



Hydro Tech Environmental, Corp.

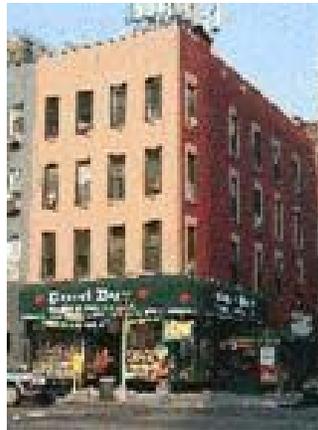
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PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

**1299 First Avenue,
New York, New York**



Prepared For: Merritt Engineering Consultants, P.C
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Prepared On: November 20, 2007

Hydro Tech Job No: 070405

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**1299 First Avenue
New York, New York**

November 20, 2007

Hydro Tech Environmental Corp. appreciates the opportunity to work for the property located at 1299 First Avenue in New York City, New York.

Should you require any additional information or have any comments regarding the contents of this report, please feel free to contact our office at your convenience.

Very Truly Yours,
Hydro Tech Environmental Corp.



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TABLE OF CONTENTS

	<u>Page Number</u>
1.0 Executive Summary	1
2.0 Introduction	2
2.1 Site Description	2
2.2 Environmental Setting	2
2.3 Objective and Project Goals	2
3.0 Field Work	3
3.1 Introduction	3
3.2 Soil Probes	3
3.2.1 Protocol & Sampling Locations.....	3
3.2.2 Field Characterization.....	3
3.3 Laboratory Analyticals	3
3.4 Decontamination Procedures & Quality Assurance/Quality Control	4
4.0 Analytical Results	5
5.0 Discussion of Results	6
6.0 Conclusions	7
7.0 Recommendations	8
8.0 References	9
9.0 Exclusions & Disclaimer	10

Figures

1. Sampling Plan

Tables

1. Soil Characterization
2. Soil Samples Analytical Results

Appendices

- A. Historical Documents
- B. Soil Probe Logs
- C. Laboratory Reports

1.0 EXECUTIVE SUMMARY

Hydro Tech Environmental Corp. (Hydro Tech) has performed a Phase II Environmental Site Assessment (ESA) at the property located at 1299 First Avenue in New York, New York (the Subject Property). The Phase II investigation was performed on behalf of Merritt Engineering Consultants, P.C. (the Client).

The scope of this Phase II ESA is based upon specific requirements of the Client and the Phase I ESA performed during October 2007. The purpose of the investigation is intended to assess the potential impact to the property from historic dry cleaning operations as indicated by the Sanborn Maps for the year of 1976-1996. The scope of work was achieved through installation and sampling of three (3) soil probes. During the investigation select soil samples were transmitted to a state-certified laboratory and analyzed for confirmatory analysis. Due to historical use of chlorinated solvents, each sample was analyzed for Volatile Organic Compounds (VOCs) in accordance with EPA Method 8260.

The results of the investigation indicate the former use of the Subject Property as dry cleaning facility has impacted upon its environmental quality. Chlorinated solvent, specifically Tetrachloroethene (PERC) is present in shallow soil beneath the northeast portion of the basement at concentrations exceeding their respective regulatory standards. PERC was also identified in the southern portion of the Subject Property at levels less than their respective regulatory standards. The concentrations of PERC in the soil do not appear to extend to the western portion of the Subject Property.

No effort has been made to perform any investigation beyond what is included in this report. The observations included herein summarize the results of the investigation up to the date of the fieldwork and the date of this report.

The following sections provide the details and specific information pertaining to the various components of the subsurface investigation.

2.0 INTRODUCTION

Hydro Tech Environmental Corp. (Hydro Tech) has been retained by Custom Capital Corp. (the Client) to perform a Phase II Environmental Site Assessment (ESA) at the property located at 1299 First Avenue in New York City, New York (hereafter referred to as “the Subject Property”).

2.1 Site Description

The Subject Property is located at the 1299 First Avenue in New York City, New York. The Subject Property is approximately 7,060 square feet in area. The Subject Property is located in the corner of E 70th Street and 1st Avenue. Based on knowledge from a previous Phase I it is known that the Subject Property has been historically utilized for dry cleaning operations as indicated by the Sanborn Maps dated from 1976 to 1996. Currently, the first floor of the Subject Property is utilized as a convenience store and the basement is used for storage. **Figure 1** provides a Site Plan. The ground surface of the basement is mostly covered by shelves and boxes, therefore the assessment to the ground surface is limited.

2.2 Environmental Setting

The Subject Property is located at the 1299 First Avenue in New York City, New York. The elevation of the Subject Property is approximately 50 feet above mean sea level (USGS 7 ½-Minute, New York Quadrangle, 1969, Photorevised 1995). The regional groundwater flow direction beneath the Site is toward the east, in the direction of the East River. The regional water table is approximately 40 feet below the grade.

2.3 Objective & Project Goals

The scope of work for this assessment was based upon the Client requirement and the results of the Phase I ESA performed during October 2007. The purpose of the Phase II ESA is to determine the potential impact to the environmental quality of the Subject Property from historical dry cleaning operations. The scope of work consisted of the installation and sampling of three (3) soil probes.

All related portions of the field portion of the Phase II investigation were performed in accordance with acceptable industry standards. These acceptable industry standards include, but are not limited to, the ASTM Standard Guide for Phase II Environmental Site Assessments (E 1903-97), the New York State Department of Environmental Conservation Bureau of Spill Prevention & Response Sampling Guidelines and Protocols, March 1991, and Draft DER-10 Technical Guidance for Site Investigation and Remediation, December 2002.

3.0 FIELDWORK

3.1 Introduction

The field portion of the investigation was performed during November, 2007 and consisted of the installation and sampling of three (3) soil probes. All portions of the fieldwork were performed under the direct guidance and oversight of a Hydro Tech Geologist and under the supervision of a Hydro Tech Project Manager. Prior to the performance of the field work, a NYC One-Call Public Utility Mark-out was requested. The mark-out # **73050732** was issued.

3.2 Soil Probes

3.2.1 Protocol & Sampling Location

A total of three (3) soil probes were installed during the investigation. The soil probes were designated as SP-1 through SP-3, consecutively. Soil probe SP-1 was installed in the western portion of the basement. Soil Probe SP-2 was installed in the northern portion of the basement. Soil probe SP-3 was installed in the southeastern portion of the basement.

All soil probes were installed utilizing Hydro Tech's Stanley probe machines utilizing direct-push technology. Soil samples were collected in all probes at 2-foot intervals utilizing a Macro Core sampler.

The soil probes were installed until refusal was encountered, which ranged from six (6) to eight (8) feet below basement.

3.2.2 Field Characterization

Separate aliquots of each soil sample were placed into both airtight zip-lock bags and 8-ounce jars and appropriately labeled. The Hydro Tech geologist then characterized each soil sample in the field. The soil characterization consisted of determining the soil classification utilizing the Unified Soil Classification System and screening each sample for organic vapors utilizing a Photoionization Detector (PID). Soil Probe Logs are provided in **Appendix A**.

A PID makes use of the principle of photoionization for the detection and qualitative measurement of organic vapors. A PID does not respond to all compounds similarly, rather, each compound has its own response factor relative to its calibration. For this investigation, the PID was calibrated to the compound isobutylene, which is published by the manufacturer. The PID has a minimum detection limit of 0.1 parts per million (ppm). This meter measures the hydrocarbon concentrations in isolated portions of the secured samples.

Table 1 provides soil characterization. The general soil type beneath the Site consists of brown medium sand. As **Appendix A** indicated, soil samples from soil probes SP-1 through SP-3 contained elevated levels of organic vapors. PID readings of SP-1 ranged from 290 ppm in zero to 2 feet sample to 2866 ppm in 2 to 4 feet sample. PID readings of SP-2 ranged from below 0.1 ppm in zero to 2 feet sample to 9999 ppm in 2 to 4 feet sample. PID readings of SP-3 ranged from below 0.1 ppm in zero to 2 feet sample to 79 ppm in 4 to 6 feet sample. Additionally, olfactory evidence of petroleum constituents was identified in SP-1 at all the sampling depths and olfactory evidence of chlorinated solvents was identified in SP-2 at all the sampling depths.

The following soil samples were containerized for outside laboratory analysis:

- SP-1, 2-4 feet
- SP-2, 2-4 feet
- SP-3, 4-6 feet

3.3 Laboratory Analyticals

All soil samples were placed in a cooler filled with ice and maintained at four (4) degrees Celsius. The samples were transmitted under a proper chain of custody procedures to a State-certified (ELAP) laboratory for confirmatory analysis. Due to the historical use of chlorinated solvents, each sample was analyzed for volatile organic compounds (VOCs) in accordance with EPA Method 8260. **Appendix B** provides copies of the laboratory reports.

3.4 Decontamination Procedures & Quality Assurance/Quality Control

Each piece of sampling or other down hole equipment was decontaminated prior to each use in order to ensure that cross-contamination between sampling locations does not occur. The following procedure was utilized in the decontamination process:

- Wipe clean and wash with Alconox
- Portable water rinse.
- Methanol Rinse.
- Deionized water rinse.
- Air Dry.

All decontamination procedures were performed in an area segregated from any sampling areas. Any rinsate from the decontamination area is contained and removed from the site. All samples were properly handled and placed into the appropriate labeled containers. The samples were placed in a cooler filled with ice and maintained at a maximum 4 degrees Celsius. All samples were transmitted under proper chain of custody procedures to a State-certified (ELAP) laboratory for confirmatory laboratory analyses. All holding times were met. The laboratory did not report any irregularities with respect to their internal Quality Assurance/Quality Control.

4.0 ANALYTICAL RESULTS

Table 2 provides the compounds detected via EPA Method 8260 at concentrations exceeding their respective method detection limits (MDL) in the samples obtained from SP-1 through SP-3. **Table 2** also provides a comparison of the analytical results to the Recommended Soil Cleanup Objective (RSCO) from NYSDEC Technical Administration Guidance Memorandum (TAGM) #4046. Concentrations reported in **Table 2** are in micrograms per kilogram ($\mu\text{g}/\text{kg}$).

As **Table 2** indicates the total VOC concentrations range from 91 $\mu\text{g}/\text{kg}$ in SP-3 to 12,000,000 $\mu\text{g}/\text{kg}$ in SP-2. The total VOC concentration of SP-2 exceeds the RSCO for total VOC of 10,000 $\mu\text{g}/\text{kg}$. As **Table 2** further indicates Tetrachloroethene was detected in the 2 to 4 feet sample from SP-2 at a concentration of 12,000,000 $\mu\text{g}/\text{kg}$ which exceeds its RSCO of 1,400 $\mu\text{g}/\text{kg}$. No other VOCs were detected in soil samples SP-1, SP-2 or SP-3 at concentrations exceeding their respective RSCO.

Several compounds were detected in SP-1 and SP-3 at concentrations exceeding their respective MDLs but less than their respective RSCO. Tetrachloroethene was detected in the 4 to 6 feet sample from SP-3 at a concentration of 91 $\mu\text{g}/\text{kg}$, less than the RSCO for Tetrachloroethene of 1,400 $\mu\text{g}/\text{kg}$. 1,2,4 Trimethylbenzene and n-Butylbenzene were detected in the 2 to 4 feet sample from SP-1 at concentration of 2,900 $\mu\text{g}/\text{kg}$ and 1,600 $\mu\text{g}/\text{kg}$ respectively. No other compounds were detected in the SP-1 or SP-3 at concentrations exceeding their respective MDLs.

5.0 DISCUSSION OF RESULTS

Former dry cleaning operation appear to have impacted upon the environmental quality of the Site. This is evidenced by the fact that Tetrachloroethene (aka PERC) was identified beneath the northeast portion of the basement at a concentration of 12,000,000 ug/kg, which exceeds its RSCO of 1,400 ug/kg.

Based upon field screening it appears the concentration of PERC extends to the 4 to 6 feet depth in the northeast portion of the Site. This is evidenced by the fact that PID readings of the 4 to 6 feet sample exceed 2,000 ppm. Furthermore based upon the nature of PERC and the field screening results it possible concentration of PERC could be present at greater depth or in the groundwater beneath the Site.

The presence of PERC in the soil horizontally extends to the southeast portion of the Site, as evidenced by the analytical results of SP-3. PERC was detected in SP-3 at a level of 91 ug/kg, which is above MDL but less than its RSCO. PERC was not identified in the western portion of the Site, as indicated by the results of SP-1.

The presence of PERC in the soil at the Site is most likely related to the former use of the Site for dry cleaning operations. PERC is a manufactured chemical compound that is widely used for the dry cleaning of fabrics.

6.0 CONCLUSIONS

Based on the information and data presented above, the following conclusions are provided:

Hydro Tech has performed a Phase II Environmental Site Assessment at 1299 1st Avenue in New York, New York. The scope of work is based upon the request set forth by the client and the Phase I ESA performed during October 2007. The Phase II ESA is intended to investigation if the historical utilization of the Site for dry cleaning operations has impacted upon the environmental quality. The scope of work consists of the installation and sampling of three (3) soil probes in the basement.

The results of the Phase II ESA indicate that the former utilization of the Site as a dry cleaner appears have impacted upon its environmental quality. Tetrachloroethene was detected in the soil beneath the northeastern portion of the basement at a concentration of 12,000,000 ug/kg exceeding the RSCO for Tetrachloroethene of 1,400 ug/kg. Tetrachloroethene was also detected in the southern portion of the Site at a level exceeding the MDL but less than its RSCO. No individual VOC compounds were detected in the eastern portion of the Site at concentrations exceeding their respective regulatory standards.

7.0 RECOMMENDATIONS

Based upon the conclusions put forth in this report, the following recommendations are provided:

The extent of Tetrachloroethene in the soil should be delineated through the installation and sampling of additional soil probes. Soil samples and groundwater samples should be obtained and analyzed for VOCs via EPA Method 8260 to characterize the environmental quality.

Furthermore, groundwater probes should be installed to assess the potential impact to groundwater.

8.0 REFERENCES

1. Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process, ASTM E 1527-00, American Society for Testing and Materials, West Conshohocken, PA.
2. The Long Island Ground Water Pollution Study, New York State Department of Environmental Conservation, 1972
3. *Geochemical traverse across Cameron's Line, Boro Hall Park, Bronx, New York*, Cadmus, D., Hodgen, R., Gatto, L.M., and Puffer, J.H., Geology Department, Rutgers University, Newark, NJ.
4. *Drainage History of the New York City Region*, Sanders, John E., Geology Department, Hofstra University.
5. Draft DER-10 Technical Guidance for Site Investigation and Remediation, December 2002.
6. Phase I Environmental Site Assessment Report, Merritt Engineering Consultants, P.C., October 2007.

9.0 EXCLUSIONS & DISCLAIMER

The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by the Client.

In preparing this report, **Hydro Tech Environmental, Corp.** may have relied on certain information provided by state and local officials and other parties referenced therein, and on information contained in the files of state and/or local agencies available to **Hydro Tech Environmental, Corp.** at the time of the subject property assessment. Although there may have been some degree of overlap in the information provided by these various sources, **Hydro Tech Environmental, Corp.** did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this subject property assessment.

Observations were made of the subject property and of structures on the subject property as indicated within the report. Where access to portions of the subject property or to structures on the subject property was unavailable or limited, **Hydro Tech Environmental, Corp.** renders no opinion as to the presence of non-hazardous or hazardous materials, or to the presence of indirect evidence relating to a non hazardous or hazardous materials, in that portion of the subject property or structure. In addition, **Hydro Tech Environmental, Corp.** renders no opinion as to the presence of hazardous materials, or the presence of indirect evidence relating to hazardous materials, where direct observation of the interior walls, floors, or ceiling of a structure on a subject property was obstructed by objects or coverings on or over these surfaces.

Hydro Tech Environmental, Corp. did not perform testing or analyses to determine the presence or concentration of asbestos at the subject property or in the environment of the subject property under the scope of the services performed.

The conclusions and recommendations contained in this report are based in part, where noted, upon the data obtained from a limited number of soil samples obtained from widely spaced subsurface explorations. The nature and extent of variations between these explorations may not become evident until further exploration. If variations or other latent conditions then appear evident, it will be necessary to reevaluate the conclusions and recommendations of this report.

Any water level reading made in test pits, borings, and/or observation wells were made at the times and under the conditions stated in the report. However, it must be noted that fluctuations in the level of groundwater may occur due to variations in rainfall and other factors different from those prevailing at the time measurements were made.

Except as noted within the text of the report, no qualitative laboratory testing was performed as part of the subject property assessment. Where such analyses have been conducted by an outside laboratory, **Hydro Tech Environmental, Corp.** has relied upon the data provided, and has not conducted an independent evaluation of the reliability of the data.

The conclusions and recommendations contained in this report are based in part, where noted, upon various types of chemical data and are contingent upon their validity. The data have been reviewed and interpretations were made in the report. As indicated within the report, some of the data may be preliminary "screening" level data, and should be confirmed with quantitative analyses if more specific information is necessary. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, the data should be reviewed, and the conclusions and recommendations presented herein modified accordingly.

Chemical analyses have been performed for specific constituents during the course of this subject property assessment, as described in the text. However, it should be noted that additional chemical constituents not searched for during the current study may be present in soil and/or groundwater at the subject property.

Any GPR survey described above was performed in accordance with good commercial and customary practice and generally accepted protocols within the consulting industry. **Hydro Tech Environmental, Corp.** does not accept responsibility for survey limitations due to inherent technological limitations or site specific conditions, however, made appropriate effort to identify and notify the client of such limitations and conditions. In particular, please note that the survey described above does not represent a full utility clearance survey, and does not relieve any party of applicable legal obligations to notify a utility one-call service prior to excavating or drilling.



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 Date: 11-15-07
 Scale: 1"=10'

TITLE:

FIGURE 1: SAMPLING PLAN

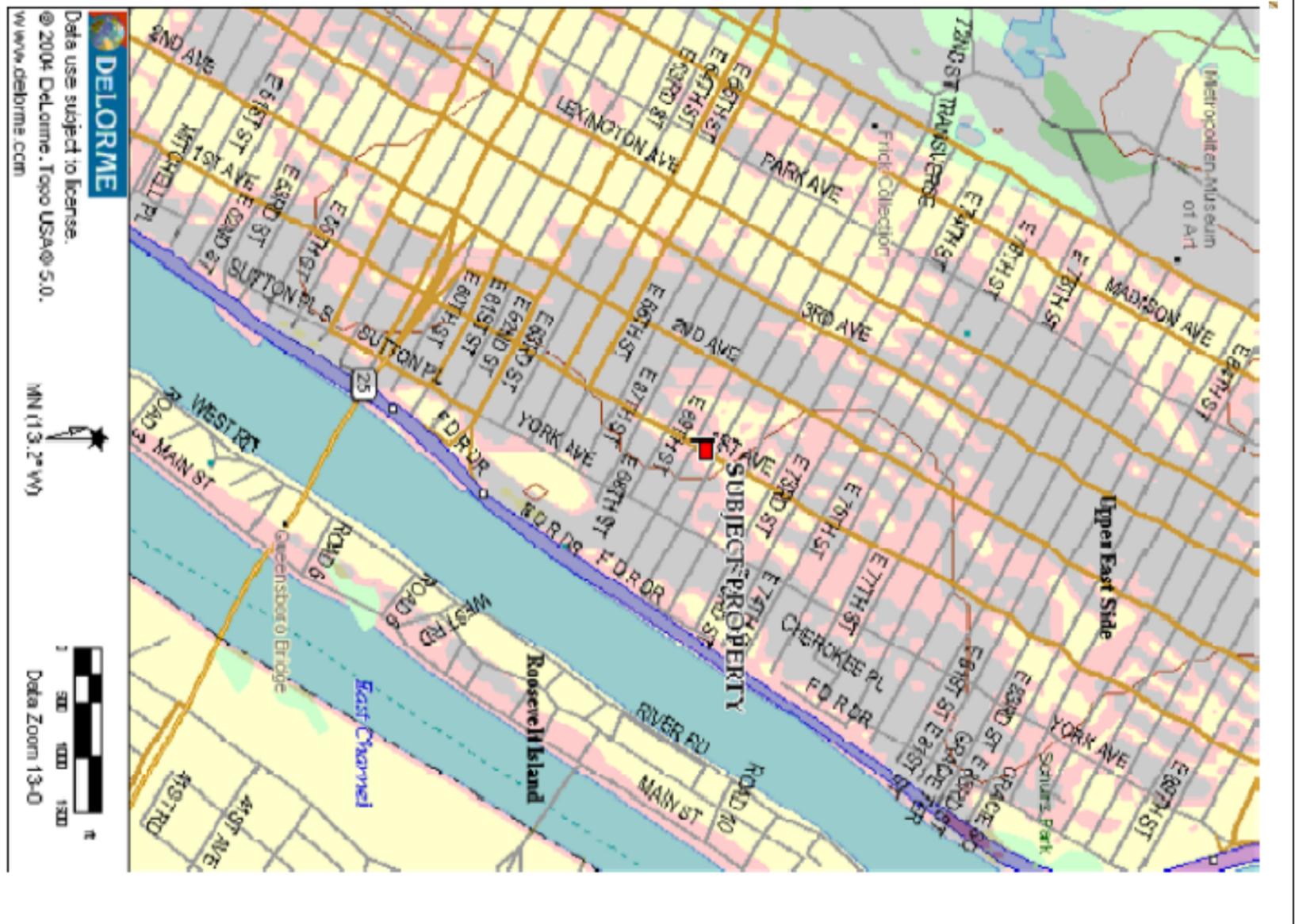
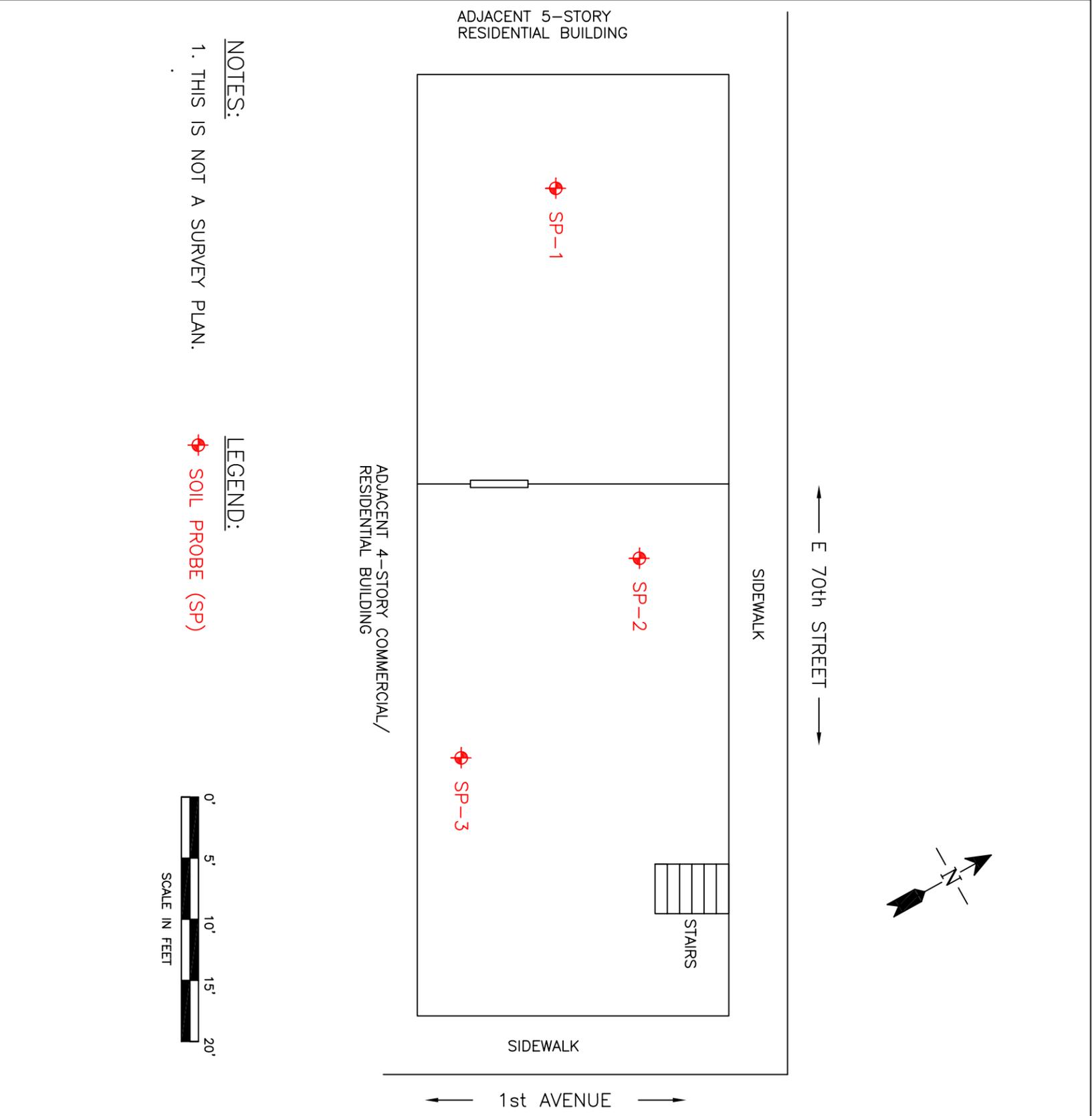


Table 1
Field Characterization Results of Soil Probes
1299 1st Avenue, Brooklyn NY

Soil Probes	Sampling Depths (ft)	Soil Characterization
SP-1	0'-2'	Light brown medium sand with petroleum odor
	2'-4'	Gray medium / fine sand with petroleum odor
	4'-6'	Dark brown medium sand
	6'-8	Dark brown medium sand
	8'-10'	Dark brown medium sand
SP-2	0'-2'	Brown medium sand
	2'-4'	Brown medium sand
	4'-6'	Brown medium sand
SP-3	0'-2'	Brown medium sand
	2'-4'	Brown medium sand
	4'-6'	Brown medium sand
	6'-8	Brown medium sand

Table 2
Soil Samples Organic Analytical Results
1299 1st Avenue, New York

Sample Identification	SP-1	SP-2	SP-3	NYSDEC TAGM #4046 Recommended Soil Cleanup Objectives
Sample Depth	2-4 feet	2-4 feet	4-6 feet	
Sample Date	11/8/2007	11/8/2007	11/8/2007	
Sample Matrix	Soil	Soil	Soil	
Units	µg/kg	µg/kg	µg/kg	
Volatile Organic Compounds (µg/kg)				
Tetrachloroethene	ND	12,000,000	91	1,400
1,2,4-Trimethylbenzene	2,900	ND	ND	10,000
n-Butylbenzene	1,600	ND	ND	10,000
Total VOCs	4,500	12,000,000	91	10,000

NS...No Standard

ND...Not Detected

Shaded values represent concentration exceeding the RSCO

mdl...method detection limit

µg/kg...micrograms per kilogram

Appendix A