

**411-421 WEST 35TH STREET
BLOCK 733, LOTS 23, 24, 25, 28 AND 47
MANHATTAN, NEW YORK**

Remedial Investigation Report

NYC VCP Project Number 14CVCP173M

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REMEDIAL INVESTIGATION REPORT

TABLE OF CONTENTS

TABLE OF CONTENTS	ii
FIGURES	iv
TABLES	iv
APPENDICES	iv
LIST OF ACRONYMS.....	v
CERTIFICATION.....	vii
EXECUTIVE SUMMARY.....	1
REMEDIAL INVESTIGATION REPORT.....	4
1.0 SITE BACKGROUND.....	4
1.1 SITE LOCATION AND CURRENT USAGE.....	4
1.2 PROPOSED REDEVELOPMENT PLAN.....	4
1.3 DESCRIPTION OF SURROUNDING PROPERTY.....	5
2.0 SITE HISTORY.....	6
2.1 PAST USES AND OWNERSHIP.....	6
2.2 PREVIOUS INVESTIGATIONS.....	6
2.3 SITE INSPECTION.....	6
2.4 AREAS OF CONCERN (AOCs)	6
3.0 PROJECT MANAGEMENT.....	7
3.1 PROJECT ORGANIZATION.....	7
3.2 HEALTH AND SAFETY.....	7
3.3 MATERIALS MANAGEMENT.....	7
4.0 REMEDIAL INVESTIGATION ACTIVITIES.....	8
4.1 GEOPHYSICAL INVESTIGATION.....	8
4.2 BORINGS AND MONITORING WELLS.....	8
4.3 SAMPLE COLLECTION AND CHEMICAL ANALYSIS.....	9
5.0 ENVIRONMENTAL EVALUATION.....	13
5.1 GEOLOGICAL AND HYDROGEOLOGICAL CONDITIONS.....	13
5.2 SOIL CHEMISTRY.....	13
5.3 GROUNDWATER CHEMISTRY.....	14
5.4 SOIL VAPOR CHEMISTRY.....	14
5.5 PRIOR ACTIVITY.....	15

5.6 IMPEDIMENTS TO REMEDIAL ACTION.....15

FIGURES

- Figure 1 - Site Location Map
- Figure 2 - Tax Map
- Figure 3 – Area Land Usage and Adjacent Properties
- Figure 4 – Sample Location Map

TABLES

- Table 1 - Soil Sampling Results – October 2012
- Table 2 - Soil Sampling Results – February 2013
- Table 3 - Groundwater Sampling Results – October 2012
- Table 4 - Groundwater Sampling Results – February 2013
- Table 5 - Soil Vapor Sampling Results – February 2013
- Table 6 - NYSDEC's Soil Vapor Air Matrix Table

APPENDICES

- Appendix I- Architectural Drawings
- Appendix II- Previous Environmental Site Assessment Reports
- Appendix III.....- Soil Boring Logs
- Appendix IV.....- Laboratory Analytical Data Package: Soil
- Appendix V - Geotechnical Borings and Cross Sections
- Appendix VI.....- Well Logs; Monitoring Well Sampling Data Forms
- Appendix VII- Laboratory Analytical Data Packages: Groundwater
- Appendix VIII...- Soil Vapor Sampling Logs
- Appendix IX.....- Laboratory Analytical Data Packages: Soil Vapor

LIST OF ACRONYMS

Acronym	Definition
AOC	Area of Concern
AWQS	Ambient Water Quality Standards
Brinkerhoff	Brinkerhoff Environmental Services, Inc.
ELAP	Environmental Laboratory Approval Program
EPA	Environmental Protection Agency
EPDSCO	Environmental Project Data Statements Company, Inc.
ESA	Environmental Site Assessment
fbg	Feet Below Grade
HAZWOPER	Hazardous Waste Operations and Emergency Response
HVAC	Heating, Ventilation, and Air Conditioning
mg/kg	milligram per kilogram
MTBE	Methyl tert-butyl ether
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OSHA	Occupational Safety and Health Administration
OVM	Organic Vapor Meter
PAHs	Poly-Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PCE	Tetrachloroethene
PID	Photoionization Detector
PVC	Polyvinyl Chloride
QA/QC	Quality assurance quality control
QEP	Qualified Environmental Professional
RCNY	Rules of the City of New York
REC	Recognized Environmental Condition
RI	Remedial Investigation
RIR	Remedial Investigation Report
SCO	Soil Cleanup Objective
SI	Site Investigation

Acronym	Definition
SVOCs	Semi-Volatile Organic Compounds
TAL	Target Analyte List
TBA	tert-Butyl alcohol
TCE	Trichloroethene
TCL	Target Compound List
ug/m3	Micrograms per Cubic Meter
VOCs	Volatile Organic Compounds

CERTIFICATION

I, Doug Harm, am a Qualified Environmental Professional, as defined in RCNY § 43-1402(ar). I have primary direct responsibility for implementation of the Remedial Investigation for 411-421 West 35th Street, Block 733, Lots, 24, 25, 28 and 47, Manhattan, NY. I am responsible for the content of this Remedial Investigation Report (RIR), have reviewed its contents, and certify that this RIR is accurate to the best of my knowledge and contains all available environmental information and data regarding the property.

Qualified Environmental Professional

Date

Signature

EXECUTIVE SUMMARY

The Remedial Investigation Report (RIR) provides sufficient information for establishment of remedial action objectives, evaluation of remedial action alternatives, and selection of a remedy pursuant to the Rules of the City of New York (RCNY)§ 43-1407(f). The Remedial Investigation (RI) described in this document is consistent with applicable guidance.

Site Location and Current Usage

The Site is located at 411-421 West 35th Street, Manhattan, New York, and is identified as Block 733, Lots 23, 24, 25, 28, and 47 on the New York City Tax Map. Refer to Figure 1 - Site Location Map and Figure 2 - Tax Map. The Site is approximately 22,467 square feet and is bounded by West 36th Street and mixed residential and commercial buildings to the north, West 35th Street and mixed residential and commercial buildings to the south, mixed residential and commercial buildings and a parking lot to the east, and entrance to Lincoln Tunnel to the west. Currently, the Site is utilized as a parking lot.

Summary of Proposed Redevelopment Plan

The proposed future use of the Site will consist of a 12-story residential structure with underground parking level, commercial space on the ground floor and a roof terrace. A 1,478-square foot garden will be developed on the east corner of the ground floor. The building will be 119.5 feet in height and contain 297 residential units. The maximum depth of the cellar floor is 14 feet below grade (fbg). Layout of the proposed site development is presented in Appendix I – Architectural Drawings. The current zoning designation is R8A, which typically result in high lot coverage 10- to 12-story apartment buildings, set on or near the street line. The proposed use is consistent with existing zoning for the property.

Summary of Past Uses of Site and Areas of Concern

Based on previous Phase I Environmental Site Assessment (ESA) (see Section 2.2 below), the subject property was occupied by numerous mixed use buildings (i.e., residential and commercial/retail) from at least the late 1800s to the 1970s and has been used as a parking lot from the 1980s to the present.

The following Areas of Concern (AOCs) were identified during completion of the Phase I Environmental Site Assessment (ESA).

1. The possible presence of site contamination from past on-site operations.
2. The possible presence of underground petroleum storage tanks.
3. The presence of urban historic fill.

Summary of the Work Performed under the Remedial Investigation

The following work has been performed at the site:

1. Conducted a Site inspection to identify areas of concern and physical obstructions (i.e., structures, buildings, etc.);
2. Installed five (5) soil borings across the entire project Site (SB-1, SB-2, SB-3, SB-5 and SB-6), and collected a total of ten (10) soil samples from the soil borings for chemical analyses to evaluate soil quality;
3. Installed two (2) groundwater monitoring wells and one (1) temporary well point throughout the Site and collected three (3) groundwater samples for chemical analysis to evaluate groundwater quality; and,
4. Installed four (4) soil vapor probes (SV-4, SV-5, SV-6 and SV-7) and collected four (4) samples for chemical analysis.

Summary of Environmental Findings

1. Depth to groundwater varies throughout the site. Average depth to groundwater is 15 feet below grade (fbg). Geology at the Site consists of urban fill at the surface to an average depth of 10 to 15 fbg. Glacial till, consisting of brown fine to coarse sand with silt and clay mixed with fine gravel, is below the urban fill. This glacial till ranges from a few feet in thickness to over 20 feet thick in some locations. Below the glacial till is highly weathered, moderately hard schist bedrock.
2. Soil/ fill samples collected during the RI showed concentrations of the VOCs 1,2,4-trimethylbenzene (max 8.1 milligram per kilogram [mg/kg]), methylene chloride (max 0.155 mg/kg), and acetone (max 0.404 mg/kg) above Track 1 Unrestricted Use SCOs, but below Track 2 Restricted Residential Use SCOs. Low levels of petroleum-related VOCs were also identified below Track 1 Unrestricted Use SCOs and included, 1,3,5-

trimethylbenzene (max 4.1 mg/kg), n-propylbenzene (max 2.36 mg/kg), and naphthalene (max 1.5 mg/kg). The following semi volatile organic compounds (SVOCs) were identified in soil above their Track 2 Restricted Residential Use SCOs: benzo(a)anthracene (maximum of 8.13 mg/kg), benzo(a)pyrene (maximum of 9.36 mg/kg), and benzo(b)fluoranthene (maximum of 7.11 mg/kg), benzo(k)fluoranthene (maximum of 8.89 mg/kg), chrysene (max of 8.78 mg/kg), dibenzo(a,h)anthracene (max of 0.704 mg/kg), and indeno(1,2,3-cd)pyrene (max of 3.69 mg/kg). Six metals were detected above Track 1 Unrestricted Use SCOs, and of these mercury (maximum of 1.85 mg/kg), lead (maximum of 1970 mg/kg), and barium (maximum of 1830 mg/kg) were reported above Track 2 Restricted Residential Use SCOs. Soil samples showed four pesticides at concentrations exceeding Unrestricted Use SCOs, but below Restricted Residential Use SCOs. These pesticides were 4,4'-DDD (max. of 0.009 mg/kg); 4,4'-DDE (at 0.178 mg/kg); and 4,4'-DDT (at 1.45 mg/kg) and dieldrin (at 0.0247 mg/kg), mostly in one shallow soil sample. One PCB (Aroclor 1254) was detected at 0.681 mg/kg which is above its Unrestricted Use SCO, but below its Restricted Residential Use SCO.

3. Groundwater samples showed no VOCs, SVOCs, PCBs or pesticides above the NYSDEC 6 NYCRR Part 703.5 Groundwater Quality Standards (GQS). Trace concentrations of the VOCs 2-butanone (0.54 ppb), acetone (3.69 ppb), chloroform (3.59 ppb) and toluene (3.04 ppb) were detected, but below GQSs. The metals manganese, sodium, selenium, thallium and zinc were detected above GQSs in dissolved samples.
4. Results of soil vapor samples indicated trace concentrations of petroleum related compounds. Benzene, ethylbenzene, xylenes, and toluene were detected at concentrations from 1.0 to 12 ug/m³ in all samples. MTBE was detected at 1.7 ug/m³ in one sample, and methyl ethyl ketone was detected at concentrations ranging from 94 to 240 ug/m³. Chlorinated VOCs were also detected at trace concentrations. TCE was detected at a maximum concentration of 0.32 ug/m³, 1,1,1-TCA was detected at a concentration of 1.2 ug/m³ in one sample, and carbon tetrachloride was detected at a max concentration of 0.50 ug/m³. No PCE was detected in the soil vapor samples. All these concentrations are below their monitoring ranges established by DOH guidance matrix.

REMEDIAL INVESTIGATION REPORT

1.0 SITE BACKGROUND

Joy Construction Corporation may enroll in the New York City Voluntary Cleanup Program (NYC VCP) to investigate and remediate a 0.52-acre site located at 411-421 West 35th Street in Manhattan, New York. Mixed commercial residential use is proposed for the property. The RI work was performed in October 2012 and February 2013. This RIR summarizes the nature and extent of contamination and provides sufficient information for establishment of remedial action objectives, evaluation of remedial action alternatives, and selection of a remedy that is protective of human health and the environment consistent with the use of the property pursuant to RCNY§ 43-1407(f).

1.1 SITE LOCATION AND CURRENT USAGE

The Site is located at 411-421 West 35th Street, Manhattan, New York, and is identified as Block 733, Lots 23, 24, 25, 28, and 47 on the New York City Tax Map. Refer to Figure 1 - Site Location Map and Figure 2 - Tax Map. The Site is approximately 22,467 square feet and is bounded by West 36th Street and mixed residential and commercial buildings to the north, West 35th Street and mixed residential and commercial buildings to the south, mixed residential and commercial buildings and a parking lot to the east, and entrance to Lincoln Tunnel to the west. Currently, the Site is utilized as a parking lot.

1.2 PROPOSED REDEVELOPMENT PLAN

The proposed future use of the Site will consist of a 12-story residential structure with underground parking level, commercial space on the ground floor and a roof terrace. A 1,478-square foot garden will be developed on the east corner of the ground floor. The building will be 119.5 feet in height and contain 297 residential units. The maximum depth of the cellar floor is 14 fbg. Layout of the proposed site development is presented in Appendix I – Architectural Drawings. The current zoning designation is R8A, which typically result in high lot coverage 10- to 12-story apartment buildings, set on or near the street line. The proposed use is consistent with existing zoning for the property.

1.3 DESCRIPTION OF SURROUNDING PROPERTY

Current uses, zonings, and general character of adjoining properties are as follows:

North: Multi-story industrial, commercial, residential buildings, Lincoln Tunnel Entrance and mixed residential and commercial buildings are located to the north of the subject property, with zoning designation R8A and C1-7A.

South: Residential buildings with zoning designation R8A, Public Facilities and Institutions with zoning designation C6-4 and R8A, and roadways connecting to Lincoln Tunnel are located to the south of the subject property.

East: Parking facilities are located to the east of the subject property, with zoning designation C1-7A.

West: Multi-story industrial, commercial, residential buildings are located to the west of the subject property, with zoning designation R8A.

Sensitive environmental receptors within an approximate 500-foot radius of the subject property include the residential buildings and mixed commercial and residential buildings in all directions, a church to the north, a church and a school to the south of the subject property.

Figure 3 shows the area land usage and adjacent properties.

2.0 SITE HISTORY

2.1 PAST USES AND OWNERSHIP

Based on previous Phase I Environmental Site Assessment (ESA) (see Section 2.2 below), the subject property was occupied by numerous mixed use buildings (i.e., residential and commercial/retail) from at least the late 1800s to the 1970s and has been used as a parking lot from the 1980s to the present.

2.2 PREVIOUS INVESTIGATIONS

The following environmental work plans and reports were developed for the Site:

- *Phase I ESA*, dated November 2012, prepared by Environmental Project Data Statements Company, Inc. (EPDSCO)
- *Phase II Environmental Investigation Report*, dated October 19, 2012, prepared by Brinkerhoff

The previous environmental investigation reports are presented in Appendix II.

2.3 SITE INSPECTION

The subject property was inspected by EPDSCO on October 27th, 2011 in order to identify potential recognized environmental conditions (RECs) which may exist at the site.

The subject property was occupied by a parking lot at the time of the site inspection. No operations involving the storage or use of hazardous materials were observed at the site. No floor drains or other types of drainage structures were observed. No monitoring wells, petroleum storage tanks, electrical transformers, asbestos-containing materials or lead-based paint were observed at the site during the site inspection.

On October 5, 2012, February 14 and 15, 2013, Brinkerhoff conducted remedial investigations at the subject property. The site was an active parking lot and was enclosed by chain-link fence. Similar to the site inspection dated October 27th, 2011, no RECs were identified.

2.4 AREAS OF CONCERN (AOCs)

The following Areas of Concern (AOCs) were identified during completion of the Phase I ESA:

1. The possible presence of site contamination from past on-site operations.
2. The possible presence of underground petroleum storage tanks.
3. The presence of urban historic fill.

3.0 PROJECT MANAGEMENT

3.1 PROJECT ORGANIZATION

The Qualified Environmental Profession (QEP) responsible for preparation of this RIR is Doug Harm.

3.2 HEALTH AND SAFETY

All work described in this RIR was performed in full compliance with applicable laws and regulations, including Site and Occupational Safety and Health Administration (OSHA) worker safety requirements and Hazardous Waste Operations and Emergency Response (HAZWOPER) requirements.

3.3 MATERIALS MANAGEMENT

All material encountered during the RI was managed in accordance with applicable laws and regulations.

4.0 REMEDIAL INVESTIGATION ACTIVITIES

Joy Construction Co. performed the following scope of work:

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e., structures, buildings, etc.);
2. As part of Brinkerhoff's Phase II Investigation on the subject property in October 2012, three (3) soil borings were developed and a total of six (6) soil samples were collected for laboratory analysis; a soil boring was converted to a temporary well point, and a representative groundwater sample was collected for laboratory analysis.
3. Installed a total of five (5) soil borings across the entire project Site (3 in October 2012 and 2 in February 2013), and collected a total of ten (10) soil samples from the soil borings for chemical analyses to evaluate soil quality;
4. Installed a total of two (2) groundwater monitoring wells and one (1) temporary well point throughout the Site to establish groundwater flow and collected three (3) groundwater samples for chemical analysis to evaluate groundwater quality; and,
5. Installed four (4) soil vapor probes and collected four (4) samples for chemical analysis.

4.1 GEOPHYSICAL INVESTIGATION

No geophysical study was performed.

4.2 BORINGS AND MONITORING WELLS

Drilling and Soil Logging

On October 5, 2012, Brinkerhoff installed three (3) soil borings (SB-1 through SB-3) at the subject property. On February 14 and 15, 2013, Brinkerhoff installed two (2) soil boring (SB-5 and SB-6) at the sites. The borings were installed using a Geoprobe[®] drill rig collecting continuous soil cores using acrylic liners. Soil from each boring was screened for volatile organic vapors using a properly calibrated photoionization detector (PID). Boring logs were prepared by a qualified environmental professional are attached in Appendix III. A map showing the location of soil borings and monitor wells is shown in Figure 4.

Groundwater Monitoring Well Construction

On October 5, 2012, a groundwater investigation was conducted by Brinkerhoff as part of a Phase II Environmental Investigation. Average depth to groundwater across both sites is 15 fbg. A Geoprobe[®] drill rig was utilized to install a temporary well point in the only boring where groundwater was encountered. The well point was installed in Boring SB-2 and identified as TWP-1.

On February 14 and 15, 2013, two monitoring wells (MW-3 and MW-4) were installed on the subject property. The wells were installed using mud rotary and installed to a depth of 25 feet. The wells were installed into bedrock encountered between 15 and 22 fbg. Each well contains 10 feet of solid polyvinyl chloride (PVC) casing and 10 to 15 feet of slotted PVC casing.

Monitor well locations are shown in Figure 4. Monitoring Well logs are provided in Appendix VI.

4.3 SAMPLE COLLECTION AND CHEMICAL ANALYSIS

Sampling performed as part of the field investigation was conducted for all Areas of Concern and also considered other means for bias of sampling based on professional judgment, area history, discolored soil, stressed vegetation, drainage patterns, field instrument measurements, odor, or other field indicators. All media including soil, groundwater and soil vapor have been sampled and evaluated in the RIR. Discrete (grab) samples have been used for final delineation of the nature and extent of contamination and to determine the impact of contaminants on public health and the environment. The sampling performed and presented in this RIR provides sufficient basis for evaluation of remedial action alternatives, establishment of a qualitative human health exposure assessment, and selection of a final remedy.

Soil Sampling

On October 5, 2012, two (2) soil samples were collected from each soil boring for laboratory analysis. One (1) sample was collected within the 0 to 2 feet interval and within the historic fill material identified beneath the site. The second sample was collected either at the top of bedrock or the projected depth of the excavation at 15 fbg.

On February 14 and 15, 2013, two (2) soil samples were collected from each soil boring for

laboratory analysis. Soil samples were collected at 0 to 2.5 fbg within the historic fill and at 13 to 15 fbg, which corresponds to the projected depth of the foundation. The samples were submitted to a New York State Department of Health (NYSDOH) certified laboratory for analyses.

Samples collected were field screened for volatile organic vapors using an organic vapor meter (OVM). No visual or olfactory evidence of petroleum contamination was identified in any of the soil samples.

For quality assurance quality control (QA/QC) purposes, a field and trip blank were utilized in the sampling procedures. The field blank was prepared by pouring deionized water supplied by the laboratory through the macro core and collected for analysis. This was done prior to sampling. The trip blank was a vial of deionized water supplied by the laboratory which accompanied the cooler and the samples to the laboratory. No laboratory data issues were evident with regard to the sampling QA/QC. The field and trip blank data are included in Appendix IV.

Groundwater Sampling

On October 5, 2012, a groundwater sample was collected from TWP-1 and submitted to a NYSDOH certified laboratory for analyses. The sample was analyzed for Target Compound List (TCL)/Target Analyte List (TAL) with metals analysis both filtered and non-filtered.

On February 14 and 15, 2013, one groundwater sample was obtained from each monitoring well utilizing an inertial pump consisting of a stainless steel check valve and ball. The inertial pump was fitted with dedicated polyethylene tubing, which allowed the groundwater to be brought up to the ground surface for collection. These samples were submitted to an NYSDOH certified laboratory for TCL/TAL analysis, with metals being analyzed as both filtered and non-filtered.

Groundwater sample collection data is reported in Tables 3 and 4. Monitoring Well Sampling Forms are included in Appendix VI. Figure 4 shows the location of groundwater sampling. Laboratories and analytical methods are shown below.

Soil Vapor Sampling

The vapor intrusion survey was performed in accordance with guidelines provided in the

NYSDOH's vapor intrusion guidance document. The survey included the collection of four (4) soil vapor samples from soil vapor probes installed at the locations shown on Figures 4. All samples were collected over a three (3)-hour time period using six (6)-liter canisters.

Soil vapor samples were collected from four (4) vapor probes installed using a Geoprobe drill rig. Prior to sample collection, the sampling points were purged of three (3) volumes using a peristaltic pump. Following purging, a soil vapor sample was collected using the vacuum from the Summa canister.

Chemical Analysis

Chemical analytical work presented in this RIR has been performed in the following manner:

Factor	Description
Quality Assurance Officer	The chemical analytical quality assurance is directed by Isabel Su, Environmental Engineer.
Chemical Analytical Laboratory	Soil and groundwater chemical analyses were performed by Accredited Analytical Resources, LLC (NYSDOH Certification No. 11109), and soil vapor chemical analyses were performed by Integrated Analytical Laboratories, LLC (NYS ELAP certified).

Factor	Description
Chemical Analytical Methods	<p>Soil analytical methods:</p> <ul style="list-style-type: none"> • VOCs by EPA Method 8260 • SVOCs by EPA Method 8270 • Pesticides by EPA Method 8082 • PCBs by EPA Method 8081 • Metals by EPA Method 6010B <p>Groundwater analytical methods:</p> <ul style="list-style-type: none"> • VOCs by EPA Method 8260 • SVOCs by EPA Method 8270 • Pesticides by EPA Method 8082 • PCBs by EPA Method 8081 • Metals by EPA Method 6010B <p>Soil vapor analytical methods</p> <ul style="list-style-type: none"> • VOCs by TO-15 VOC parameters

Results of Chemical Analyses

Laboratory data for soil, groundwater and soil vapor are summarized in Table 1 through 6. Laboratory data deliverables for all samples evaluated in this RIR are provided in digital form in Appendix IV, VII and IX, respectively.

5.0 ENVIRONMENTAL EVALUATION

5.1 GEOLOGICAL AND HYDROGEOLOGICAL CONDITIONS

Stratigraphy

Geology at the site consists of urban fill at the surface to an average depth of 10 to 15 fbg. Glacial till, consisting of brown fine to coarse sand with silt and clay mixed with fine gravel, is below the urban fill. This glacial till ranges from a few feet in thickness to over 20 feet thick in some locations. Below the glacial till is highly weathered, moderately hard schist bedrock.

Hydrogeology

The average depth to groundwater is 15 feet below grade and the range in depth is 13.22 to 15.63. Groundwater flow is assumed to be from east to west, according to the topographic map.

5.2 SOIL CHEMISTRY

Soil/ fill samples collected during the RI showed concentrations of the VOCs 1,2,4-trimethylbenzene (max 8.1 milligram per kilogram [mg/kg]), methylene chloride (max 0.155 mg/kg), and acetone (max 0.404 mg/kg) above Track 1 Unrestricted Use SCOs, but below Track 2 Restricted Residential Use SCOs. Low levels of petroleum-related VOCs were also identified below Track 1 Unrestricted Use SCOs and included, 1,3,5-trimethylbenzene (max 4.1 mg/kg), n-propylbenzene (max 2.36 mg/kg), and naphthalene (max 1.5 mg/kg).

The following semi volatile organic compounds (SVOCs) were identified in soil above their Track 2 Restricted Residential Use SCOs: benzo(a)anthracene (maximum of 8.13 mg/kg), benzo(a)pyrene (maximum of 9.36 mg/kg), and benzo(b)fluoranthene (maximum of 7.11 mg/kg), benzo(k)fluoranthene (maximum of 8.89 mg/kg), chrysene (max of 8.78 mg/kg), dibenzo(a,h)anthracene (max of 0.704 mg/kg), and indeno(1,2,3-cd)pyrene (max of 3.69 mg/kg).

Six metals were detected above Track 1 Unrestricted Use SCOs, and of these mercury (maximum of 1.85 mg/kg), lead (maximum of 1970 mg/kg), and barium (maximum of 1830 mg/kg) were reported above Track 2 Restricted Residential Use SCOs.

Soil samples showed four pesticides at concentrations exceeding Unrestricted Use SCOs, but below Restricted Residential Use SCOs. These pesticides were 4,4'-DDD (max. of 0.009 mg/kg), 4,4'-DDE (at 0.178 mg/kg), 4,4'-DDT (at 1.45 mg/kg) and dieldrin (at 0.0247 mg/kg), mostly in one shallow soil sample. One PCB (Aroclor 1254) was detected at 0.681 mg/kg which is above its Unrestricted Use SCO, but below its Restricted Residential Use SCO. Data collected during the RI was determined to be sufficient to delineate the distribution of contaminants in soil at the Site.

Laboratory analytical results from the soil samples were compared to the NYSDEC's Subpart 375-6 SCO for Unrestricted Use and for Restricted Residential Use. A map showing the soil boring locations is provided as Figure 4 – Sample Location Map. A summary of the soil sampling results is provided in Tables 1 and 2 which also contains sample depths and photoionization detector (PID) readings. The laboratory data packages are provided in Appendix IV. Soil log forms are provided in Appendix II.

5.3 GROUNDWATER CHEMISTRY

Groundwater samples showed no VOCs, SVOCs, PCBs or pesticides above the NYSDEC 6 NYCRR Part 703.5 Groundwater Quality Standards (GQS). Trace concentrations of the VOCs 2-butanone (0.54 ppb), acetone (3.69 ppb), chloroform (3.59 ppb) and toluene (3.04 ppb) were detected, but below GQSs. The metals manganese, sodium, selenium, thallium and zinc were detected above GQSs in dissolved samples.

Laboratory analytical results from the groundwater samples were compared to the NYSDEC's AWQS. The summary of the groundwater sampling results are provided in Table 3 and 4. Monitoring Well Sampling Forms are provided in Appendix VI. The laboratory data packages are provided in Appendix VII.

5.4 SOIL VAPOR CHEMISTRY

Results of soil vapor samples indicated trace concentrations of petroleum related compounds. Benzene, ethylbenzene, xylenes, and toluene were detected at concentrations from 1.0 to 12 ug/m³ in all samples. MTBE was detected at 1.7 ug/m³ in one sample, and methyl ethyl ketone was detected at concentrations ranging from 94 to 240 ug/m³. Chlorinated VOCs were also detected at trace concentrations. TCE was detected at a maximum concentration of

0.32 ug/ m³, 1,1,1-TCA was detected at a concentration of 1.2 ug/ m³ in one sample, and carbon tetrachloride was detected at a max concentration of 0.50 ug/ m³. No PCE was detected in the soil vapor samples. All these concentrations are below their monitoring ranges established by DOH guidance matrix

Soil vapor sampling locations are shown on Figures 4. Soil vapor sample collection data are summarized in Table 5. Soil vapor sampling logs are included in Appendix VIII. The laboratory data packages are provided on in Appendix IX. NYSDOH guidance information for evaluating soil vapor matrices is presented in Table 6.

5.5 PRIOR ACTIVITY

Based on an evaluation of the data and information from the RIR, disposal of significant quantities of hazardous waste is not suspected at this site.

5.6 IMPEDIMENTS TO REMEDIAL ACTION

There are no known impediments to remedial action at this property.