	U	6.07	U
m,p-xylene	1330-20-7P/M	~	~	33.4	U	5.56	U	5.18	U	28.6	**90.1**		**106**		5.22	U
1,3,5-Trimethylbenzene	108-67-8	8400	52000	17.3	U	2.87	U	2.68	U	14.8	**125**		**135**		2.7	U
Bromobenzene	108-86-1	~	~	17.3	U	2.89	U	2.69	U	14.9	17	U	32.8	U	2.71	U
Toluene	108-88-3	700	100000	**195**		**47.8**		2.36	U	**309**	14.9		**35.7**		**4.6**	J
Chlorobenzene	108-90-7	1100	100000	17.1	U	2.85	U	2.65	U	14.7	16.8	U	32.3	U	2.67	U
2-Chloroethylvinylether	110-75-8	~	~	23	U	3.83	U	3.57	U	19.7	22.6	U	43.5	U	3.6	U
1,2,4-Trichlorobenzene	120-82-1	20000	~	14.9	U	2.47	U	2.31	U	12.7	14.6	U	28.1	U	2.33	U
Dibromochloromethane	124-48-1	~	~	9.51	U	1.58	U	1.48	U	8.15	9.34	U	18	U	1.49	U
Tetrachloroethene	127-18-4	1300	19000	17.1	U	2.85	U	2.65	U	14.7	16.8	U	32.3	U	2.67	U
sec-Butylbenzene	135-98-8	11000	100000	17.4	U	**59.2**		2.7	U	14.9	**1320**	E	**451**		2.72	U
1,3-Dichloropropane	142-28-9	300	~	17.5	U	2.91	U	2.72	U	15	17.2	U	33.1	U	2.74	U
c-1,2-Dichloroethene	156-59-2	250	100000	14.8	U	2.46	U	2.29	U	12.7	14.5	U	27.9	U	2.31	U
t-1,2-Dichloroethene	156-60-5	190	100000	14.5	U	2.42	U	2.26	U	12.5	14.3	U	27.5	U	2.28	U
1,3-Dichlorobenzene	541-73-1	2400	49000	16.2	U	2.7	U	2.52	U	13.9	15.9	U	30.7	U	2.54	U
1,1-Dichloropropene	563-58-6	~	~	14	U	2.33	U	2.17	U	12	13.7	U	26.4	U	2.19	U
2,2-Dichloropropane	590-20-7	~	~	13.8	U	2.3	U	2.15	U	11.9	13.6	U	26.1	U	2.16	U
2-Hexanone	591-78-6	~	~	25.6	U	4.27	U	3.98	U	22	25.2	U	48.5	U	4.01	U
p-Ethyltoluene	622-96-8	~	~	17.1	U	2.85	U	2.65	U	14.7	**149**		**144**		2.67	U
1,1,1,2-Tetrachloroethane	630-20-6	~	~	14.9	U	2.47	U	2.31	U	12.7	14.6	U	28.1	U	2.33	U
TAME	994-05-08	~	~	14.1	U	2.34	U	2.18	U	12.1	13.8	U	26.6	U	2.2	U
Methyl t-butyl ether	1634-04-4	930	100000	13.7	U	2.29	U	2.13	U	11.8	13.5	U	26	U	2.15	U
c-1,3-Dichloropropene	10061-01-05	~	~	15.5	U	2.58	U	2.41	U	13.3	15.2	U	29.3	U	2.42	U
t-1,3-Dichloropropene	10061-02-6	~	~	11.6	U	1.93	U	1.8	U	9.93	11.4	U	21.9	U	1.81	U

Table 3
Soil Sample Results
498 Leonard St, Brooklyn, NY

SampleID		NYSDEC Part 375	NYSDEC Part 375	SB-06A 11-13'		SB-06B 24-25'		SB-06C 30-32'		SB-07A 10-13'	SB-12A 12-16'		SB-12B 24-26'		SB-12C 26-28'	
LabID		Unrestricted Use	Restricted Residential	1304263-2		1304263-3		1304263-4		1304262-1	1304263-7		1304263-8		1304263-9	
Sampling Date		SCOs	Use SCOs	04/23/2013		04/23/2013		04/23/2013		04/22/2013	04/23/2013		04/23/2013		04/23/2013	
ClientMatrix		Soil	Soil	Soil		Soil		Soil		Soil	Soil		Soil		Soil	
Compound	CASNumber			Result	Q	Result	Q	Result	Q	Result	Result	Q	Result	Q	Result	Q
Semi-Volatiles, EPA TCL List		ug/kg dry	ug/kg dry	ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry	ug/kg dry		ug/kg dry		ug/kg dry	
1,2,4-Trichlorobenzene	120-82-1	~	~	63.1	U	52.4	U	48.9	U	54.1	62	U	119	U	49.4	U
1,2-Dichlorobenzene	95-50-1	1100	100000	51.1	U	42.4	U	39.7	U	43.8	50.2	U	96.4	U	40	U
1,2-Diphenylhydrazine	122-66-7	~	~	57.8	U	48	U	44.9	U	49.6	56.8	U	109	U	45.3	U
1,3-Dichlorobenzene	541-73-1	2400	49000	51.6	U	42.8	U	40	U	44.2	50.7	U	97.3	U	40.4	U
1,4-Dichlorobenzene	106-46-7	1800	13000	45.8	U	38.1	U	35.6	U	39.3	45.1	U	86.4	U	35.9	U
2,3,4,6-Tetrachlorophenol	58-90-2	~	~	58	U	48.1	U	45	U	49.7	57	U	109	U	45.4	U
2,4,5-Trichlorophenol	95-95-4	100	100000	24.1	U	20	U	18.7	U	20.7	23.7	U	45.5	U	18.9	U
2,4,6-Trichlorophenol	88-06-2	10000	~	47.8	U	39.7	U	37.1	U	41	46.9	U	90.1	U	37.4	U
2,4-Dichlorophenol	120-83-2	~	~	48.2	U	40.1	U	37.4	U	41.4	47.4	U	91	U	37.8	U
2,4-Dimethylphenol	105-67-9	~	~	51.8	U	43	U	40.1	U	44.4	50.9	U	97.6	U	40.5	U
2,4-Dinitrophenol	51-28-5	~	~	1600	U	1330	U	1240	U	1370	1570	U	3010	U	1250	U
2,4-Dinitrotoluene	121-14-2	~	~	52.1	U	43.2	U	40.4	U	44.7	51.2	U	98.2	U	40.8	U
2,6-Dinitrotoluene	606-20-2	~	~	46.6	U	38.7	U	36.2	U	40	45.8	U	88	U	36.5	U
2-Chloronaphthalene	91-58-7	~	~	47.3	U	39.3	U	36.7	U	40.5	46.5	U	89.2	U	37	U
2-Chlorophenol	95-57-8	800	100000	60.7	U	50.4	U	47.1	U	52.1	59.7	U	114	U	47.5	U
2-Methylnaphthalene	91-57-6	410	410	49.8	U	41.4	U	38.7	U	42.7	49	U	94	U	39	U
2-Methylphenol (o cresol)	95-48-7	330	100000	46.2	U	38.3	U	35.8	U	39.6	45.4	U	87	U	36.1	U
2-Nitroaniline	88-74-4	~	~	20.9	U	17.4	U	16.2	U	17.9	20.6	U	39.5	U	16.4	U
2-Nitrophenol	88-75-5	300	~	21.1	U	17.5	U	16.4	U	18.1	20.7	U	39.8	U	16.5	U
3+4-Methylphenol	100-01-6	~	~	52.6	U	43.6	U	40.8	U	45.1	**516**	J	99.1	U	41.1	U
3,3'-Dichlorobenzidine	91-94-1	~	~	101	U	84.1	U	78.6	U	86.8	99.5	U	191	U	79.3	U
3-Nitroaniline	99-09-2	~	~	77.6	U	64.5	U	60.2	U	66.6	76.3	U	146	U	60.8	U
4,6-Dinitro-2-methylphenol	534-52-1	~	~	127	U	106	U	98.6	U	109	125	U	240	U	99.5	U
4-Bromophenyl phenyl ether	101-55-3	~	~	45.8	U	38.1	U	35.6	U	39.3	45.1	U	86.4	U	35.9	U
4-Chloro-3-methylphenol	59-50-7	~	~	46	U	38.2	U	35.7	U	39.5	45.2	U	86.7	U	36	U
4-Chloroaniline	106-47-8	220	100000	69	U	57.3	U	53.5	U	59.2	67.8	U	130	U	54	U
4-Chlorophenyl phenyl ether	7005-72-3	~	~	34	U	28.2	U	26.4	U	29.2	33.4	U	64.2	U	26.6	U
4-Nitroaniline	100-02-7	~	~	61.2	U	50.8	U	47.5	U	52.5	60.1	U	115	U	47.9	U
4-Nitrophenol	56-57-5	100	~	60.7	U	50.4	U	47.1	U	52.1	59.7	U	114	U	47.5	U
Acenaphthene	83-32-9	20000	100000	41.1	U	34.1	U	31.8	U	35.2	40.3	U	77.4	U	32.1	U
Acenaphthylene	208-96-8	100000	100000	46.6	U	38.7	U	36.2	U	40	45.8	U	88	U	36.5	U
Aniline	62-53-3	330	100000	51.4	U	42.7	U	39.9	U	44.1	50.5	U	97	U	40.3	U
Anthracene	120-12-7	100000	100000	56.9	U	47.2	U	44.1	U	48.8	55.9	U	107	U	44.5	U
Benzidine	92-87-5	~	~	1350	U	1120	U	1050	U	1160	1330	U	2550	U	1060	U
Benzo(a)anthracene	56-55-3	1000	1000	75.7	U	62.9	U	58.7	U	64.9	74.4	U	143	U	59.3	U
Benzo(a)pyrene	50-32-8	1000	1000	**193**	J	59.9	U	56	U	61.9	**165**	J	136	U	56.5	U
Benzo(b)fluoranthene	205-99-2	1000	1000	**188**	J	58	U	54.2	U	59.9	**152**	J	132	U	54.6	U
Benzo(g,h,i)perylene	191-24-2	100000	100000	**118**	J	42.6	U	39.8	U	44	**64.4**	J	96.7	U	40.1	
Benzo(k)fluoranthene	207-08-9	800	3900	108	U	89.4	U	83.5	U	92.3	106	U	203	U	84.3	U
Benzoic acid	65-85-0	2700	100000	18400	U	15300	U	14300	U	15800	18100	U	34600	U	14400	U
Benzyl alcohol	100-51-6	~	~	43.1	U	35.8	U	33.5	U	37	42.4	U	81.3	U	33.8	U
Butyl benzyl phthalate	85-68-7	122000	100000	82.1	U	68.2	U	63.7	U	70.4	80.7	U	155	U	64.3	U
Carbazole	86-74-8	~	~	92	U	76.4	U	71.4	U	78.9	90.4	U	173	U	72	U
Chrysene	218-01-9	1000	3900	71.2	U	59.2	U	55.3	U	61.1	70	U	134	U	55.8	U
Cresols		330	100000	98.8	U	81.9	U	76.6	U	84.7	516	U	186	U	77.2	U
Di-n-butyl phthalate	84-74-2	~	~	70.4	U	58.5	U	54.6	U	60.4	69.2	U	133	U	55.1	U
Di-n-octyl phthalate	117-84-0	~	~	62.8	U	**92.8**		**94.2**		53.8	61.7	U	205	U	184	U
Dibenz(a,h)anthracene	53-70-3	330	330	58.8	U	48.8	U	45.6	U	50.4	57.8	U	111	U	46	U
Dibenzofuran	132-64-9	~	~	40.9	U	34	U	31.7	U	35.1	40.2	U	77.1	U	32	U
Diethyl phthalate	84-66-2	7100	100000	67.7	U	56.2	U	52.5	U	58.1	66.6	U	128	U	53	U
Dimethyl phthalate	131-11-3	~	~	54.6	U	45.4	U	42.4	U	46.8	53.7	U	103	U	42.8	U
Fluoranthene	206-44-0	100000	100000	**419**		59.9	U	56	U	**89**	**341**	J	136	U	56.5	
Fluorene	86-73-7	30000	100000	47	U	39	U	36.4	U	40.3	46.2	U	88.6	U	36.8	U
Hexachlorobenzene	118-74-1	330	410	56.2	U	46.7	U	43.6	U	48.2	55.3	U	106	U	44	U
Hexachlorobutadiene	87-68-3	~	~	55.3	U	45.9	U	42.9	U	47.4	54.3	U	104	U	43.3	U
Hexachlorocyclopentadiene	77-47-4	~	~	16.8	U	13.9	U	13	U	14.4	16.5	U	31.6	U	13.1	U
Hexachloroethane	67-72-1	~	~	57.3	U	47.6	U	44.5	U	49.2	56.4	U	108	U	44.9	U
Indeno(1,2,3-cd)pyrene	193-39-5	500	500	**92.7**		46.9	U	43.9	U	48.5	55.6	U	107	U	44.3	U
Isophorone	78-59-1	4400	100000	46.2	U	38.3	U	35.8	U	39.6	45.4	U	87	U	36.1	U
N-Nitrosodi-n-propylamine	621-64-7	~	~	63.9	U	53.1	U	49.6	U	54.8	62.8	U	120	U	50	U
N-Nitrosodimethylamine	62-75-9	~	~	115	U	95.2	U	89	U	98.4	113	U	216	U	89.8	U
N-Nitrosodiphenylamine	86-30-6	~	~	69.5	U	57.7	U	53.9	U	59.6	68.3	U	131	U	54.4	U
Naphthalene	91-20-3	12000	100000	**1560**		56.2	U	52.5	U	58.1	66.6	U	128	U	53	U
Nitrobenzene	98-95-3	3700	15000	43.3	U	35.9	U	33.6	U	37.1	42.5	U	81.6	U	33.9	U
Pentachlorophenol	87-86-5	800	6700	438	U	363	U	340	U	375	430	U	825	U	342	U
Phenanthrene	85-01-8	100000	100000	66.6	U	55.3	U	51.7	U	57.1	65.5	U	126	U	52.1	U
Phenol	108-95-2	330	100000	58.6	U	48.7	U	45.5	U	50.3	57.6	U	111	U	45.9	U
Pyrene	129-00-0	100000	100000	66.5	U	55.2	U	51.5	U	57	65.3	U	125	U	52	U
Pyridine	110-86-1	~	~	54.8	U	45.5	U	42.5	U	47	53.8	U	103	U	42.9	U
bis(2-Chloroethoxy)methane	111-91-1	~	~	57.7	U	47.9	U	44.7	U	49.5	56.7	U	109	U	45.1	U
bis(2-Chloroethyl)ether	111-44-4	~	~	49.7	U	41.2	U	38.5	U	42.6	48.8	U	93.7	U	38.9	U
bis(2-Chloroisopropyl)ether	108-60-1	~	~	60.5	U	50.3	U	47	U	51.9	59.5	U	114	U	47.4	U
bis(2-Ethylhexyl)phthalate	117-81-7	~	~	86.9	U	72.1	U	67.4	U	74.5	85.4	U	164	U	68	U

Table 3
Soil Sample Results
498 Leonard St, Brooklyn, NY

SampleID LabID Sampling Date ClientMatrix		NYSDEC Part 375 Unrestricted Use SCOs Soil	NYSDEC Part 375 Restricted Residential Use SCOs Soil	SB-06A 11-13' 1304263-2 04/23/2013 Soil		SB-06B 24-25' 1304263-3 04/23/2013 Soil		SB-06C 30-32' 1304263-4 04/23/2013 Soil		SB-07A 10-13' 1304262-1 04/22/2013 Soil	SB-12A 12-16' 1304263-7 04/23/2013 Soil		SB-12B 24-26' 1304263-8 04/23/2013 Soil		SB-12C 26-28' 1304263-9 04/23/2013 Soil	
Compound	**CASNumber**			**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
PCBs, Pesticides, Herbicides EPA 8082/8081/8321List		ug/kg dry	ug/kg dry	ug/kg dry		ug/kg dry		ug/kg dry		ug/kg dry	ug/kg dry		ug/kg dry		ug/kg dry	
Aroclor 1016	12674-11-2	~	~	25.4	U	21.1	U	19.7	U	21.8	25	U	47.9	U	19.9	U
Aroclor 1221	11104-28-2	~	~	25.4	U	21.1	U	19.7	U	21.8	25	U	47.9	U	19.9	U
Aroclor 1232	11141-16-5	~	~	25.4	U	21.1	U	19.7	U	21.8	25	U	47.9	U	19.9	U
Aroclor 1242	53469-21-9	~	~	25.4	U	21.1	U	19.7	U	21.8	25	U	47.9	U	19.9	U
Aroclor 1248	12672-29-6	~	~	25.4	U	21.1	U	19.7	U	21.8	25	U	47.9	U	19.9	U
Aroclor 1254	11097-69-1	~	~	25.4	U	21.1	U	19.7	U	21.8	25	U	47.9	U	19.9	U
Aroclor 1260	11096-82-5	~	~	17.7	U	14.7	U	13.8	U	15.2	17.4	U	33.4	U	13.9	U
Total PCBs	1336-36-3	100	1000	ND		ND		ND		ND	ND		ND		ND	
alpha-BHC	319-84-6	20	480	1.05	U	0.88	U	0.82	U	0.9	1.04	U	1.99	U	0.82	U
gamma-BHC (Lindane)	58-89-9	100	1300	1.33	U	1.1	U	1.03	U	1.14	1.3	U	2.5	U	1.04	U
beta-BHC	319-85-7	36	360	0.86	U	0.72	U	0.67	U	0.74	0.85	U	1.63	U	0.68	U
delta-BHC	319-86-8	40	100000	1.81	U	1.5	U	1.4	U	1.55	1.77	U	3.4	U	1.41	U
Heptachlor	76-44-8	42	2100	1.49	U	1.23	U	1.15	U	1.27	1.46	U	2.8	U	1.16	U
Aldrin	309-00-2	5	97	1.68	U	1.39	U	1.3	U	1.44	1.65	U	3.16	U	1.31	U
Heptachlor epoxide	1024-57-3	20	77	1.58	U	**3.63**	J	1.23	U	1.36	1.55	U	2.98	U	1.24	U
gamma-Chlordane	5103-74-2	540	540	1.69	U	**6.39**	J	1.31	U	1.45	1.66	U	3.19	U	1.33	U
alpha-Chlordane	5103-71-9	94	4200	1.42	U	**14.3**		1.1	U	1.22	1.4	U	2.68	U	1.11	U
4,4'-DDE	72-55-9	3.3	8900	1.71	U	1.42	U	1.33	U	1.47	1.68	U	3.22	U	1.34	U
Endosulfan I	959-98-8	2400	24000	1.63	U	1.35	U	1.26	U	1.4	1.6	U	3.07	U	1.27	U
Dieldrin	60-57-1	5	200	1.82	U	1.51	U	1.41	U	1.56	1.79	U	3.43	U	1.42	U
Endrin	72-20-8	14	11000	1.65	U	1.37	U	1.28	U	1.41	1.62	U	3.1	U	1.29	U
4,4'-DDD	72-54-8	3.3	13000	**54.9**		0.6	U	0.56	U	0.62	0.71	U	1.36	U	0.56	U
Endosulfan II	33213-65-9	2400	24000	1.29	U	1.07	U	1	U	1.11	1.27	U	2.44	U	1.01	U
4,4'-DDT	50-29-3	3.3	7900	0.86	U	0.72	U	0.67	U	0.74	0.85	U	1.63	U	0.68	U
Endosulfan sulfate	1031-07-8	2400	24000	1.15	U	0.95	U	0.89	U	0.99	1.13	U	2.17	U	0.9	U
Endrin Aldehyde	7421-93-4	~	~	1.2	U	0.99	U	0.93	U	1.03	1.18	U	2.26	U	0.94	U
Methoxychlor	72-43-5	1200	100000	1.41	U	1.17	U	1.09	U	1.21	1.38	U	2.65	U	1.1	U
Endrin ketone	53494-70-5	~	~	1.52	U	1.26	U	1.18	U	1.3	1.49	U	2.86	U	1.19	U
Toxaphene	8001-35-2	~	~	58.3	U	48.4	U	45.2	U	50	57.3	U	110	U	45.6	U
Chlordane	57-74-9	~	~	11.1	U	9.23	U	8.62	U	9.53	10.9	U	21	U	8.7	U
2,4-D	94-75-7	500	100000	160	U	133	U	124	U	137	157	U	301	U	125	U
2,4,5-T	93-76-5	1900	100000	160	U	133	U	124	U	137	157	U	301	U	125	U
Silvex(2,4,5-TP)	93-72-1	3800	100000	160	U	133	U	124	U	137	157	U	301	U	125	U
Metals, Target Analyte List		mg/kg dry	mg/kg dry	mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry	mg/kg dry		mg/kg dry		mg/kg dry	
Aluminum	7429-90-5	~	~	**3420**		**8210**		**4500**		**3620**	**3900**		**12000**		**3850**	
Antimony	7440-36-0	~	~	0.73	U	0.45	U	0.58	U	0.63	0.68	U	6.55	U	0.46	U
Arsenic	7440-38-2	13	16	**10.8**		**1.5**		**0.26**		**17.6**	**23.5**		**4.24**		0.19	
Barium	7440-39-3	350	400	**268**		**38.1**		**35.2**		**220**	**152**		**58.3**		**34.9**	
Beryllium	7440-41-7	7.2	72	**0.36**		**0.43**		**0.17**		**0.35**	**0.31**		**0.88**		**0.16**	
Cadmium	7440-43-9	2.5	4.3	0.032		0.02	U	0.026	U	**0.13**	0.11	U	0.29	U	0.02	U
Calcium	7440-70-2	~	~	**8330**		**1260**		**7400**		**4870**	**20200**		**7890**		**3500**	
Chromium	7440-47-3	30	180	**28.9**		**13.2**		**12.5**		**8.86**	**13**		**21.4**		**18.4**	
Cobalt	7440-48-4	20	30	**13.4**		**5.93**		**4.88**		**5.33**	**3.83**		**9.14**		**5.76**	
Copper	7440-50-8	50	270	**225**		**22.3**		**15.3**		**87.7**	**66.4**		**27.4**		**14.1**	
Iron	7439-89-6	~	~	**115000**		**16900**		**12400**		**10500**	**6930**		**31100**		**11400**	
Lead	7439-92-1	63	400	***414***		**15.7**		**3.66**		***1440***	***625***		**61.6**		**3.76**	
Magnesium	7439-95-4	~	~	**961**		**3400**		**5390**		**486**	**700**		**5270**		**3400**	
Manganese	7439-96-5	1600	2000	**233**		**88.7**		**151**		**128**	**107**		**292**		**72.5**	
Nickel	7440-02-0	30	310	**27.7**		**15**		**9.1**		**8.43**	**7.74**		**22.9**		**9.98**	
Potassium	7440-09-7	~	~	**674**		**984**		**1580**		**535**	**633**		**2170**		**1480**	
Selenium	7782-49-2	3.9	180	0.52	U	0.32	U	0.41	U	0.45	0.49	U	4.69	U	0.33	U
Silver	7440-22-4	2	180	0.053	U	0.033	U	0.042	U	0.047	0.05	U	0.48	U	0.034	U
Sodium	7440-23-5	~	~	**285**		**95.9**		**198**		**243**	**518**		**269**		**97**	
Thallium	7440-28-0	~	~	0.41	U	0.25	U	0.32	U	0.35	0.38	U	3.66	U	0.26	U
Vanadium	7440-62-2	~	~	**42.8**		**17.3**		**20.4**		**21.6**	**17.2**		**54.2**		**23.9**	
Zinc	7440-66-6	109	10000	**951**		**36.7**		**23.7**		**174**	**154**		**61.8**		**25.9**	
Mercury by 7470/7471		mg/kg dry	mg/kg dry	mg/kg dry		mg/kg dry		mg/kg dry		mg/kg dry	mg/kg dry		mg/kg dry		mg/kg dry	
Mercury	7439-97-6	0.18	0.81	***3.77***		**0.3**		**0.012**		**0.13**	***2.09***		**0.18**		**0.0076**	
Total Solids		%	%	%		%		%		%	%		%		%	
% Solids	solids	~	~	62.6		75.4		80.7		73	63.7		33.2		80	
GC Fingerprint - EPA 310.14		mg/kg dry	mg/kg dry													
Gasoline		~	~	16000	U	NT		NT		13700	15700	U	NT		NT	
Lubricating Oils		~	~	16000	U	NT		NT		13700	15700	U	NT		NT	
Kerosene/Jet Fuel		~	~	16000	U	NT		NT		13700	15700	U	NT		NT	
#2 Fuel Oil/Diesel		~	~	16000	U	NT		NT		13700	15700	U	NT		NT	
#4 Fuel Oil		~	~	16000	U	NT		NT		13700	15700	U	NT		NT	
#6 Fuel Oil		~	~	16000	U	NT		NT		13700	15700	U	NT		NT	
Dielectric Fluid		~	~	16000	U	NT		NT		13700	15700	U	NT		NT	
Mineral Spirit		~	~	**10800000**		NT		NT		**5430000**	**67800**		NT		NT	

NOTES:
BOLD=Compound detected above the method detection limit
Highlighted = Regulatory Exceedences above Unrestricted Use (Track 1) SCOs
Italicized and underline = Regulatory Exceedance above Restricted Residential (Track 2) SCOs
ND=Not Detected
NT=this indicates the analyte was not a target for this sample
Q is the Qualifier Column with definitions as follows:
U=analyte not detected at or above the level indicated
B=analyte found in the analysis batch blank
J=analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimatec
D=result is from an analysis that required a dilution
E=result is estimated and cannot be accurately reported due to levels encountered or interference:
~=this indicates that no regulatory limit has been established for this analyte

Table 4
Groundwater Sample Results
498 Leonard St, Brooklyn, NY

SampleID LabID Sampling Date ClientMatrix		NYSDEC TOGS Groundwater Quality Standards (GQS) Water	TWP-01 1304264-3 04/23/2013 Water		TWP-02 1304264-1 04/22/2013 Water		TWP-03 1304264-2 04/22/2013 Water	
Compound	CASNumber		Result	Q	Result	Q	Result	Q
Volatile Organics, TCL (Target Compound List)		ug/L	ug/L		ug/L		ug/L	
Acetone	67-64-1	50	1.18	U	1.18	U	1.18	U
Carbon Tetrachloride	56-23-5	5	0.28	U	0.28	U	0.28	U
Chloroform	67-66-3	7	0.31	U	0.31	U	0.31	U
Benzene	71-43-2	1	0.3	U	0.3	U	0.3	U
1,1,1-Trichloroethane	71-55-6	5	0.34	U	0.34	U	0.34	U
Bromomethane	74-83-9	~	0.34	U	0.34	U	0.34	U
Chloromethane	74-87-3	5	0.5	U	0.5	U	0.5	U
Dibromomethane	74-95-3	5	0.37	U	0.37	U	0.37	U
Bromochloromethane	74-97-5	50	0.28	U	0.28	U	0.28	U
Chloroethane	75-00-3	5	0.86	U	0.86	U	0.86	U
Vinyl Chloride	75-01-4	2	0.71	U	0.71	U	0.71	U
Methylene Chloride	75-09-2	5	0.23	U	0.23	U	0.23	U
Carbon disulfide	75-15-0	~	0.34	U	0.34	U	0.34	U
Bromoform	75-25-2	50	0.22	U	0.22	U	0.22	U
Bromodichloromethane	75-27-4	~	0.23	U	0.23	U	0.23	U
1,1-Dichloroethane	75-34-3	5	0.27	U	0.27	U	0.27	U
1,1-Dichloroethene	75-35-4	5	0.28	U	0.28	U	0.28	U
Tertiary butyl alcohol	75-65-0	~	5.68	U	5.68	U	5.68	U
Trichlorofluoromethane	75-69-4	5	0.38	U	0.38	U	0.38	U
Dichlorodifluoromethane	75-71-8	5	0.37	U	0.37	U	0.37	U
1,1,2-Trichlorotrifluoroethane	76-13-1	5	0.58	U	0.58	U	0.58	U
1,2-Dichloropropane	78-87-5	1	0.36	U	0.36	U	0.36	U
2-Butanone	78-93-3	50	1.37	U	1.37	U	1.37	U
1,1,2-Trichloroethane	79-00-5	1	0.28	U	0.28	U	0.28	U
Trichloroethene	79-01-6	5	0.18	U	0.18	U	0.18	U
1,1,2,2-Tetrachloroethane	79-34-5	5	0.25	U	0.25	U	0.25	U
1,2,3-Trichlorobenzene	87-61-6	5	0.38	U	0.38	U	0.38	U
Hexachlorobutadiene	87-68-3	0.5	0.32	U	0.32	U	0.32	U
Naphthalene	91-20-3	10	0.12	U	0.12	U	1.19	U
o-xylene	95-47-6	5	0.32	U	0.32	U	0.32	U
2-Chlorotoluene	95-49-8	5	0.26	U	0.26	U	0.26	U
1,2-Dichlorobenzene	95-50-1	3	0.15	U	0.15	U	0.15	U
1,2,4-Trimethylbenzene	95-63-6	5	0.23	U	**1.85**	J	**7.78**	
1,2,4,5-Tetramethylbenzene	95-93-2	5	**90.9**		**135**		**49.5**	
1,2-Dibromo-3-chloropropane	96-12-8	0.04	0.55	U	0.55	U	0.55	U
1,2,3-Trichloropropane	96-18-4	0.04	0.21	U	0.21	U	0.21	U
tert-Butylbenzene	98-82-8	5	**43.5**		**43.7**		**19.8**	
Isopropylbenzene	98-82-8	5	**33.7**		**9.2**		**70.7**	
4-Isopropyltoluene	99-87-6	5	**4.92**	J	0.29	U	**5.02**	
Ethylbenzene	100-41-4	5	0.27	U	0.27	U	0.27	U
Styrene	100-42-5	5	0.2	U	0.2	U	0.2	U
n-Propylbenzene	103-65-1	5	**8.99**		0.25	U	**121**	
n-Butylbenzene	104-51-8	5	**63.4**		**31.4**		**42**	
p-Diethylbenzene	105-05-5	~	0.25	U	**42.7**		0.25	U
4-Chlorotoluene	106-43-4	5	0.26	U	0.26	U	0.26	U
1,4-Dichlorobenzene	106-46-7	3	0.27	U	0.27	U	0.27	U
1,2-Dibromoethane	106-93-4	5	0.23	U	0.23	U	0.23	U
1,2-Dichloroethane	107-06-2	0.6	0.3	U	0.3	U	0.3	U
Acrylonitrile	107-13-1	5	1.97	U	1.97	U	1.97	U
4-Methyl-2-pentanone	108-10-1	~	3.94	U	3.94	U	3.94	U
m,p-xylene	1330-20-7P/M	5	0.74	U	0.74	U	**0.82**	J
1,3,5-Trimethylbenzene	108-67-8	5	0.2	U	0.2	U	**2.97**	J
Bromobenzene	108-86-1	5	0.28	U	0.28	U	0.28	U
Toluene	108-88-3	5	**1.57**	J	**0.6**		0.34	U
Chlorobenzene	108-90-7	5	0.24	U	0.24	U	0.24	U
2-Chloroethylvinylether	110-75-8	~	1.15	U	1.15	U	1.15	U
1,2,4-Trichlorobenzene	120-82-1	5	0.23	U	0.23	U	0.23	U
Dibromochloromethane	124-48-1	50	0.21	U	0.21	U	0.21	U
Tetrachloroethene	127-18-4	5	0.46	U	0.46	U	0.46	U
sec-Butylbenzene	135-98-8	5	**160**		**92.2**		**90**	
1,3-Dichloropropane	142-28-9	5	0.39	U	0.39	U	0.39	U
c-1,2-Dichloroethene	156-59-2	5	0.24	U	0.24	U	0.24	U
t-1,2-Dichloroethene	156-60-5	~	0.42	U	0.42	U	0.42	U
1,3-Dichlorobenzene	541-73-1	20	0.26	U	0.26	U	0.26	U
1,1-Dichloropropene	563-58-6	5	0.47	U	0.47	U	0.47	U
2,2-Dichloropropane	590-20-7	5	0.35	U	0.35	U	0.35	U
2-Hexanone	591-78-6	50	2.54	U	2.54	U	2.54	U
p-Ethyltoluene	622-96-8	~	0.31	U	0.31	U	**2.94**	J
1,1,1,2-Tetrachloroethane	630-20-6	5	0.22	U	0.22	U	0.22	U
TAME	994-05-08	~	0.27	U	0.27	U	0.27	U
Methyl t-butyl ether	1634-04-4	10	0.17	U	0.17	U	**3.39**	J
c-1,3-Dichloropropene	10061-01-5	0.4	0.33	U	0.33	U	0.33	U
t-1,3-Dichloropropene	10061-02-6	0.4	0.26	U	0.26	U	0.26	U

Table 4
Groundwater Sample Results
498 Leonard St, Brooklyn, NY

SampleID LabID Sampling Date ClientMatrix		NYSDEC TOGS Groundwater Quality Standards (GQS) Water	TWP-01 1304264-3 04/23/2013 Water		TWP-02 1304264-1 04/22/2013 Water		TWP-03 1304264-2 04/22/2013 Water	
Compound	CASNumber		Result	Q	Result	Q	Result	Q
Semi-Volatiles, EPA TCL List		ug/L	ug/L		ug/L		ug/L	
1,2,4-Trichlorobenzene	120-82-1	5	0.64	U	0.64	U	0.64	U
1,2-Dichlorobenzene	95-50-1	3	0.65	U	0.65	U	0.65	U
1,2-Diphenylhydrazine	122-66-7	0.05	1.02	U	1.02	U	1.02	U
1,3-Dichlorobenzene	541-73-1	3	0.68	U	0.68	U	0.68	U
1,4-Dichlorobenzene	106-46-7	3	0.73	U	0.73	U	0.73	U
2,3,4,6-Tetrachlorophenol	58-90-2	~	0.72	U	0.72	U	0.72	U
2,4,5-Trichlorophenol	95-95-4	1	0.52	U	0.52	U	0.52	U
2,4,6-Trichlorophenol	88-06-2	1	0.84	U	0.84	U	0.84	U
2,4-Dichlorophenol	120-83-2	5	0.72	U	0.72	U	0.72	U
2,4-Dimethylphenol	105-67-9	50	0.9	U	0.9	U	0.9	U
2,4-Dinitrophenol	51-28-5	10	1.61	U	1.61	U	1.61	U
2,4-Dinitrotoluene	121-14-2	5	0.75	U	0.75	U	0.75	U
2,6-Dinitrotoluene	606-20-2	5	0.99	U	0.99	U	0.99	U
2-Chloronaphthalene	91-58-7	10	0.8	U	0.8	U	0.8	U
2-Chlorophenol	95-57-8	1	0.64	U	0.64	U	0.64	U
2-Methylnaphthalene	91-57-6	~	0.74	U	0.74	U	0.74	U
2-Methylphenol	95-48-7	1	0.46	U	0.46	U	0.46	U
2-Nitroaniline	88-74-4	5	0.49	U	0.49	U	0.49	U
2-Nitrophenol	88-75-5	1	0.62	U	0.62	U	0.62	U
3+4-Methylphenol	100-01-6	5	0.31	U	0.31	U	0.31	U
3,3'-Dichlorobenzidine	91-94-1	~	1.33	U	1.33	U	1.33	U
3-Nitroaniline	99-09-2	5	0.34	U	0.34	U	0.34	U
4,6-Dinitro-2-methylphenol	534-52-1	~	0.47	U	0.47	U	0.47	U
4-Bromophenyl phenyl ether	101-55-3	~	1.01	U	1.01	U	1.01	U
4-Chloro-3-methylphenol	59-50-7	1	0.73	U	0.73	U	0.73	U
4-Chloroaniline	106-47-8	5	0.42	U	0.42	U	0.42	U
4-Chlorophenyl phenyl ether	7005-72-3	~	0.86	U	0.86	U	0.86	U
4-Nitroaniline	100-02-7	5	0.52	U	0.52	U	0.52	U
4-Nitrophenol	56-57-5	1	1.61	U	1.61	U	1.61	U
Acenaphthene	83-32-9	20	0.77	U	0.77	U	0.77	U
Acenaphthylene	208-96-8	~	0.74	U	0.74	U	0.74	U
Aniline	62-53-3	5	0.46	U	0.46	U	0.46	U
Anthracene	120-12-7	50	0.88	U	0.88	U	0.88	U
Benzidine	92-87-5	5	48.2	U	48.2	U	48.2	U
Benzo(a)anthracene	56-55-3	0.002	0.96	U	0.96	U	0.96	U
Benzo(a)pyrene	50-32-8	0.002	0.82	U	0.82	U	0.82	U
Benzo(b)fluoranthene	205-99-2	0.002	0.85	U	0.85	U	0.85	U
Benzo(g,h,i)perylene	191-24-2	~	0.85	U	0.85	U	0.85	U
Benzo(k)fluoranthene	207-08-9	0.002	1	U	1	U	1	U
Benzoic acid	65-85-0	~	10	U	10	U	10	U
Benzyl alcohol	100-51-6	~	0.41	U	0.41	U	0.41	U
Butyl benzyl phthalate	85-68-7	50	1.06	U	1.06	U	1.06	U
Carbazole	86-74-8	~	1.99	U	1.99	U	1.99	U
Chrysene	218-01-9	0.002	1	U	1	U	1	U
Cresols		~	0.77	U	0.77	U	0.77	U
Di-n-butyl phthalate	84-74-2	50	1.08	U	1.08	U	1.08	U
Di-n-octyl phthalate	117-84-0	50	1.28	U	1.28	U	1.28	U
Dibenz(a,h)anthracene	53-70-3	~	1	U	1	U	1	U
Dibenzofuran	132-64-9	~	0.62	U	0.62	U	0.62	U
Diethyl phthalate	84-66-2	50	1	U	1	U	1	U
Dimethyl phthalate	131-11-3	50	0.78	U	0.78	U	0.78	U
Fluoranthene	206-44-0	50	0.96	U	0.96	U	0.96	U
Fluorene	86-73-7	50	0.82	U	0.82	U	0.82	U
Hexachlorobenzene	118-74-1	0.04	0.86	U	0.86	U	0.86	U
Hexachlorobutadiene	87-68-3	0.5	0.78	U	0.78	U	0.78	U
Hexachlorocyclopentadiene	77-47-4	5	0.21	U	0.21	U	0.21	U
Hexachloroethane	67-72-1	5	0.69	U	0.69	U	0.69	U
Indeno(1,2,3-cd)pyrene	193-39-5	0.002	0.9	U	0.9	U	0.9	U
Isophorone	78-59-1	50	0.69	U	0.69	U	0.69	U
N-Nitrosodi-n-propylamine	621-64-7	~	0.57	U	0.57	U	0.57	U
N-Nitrosodimethylamine	62-75-9	~	0.24	U	0.24	U	0.24	U
N-Nitrosodiphenylamine	86-30-6	50	1.09	U	1.09	U	1.09	U
Naphthalene	91-20-3	10	0.78	U	0.78	U	0.78	U
Nitrobenzene	98-95-3	0.4	0.71	U	0.71	U	0.71	U
Pentachlorophenol	87-86-5	1	0.65	U	0.65	U	0.65	U
Phenanthrene	85-01-8	50	0.95	U	0.95	U	0.95	U
Phenol	108-95-2	1	0.33	U	0.33	U	0.33	U
Pyrene	129-00-0	50	0.85	U	0.85	U	0.85	U
Pyridine	110-86-1	50	0.37	U	0.37	U	0.37	U
bis(2-Chloroethoxy)methane	111-91-1	5	0.7	U	0.7	U	0.7	U
bis(2-Chloroethyl)ether	111-44-4	1	0.57	U	0.57	U	0.57	U
bis(2-Chloroisopropyl)ether	108-60-1	5	0.74	U	0.74	U	0.74	U
bis(2-Ethylhexyl)phthalate	117-81-7	5	1.26	U	1.26	U	1.26	U

Table 4
Groundwater Sample Results
498 Leonard St, Brooklyn, NY

SampleID LabID Sampling Date ClientMatrix		NYSDEC TOGS Groundwater Quality Standards (GQS) Water	TWP-01 1304264-3 04/23/2013 Water		TWP-02 1304264-1 04/22/2013 Water		TWP-03 1304264-2 04/22/2013 Water	
Compound	CASNumber		Result	Q	Result	Q	Result	Q
PCBs, Pesticides, Herbicides EPA 8082/8081/8321 List								
Aroclor 1016	12674-11-2	~	0.074	U	0.074	U	0.074	U
Aroclor 1221	11104-28-2	~	0.09	U	0.09	U	0.09	U
Aroclor 1232	11141-16-5	~	0.09	U	0.09	U	0.09	U
Aroclor 1242	53469-21-9	~	0.09	U	0.09	U	0.09	U
Aroclor 1248	12672-29-6	~	0.09	U	0.09	U	0.09	U
Aroclor 1254	11097-69-1	~	0.09	U	0.09	U	0.09	U
Aroclor 1260	11096-82-5	~	0.1	U	0.1	U	0.1	U
Total PCBs	1336-36-3		ND		ND		ND	
alpha-BHC	319-84-6	0.01	0.00092	U	0.00092	U	0.00092	U
gamma-BHC (Lindane)	58-89-9	0.05	0.00089	U	0.00089	U	0.00089	U
beta-BHC	319-85-7	0.04	0.0015	U	0.0015	U	0.0015	U
delta-BHC	319-86-8	0.04	0.0013	U	0.0013	U	0.0013	U
Heptachlor	76-44-8	0.04	0.0012	U	0.0012	U	0.0012	U
Aldrin	309-00-2	0.002	0.0011	U	0.0011	U	0.0011	U
Heptachlor epoxide	1024-57-3	0.03	0.0013	U	0.0013	U	0.0013	U
gamma-Chlordane	5103-74-2	~	0.0013	U	0.0013	U	0.0013	U
alpha-Chlordane	5103-71-9	~	0.0012	U	0.0012	U	0.0012	U
4,4'-DDE	72-55-9	0.2	0.0015	U	0.0015	U	0.0015	U
Endosulfan I	959-98-8	~	0.0013	U	0.0013	U	0.0013	U
Dieldrin	60-57-1	0.004	0.0011	U	0.0011	U	0.0011	U
Endrin	72-20-8	0.002	0.0014	U	0.0014	U	0.0014	U
4,4'-DDD	72-54-8	0.3	0.0013	U	0.0013	U	0.0013	U
Endosulfan II	33213-65-9	~	0.0015	U	0.0015	U	0.0015	U
4,4'-DDT	50-29-3	0.2	0.0014	U	0.0014	U	0.0014	U
Endosulfan sulfate	1031-07-8	~	0.0014	U	0.0014	U	0.0014	U
Endrin Aldehyde	7421-93-4	5	0.001	U	0.001	U	0.001	U
Methoxychlor	72-43-5	35	0.0014	U	0.0014	U	0.0014	U
Endrin ketone	53494-70-5	5	0.0014	U	0.0014	U	0.0014	U
Toxaphene	8001-35-2	0.06	0.39	U	0.39	U	0.39	U
Chlordane	57-74-9	0.05	0.12	U	0.12	U	0.12	U
2,4-D	94-75-7	50	13.5	U	13.5	U	13.5	U
2,4,5-T	93-76-5	35	20.5	U	20.5	U	20.5	U
Silvex(2,4,5-TP)	93-72-1	0.26	20.5	U	20.5	U	20.5	U

Table 4
Groundwater Sample Results
498 Leonard St, Brooklyn, NY

SampleID LabID Sampling Date ClientMatrix		NYSDEC TOGS Groundwater Quality Standards (GQS) Water	TWP-01 1304264-3 04/23/2013 Water		TWP-02 1304264-1 04/22/2013 Water		TWP-03 1304264-2 04/22/2013 Water	
Compound	**CASNumber**		**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
Metals, Dissolved - Target Analyte (TAL)		mg/L	mg/L		mg/L		mg/L	
Aluminum	7429-90-5	~	**0.86**		**0.25**		0.025	U
Antimony	7440-36-0	~	0.009		0.009	U	0.009	U
Arsenic	7440-38-2	0.025	**0.025**		0.0038	U	0.0038	U
Barium	7440-39-3	1	**0.47**		**0.28**		**0.35**	
Beryllium	7440-41-7	~	0.001	U	0.001	U	0.001	U
Cadmium	7440-43-9	0.005	**0.0006**		0.0004	U	0.0004	U
Calcium	7440-70-2	~	**157**		**215**		**148**	
Chromium	7440-47-3	0.05	**0.032**		**0.0037**		**0.0055**	
Cobalt	7440-48-4	~	**0.0044**		0.00074	U	**0.0024**	
Copper	7440-50-8	0.2	**0.018**		**0.005**		0.0034	U
Iron	7439-89-6	~	**3.87**		**2.28**		**16.7**	
Lead	7439-92-1	0.025	**0.13**		**0.036**		**0.024**	
Magnesium	7439-95-4	35	**17.4**		**26.9**		**17.4**	
Manganese	7439-96-5	~	**1.04**		**1.96**		**0.6**	
Nickel	7440-02-0	~	**0.036**		**0.0041**		**0.006**	
Potassium	7440-09-7	~	**12.4**		**19.6**		**21.1**	
Selenium	7782-49-2	0.01	0.0064	U	0.0064	U	0.0064	U
Silver	7440-22-4	0.05	0.00066	U	0.00066	U	0.00066	U
Sodium	7440-23-5	~	**45.3**		**70.5**		**78**	
Thallium	7440-28-0	~	0.005	U	0.005	U	0.005	U
Vanadium	7440-62-2	~	0.00067	U	0.00067	U	0.00067	U
Zinc	7440-66-6	~	**0.23**		**0.024**		**0.016**	
Metals, Target Analyte		ug/L	mg/L		mg/L		mg/L	
Aluminum	7429-90-5	~	**0.2**		**1.12**		**1.53**	
Antimony	7440-36-0	~	0.009	U	0.009	U	0.009	U
Arsenic	7440-38-2	0.025	**0.027**		0.0038	U	0.0038	U
Barium	7440-39-3	1	**0.4**		0.34	U	**0.5**	
Beryllium	7440-41-7	~	0.001	U	0.001	U	0.001	U
Cadmium	7440-43-9	0.005	0.0004	U	0.0004	U	0.0004	U
Calcium	7440-70-2	~	**165**		**254**		**206**	
Chromium	7440-47-3	0.05	**0.027**		**0.018**		**0.035**	
Cobalt	7440-48-4	~	**0.0038**		0.00074	U	**0.001**	
Copper	7440-50-8	0.2	**0.0091**		**0.024**		0.0034	U
Iron	7439-89-6	~	**3.72**		**2.54**		**25.7**	
Lead	7439-92-1	0.025	**0.14**		**0.049**		**0.086**	
Magnesium	7439-95-4	35	**17.6**		**29.3**		**23.7**	
Manganese	7439-96-5	~	**1.21**		**2.18**		**0.82**	
Nickel	7440-02-0	~	**0.014**		**0.019**		**0.064**	
Potassium	7440-09-7	~	**12.6**		**23.8**		**30.4**	
Selenium	7782-49-2	0.01	0.0064	U	0.0064	U	0.0064	U
Silver	7440-22-4	0.05	0.00066	U	0.00066	U	0.00066	U
Sodium	7440-23-5	~	**46.3**		**81.4**		**107**	
Thallium	7440-28-0	~	0.005	U	0.005	U	0.005	U
Vanadium	7440-62-2	~	0.00067	U	0.00067	U	0.00067	U
Zinc	7440-66-6	~	**0.092**		**0.12**		**0.49**	
Mercury by 7470/7471		mg/L	mg/L		mg/L		mg/L	
Mercury	7439-97-6	0.0007	**0.0031**		**0.00044**		**0.000054**	
Mercury, Dissolved		mg/L	mg/L		mg/L		mg/L	
Mercury	7439-97-6	0.0007	**0.0016**		**0.00038**		**0.000058**	
GC Fingerprint - EPA 310.14		mg/L	mg/L		mg/L		mg/L	
Gasoline		~	0.1	U	0.1	U	0.1	U
Lubricating Oils		~	0.1	U	0.1	U	0.1	U
Kerosene/Jet Fuel		~	0.1	U	0.1	U	0.1	U
#2 Fuel Oil/Diesel		~	0.1	U	0.1	U	0.1	U
#4 Fuel Oil		~	0.1	U	0.1	U	0.1	U
#6 Fuel Oil		~	0.1	U	0.1	U	0.1	U
Dielectric Fluid		~	0.1	U	0.1	U	0.1	U
Mineral Spirit		~	0.1	U	0.1	U	0.1	U

NOTES:
BOLD=Compound detected above the method detection limit
Any Regulatory Exceedences are color coded by Regulation
ND=Not Detected
U=analyte not detected at or above the level indicated
B=analyte found in the analysis batch blank
J=analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated
D=result is from an analysis that required a dilution
E=result is estimated and cannot be accurately reported due to levels encountered or interferences
NT=this indicates the analyte was not a target for this sample
~=this indicates that no regulatory limit has been established for this analyte

Table 5
Soil Vapor Results
498 Leonard St, Brooklyn, NY

SampleID			Y63/SV-01		Y73/SV-02		Y26/SV-03	
LabID			13D0913-01		13D0913-02		13D0913-03	
Sampling Date			04/24/2013		04/24/2013		04/24/2013	
DilutionFactor		NYSDOH Guidance	19.16		72		28.31	
ClientMatrix		Levels 2006	Soil Vapor		Soil Vapor		Soil Vapor	
Compound	**CASNumber**		**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
Volatile Organics, EPA TO15 Full List			ug/m³		ug/m³		ug/m³	
1,1,1-Trichloroethane	71-55-6	**DOH Matrix 2**	11	U	40	U	16	U
		< 100	NFA / Reasonable Action		NFA / Reasonable Action		NFA / Reasonable Action	
		100 - 1,000						
		1,000 and above						
1,1,2,2-Tetrachloroethane	79-34-5	~	13	U	50	U	20	U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	~	15	U	56	U	22	U
1,1,2-Trichloroethane	79-00-5	~	11	U	40	U	16	U
1,1-Dichloroethane	75-34-3	~	7.9	U	30	U	12	U
1,1-Dichloroethylene	75-35-4	~	7.7	U	29	U	11	U
1,2,4-Trichlorobenzene	120-82-1	~	14	U	54	U	21	U
1,2,4-Trimethylbenzene	95-63-6	~	**110**	**D**	36	U	**75**	**D**
1,2-Dibromoethane	106-93-4	~	15	U	56	U	22	U
1,2-Dichlorobenzene	95-50-1	~	12	U	44	U	17	U
1,2-Dichloroethane	107-06-2	~	7.9	U	30	U	12	U
1,2-Dichloropropane	78-87-5	~	9.0	U	34	U	13	U
1,2-Dichlorotetrafluoroethane	76-14-2	~	14	U	51	U	20	U
1,3,5-Trimethylbenzene	108-67-8	~	**37**	**D**	36	U	**21**	**D**
1,3-Butadiene	106-99-0	~	8.4	U	32	U	12	U
1,3-Dichlorobenzene	541-73-1	~	12	U	44	U	17	U
1,4-Dichlorobenzene	106-46-7	~	12	U	44	U	17	U
1,4-Dioxane	123-91-1	~	7.0	U	26	U	10	U
2-Butanone	78-93-3	~	**95**	D	22	U	8.5	U
2-Hexanone	591-78-6	~	8.0	U	30	U	12	U
4-Methyl-2-pentanone	108-10-1	~	8.0	U	30	U	12	U
Acetone	67-64-1	~	**220**	**D**	**57**	**D**	**21**	**D**
Benzene	71-43-2	~	6.2	U	23	U	9.2	U
Benzyl chloride	100-44-7	~	10	U	38	U	15	U
Bromodichloromethane	75-27-4	~	12	U	45	U	18	U
Bromoform	75-25-2	~	20	U	76	U	30	U
Bromomethane	74-83-9	~	7.6	U	28	U	11	U
Carbon disulfide	75-15-0	~	**75**	**D**	**100**	**D**	9.0	U
Carbon tetrachloride	56-23-5	**DOH Matrix 1**	6.1	U	23	U	9.1	U
		< 5	NFA / Reasonable Action		NFA / Reasonable Action		NFA / Reasonable Action	
		5 - 50						
		50 - 250						
		250 and above						
Chlorobenzene	108-90-7	~	9.0	U	**47**	**D**	13	U
Chloroethane	75-00-3	~	5.1	U	19	U	7.6	U
Chloroform	67-66-3	~	9.5	U	36	U	14	U
Chloromethane	74-87-3	~	4.0	U	15	U	5.9	U
cis-1,2-Dichloroethylene	156-59-2	~	**29**	**D**	29	U	11	U
cis-1,3-Dichloropropylene	10061-01-5	~	8.8	U	33	U	13	U
Cyclohexane	110-82-7	~	**1100**	**D**	**78**	**D**	**12**	**D**
Dibromochloromethane	124-48-1	~	16	U	59	U	23	U
Dichlorodifluoromethane	75-71-8	~	9.6	U	36	U	14	U
Ethyl acetate	141-78-6	~	7.0	U	26	U	10	U
Ethyl Benzene	100-41-4	~	88	D	32	U	**43**	**D**
Hexachlorobutadiene	87-68-3	~	21	U	78	U	31	U
Isopropanol	67-63-0	~	**350**	**D**	18	U	7.1	U
Methyl Methacrylate	80-62-6	~	8.0	U	30	U	12	U
Methyl tert-butyl ether (MTBE)	1634-04-4	~	7.0	U	26	U	10	U
Methylene chloride	75-09-2	~	6.8	U	**43**	**D**	**13**	**D**
n-Heptane	142-82-5	~	8.0	U	30	U	**17**	**D**
n-Hexane	110-54-3	~	**100**	**D**	26	U	**11**	**D**
o-Xylene	95-47-6	~	**96**	**D**	32	U	**59**	**D**
p- & m- Xylenes	179601-23-1	~	**380**	**D**	**67**	**D**	**160**	**D**
p-Ethyltoluene	622-96-8	~	**120**	**D**	180	U	**82**	**D**
Propylene	115-07-01	~	3.4	U	13	U	5.0	U
Styrene	100-42-5	~	8.3	U	31	U	12	U
Tetrachloroethylene	127-18-4	**DOH Matrix 2**	**20**	**D**	50	U	20	U
		< 100	NFA / Reasonable Action		NFA / Reasonable Action		NFA / Reasonable Action	
		100 - 1,000						
		1,000 and above						
Tetrahydrofuran	109-99-9	~	5.7	U	22	U	8.5	U
Toluene	108-88-3	~	**200**	**D**	**44**	**D**	**90**	**D**
trans-1,2-Dichloroethylene	156-60-5	~	**12**	**D**	29	U	11	U
trans-1,3-Dichloropropylene	10061-02-6	~	8.8	U	33	U	13	U
Trichloroethylene	79-01-6	**DOH Matrix 1**	5.2	U	20	U	7.7	U
		< 5	NFA / Reasonable Action		NFA / Reasonable Action		NFA / Reasonable Action	
		5 - 50						
		50 - 250						
		250 and above						
Trichlorofluoromethane (Freon 11)	75-69-4		11	U	41	U	16	U
Vinyl acetate	108-05-4		6.9	U	26	U	10	U
Vinyl Chloride	75-01-4		5.0	U	19	U	7.4	U

NOTES:

BOLD = Compound detected above the method detection limit

Any Regulatory Exceedences are color coded by Regulation

NFA = No Further Action

Q is the Qualifier Column with definitions as follows:

D = result is from an analysis that required a dilution

U = analyte not detected at or above the level indicated

~ = this indicates that no regulatory limit has been established for this analyte

APPENDIX 1

CITIZEN PARTICIPATION PLAN

The NYC Office of Environmental Remediation and Mr. Jack Fung have established this Citizen Participation Plan because the opportunity for citizen participation is an important component of the NYC Brownfield Cleanup Program. This Citizen Participation Plan describes how information about the project will be disseminated to the Community during the remedial process. As part of its obligations under the NYC BCP, Global Paragon will maintain a repository for project documents and provide public notice at specified times throughout the remedial program. This Plan also takes into account potential environmental justice concerns in the community that surrounds the project Site. Under this Citizen Participation Plan, project documents and work plans are made available to the public in a timely manner. Public comment on work plans is strongly encouraged during public comment periods. Work plans are not approved by the NYC Office of Environmental Remediation (OER) until public comment periods have expired and all comments are formally reviewed. An explanation of cleanup plans in the form of a public meeting or informational session is available upon request to OER's project manager assigned to this Site is Mr. William Wong who can be contacted about these issues or any others questions, comments or concerns that arise during the remedial process at (212) 341-0659.

Project Contact List.OER has established a Site Contact List for this project to provide public notices in the form of fact sheets to interested members of the Community. Communications will include updates on important information relating to the progress of the cleanup program at the Site as well as to request public comments on the cleanup plan. The Project Contact List includes owners and occupants of adjacent buildings and homes, principal administrators of nearby schools, hospitals and day care centers, the public water supplier that serves the area, established document repositories, the representative Community Board, City Council members, other elected representatives and any local Brownfield Opportunity Area (BOA) grantee organizations. Any member of the public or organization will be added to the Site Contact List on request. A copy of the Site Contact List is maintained by OER's project manager. If you would like to be added to the Project Contact List, contact NYC OER at (212) 788-8841 or by email at brownfields@cityhall.nyc.gov.

Repositories.A document repository is maintained in the nearest public library that maintains evening and weekend hours. This document repository is intended to house, for community review, all principal documents generated during the cleanup program including Remedial Investigation plans and reports, Remedial Action work plans and reports, and all public notices and fact sheets produced during the lifetime of the remedial project. ADC will inspect the repositories to ensure that they are fully populated with project information. The repository for this project is:

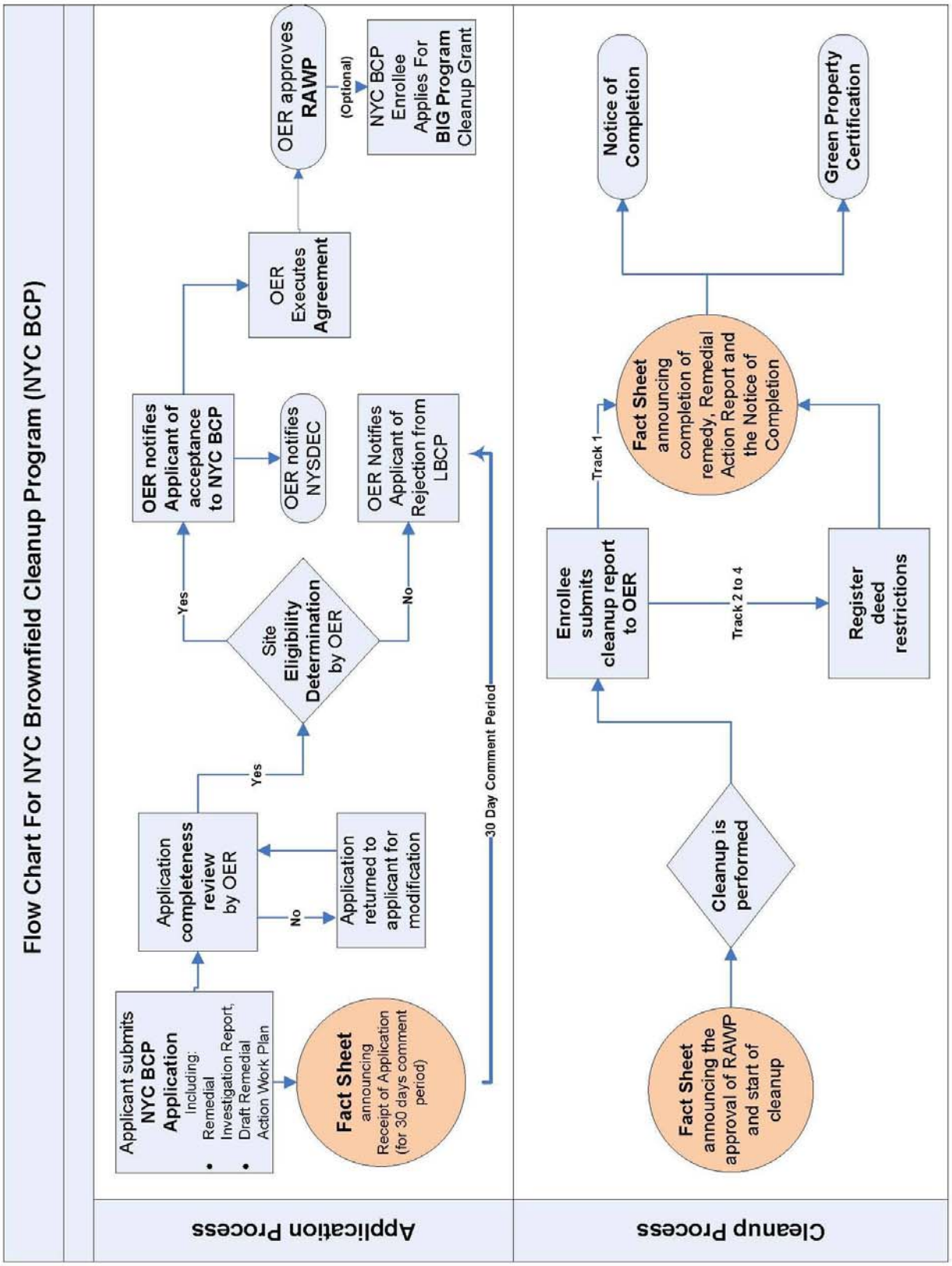
Brooklyn Public Library
Greenpoint Branch
107 Norman Avenue at Leonard Street
Brooklyn, NY 11222

Please call (718) 349-8504 for hours of operation and OER website

http://www.nyc.gov/html/oer/html/repository/RBrooklyn.shtml

Digital Documentation. NYC OER strongly encourages the use of digital documents in repositories as a means of minimizing paper use while also increasing convenience in access and ease of use.

Public Notice and Public Comment. Public notice to all members of the Project Contact List is required at three major steps during the performance of the cleanup program (listed below) and at other points that may be required by OER. Notices will include Fact Sheets with descriptive project summaries, updates on recent and upcoming project activities, repository information, and important phone and email contact information. All notices will be prepared by Global Paragon, reviewed and approved by OER prior to distribution and mailed by Global Paragon. Public comment is solicited in public notices for all work plans developed under the NYC Brownfield Cleanup Program. Final review of all work plans by OER will consider all public comments. Approval will not be granted until the public comment period has been completed.



Citizen Participation Milestones. Public notice and public comment activities occur at several

steps during a typical NYC BCP project. See flow chart on the following page, which identifies when during the NYC BCP public notices are issued: These steps include:

- **Public Notice of the availability of the Remedial Investigation Report and Remedial Action Work Plan and a 30-day public comment period on the Remedial Action Work Plan.**

  Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the availability of the Remedial Investigation Report and Remedial Action Work Plan and the initiation of a 30-day public comment period on the Remedial Action Work Plan. The Fact Sheet summarizes the findings of the RIR and provides details of the RAWP. The public comment period will be extended an additional 15 days upon public request. A public meeting or informational session will be conducted by OER upon request.

- **Public Notice announcing the approval of the RAWP and the start of remediation**

  Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the approval of the RAWP and the start of remediation.

- **Public Notice announcing the completion of remediation, designation of Institutional and Engineering Controls and issuance of the Notice of Completion**

  Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the completion of remediation, providing a list of all Institutional and Engineering Controls implemented for to the Site and announcing the issuance of the Notice of Completion.

APPENDIX 2

SUSTAINABILITY STATEMENT

This Sustainability Statement documents sustainable activities and green remediation efforts planned under this remedial action.

Reuse of Clean, Recyclable Materials. Reuse of clean, locally-derived recyclable materials reduces consumption of non-renewable virgin resources and can provide energy savings and greenhouse gas reduction.

An estimate of the quantity (in tons) of clean, non-virgin materials (reported by type of material) reused under this plan will be quantified and reported in the RAR.

Reduce Consumption of Virgin and Non-Renewable Resources. Reduced consumption of virgin and non-renewable resources lowers the overall environmental impact of the project on the region by conserving these resources.

An estimate of the quantity (in tons) of virgin and non-renewable resources, the use of which will be avoided under this plan, will be quantified and reported in the RAR.

Reduced Energy Consumption and Promotion of Greater Energy Efficiency. Reduced energy consumption lowers greenhouse gas emissions, improves local air quality, lessens in-city power generation requirements, can lower traffic congestion, and provides substantial cost savings.

Best efforts will be made to quantify energy efficiencies achieved during the remediation and will be reported in the Remedial Action Report (RAR). Where energy savings cannot be easily quantified, a gross indicator of the amount of energy saved or the means by which energy savings was achieved will be reported.

Conversion to Clean Fuels. Use of clean fuel improves NYC's air quality by reducing harmful emissions.

An estimate of the volume of clean fuels used during remedial activities will be quantified and reported in the RAR.

Recontamination Control. Recontamination after cleanup and redevelopment is completed undermines the value of work performed, may result in a property that is less protective of public health or the environment, and may necessitate additional cleanup work later or impede future redevelopment. Recontamination can arise from future releases that occur within the property or by influx of contamination from off-Site.

An estimate of the area of the Site that utilizes recontamination controls under this plan will be reported in the RAR in square feet.

Storm-water Retention. Storm-water retention improves water quality by lowering the rate of combined storm-water and sewer discharges to NYC's sewage treatment plants during periods of precipitation, and reduces the volume of untreated influent to local surface waters.

An estimate of the enhanced storm-water retention capability of the redevelopment project will be included in the RAR.

Linkage with Green Building. Green buildings provide a multitude of benefits to the city across a broad range of areas, such as reduction of energy consumption, conservation of resources, and reduction in toxic materials use.

The number of Green Buildings that are associated with this brownfield redevelopment property will be reported in the RAR. The total square footage of green building space created as a function of this brownfield redevelopment will be quantified for residential, commercial and industrial/manufacturing uses.

Paperless Brownfield Cleanup Program. Global Paragon is participating in OER's Paperless Brownfield Cleanup Program. Under this program, submission of electronic documents will replace submission of hard copies for the review of project documents, communications and milestone reports.

Low-Energy Project Management Program. Global Paragon is participating in OER's low-energy project management program. Under this program, whenever possible, meetings are held using remote communication technologies, such as videoconferencing and teleconferencing to reduce energy consumption and traffic congestion associated with personal transportation.

Trees and Plantings. Trees and other plantings provide habitat and add to NYC's environmental quality in a wide variety of ways. Native plant species and native habitat provide optimal support to local fauna, promote local biodiversity, and require less maintenance.

An estimate of the land area that will be vegetated, including the number of trees planted or preserved, will be reported in square feet in the RAR.

APPENDIX 3

SOIL/MATERIALS MANAGEMENT PLAN

1.1 SOIL SCREENING METHODS

Visual, olfactory and PID soil screening and assessment will be performed under the supervision of a Qualified Environmental Professional and will be reported in the RAR. Soil screening will be performed during invasive work performed during the remedy and development phases prior to issuance of the Notice of Completion.

1.2 STOCKPILE METHODS

Excavated soil from suspected areas of contamination (e.g., hot spots, USTs, drains, etc.) will be stockpiled separately and will be segregated from clean soil and construction materials. Stockpiles will be used only when necessary and will be removed as soon as practicable. While stockpiles are in place, they will be inspected daily, and before and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by OER. Excavated soils will be stockpiled on, at minimum, double layers of 8-mil minimum sheeting, will be kept covered at all times with appropriately anchored plastic tarps, and will be routinely inspected. Broken or ripped tarps will be promptly replaced.

All stockpile activities will be compliant with applicable laws and regulations. Soil stockpile areas will be appropriately graded to control run-off in accordance with applicable laws and regulations. Stockpiles of excavated soils and other materials shall be located at least of 50 feet from the property boundaries, where possible. Hay bales or equivalent will surround soil stockpiles except for areas where access by equipment is required. Silt fencing and hay bales will be used as needed near catch basins, surface waters and other discharge points.

1.3 CHARACTERIZATION OF EXCAVATED MATERIALS

Soil/fill or other excavated media that is transported off-Site for disposal will be sampled in a manner required by the receiving facility, and in compliance with applicable laws and regulations. Soils proposed for reuse on-Site will be managed as defined in this plan.

1.4 MATERIALS EXCAVATION, LOAD-OUT AND DEPARTURE

The PE/QEP overseeing the remedial action will:

- oversee remedial work and the excavation and load-out of excavated material;
- ensure that there is a party responsible for the safe execution of invasive and other work performed under this work plan;
- ensure that Site development activities and development-related grading cuts will not interfere with, or otherwise impair or compromise the remedial activities proposed in this RAWP;
- ensure that the presence of utilities and easements on the Site has been investigated and that any identified risks from work proposed under this plan are properly addressed by appropriate parties;
- ensure that all loaded outbound trucks are inspected and cleaned if necessary before leaving the Site;
- ensure that all egress points for truck and equipment transport from the Site will be kept clean of Site-derived materials during Site remediation.

Locations where vehicles exit the Site shall be inspected daily for evidence of soil tracking off premises. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

Open and uncontrolled mechanical processing of historical fill and contaminated soil on-Site will not be performed without prior OER approval.

1.5 OFF-SITE MATERIALS TRANSPORT

Loaded vehicles leaving the Site will comply with all applicable materials transportation requirements (including appropriate covering, manifests, and placards) in accordance with applicable laws and regulations, including use of licensed haulers in accordance with 6 NYCRR Part 364. If loads contain wet material capable of causing leakage from trucks, truck liners will be used. Queuing of trucks will be performed on-Site, when possible in order to minimize off Site disturbance. Off-Site queuing will be minimized.

Outbound truck transport routes will be provided to OER for review prior to construction. . The routing will take into account the following factors: (a) limiting transport through residential areas and past sensitive sites; (b) use of mapped truck routes; (c) minimizing off-Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport. To the extent possible, all trucks loaded with Site materials will travel from the Site using these truck routes. Trucks will not stop or idle in the neighborhood after leaving the project Site.

1.6 MATERIALS DISPOSAL OFF-SITE

The following documentation will be established and reported by the PE/QEP for each disposal destination used in this project to document that the disposal of regulated material exported from the Site conforms with applicable laws and regulations: (1) a letter from the PE/QEP or Enrollee to each disposal facility describing the material to be disposed and requesting written acceptance of the material. This letter will state that material to be disposed is regulated material generated at an environmental remediation Site in Brooklyn, New York under a governmental remediation program. The letter will provide the project identity and the name and phone number of the PE/QEP or Enrollee. The letter will include as an attachment a summary of all chemical data for the material being transported; and (2) a letter from each disposal facility stating it is in receipt of the correspondence (1, above) and is approved to accept the material. These documents will be included in the RAR.

The Remedial Action Report will include an itemized account of the destination of all material removed from the Site during this remedial action. Documentation associated with disposal of all material will include records and approvals for receipt of the material. This information will be presented in the RAR.

All impacted soil/fill or other waste excavated and removed from the Site will be managed as regulated material and will be disposed in accordance with applicable laws and regulations. Historic fill and contaminated soils taken off-Site will be handled as solid waste and will not be disposed at a Part 360-16 Registration Facility (also known as a Soil Recycling Facility).

Waste characterization will be performed for off-Site disposal in a manner required by the receiving facility and in conformance with its applicable permits. Waste characterization

sampling and analytical methods, sampling frequency, analytical results and QA/QC will be reported in the RAR. A manifest system for off-Site transportation of exported materials will be employed. Manifest information will be reported in the RAR. Hazardous wastes derived from on-Site will be stored, transported, and disposed of in compliance with applicable laws and regulations.

If disposal of soil/fill from this Site is proposed for unregulated disposal (i.e., clean soil removed for development purposes), including transport to a Part 360-16 Registration Facility, a formal request will be made for approval by OER with an associated plan compliant with 6NYCRR Part 360-16. This request and plan will include the location, volume and a description of the material to be recycled, including verification that the material is not impacted by site uses and that the material complies with receipt requirements for recycling under 6NYCRR Part 360. This material will be appropriately handled on-Site to prevent mixing with impacted material.

1.7 MATERIALS REUSE ON-SITE

Soil and fill that is derived from the property that meets the soil cleanup objectives established in this plan may be reused on-Site. 'Reuse on-Site' means material that is excavated during the remedy or development, does not leave the property, and is relocated within the same property and on comparable soil/fill material, and addressed pursuant to the NYC VCP agreement subject to Engineering and Institutional Controls. The PE/QEP will ensure that reused materials are segregated from other materials to be exported from the Site and that procedures defined for material reuse in this RAWP are followed.

Organic matter (wood, roots, stumps, etc.) or other waste derived from clearing and grubbing of the Site will not be buried on-Site. Soil or fill excavated from the site for grading or other purposes will not be reused within a cover soil layer or within landscaping berms.

1.8 DEMARCATION

After completion of hotspot removal and any other invasive remedial activities, and prior to backfilling, the top of the residual soil/fill will be defined by one of three methods: (1) placement of a demarcation layer. The demarcation layer will consist of geosynthetic fencing or equivalent material to be placed on the surface of residual soil/fill to provide an observable reference layer.

A description or map of the approximate depth of the demarcation layer will be provided in the SMP; or (2) a land survey of the top elevation of residual soil/fill before the placement of cover soils, pavement and associated sub-soils, or other materials or structures or, (3) all materials beneath the approved cover will be considered impacted and subject to site management after the remedy is complete. Demarcation may be established by one or any combination of these three methods. As appropriate, a map showing the method of demarcation for the Site and all associated documentation will be presented in the RAR.

This demarcation will constitute the top of the site management horizon. Materials within this horizon require adherence to special conditions during future invasive activities as defined in the Site Management Plan.

1.9 IMPORT OF BACKFILL SOIL FROM OFF-SITE SOURCES

This Section presents the requirements for imported fill materials to be used below the cover layer and within the clean soil cover layer. All imported soils will meet OER-approved backfill and cover soil quality objectives for this Site.

A process will be established to evaluate sources of backfill and cover soil to be imported to the Site, and will include an examination of source location, current and historical use(s), and any applicable documentation. Material from industrial sites, spill sites, environmental remediation sites or other potentially contaminated sites will not be imported to the Site.

The following potential sources may be used pending attainment of backfill and cover soil quality objectives:

- Clean soil from construction projects at non-industrial sites in compliance with applicable laws and regulations;
- Clean soil from roadway or other transportation-related projects in compliance with applicable laws and regulations;
- Clean recycled concrete aggregate (RCA) from facilities permitted or registered by the regulations of NYS DEC.

All materials received for import to the Site will be approved by a PE/QEP and will be in compliance with provisions in this RAWP. The RAR will report the source of the fill, evidence that an inspection was performed on the source, chemical sampling results, frequency of testing, and a Site map indicating the locations where backfill or soil cover was placed.

Source Screening and Testing

Inspection of imported fill material will include visual, olfactory and PID screening for evidence of contamination. Materials imported to the Site will be subject to inspection, as follows:

- Trucks with imported fill material will be in compliance with applicable laws and regulations and will enter the Site at designated locations;
- The PE/QEP is responsible to ensure that every truck load of imported material is inspected for evidence of contamination; and
- Fill material will be free of solid waste including pavement materials, debris, stumps, roots, and other organic matter, as well as ashes, oil, perishables or foreign matter.

Composite samples of imported material will be taken at a minimum frequency of one sample for every 500 cubic yards of material. Once it is determined that the fill material meets imported backfill or cover soil chemical requirements and is non-hazardous, and lacks petroleum contamination, the material will be loaded onto trucks for delivery to the Site.

Recycled concrete aggregate (RCA) will be imported from facilities permitted or registered by NYSDEC. Facilities will be identified in the RAR. A PE/QEP is responsible to ensure that the facility is compliant with 6NYCRR Part 360 registration and permitting requirements for the period of acquisition of RCA. RCA imported from compliant facilities will not require additional testing, unless required by NYSDEC under its terms for operation of the facility. RCA imported to the Site must be derived from recognizable and uncontaminated concrete. RCA material is not acceptable for, and will not be used as cover material.

1.10 FLUIDS MANAGEMENT

All liquids to be removed from the Site, including dewatering fluids, will be handled, transported and disposed in accordance with applicable laws and regulations. Liquids discharged into the New York City sewer system will receive prior approval by New York City Department of Environmental Protection (NYC DEP). The NYC DEP regulates discharges to the New York City sewers under Title 15, Rules of the City of New York Chapter 19. Discharge to the New York City sewer system will require an authorization and sampling data demonstrating that the groundwater meets the City's discharge criteria. The dewatering fluid will be pretreated as necessary to meet the NYC DEP discharge criteria. If discharge to the City sewer system is not appropriate, the dewatering fluids will be managed by transportation and disposal at an off-Site treatment facility.

Discharge of water generated during remedial construction to surface waters (i.e. a stream or river) is prohibited without a SPDES permit issued by New York State Department of Environmental Conservation.

1.11 STORM-WATER POLLUTION PREVENTION

Applicable laws and regulations pertaining to storm-water pollution prevention will be addressed during the remedial program. Erosion and sediment control measures identified in this RAWP (silt fences and barriers, and hay bale checks) will be installed around the entire perimeter of the remedial construction area and inspected once a week and after every storm event to ensure that they are operating appropriately. Discharge locations will be inspected to determine whether erosion control measures are effective in preventing significant impacts to receptors. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by OER. All necessary repairs shall be made immediately. Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. Undercutting or erosion of the silt fence toe anchor will be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

1.12 CONTINGENCY PLAN

This contingency plan is developed for the remedial construction to address the discovery of unknown structures or contaminated media during excavation. Identification of unknown contamination source areas during invasive Site work will be promptly communicated to OER's Project Manager. Petroleum spills will be reported to the NYS DEC Spill Hotline. These findings will be included in the daily report. If previously unidentified contaminant sources are found during on-Site remedial excavation or development-related excavation, sampling will be performed on contaminated source material and surrounding soils and reported to OER. Chemical analytical testing will be performed for TAL metals, TCL volatiles and semi-volatiles, TCL pesticides and PCBs, as appropriate.

1.13 ODOR, DUST AND NUISANCE CONTROL

Odor Control

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

This odor control plan is capable of controlling emissions of nuisance odors. If nuisance odors are identified, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. OER will be notified of all odor complaint events. Implementation of all odor controls, including halt of work, will be the responsibility of the PE/QEP's certifying the Remedial Action Report.

Dust Control

Dust management during invasive on-Site work will include, at a minimum:

- Use of a dedicated water spray methodology for roads, excavation areas and stockpiles.

- Use of properly anchored tarps to cover stockpiles.
- Exercise extra care during dry and high-wind periods.
- Use of gravel or recycled concrete aggregate on egress and other roadways to provide a clean and dust-free road surface.

This dust control plan is capable of controlling emissions of dust. If nuisance dust emissions are identified, work will be halted and the source of dusts will be identified and corrected. Work will not resume until all nuisance dust emissions have been abated. OER will be notified of all dust complaint events. Implementation of all dust controls, including halt of work, will be the responsibility of the PE/QEP's responsible for certifying the Remedial Action Report.

Other Nuisances

Noise control will be exercised during the remedial program. All remedial work will conform, at a minimum, to NYC noise control standards.

Rodent control will be provided, during Site clearing and grubbing, and during the remedial program, as necessary, to prevent nuisances.

APPENDIX 4

HEALTH AND SAFETY PLAN

A construction Health and Safety Plan (HASP) will be provided to OER for review prior to construction.

APPENDIX 5

WARRANTY, PRODUCT AND INSTALLATION INFORMATION FOR VAPOR BARRIER SYSTEM

Vapor barrier system warranty, product and installation information will be provided to OER for review prior to construction.