



**PHASE II**  
**SUBSURFACE**  
**INVESTIGATION**

COMMERCIAL PROPERTY  
325 and 327 YONKERS AVENUE  
YONKERS, NEW YORK, 10701


**PREPARED FOR:**

COMMERCE BANK  
2059 SPRINGDALE ROAD  
CHERRY HILL, NEW JERSEY, 08003

YONKERS REALTY CORP.  
325 - 327 YONKERS AVENUE  
YONKERS, NEW YORK 10701

JUNE 7, 2005

LEA PROJECT # 05-160.1

  
Brendan C. Moran  
Environmental Scientist



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## REPORT SPECIFICATIONS

This report contains (15) pages of text.

Copies and circulation of this report are as follows:

Two (2) bound copies to Commerce Bank, Ms. Kristina Arwood.

One (1) bound copy to Yonkers Realty Corp., Mr. Mangini

Two (2) copies in the confidential client file at *Laurel Environmental Associates, Ltd. (LEA)*.

This report is prepared for the exclusive use of the principal noted above and is considered private and confidential. *LEA* shall not release this report or any of the findings of this report to any person or agency except with the authorization of the named principals.

### 1.0 INTRODUCTION

*Laurel Environmental Associates, Ltd. (LEA)* was retained by Yonkers Realty Corp., and Commerce Bank, to perform a Phase II Subsurface Investigation of the property located at 325 Yonkers Avenue, Yonkers, New York (please see Figure 1.0, Site Location). The purpose of this investigation was to check the status of the underlying sediments due to possible underground storage tank (UST), drywell and floor drain contamination.

The following tasks were completed by *LEA* at the subject property:

1. Utilized a *Schonstedt* model GA-72CV Magnetometer and model XTpc Pipe and Cable Locator throughout the subject property to identify boundaries of subsurface structures including USTs and utilities.
2. Utilized a Model 6610 Dual Track mounted GeoProbe® to collect all soil samples. Soil samples were submitted for analysis using United States Environmental Protection Agency (USEPA) Method 8021 and 8270 STARS for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), respectively and heavy metals. One soil sample was submitted for analysis using USEPA Method 8260 to test for VOCs.
3. Utilized a Photo Ionization Detector (PID) to field screen soil samples prior to submittal for analysis.
4. Performed visual observation and structural testing of Underground Injection Controls (UICs) to determine if final discharge point is to sewer.

5.

## 1.1 SAMPLING PLAN

A sampling and analysis program was developed to address the potential recognized environmental conditions commonly associated with on-site sanitary systems. These recognized environmental conditions are including but not limited to leaking underground storage tanks, petroleum based soil and groundwater contamination.

Soil Samples were collected from eight (8) on-site boring locations. Using a Model 6610 Dual Track mounted GeoProbe®; samples were collected at various depths (See Table 1). Soil samples were submitted for analysis using USEPA Methods 8021 and 8270 STARS list for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), respectively, with selected samples submitted for heavy metals. One soil sample was analyzed using USEPA method 8260 STARS to test for halogenated VOCs (See Table I).

Several attempts were made at obtaining a soil gas sample in the area south of Cho's 21<sup>st</sup> Century Dry Cleaning. Due to shallow bedrock in the area, one (1) soil sample from four (4) to five (5) feet below grade was submitted in place of a soil gas sample for analysis using USEPA Method 8260 to test for halogenated VOCs. The sample was originally labeled SG-1 on the chain of custody, but has been changed to Soil Boring 18 (SB-18) in this report to eliminate any misunderstandings.

**Table I**

Sample ID, SB=Soil Boring SG=Soil Gas	Sampled Depths, feet below grade	Analyte, USEPA Method
SB-1	7 - 9	8021 STARS, 8270 STARS
SB-7	16 - 17	8021 STARS, 8270 STARS, eight RCRA heavy metals
SB-8	17 - 19	8021 STARS, 8270 STARS, eight RCRA heavy metals
SB-10	12 - 14	8021 STARS, 8270 STARS, eight RCRA heavy metals
SB-13	13 - 15	8021 STARS, 8270 STARS
SB-15	8 - 10	8021 STARS, 8270 STARS, eight RCRA heavy metals
SB-16	5 - 6	8021 STARS, 8270 STARS, eight RCRA heavy metals
SB-17	3 - 5	8021 STARS, 8270 STARS, eight RCRA heavy metals
SB-18 (aka SG-1)	4 - 5	8260

### 3.0 PHASE II SUBSURFACE SOIL INVESTIGATION

On May 17, 2005 and May 18, 2005 *LEA* Environmental Hydrogeologist Scott A. Yanuck, *LEA* Environmental Scientists Brendan C. Moran and Stephen T. Byrne conducted all sampling utilizing a dual track mounted Model 6610DT GeoProbe®. On May 19, 2005 Scott A. Yanuck and Brendan C. Moran returned to conduct all remaining sampling utilizing a dual track mounted Model 6610DT GeoProbe®.

#### 3.1 GEOPHYSICAL SURVEY

A *Schonstedt* model GA-72CV Magnetometer and model XTpc Pipe and Cable Locater was utilized throughout the subject property to identify boundaries of subsurface structures including USTs and utilities.

#### 3.2 SUBSURFACE SOIL SAMPLING

Subsurface probes were sited using a GeoProbe® hydraulically powered probing tool (see **Figure 3: Geoprobe Operating System**). Mechanized, vehicle mounted probe systems apply static force and hydraulically powered percussion hammers for tool placement (static down forces up to 35,000 pounds combined with percussion hammers of eight horsepower continuous output). Recovery of sample volumes was facilitated with a five foot, open ended probe driven sampler.

Soil samples were taken utilizing a Model 6610DT Dual Track Mounted GeoProbe®. For each sample (SB-1, SB-2, SB-3, SB-4, SB-5, SB-6, SB-7, SB-8, SB-9, SB-10, SB-11, SB-12, SB-13, SB-14, SB-15, SB-16, SB-17 and SB-18) the following method was employed: a four foot probe driven drill steel attachment was used to break through a thin layer of concrete and/or asphalt. The drill steel was then removed and continuous samples were taken with an open ended sampler in five foot increments. Sampling was conducted at various depths below grade (See Table II). Each sample was contained within a non-reactive transparent plastic sleeve that lined the hollow probe. The plastic sleeves were removed for subsequent field screening and sample aliquot acquisition.

**Table II**

Boring ID, SB=Soil Boring SG=Soil Gas	Boring Depths, feet below grade	Maximum PID Reading/Depth
SB-1	5 - 14	0.5 ppm @ 3'
SB-2	5 - 7	0.0 ppm
SB-3	5 - 10	0.0 ppm
SB-4	5 - 7	0.0 ppm
SB-5	5 - 10	0.0 ppm
SB-6	5 - 10	0.0 ppm
SB-7	4 - 17	105.0 ppm @ 17'
SB-8	4 - 21	166.0 ppm @ 19'
SB-9	4 - 17	16.0 ppm @13'
SB-10	4 - 17	6.6 ppm @14'
SB-11	2 - 17	0.0 ppm
SB-12	2 - 17	0.0 ppm
SB-13	2 - 17	0.0 ppm
SB-14	2 - 17	0.0 ppm
SB-15	0 - 15	0.0 ppm
SB-16	3 - 7.5	0.0 ppm
SB-17	0 - 5	0.0 ppm
SB-18 (aka SG-1)	0 - 5	0.0 ppm

ppm = parts per million

Initial boring placement was determined based upon location of anomalies, accessibility and proximity to subsurface utilities. Based on this information, a total of eighteen (18) locations were selected for sampling and analysis, with a maximum sampling depth of twenty-one (21) feet below grade. The presence of the underlying bedrock caused shallow refusal in several locations.

### 3.3 UIC INVESTIGATION

Prior to observation and testing, all UIC structure covers were removed for subsequent inspection. Direction of the flow dyed water was then visually traced between all structures until a connection to municipal sewer was confirmed. Structural testing was conducted by means of driving a solid-metal pry bar through bottom lying sediments until a consistent, solid structure was reached. All known on-site UIC structures were found to be solid-bottomed and drain to one of two common points. UIC structures on the southern portion of the subject property drain from west to east to a common point located in the southeast quadrant of the site, prior to discharging to the City of Yonkers sanitary sewer system. The eastern UIC structures, generally drain from north to south, to a common point located in the northeast quadrant of the property, before discharging to the City of Yonkers sanitary sewer system.

**Figure 3.0: GeoProbe Operating System**

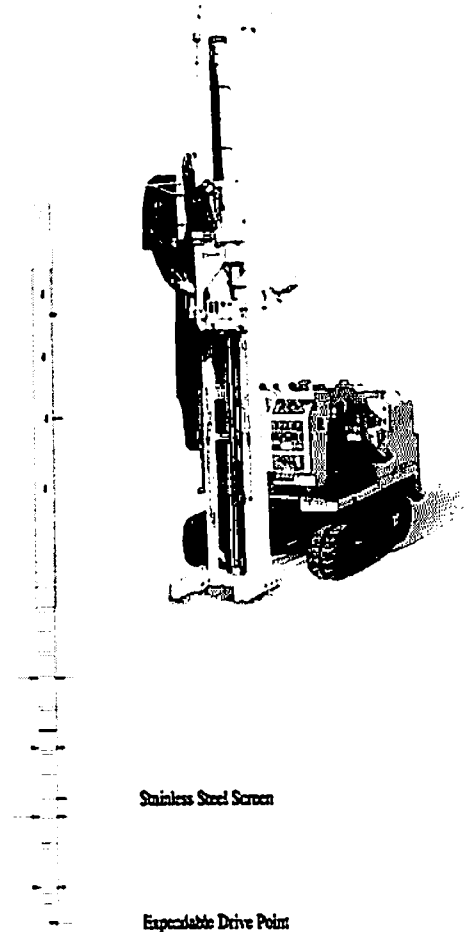
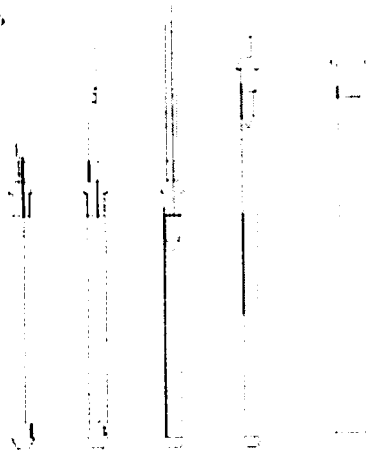
**Basics**

- ◆ Hydraulic powered probe unit is operated from a engine driven pump
- ◆ Remote vehicle ignition allows operator to start engine from probe unit
- ◆ Light driven hydraulic pump supplies 10 gpm @ 2000 rpm, 3000 psi operating pressure
- ◆ Probe unit folds for transport
- ◆ Unit utilizes static weight of vehicle and percussion hammer to advance probing tools.
- ◆ Hydraulic hammer delivers percussion rate of 30 Hz
- ◆ Probes have greater than 18,000 lbs of down force and 25,000 lbs of retraction force
- ◆ Drives multiple diameter probes (1", 1.25" and 2.25") to depths over 100 feet.

- ◆ **Soil Probing Tool**  
The tools are advanced and a sample is acquired in a non reactive plastic sheathing. The system offers two sizes of sample retrieval.

Large bore - 1.5" x 2"  
 Main - 2.25" x (2.25" x 4")

- ◆ **Groundwater SP-15 Sampler**  
The tool allows a stainless steel 4" screen to be delivered to the underlying groundwater. At the desired depth the screen is retracted and samples are obtained via a check valve available.



## **4.0 QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES (QA/QC)**

The following sampling QA/QC protocol is in accordance with the United States Environmental Protection Agency's (USEPA) accepted sampling procedures for hazardous waste streams [Municipal Research Laboratory, 1980, Sampling and Analysis Procedures for Hazardous Material Waste Streams, Office of Emergency and Remedial Response, Cincinnati, Ohio. EPA-600/280-018] and American Society of Testing and Material's (ASTM's) Sampling Procedures.

### **4.1 SAMPLING PERSONNEL**

The activities associated with the survey, sampling and analysis plan were performed by or under the auspices of a USEPA Office of Emergency and Remedial Response, Certified Sampler for Hazardous Materials. The sample staff (samplers) possessed a minimum of a B.A. Degree in the Earth, Environmental, or Biological Sciences or a B.S. Degree in Engineering. All samplers had received mandatory forty-hour Occupational Safety and Health Administration (OSHA) training on working with potentially hazardous materials and appropriate Hazard Communication Program and "Right-To-Know" training.

### **4.2 SAMPLING EQUIPMENT**

Separate QA/QC measures were implemented for each of the instruments used in the performance of the SAP.

#### **4.2.1 *GeoProbe***

Prior to arrival on the subject property and between sample locations, the probes were decontaminated by washing them with a detergent (Alconox) and potable water solution. The probes were then rinsed with distilled water.



#### **4.2.2 *Sample Vessels***

All sample vessels were "level A" certified decontaminated containers supplied by a New York State Certified Commercial Laboratory. Samples analyzed for hydrocarbons were placed in containers with Teflon lined caps. All samples were preserved by cooling them to a temperature of approximately four degrees Celsius.

### **4.3 SAMPLE DOCUMENTATION**

A sample represents physical evidence. An essential part of liability reduction is the proper control of gathered evidence. To establish proper control, the following sample identification and chain-of custody procedures were followed.

#### **4.3.1 *Sample Identification***

Sample identification was executed by use of a sample tag, log book and chain-of-custody form. Sample documentation provided the following information: 1) the project code; 2) the sample laboratory number; 3) the sample preservation; 4) instrument used for source sample grabs; 5) the composite medium used for source sample grabs; 6) the date the sample was secured from the source media; 7) the time the sample was secured from the source media; and 8) the person who secured the sample from the source media.

#### **4.3.2 *Chain-of-Custody Procedures***

Due to the evidential nature of samples, possession was traceable from the time the samples were collected until they were received by the testing laboratory. A sample was considered under custody if it: was in a person's possession; it was in a person's view, after being in possession; if it was in a person's possession and they locked it up; or, it was in a designated secure area. When transferring custody, the individuals relinquishing and receiving the samples signed, dated and noted the time on the Chain-of-Custody Form.

### **4.3.3 Laboratory-Custody Procedures**

A designated sample custodian accepted custody of the shipped samples and verified that the information on the sample tags matched that on the Chain-of-Custody Records. Pertinent information as to shipment, pick-up, courier, etc., was entered in the "remarks" section. The custodian entered the sample tag data into a bound logbook. The laboratory custodian used the sample tag number, or assigned a unique laboratory number to each sample tag, and assured that all samples were transferred to the proper analyst or stored in the appropriate source area. The laboratory custodian distributed samples to the appropriate analysts. Laboratory personnel were responsible for the care and custody of samples, from the time they were received, until the sample was exhausted or returned to the sample custodian. All identifying data sheets and laboratory records were retained as part of the permanent documentation. Samples received by the laboratory were retained until after analysis and quality assurance checks were completed.

## **5.0 LABORATORY ANALYSIS**

### **5.1 ANALYTICAL TEST METHODS**

Samples were placed into appropriate laboratory containers, placed on ice and delivered via laboratory courier to York Analytical (ID#10854) for analysis. Soil samples were submitted for the parameters of concern as outlined within the "Sampling Plan", Section 1.1 of the report.

## 5.2 ANALYTICAL RESULTS

Samples collected from borings, SB-7, SB-8, SB-9 and SB-10, in the vicinity of the two diesel underground storage tanks in front of the Waste Management® facility were found to be visually contaminated and registered elevated PID readings. As required under the Navigation Law, the NYSDEC Spills hotline was notified of the petroleum impacted soils and Spill #05-01972 was issued for the subject property. Laboratory analysis of samples from this area showed elevated concentrations of VOCs, but below the NYSDEC TAGM Recommended Soil Cleanup Objectives (RSCOs).

Laboratory analysis of SB-18 showed detectable levels of the VOC Tetrachloroethylene (commonly referred to as PERC, a dry-cleaning solvent), but at concentrations below NYSDEC TAGM RSCOs. The presence of this compound within the soils is indicative of a prior and/or current release. Further study is recommended to determine if the release has adversely impacted the soils and groundwater.

Elevated levels of semi-volatile organic compounds and lead were detected in the sample collected from the west side of Firestone®, known as SB-17, above the NYSDEC TAGM RSCOs. No VOCs were present within the sample.

Samples collected and analyzed from the west side of the building, near a fuel oil UST, had elevated levels of five (5) semi-volatile organic compounds above NYSDEC TAGM.

The remaining samples, SB-7, SB-8, SB-10, SB-13, SB-15, had elevated levels of Chromium, a heavy metal. These soil boring locations, with the exception of SB-15, are located in areas that will require remedial action for other issues, such as the elevated lead area and/or the leaking diesel UST zone. Therefore, no additional work should be necessary to address the presence of Chromium. Laboratory analysis did not detect any VOCs or SVOCs within these samples. SB-15 is located beneath the concrete slab within the building occupied by Firestone®. Due to its location, it is not considered a recognized environmental condition.

Please refer to Tables III, IV and V for a synopsis of the findings. The complete laboratory analysis is included in Appendix A and the NYSDEC TAGM Recommended Soil Cleanup Objectives can be found in Appendix B.

**TABLE III**  
**Tabulated VOC and SVOC Analytical Results**

Analyte/ Location	SB-1	SB-7	SB-8	SB-17	NYS DEC TAGM RSCO
	7' - 9' 5/17/2005	16' - 17' 5/17/2005	17' - 19' 5/17/2005	3' - 5' 5/19/2005	
	<b>8021</b>	<b>Total</b>	<b>Total</b>	<b>Total</b>	<b>Total</b>
1,2,4-Trimethylbenzene	BQL	8,100	1,500	BQL	10,000
1,3,5-Trimethylbenzene	BQL	1,100	120	BQL	3,300
Isopropylbenzene	BQL	530	600	BQL	2,300
Naphthalene (8021)	BQL	1,300	1,100	BQL	13,000
n-Butylbenzene	BQL	340	1,700	BQL	10,000
n-Propylbenzene	BQL	1,500	1,200	BQL	3,700
	<b>8270</b>				
Acenaphthene	BQL	4,200	1,800	BQL	50,000
Anthracene	600	2,000	850	99	50,000
Benz (a)anthracene	<b>3,200</b>	BQL	BQL	<b>600</b>	224
Benz (a) pyrene	<b>1,200</b>	BQL	BQL	<b>340</b>	61
Benzo (b) fluoranthene	<b>1,100</b>	BQL	BQL	<b>310</b>	61
Benzo(ghi)perylene	380	BQL	BQL	BQL	50,000
Benzo (k) fluoranthene	<b>1,300</b>	BQL	BQL	370	610
Chrysene	<b>1,700</b>	BQL	BQL	<b>420</b>	400
Fluoranthene	5,700	540	BQL	990	50,000
Fluorene	BQL	8,000	3,200	BQL	50,000
Indeno(123-cd)pyrene	420	BQL	BQL	BQL	3,200
Naphthalene (8270)	BQL	7,300	BQL	BQL	13,000
Phenanthrene	1,400	15,000	5700	480	50,000
Pyrene	5,400	1,300	BQL	870	50,000

All concentrations are in parts per billion (ppb)

BQL = below analytical quantitation level

NA - Not Analyzed or Not Applicable

**Bold** = above NYSDEC TAGM RSCOs

Analytes not tabulated here are below analytical quantitation limits

**TABLE IV**  
**Tabulated Heavy Metals Analytical Results**

Location	SB-7	SB-8	SB-10	SB-15	SB-16	SB-17	NYSDEC TAGM RSCO
Depth	16' - 17'	17' - 19'	12' - 14'	8' - 10'	5' - 6'	3' - 5'	
Date	5/17/2005	5/17/2005	5/17/2005	5/19/2005	5/19/2005	5/19/2005	
Analyte	<u>Total</u>	<u>Total</u>	<u>Total</u>	<u>Total</u>	<u>Total</u>	<u>Total</u>	
Arsenic	1.17	2.7	2.32	2.37	6.22	8.25	7.5
Barium	22.5	79.5	55.6	67.4	118	110	300
Cadmium	BQL	BQL	BQL	BQL	BQL	0.61	1
Chromium	6.39	<b>15.1</b>	<b>13.7</b>	<b>16.5</b>	<b>22.3</b>	<b>18.4</b>	10
Lead	2.07	3.8	3.64	3.47	13.6	<b>3,960</b>	61
Mercury	BQL	BQL	BQL	BQL	BQL	<b>0.26</b>	0.1

All metals concentrations are in parts per million (ppm)

BQL = below analytical quantitation level

NA =Not Applicable or Not Analyzed

**Bold** = above NYSDEC TAGM RSCOs

Analytes not tabulated here are below analytical quantitation limits

**TABLE V**  
**Tabulated VOC Analytical Result**  
**Soil Sample Collected May 18, 2005**

Location	SB-18	NYSDEC
Depth	4' - 5'	TAGM RSCO
Analyte	<b>8260</b>	
Tetrachloroethylene	920	1,400

All concentrations are in parts per billion (ppb)

BQL = below analytical quantitation level

NA - Not Analyzed or Not Applicable

**Bold** = above NYSDEC TAGM RSCOs

Analytes not tabulated here are below analytical quantitation limits

## 6.0 CONCLUSIONS

Based on the completion of this Phase II Subsurface Investigation, *Laurel Environmental Associates, Ltd.* has found the following:

1. Detectable levels of several VOCs were present in SB-1, SB-7, SB-8 and SB-17, but at concentrations below NYSDEC TAGM RSCOs. Samples from borings SB-7, SB-8, SB-9 and SB-10 were visually contaminated and registered elevated PID readings. These borings were completed within the area surrounding the diesel USTs adjacent to the entrance to the Waste Management building.
2. Elevated levels of five (5) SVOCs were present in SB-1 above NYSDEC TAGM RSCOs. Elevated levels of four (4) SVOCs were present in SB-17 above NYSDEC TAGM RSCOs. Detectable levels of the VOC Tetrachloroethylene (PERC) were present in SB-18, but at concentrations below NYSDEC TAGM RSCOs.
3. Elevated levels of the heavy metal Chromium were present in samples SB-8, SB-10, SB-15, SB-16 and SB-17 at concentrations above NYSDEC TAGM RSCOs. Very high levels of the heavy metal Lead were present in SB-17 at concentrations above NYSDEC TAGM RSCOs.
4. All known, on-site UIC structures are solid-bottomed and eventually discharge to the City of Yonkers sanitary sewer system.

## 7.0 RECOMMENDATIONS

Based on the findings, *LEA* recommends the following course of additional investigation and remedial corrective action:

1. Conduct additional soil and soil-gas testing for "perc" within the tenant space occupied by the Dry Cleaner and from at least three areas along the exterior of the building.
2. Register, permit, pump, and remove the leaking diesel USTs along with any contaminated soil encountered. Properly dispose of the tanks, product, tank sludge and contaminated soil at a licensed facility. Collect endpoint samples and submit for analysis using 8021/8270 STARS.
3. Remove lead contaminated soil from the area along the west side of the Firestone® Auto Repair and properly dispose of soil. Collect endpoint samples and submit for laboratory analysis for lead.
4. Review results and prepare report of findings. Submit to NYSDEC for closure of Spill # 05-01972

QA/QC Review by:

  
Carla Sullivan, Quality Assurance

14 of 15  
June 7, 2005

## **DISCLAIMER FOR PHASE II ENVIRONMENTAL SITE ASSESSMENT**

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, Laurel Environmental Associates, Ltd. 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 Laurel Environmental Associates, Ltd. 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, Laurel Environmental Associates, Ltd. 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, Laurel Environmental Associates, Ltd. renders no opinion as to the presence of non-hazardous or hazardous materials, or to the presence of indirect evidence relating to non-hazardous or hazardous materials, in that portion of the subject property or structure. In addition, Laurel Environmental Associates, Ltd. 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, floor, or ceiling of a structure on a subject property was obstructed by objects or coverings on or over these surfaces.

Laurel Environmental Associates, Ltd. 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 readings 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 an outside laboratory has conducted such analyses, Laurel Environmental Associates, Ltd. 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 might be present in soil and/or groundwater at the subject property.

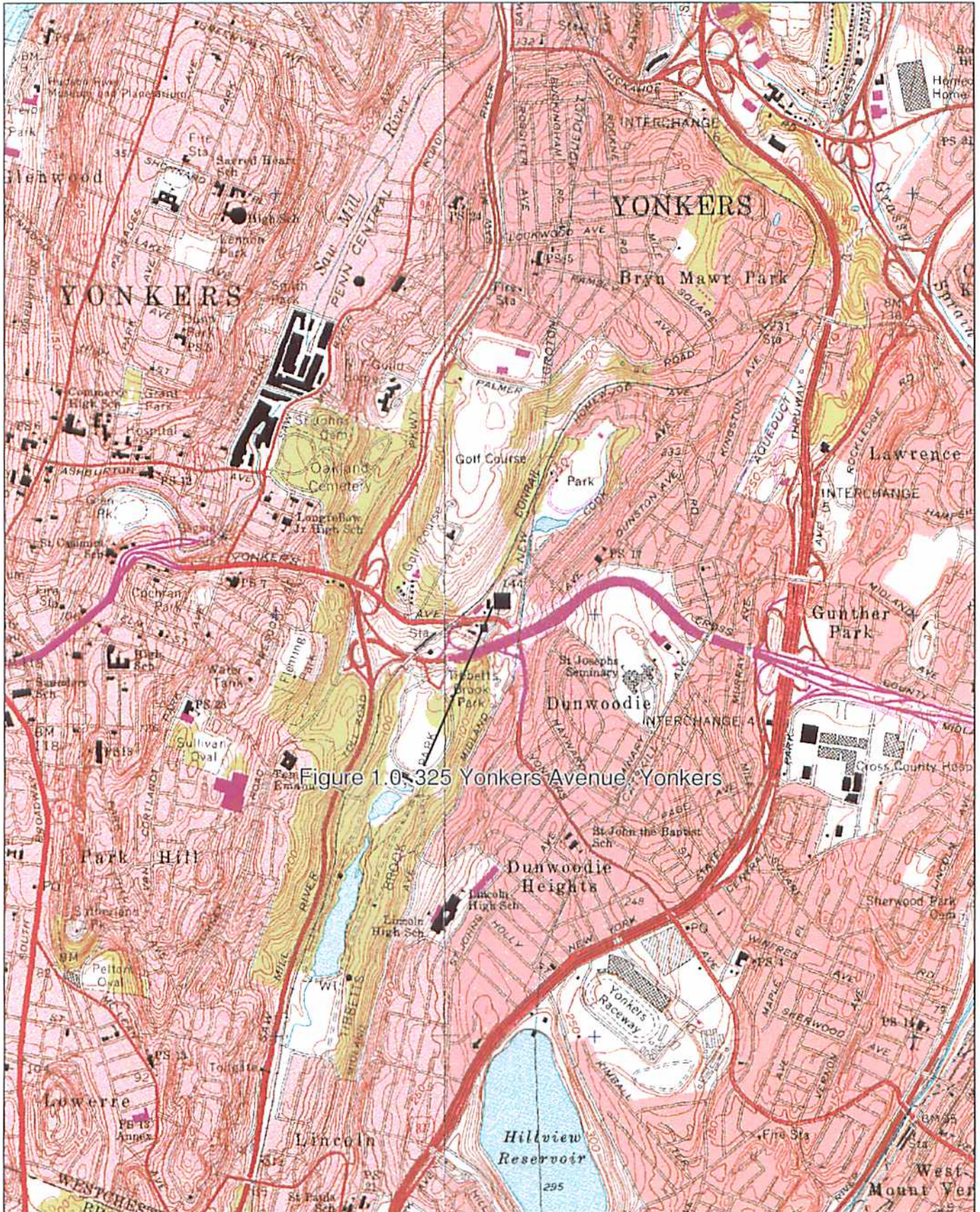
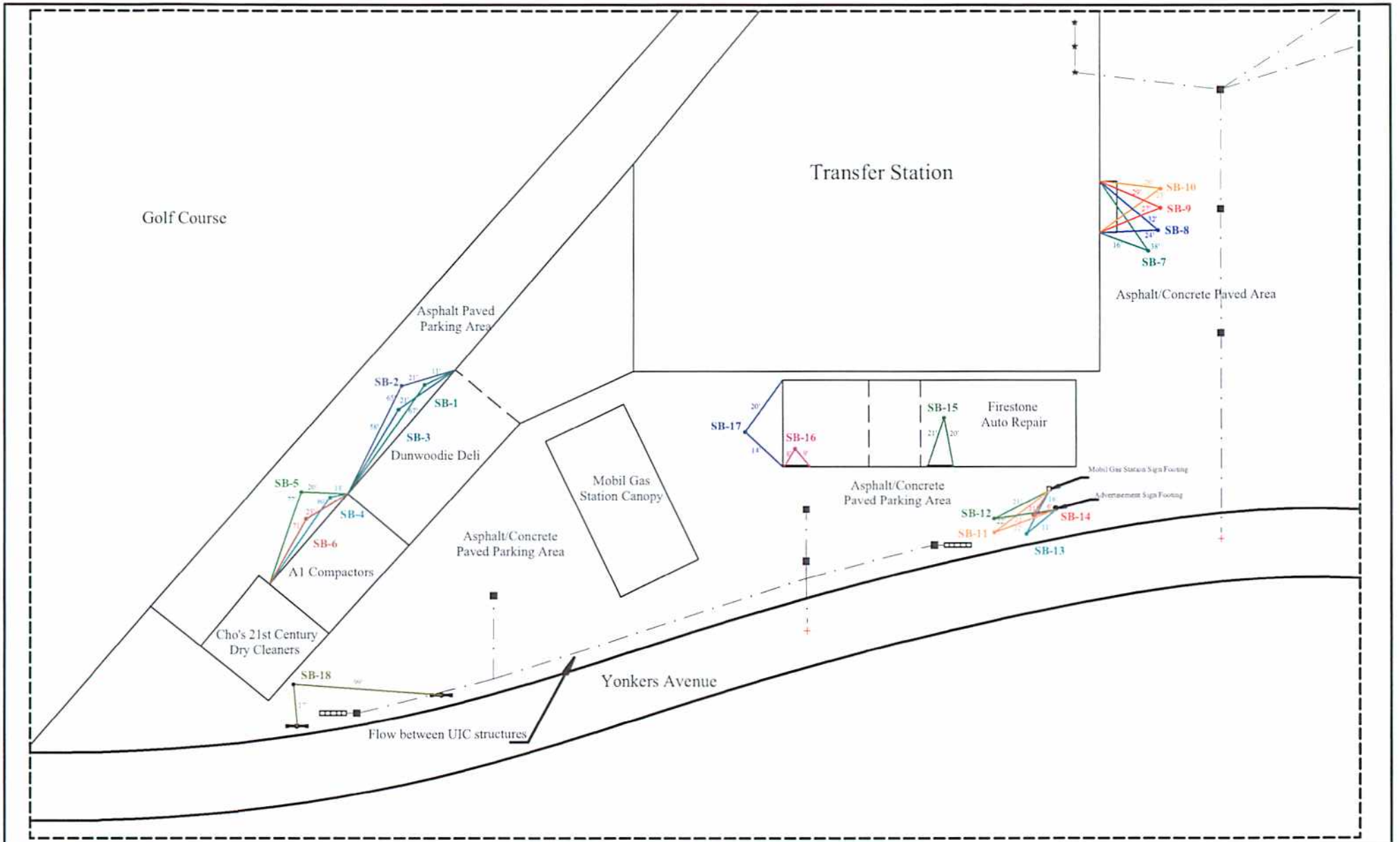


Figure 1.0 325 Yonkers Avenue, Yonkers





<p><b>Laurel</b> ENVIRONMENTAL ASSOCIATES, LTD</p>	<p><b>Laurel Environmental Associates, Ltd.</b></p>	<p><b>Figure 2.0</b></p>	<p><b>LEGEND</b></p> <ul style="list-style-type: none"> <li>■ = Drywell</li> <li>+ = Sewer Connection</li> <li>● = Soil Boring</li> <li>★ = Floor Drain</li> <li>⊥ = Pole-Mounted Transformer</li> <li>▬ = Trench Drain</li> </ul> <div style="text-align: right;"> <p>N</p> </div>
	<p>52 Elm Street Huntington, NY 11743 631-673-0612</p>	<p>Sample Location Map</p>	
	<p>Drawn by BCM 5/26/05</p>	<p>Not to Scale</p>	

**APPENDIX A**

**Laboratory Analysis**

**YORK**  
ANALYTICAL LABORATORIES, INC.

# Technical Report

prepared for

**Laurel Environmental**  
52 Elm Street  
Huntington, NY 11743-3402  
Attention: Scott Yanuck

Report Date: 6/2/2005.  
*Re: Client Project ID: 05-160.1 / 325 Yonkers Ave.*  
York Project No.: 05050799

CT License No. PH-0723

New York License No. 10854



120 RESEARCH DRIVE

STRATFORD, CT 06615

(203) 325-1371

FAX (203) 357-0166

Report Date: 6/2/2005  
 Client Project ID: 05-160.1 / 325 Yonkers Ave.  
 York Project No.: 05050799

**Laurel Environmental**  
 52 Elm Street  
 Huntington, NY 11743-3402  
 Attention: Scott Yanuck

## Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on 05/24/05. The project was identified as your project "05-160.1/325 Yonkers Ave. ".

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables .

All samples were received in proper condition meeting the NELAC acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All the analyses met the method and laboratory standard operating procedure requirements except as indicated under the Notes section of this report, or as indicated by any data flags, the meaning of which is explained in the attachment to this report, if applicable.

The results of the analyses, which are all reported on an as-received basis unless otherwise noted, are summarized in the following table(s).

### Analysis Results

Client Sample ID			SB-1 7-9'		SB-7 16-17'	
York Sample ID			05050799-01		05050799-02	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Volatiles- STARS List	SW846-8260	ug/Kg	---	---	---	---
1,2,4-Trimethylbenzene			Not detected	5.0	8100	100
1,3,5-Trimethylbenzene			Not detected	5.0	1100	100
Benzene			Not detected	5.0	Not detected	100
Ethylbenzene			Not detected	5.0	Not detected	100
Isopropylbenzene			Not detected	5.0	530	100
Methyl-tert-butyl ether (MTBE)			Not detected	5.0	Not detected	100
Naphthalene			Not detected	5.0	1300	100
n-Butylbenzene			Not detected	5.0	340	100
n-Propylbenzene			Not detected	5.0	1500	100
o-Xylene			Not detected	10	Not detected	200
p- & m-Xylenes			Not detected	10	Not detected	200
p-Isopropyltoluene			Not detected	5.0	Not detected	100
sec-Butylbenzene			Not detected	5.0	Not detected	100
tert-Butylbenzene			Not detected	5.0	Not detected	100
Toluene			Not detected	5.0	Not detected	100

**YORK**

Client Sample ID			SB-1 7-9'		SB-7 16-17'	
York Sample ID			05050799-01		05050799-02	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Total Xylenes			Not detected	10	Not detected	200
STARS Target Semi-Volatiles	SW846-8270	ug/kg	---	---	---	---
Acenaphthene			Not detected	240	4200	480
Anthracene			600	160	2000	320
Benzo[a]anthracene			3200	230	Not detected	460
Benzo[a]pyrene			1200	240	Not detected	480
Benzo[b]fluoranthene			1100	190	Not detected	380
Benzo[g,h,i]perylene			380	280	Not detected	550
Benzo[k]fluoranthene			1300	460	Not detected	910
Chrysene			1700	230	Not detected	450
Dibenz[a,h]anthracene			Not detected	240	Not detected	470
Fluoranthene			5700	210	540	410
Fluorene			Not detected	300	8000	600
Indeno[1,2,3-cd]pyrene			420	270	Not detected	540
Naphthalene			Not detected	190	7300	380
Phenanthrene			1400	230	15000	450
Pyrene			5400	280	1300	560
Total RCRA Metals	SW846	mg/kg	---	---	---	---
Arsenic, total					1.17	1.00
Barium, total					22.5	0.50
Cadmium, total					Not detected	0.50
Chromium, total					6.39	0.50
Lead, total					2.07	0.50
Selenium, total					Not detected	1.00
Silver, total					Not detected	0.50
Mercury	SW846-7471	mg/kg	---	---	Not detected	0.10

Client Sample ID			SB-8 17-19'		SB-10 12-14'	
York Sample ID			05050799-03		05050799-04	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Volatiles- STARS List	SW846-8260	ug/Kg	---	---	---	---
1,2,4-Trimethylbenzene			1500	100	Not detected	5.0
1,3,5-Trimethylbenzene			120	100	Not detected	5.0
Benzene			Not detected	100	Not detected	5.0
Ethylbenzene			Not detected	100	Not detected	5.0
Isopropylbenzene			600	100	Not detected	5.0
Methyl-tert-butyl ether (MTBE)			Not detected	100	Not detected	5.0
Naphthalene			1100	100	Not detected	5.0
n-Butylbenzene			1700	100	Not detected	5.0
n-Propylbenzene			1200	100	Not detected	5.0
o-Xylene			Not detected	200	Not detected	10
p- & m-Xylenes			Not detected	200	Not detected	10
p-Isopropyltoluene			Not detected	100	Not detected	5.0
sec-Butylbenzene			Not detected	100	Not detected	5.0
tert-Butylbenzene			Not detected	100	Not detected	5.0
Toluene			Not detected	100	Not detected	5.0
Total Xylenes			Not detected	200	Not detected	10

**YORK**

Client Sample ID			SB-8 17-19'		SB-10 12-14'	
York Sample ID			05050799-03		05050799-04	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
STARS Target Semi-Volatiles	SW846-8270	ug/kG	---	---	---	---
Acenaphthene			1800	480	Not detected	48
Anthracene			850	320	Not detected	32
Benzo[a]anthracene			Not detected	460	Not detected	46
Benzo[a]pyrene			Not detected	480	Not detected	48
Benzo[b]fluoranthene			Not detected	380	Not detected	38
Benzo[g,h,i]perylene			Not detected	550	Not detected	55
Benzo[k]fluoranthene			Not detected	910	Not detected	91
Chrysene			Not detected	450	Not detected	45
Dibenz[a,h]anthracene			Not detected	470	Not detected	47
Fluoranthene			Not detected	410	Not detected	41
Fluorene			3200	600	Not detected	60
Indeno[1,2,3-cd]pyrene			Not detected	540	Not detected	54
Naphthalene			Not detected	380	Not detected	38
Phenanthrene			5700	450	Not detected	45
Pyrene			Not detected	560	Not detected	56
<b>Total RCRA Metals</b>	SW846	mg/kG	---	---	---	---
Arsenic, total			2.70	1.00	2.32	1.00
Barium, total			79.5	0.50	55.6	0.50
Cadmium, total			Not detected	0.50	Not detected	0.50
Chromium, total			15.1	0.50	13.7	0.50
Lead, total			3.80	0.50	3.64	0.50
Selenium, total			Not detected	1.00	Not detected	1.00
Silver, total			Not detected	0.50	Not detected	0.50
Mercury	SW846-7471	mg/kG	Not detected	0.10	Not detected	0.10

Client Sample ID			SB-13 13-15'	
York Sample ID			05050799-05	
Matrix			SOIL	
Parameter	Method	Units	Results	MDL
Volatiles- STARS List	SW846-8260	ug/Kg	---	---
1,2,4-Trimethylbenzene			Not detected	5.0
1,3,5-Trimethylbenzene			Not detected	5.0
Benzene			Not detected	5.0
Ethylbenzene			Not detected	5.0
Isopropylbenzene			Not detected	5.0
Methyl-tert-butyl ether (MTBE)			Not detected	5.0
Naphthalene			Not detected	5.0
n-Butylbenzene			Not detected	5.0
n-Propylbenzene			Not detected	5.0
o-Xylene			Not detected	10
p- & m-Xylenes			Not detected	10
p-Isopropyltoluene			Not detected	5.0
sec-Butylbenzene			Not detected	5.0
tert-Butylbenzene			Not detected	5.0
Toluene			Not detected	5.0
Total Xylenes			Not detected	10

**YORK**

Client Sample ID			SB-13 13-15'	
York Sample ID			05050799-05	
Matrix			SOIL	
Parameter	Method	Units	Results	MDL
STARS Target Semi-Volatiles	SW846-8270	ug/kG	---	---
Acenaphthene			Not detected	48
Anthracene			Not detected	32
Benzo[a]anthracene			Not detected	46
Benzo[a]pyrene			Not detected	48
Benzo[b]fluoranthene			Not detected	38
Benzo[g,h,i]perylene			Not detected	55
Benzo[k]fluoranthene			Not detected	91
Chrysene			Not detected	45
Dibenz[a,h]anthracene			Not detected	47
Fluoranthene			Not detected	41
Fluorene			Not detected	60
Indeno[1,2,3-cd]pyrene			Not detected	54
Naphthalene			Not detected	38
Phenanthrene			Not detected	45
Pyrene			Not detected	56

Client Sample ID			SG-1 4-5'	
York Sample ID			05050799-06	
Matrix			SOIL	
Parameter	Method	Units	Results	MDL
Volatiles-8260 list	SW846-8260	ug/Kg	---	---
1,1,1,2-Tetrachloroethane			Not detected	5.0
1,1,1-Trichloroethane			Not detected	5.0
1,1,2,2-Tetrachloroethane			Not detected	5.0
1,1,2-Trichloroethane			Not detected	5.0
1,1-Dichloroethane			Not detected	5.0
1,1-Dichloroethylene			Not detected	5.0
1,1-Dichloropropylene			Not detected	5.0
1,2,3-Trichlorobenzene			Not detected	5.0
1,2,3-Trichloropropane			Not detected	5.0
1,2,3-Trimethylbenzene			Not detected	5.0
1,2,4-Trichlorobenzene			Not detected	5.0
1,2,4-Trimethylbenzene			Not detected	5.0
1,2-Dibromo-3-chloropropane			Not detected	5.0
1,2-Dibromoethane			Not detected	5.0
1,2-Dichlorobenzene			Not detected	5.0
1,2-Dichloroethane			Not detected	5.0
1,2-Dichloroethylene (Total)			Not detected	5.0
1,2-Dichloropropane			Not detected	5.0
1,3,5-Trimethylbenzene			Not detected	5.0
1,3-Dichlorobenzene			Not detected	5.0
1,3-Dichloropropane			Not detected	5.0
1,4-Dichlorobenzene			Not detected	5.0
1-Chlorohexane			Not detected	5.0
2,2-Dichloropropane			Not detected	5.0
2-Chlorotoluene			Not detected	5.0
4-Chlorotoluene			Not detected	5.0
Benzene			Not detected	5.0

**YORK**

Client Sample ID			SG-1 4-5'	
York Sample ID			05050799-06	
Matrix			SOIL	
Parameter	Method	Units	Results	MDL
Bromobenzene			Not detected	5.0
Bromochloromethane			Not detected	5.0
Bromodichloromethane			Not detected	5.0
Bromoform			Not detected	5.0
Bromomethane			Not detected	5.0
Carbon tetrachloride			Not detected	5.0
Chlorobenzene			Not detected	5.0
Chloroethane			Not detected	5.0
Chloroform			Not detected	5.0
Chloromethane			Not detected	5.0
cis-1,3-Dichloropropylene			Not detected	5.0
Dibromochloromethane			Not detected	5.0
Dibromomethane			Not detected	5.0
Dichlorodifluoromethane			Not detected	5.0
Ethylbenzene			Not detected	5.0
Hexachlorobutadiene			Not detected	5.0
Isopropylbenzene			Not detected	5.0
Methylene chloride			Not detected	5.0
MTBE			Not detected	5.0
Naphthalene			Not detected	5.0
n-Butylbenzene			Not detected	5.0
n-Propylbenzene			Not detected	5.0
o-Xylene			Not detected	5.0
p- & m-Xylenes			Not detected	5.0
p-Isopropyltoluene			Not detected	5.0
sec-Butylbenzene			Not detected	5.0
Styrene			Not detected	5.0
tert-Butylbenzene			Not detected	5.0
Tetrachloroethylene			920	5.0
Toluene			Not detected	5.0
trans-1,3-Dichloropropylene			Not detected	5.0
Trichloroethylene			Not detected	5.0
Trichlorofluoromethane			Not detected	5.0
Vinyl chloride			Not detected	5.0

Client Sample ID			SB-15 8-10'		SB-16 5-6'	
York Sample ID			05050799-07		05050799-08	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
Volatiles- STARS List	SW846-8260	ug/Kg	---	---	---	---
1,2,4-Trimethylbenzene			Not detected	5.0	Not detected	5.0
1,3,5-Trimethylbenzene			Not detected	5.0	Not detected	5.0
Benzene			Not detected	5.0	Not detected	5.0
Ethylbenzene			Not detected	5.0	Not detected	5.0
Isopropylbenzene			Not detected	5.0	Not detected	5.0
Methyl-tert-butyl ether (MTBE)			Not detected	5.0	Not detected	5.0
Naphthalene			Not detected	5.0	Not detected	5.0
n-Butylbenzene			Not detected	5.0	Not detected	5.0
n-Propylbenzene			Not detected	5.0	Not detected	5.0

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Client Sample ID			SB-15 8-10'		SB-16 5-6'	
York Sample ID			05050799-07		05050799-08	
Matrix			SOIL		SOIL	
Parameter	Method	Units	Results	MDL	Results	MDL
o-Xylene			Not detected	10	Not detected	10
p- & m-Xylenes			Not detected	10	Not detected	10
p-Isopropyltoluene			Not detected	5.0	Not detected	5.0
sec-Butylbenzene			Not detected	5.0	Not detected	5.0
tert-Butylbenzene			Not detected	5.0	Not detected	5.0
Toluene			Not detected	5.0	Not detected	5.0
Total Xylenes			Not detected	10	Not detected	10
STARS Target Semi-Volatiles	SW846-8270	ug/kG	---	---	---	---
Acenaphthene			Not detected	48	Not detected	48
Anthracene			Not detected	32	Not detected	32
Benzo[a]anthracene			Not detected	46	Not detected	46
Benzo[a]pyrene			Not detected	48	Not detected	48
Benzo[b]fluoranthene			Not detected	38	Not detected	38
Benzo[g,h,i]perylene			Not detected	55	Not detected	55
Benzo[k]fluoranthene			Not detected	91	Not detected	91
Chrysene			Not detected	45	Not detected	45
Dibenz[a,h]anthracene			Not detected	47	Not detected	47
Fluoranthene			Not detected	41	Not detected	41
Fluorene			Not detected	60	Not detected	60
Indeno[1,2,3-cd]pyrene			Not detected	54	Not detected	54
Naphthalene			Not detected	38	Not detected	38
Phenanthrene			Not detected	45	Not detected	45
Pyrene			Not detected	56	Not detected	56
Total RCRA Metals	SW846	mg/kG	---	---	---	---
Arsenic, total			2.37	1.00	6.22	1.00
Barium, total			67.4	0.50	118	0.50
Cadmium, total			Not detected	0.50	Not detected	0.50
Chromium, total			16.5	0.50	22.3	0.50
Lead, total			3.47	0.50	13.6	0.50
Selenium, total			Not detected	1.00	Not detected	1.00
Silver, total			Not detected	0.50	Not detected	0.50
Mercury	SW846-7471	mg/kG	Not detected	0.10	Not detected	0.10

Client Sample ID			SB-17 3-5'	
York Sample ID			05050799-09	
Matrix			SOIL	
Parameter	Method	Units	Results	MDL
Volatiles- STARS List	SW846-8260	ug/Kg	---	---
1,2,4-Trimethylbenzene			Not detected	5.0
1,3,5-Trimethylbenzene			Not detected	5.0
Benzene			Not detected	5.0
Ethylbenzene			Not detected	5.0
Isopropylbenzene			Not detected	5.0
Methyl-tert-butyl ether (MTBE)			Not detected	5.0
Naphthalene			Not detected	5.0
n-Butylbenzene			Not detected	5.0
n-Propylbenzene			Not detected	5.0
o-Xylene			Not detected	10
p- & m-Xylenes			Not detected	10

**YORK**

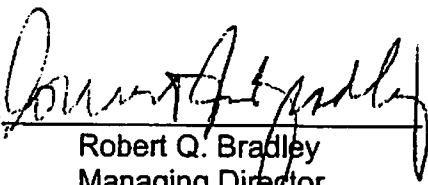
Client Sample ID			SB-17 3-5'	
York Sample ID			05050799-09	
Matrix			SOIL	
Parameter	Method	Units	Results	MDL
p-Isopropyltoluene			Not detected	5.0
sec-Butylbenzene			Not detected	5.0
tert-Butylbenzene			Not detected	5.0
Toluene			Not detected	5.0
Total Xylenes			Not detected	10
STARS Target Semi-Volatiles	SW846-8270	ug/kG	---	---
Acenaphthene			Not detected	96
Anthracene			99	64
Benzo[a]anthracene			600	92
Benzo[a]pyrene			340	96
Benzo[b]fluoranthene			310	76
Benzo[g,h,i]perylene			Not detected	110
Benzo[k]fluoranthene			370	180
Chrysene			420	90
Dibenz[a,h]anthracene			Not detected	94
Fluoranthene			990	82
Fluorene			Not detected	120
Indeno[1,2,3-cd]pyrene			Not detected	110
Naphthalene			Not detected	76
Phenanthrene			480	90
Pyrene			870	110
Total RCRA Metals	SW846	mg/kG	---	---
Arsenic, total			8.25	1.00
Barium, total			110	0.50
Cadmium, total			0.61	0.50
Chromium, total			18.4	0.50
Lead, total			3960	0.50
Selenium, total			1.26	1.00
Silver, total			Not detected	0.50
Mercury	SW846-7471	mg/kG	0.26	0.10

Units Key: For Waters/Liquids: mg/L = ppm ; ug/L = ppb For Soils/Solids: mg/kg = ppm ; ug/kg = ppb

### Notes for York Project No. 05050799

1. The MDL (Minimum Detectable Limit) reported is adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation.
6. All analyses conducted met method or Laboratory SOP requirements.
7. It is noted that no analyses reported herein were subcontracted to another laboratory.

Approved By:

  
Robert Q. Bradley  
Managing Director

Date: 6/2/2005

**YORK**

# YORK


ANALYTICAL LABORATORIES, INC.

ONE RESEARCH DRIVE  
STAMFORD, CT 06906  
(203) 325-1371 FAX (203) 357-0166


## Field Chain-of-Custody Record

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05052799

<b>Company Name</b> LAUREL ENVIRONMENTAL	<b>Report To:</b> SCOTT YANUCK	<b>Invoice To:</b> KATHY LOBISIO	<b>Project ID/No.</b> 05-160.1 325 Tonkers Ave	 Samples Collected By (Signature)
				BRENDAN MORAN Name (Printed)

Sample No.	Location/ID	Date Sampled	Sample Matrix				ANALYSES REQUESTED	Container Description(s)
			Water	Soil	Air	OTHER		
1	SB-1 7'-9'	5/17/05		✓			8021 8270 STARS	2 SMALL 1 LARGE
2	SB-7 16'-17'	↓		✓			8021 8270 STARS 8202A metals	
3	SB-8 17'-19'			✓			↓ ↓	
4	SB-10 12'-14'			✓				
5	SB-13 13'-15'		5/18/05		✓			8021 8270 STARS
6	SB-1 4'-5'	↓		✓			8260	2 SMALL
7	SB-15 8'-10'	5/19/05		✓			8021 8270 STARS 8202A metals	2 SMALL 1 LARGE
8	SB-16 5'-6'	↓		✓			8021 8270 ↓ ↓	↓
9	SB-17 3'-5'	↓		✓			8021 8270 ↓ ↓	↓

<b>Chain-of-Custody Record</b>		 5/14/05 10:30 Sample Relinquished by Date/Time		Wayne 5/24 10:30 Sample Received by Date/Time	
Bottles Relinquished from Lab by _____ Date/Time _____		Sample Relinquished by _____ Date/Time _____		Sample Received in LAB by _____ Date/Time _____	
Bottles Received in Field by _____ Date/Time _____		Sample Relinquished by _____ Date/Time _____		Sample Received in LAB by _____ Date/Time _____	

Comments/Special Instructions

Turn-Around Time  
 \_\_\_\_\_ Standard \_\_\_\_\_ RUSH(define) \_\_\_\_\_

**APPENDIX B**

**NYSDEC TAGM 4046 RSCO**

APPENDIX A of TAGM #4046

TABLE 1

Recommended soil cleanup objectives (mg/kg or ppm)  
Volatile Organic Contaminants

Contaminant	Partition Coefficient, Koc	Groundwater Standards/ Criteria, Cw (ug/l or ppb)	a Allowable soil conc., Cs (ppm)	b ** Soil cleanup objectives to protect GW quality (ppm)	USEPA Health Based (ppm)		CRQL (ppb)	*** Rec. Soil Cleanup Objective (ppm)
					Carcinogens	Systemic Toxicants		
Acetone	2.2	50	0.0011	0.11	N/A	8,000	10	0.2
Benzene	83	0.7	0.0006	0.06	24	N/A	5	0.06
Benzoic Acid	54 *	50	0.027	2.7	N/A	300,000	5	2.7
2-Butanone	4.5 *	50	0.003	0.3	N/A	4,000	10	0.3
Carbon Disulfide	54 *	50	0.027	2.7	N/A	8,000	5	2.7
Carbon Tetrachloride	110 *	5	0.006	0.6	5.4	60	5	0.6
Chlorobenzene	330	5	0.017	1.7	N/A	2,000	5	1.7
Chloroethane	37 *	50	0.019	1.9	N/A	N/A	10	1.9
Chloroform	31	7	0.003	0.30	114	800	5	0.3
Dibromochloromethane	N/A	50	N/A	N/A	N/A	N/A	5	N/A
1,2-Dichlorobenzene	1,700	4.7	0.079	7.9	N/A	N/A	330	7.9
1,3-Dichlorobenzene	310 *	5	0.0155	1.55	N/A	N/A	330	1.6
1,4-Dichlorobenzene	1,700	5	0.085	8.5	N/A	N/A	330	8.5
1,1-Dichloroethane	30	5	0.002	0.2	N/A	N/A	5	0.2
1,2-Dichloroethane	14	5	0.001	0.1	7.7	N/A	5	0.1
1,1-Dichloroethene	65	5	0.004	0.4	12	700	5	0.4
1,2-Dichloroethene (trans)	59	5	0.003	0.3	N/A	2,000	5	0.3
1-3 dichloropropane	51	5	0.003	0.3	N/A	N/A	5	0.3
Ethylbenzene	1,100	5	0.055	5.5	N/A	8,000	5	5.5
113 Freon (1,1,2 Trichloro-1,2,2 Trifluoroethane)	1,230 *	5	0.060	6.0	N/A	200,000	5	6.0
Methylene chloride	21	5	0.001	0.1	93	5,000	5	0.1
4-Methyl-2-Pentanone	19 *	50	0.01	1.0	N/A	N/A	10	1.0
Tetrachloroethene	277	5	0.014	1.4	14	800	5	1.4
1,1,1-Trichloroethane	152	5	0.0076	0.76	N/A	7,000	5	0.8
1,1,2,2-Tetrachloroethane	118	5	0.006	0.6	35	N/A	5	0.6
1,2,3-trichloropropane	68	5	0.0034	0.34	N/A	80	5	0.4
1,2,4-trichlorobenzene	670 *	5	0.034	3.4	N/A	N/A	330	3.4
Toluene	300	5	0.015	1.5	N/A	20,000	5	1.5
Trichloroethene	126	5	0.007	0.70	64	N/A	5	0.7
Vinyl chloride	57	2	0.0012	0.12	N/A	N/A	10	0.2
Xylenes	240	5	0.012	1.2	N/A	200,000	--	1.2

a. Allowable Soil Concentration  $C_s = f \times C_w \times K_{oc}$  b. Soil cleanup objective =  $C_s \times$  Correction Factor (CF N/A is not available)

\* Partition coefficient is calculated by using the following equation:  $\log K_{oc} = -0.55 \log S + 3.64$ , where S is solubility in water in ppm. All other Koc values are experimental values.

\*\*

Correction Factor (CF) of 100 is used as per TAGM #4046

\*\*\*

As per TAGM #4046, Total VOCs < 10 ppm.

Note: Soil cleanup objectives are developed for soil organic carbon content (f) of 1%, and should be adjusted for the actual soil organic carbon content if it is known.

**TABLE 2**  
**Recommended soil cleanup objectives (mg/kg or ppm)**  
**Semi-Volatile Organic Contaminants**

Contaminant	Partition Coefficient, K <sub>oc</sub>	Groundwater Standards/ Criteria, C <sub>w</sub> (ug/l or ppb)	<sup>a</sup> Allowable soil conc., C <sub>s</sub> (ppm)	<sup>b</sup> <sup>**</sup> Soil cleanup objectives to protect GW quality (ppm)	USEPA Health Based (ppm)		CRQL (ppb)	<sup>***</sup> Rec. Soil Cleanup Objective (ppm)
					Carcinogens	Systemic Toxicants		
Acenaphthene	4,600	20	0.9	90.0	N/A	5,000	330	50.0 <sup>***</sup>
Acenaphthylene	2,056 <sup>*</sup>	20	0.41	41.0	N/A	N/A	330	41.0
Aniline	13.8	5	0.001	0.1	123	N/A	330	0.1
Anthracene	14,000	50	7.00	700.0	N/A	20,000	330	50.0 <sup>***</sup>
Benzo(a)anthracene	1,380,000	0.002	0.03	3.0	0.224	N/A	330	0.224 or MDL
Benzo (a) pyrene	5,500,000	0.002 (ND)	0.110	11.0	0.0609	N/A	330	0.061 or MDL
Benzo (b) fluoranthene	550,000	0.002	0.011	1.1	N/A	N/A	330	1.1
Benzo (g,h,i) perylene	1,600,000	5	8.0	800	N/A	N/A	330	50.0 <sup>***</sup>
Benzo (k) fluoranthene	550,000	0.002	0.011	1.1	N/A	N/A	330	1.1
bis(2-ethylhexyl)phthalate	8,706 <sup>*</sup>	50	4.35	435.0	50	2,000	330	50.0 <sup>***</sup>
Butylbenzylphthalate	2,430	50	1.215	122.0	N/A	20,000	330	50.0 <sup>***</sup>
Chrysene	200,000	0.002	0.004	0.4	N/A	N/A	330	0.4
4-Chloroaniline	43 <sup>****</sup>	5	0.0022	0.22	200	300	330	0.220 or MDL
4-Chloro-3-methylphenol	47	5	0.0024	0.24	N/A	N/A	330	0.240 or MDL
2-Chlorophenol	15 <sup>*</sup>	50	0.008	0.8	N/A	400	330	0.8
Dibenzofuran	1,230 <sup>*</sup>	5	0.062	6.2	N/A	N/A	330	6.2
Dibenzo(a,h)anthracene	33,000,000	50	1,650	165,000	0.0143	N/A	330	0.014 or MDL
3,3'-Dichlorobenzidine	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dichlorophenol	380	1	0.004	0.4	N/A	200	330	0.4
2,4-Dinitrophenol	38	5	0.002	0.2	N/A	200	1,600	0.200 or MDL
2,6 Dinitrotoluene	198 <sup>*</sup>	5	0.01	1.0	1.03	N/A	330	1.0
Diethylphthalate	142	50	0.071	7.1	N/A	60,000	330	7.1
Dimethylphthalate	40	50	0.020	2.0	N/A	80,000	330	2.0
Di-n-butyl phthalate	162 <sup>*</sup>	50	0.081	8.1	N/A	8,000	330	8.1
Di-n-octyl phthalate	2,346 <sup>*</sup>	50	1.2	120.0	N/A	2,000	330	50.0 <sup>***</sup>
Fluoranthene	38,000	50	19	1900.0	N/A	3,000	330	50.0 <sup>***</sup>
Fluorene	7,300	50	3.5	350.0	N/A	3,000	330	50.0 <sup>***</sup>
Hexachlorobenzene	3,900	0.35	0.014	1.4	0.41	60	330	0.41
Indeno (1,2,3-cd)pyrene	1,600,000	0.002	0.032	3.2	N/A	N/A	330	3.2
Isophorone	88.31 <sup>*</sup>	50	0.044	4.40	1,707	20,000	330	4.40
2-methylnaphthalene	727 <sup>*</sup>	50	0.364	36.4	N/A	N/A	330	36.4
2-Methylphenol	15	5	0.001	0.1	N/A	N/A	330	0.100 or MDL
4-Methylphenol	17	50	0.009	0.9	N/A	4,000	330	0.9
Naphthalene	1,300	10	0.130	13.0	N/A	300	330	13.0
Nitrobenzene	36	5	0.002	0.2	N/A	40	330	0.200 or MDL

2-Nitroaniline	86	5	0.0043	0.43	N/A	N/A	1,600	0.430 or MDL
2-Nitrophenol	65	5	0.0033	0.33	N/A	N/A	330	0.330 or MDL
4-Nitrophenol	21	5	0.001	0.1	N/A	N/A	1,600	0.100 or MDL
3-Nitroaniline	93	5	0.005	0.5	N/A	N/A	1,600	0.500 or MDL
Pentachlorophenol	1,022	1	0.01	1.0	N/A	2,000	1,600	1.0 or MDL
Phenanthrene	4,365 *	50	2.20	220.0	N/A	N/A	330	50.0 ***
Phenol	27	1	0.0003	0.03	N/A	50,000	330	0.03 or MDL
Pyrene	13,295 *	50	6.65	665.0	N/A	2,000	330	50.0 ***
2,4,5-Trichlorophenol	89 *	1	0.001	0.1	N/A	8,000	330	0.1

a. Allowable Soil Concentration  $C_s = f \times C_w \times K_{oc}$  b. Soil cleanup objective =  $C_s \times$  Correction Factor (CF) N/A is not available  
MDL is Method Detection Limit

\* Partition coefficient is calculated by using the following equation:  $\log K_{oc} = -0.55 \log S + 3.64$ , where S is solubility in water in ppm. Other  $K_{oc}$  values are experimental values.

\*\* Correction Factor (CF) of 100 is used as per TAGM #4046

\*\*\* As per TAGM #4046, Total VOCs < 10 ppm., Total Semi- VOCs < 500ppm. and Individual Semi-VOCs < 50 ppm.

\*\*\*\*  $K_{oc}$  is derived from the correlation  $K_{oc} = 0.63 K_{ow}$  (Determining Soil Response Action Levels.....EPA/540/2-89/057).  $K_{ow}$  is obtained from the USEPA computer database 'MAIN'.

Note: Soil cleanup objectives are developed for soil organic carbon content (f) of 1%, and should be adjusted for the actual soil organic carbon content if it is known.

**TABLE 3**  
**Recommended soil cleanup objectives (mg/kg or ppm)**  
**Organic Pesticides / Herbicides and PCBs**

Contaminant	Partition Coefficient, Koc	Groundwater Standards/ Criteria, Cw (ug/l or ppb)	a Allowable soil conc., Cs (ppm)	b ** Soil cleanup objectives to protect GW quality (ppm)	USEPA Health Based (ppm) Carcin- Systemic ogens Toxicants	CRQL (ppb)	*** Rec. Soil Cleanup Objective (ppm)
Aldrin	96,000	ND (<0.01)	0.005	0.5	0.041	8	0.041
alpha-BHC	3,800	ND (<0.05)	0.002	0.2	0.111	8	0.11
beta-BHC	3,800	ND (<0.05)	0.002	0.2	3.89	8	0.2
delta-BHC	6,600	ND (<0.05)	0.003	0.3	N/A	8	0.3
Chlordane	21,305 *	0.1	0.02	2.0	0.54	80	0.54
2,4-D	104 *	4.4	0.005	0.5	N/A	800	0.5
4,4'-DDD	770,000 *	ND (<0.01)	0.077	7.7	2.9	16	2.9
4,4'-DDE	440,000 *	ND (<0.01)	0.0440	4.4	2.1	16	2.1
4,4'-DDT	243,000 *	ND (<0.01)	0.025	2.5	2.1	16	2.1
Dibenzo-P-dioxins (PCDD) 2,3,7,8 TCDD	1709800	0.000035	0.0006	0.06	N/A	N/A	N/A
Dieldrin	10,700 *	ND (<0.01)	0.0010	0.1	0.044	16	0.044
Endosulfan I	8,168 *	0.1	0.009	0.9	N/A	16	0.9
Endosulfan II	8,031 *	0.1	0.009	0.9	N/A	16	0.9
Endosulfan Sulfate	10,038 *	0.1	0.01	1.0	N/A	16	1.0
Endrin	9,157 *	ND (<0.01)	0.001	0.1	N/A	8	0.10
Endrin ketone	N/A	N/A	N/A	N/A	N/A	N/A	N/A
gamma-BHC (Lindane)	1,080	ND (<0.05)	0.0006	0.06	5.4	8	0.06
gamma-chlordane	140,000	0.1	0.14	14.0	0.54	80	0.54
Heptachlor	12,000	ND (<0.01)	0.0010	0.1	0.16	8	0.10
Heptachlor epoxide	220	ND (<0.01)	0.0002	0.02	0.077	8	0.02
Methoxychlor	25,637	35.0	9.0	900	N/A	80	***
Mitotane	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Parathion	760	1.5	0.012	1.2	N/A	8	1.2
PCBs	17,510 *	0.1	0.1	10.0	1.0	160	1.0 (Surface)10 (sub-surf)
Polychlorinated dibenzo-furans (PCDF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Silvex	2,600	0.26	0.007	0.7	N/A	330	0.7
2,4,5-T	53	35	0.019	1.9	N/A	330	1.9

a. Allowable Soil Concentration Cs = f x Cw x Koc b. Soil cleanup objective = Cs x Correction Factor (CF) N/A is not available

\* Partition coefficient is calculated by using the following equation:  $\log Koc = -0.55 \log S + 3.64$ , where S is solubility in water in ppm. All other Koc values are experimental values.

\*\* Correction Factor (CF) of 100 is used as per TAGM #4046

\*\*\* As per TAGM #4046, Total VOCs < 10 ppm.

Note: Soil cleanup objectives are developed for soil organic carbon content (f) of 1% (5% for PCBs as per PCB Guidance Document), and should be adjusted for the actual soil organic carbon content if it is known.



**APPENDIX A of TAGM #4046**

**TABLE 4**

**Recommended soil cleanup objectives (mg/kg or ppm)  
Heavy Metals**

Contaminants	Protect Water Quality (ppm)	Eastern USA Background (ppm)	* CRDL (mg/kg or ppm)	***** Rec. Soil Cleanup Objective (ppm)
Aluminum	N/A	33,000	2.0	SB
Antimony	N/A	N/A	0.6	SB
Arsenic	N/A	3-12 **	0.1	7.5 or SB
Barium	N/A	15-600	2.0	300 or SB
Beryllium	N/A	0-1.75	0.05	0.16 (HEAST) or SB
Cadmium	N/A	0.1-1	0.05	1 or SB
Calcium	N/A	130 - 35,000 ***	50.0	SB
Chromium	N/A	1.5 - 40 **	0.1	10 or SB
Cobalt	N/A	2.5 - 60 **	0.5	30 or SB
Copper	N/A	1 - 50	0.25	25 or SB
Cyanide	N/A	N/A	0.1	***
Iron	N/A	2,000 - 550,000	1.0	2,000 or SB
Lead	N/A	****	0.03	SB ****
Magnesium	N/A	100 - 5,000	50.0	SB
Manganese	N/A	50 - 5,000	0.15	SB
Mercury	N/A	0.001 - 0.2	0.002	0.1
Nickel	N/A	0.5 - 25	0.4	13 or SB
Potassium	N/A	8,500 - 43,000 **	50.0	SB
Selenium	N/A	0.1 - 3.9	0.05	2 or SB
Silver	N/A	N/A	0.1	SB
Sodium	N/A	6,000 - 8,000	50.0	SB
Thallium	N/A	N/A	0.1	SB
Vanadium	N/A	1-300	0.5	150 or SB
Zinc	N/A	9-50	0.2	20 or SB

Note: Some forms of metal salts such as Aluminum Phosphide, Calcium Cyanide, Potassium Cyanide, Copper cyanide, Silver cyanide, Sodium cyanide, Zinc phosphide, Thallium salts, Vanadium pentoxide and Chromium (VI) compounds are more toxic in nature. Please refer to the USEPA HEASTs database to find cleanup objectives if such metals are present in soil.

SB is site background N/A is not available

\* CRDL is contract required detection limit which is approx. 10 times the CRDL for water.

\*\* New York State background

\*\*\* Some forms of Cyanide are complex and very stable while other forms are pH dependent and hence are very unstable. Site-specific form(s) of Cyanide should be taken into consideration when establishing soil cleanup objective.

\*\*\*\* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4-61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200-500 ppm.

\*\*\*\*\* Recommended soil cleanup objectives are average background concentrations as reported in a 1984 survey of reference material by E. Carol McGovern, NYSDEC.

**APPENDIX C**

**Personnel Qualifications**

**SCOTT A. YANUCK, C.E.I., C.E.S.**

**EDUCATION:**      **STATE UNIVERSITY OF NEW YORK AT STONY BROOK**  
B.A., Earth and Space Sciences, December, 1987, Minor in Technology and Society.  
M.Sc., Hydrogeology, May, 1993. Course work included classes in Geophysics, Chemical Hydrogeology, Organic Contaminant Hydrology, and Computer Modeling.

**EXPERIENCE:**

**PRINCIPAL, MANAGING HYDROGEOLOGIST**  
**LAUREL Environmental Associates, Ltd.**

- Supervise all technical and financial operations of environmental consulting firm.
- Completed OSHA 40 Hour HAZWOPER Supervisors course, 8 Hour Refresher Courses to current.
- Completed ASTM Environmental Site Assessment training course for professionals.
- Completed NJDEPE UST Certification Program.
- Completed Mold Remediation Manage Course based on NYC DOH Guidelines
- NYSDOL Asbestos Inspector, #AH97-08528

September, 1992-present

**PROJECT MANAGER, GROUP SUPERVISOR: ENVIRONMENTAL SERVICES**  
Richard D. Galli, P.E., P.C.

In charge of Environmental Services Group. Scope of work within group includes the following:

- Phase I Environmental Assessments.
- Phase II Environmental Assessments.
- Groundwater Contamination Studies.
- Underground Storage Tanks (UST'S): testing, removal, closure.
- Underground Injection Well Closure (UIC)
- Hazardous Site Remediation.
- State Superfund RI/FS.
- Indoor Air Quality (IAQ) studies.

In addition to performing any of the above-mentioned work, personally responsible for project management, including project setup, project review and quality control/quality assurance of proposals and reports generated by the environmental group.

February, 1992-September, 1992

**CARLA M. SULLIVAN, C.E.S**

**EDUCATION**

**BS GEOLOGY, January 1998. Cum Laude**  
 Long Island University, C.W. Post Campus, Brookville, NY      GPA 3.65  
 Nominated for C.W. POST Academic Achievement Award  
 Recipient of C. W. POST Earth and Environmental Science Award for Excellence in Geology

**EXPERIENCE:**



**BRENDAN C. MORAN**

**EXPERIENCE**

Environmental Consultant, Laurel Environmental Associates, Ltd., Huntington, NY  
February 2005 - Present.

- Performs visual inspections & writes Phase I Environmental Site Assessments
- Performs & writes Phase II Subsurface Soil Investigations
- Supervise & writes Remediation/Phase III projects and reports
- Performs & writes Groundwater Investigations

**FIELD SKILLS:**

- Performs soil, drywell and cesspool sampling, groundwater monitoring, well purging & sampling and soil vapor sampling
- Experienced with van-mounted GeoProbe
- Experienced with track-mounted GeoProbe
- Experienced with Photo Ionization Detector for field screening
- Experienced with Magnetometer and Pipe Locator

**WRITING SKILLS:**

- Numerous Phase I, II, & III reports

**RELATED QUALIFICATIONS**

- Completed OSHA 40 Hour HAZWOPER with confined space
- Computer assisted statistical analysis using Minitab
- Proficient in MSWord, MExcel and TurboCAD

**EDUCATION**

BA Environmental Sciences, May 2003.

- Millersville University, Millersville, PA

**RELATED COURSES**

- Sedimentation, Geology I, Historical Geology, Marine Geology, Oceanography, Calculus I, II and III, Physics I and II, Topics In Environmental Awareness, Chemistry I and II, Statistics I and II

**STEPHEN BYRNE**

**EXPERIENCE**

Environmental Consultant, Laurel Environmental Associates, Ltd., Huntington, NY  
January 2004 - Present.

- Performs & writes Phase I Environmental Site Assessments and Phase II Sampling & Analysis Reports.
- Experienced with GeoProbe® macro core soil sampler

### **FIELD SKILLS:**

- Performs soil, drywell and cesspool sampling, groundwater monitoring well purging & sampling
- Experienced with hand auger
- Experienced with Photoionizatoin Detector (PID)

### **WRITING SKILLS:**

- Numerous Phase I & II reports
- Graduate Thesis: "The Leeds Pond Site; Prehistoric Cultural Investigation and Pottery Analysis"

### **RELATED QUALIFICATIONS**

Teachers Assistant, Adelphi University, September 2003 – December 2003; January 2004 – May 2004

- Reviewed/Graded tests and quizzes
- Laboratory Assistant

Consultant, Suffolk County Archaeological Association, August 2002 – November 2003

- Lectured Students on Archaeological Field Methods
- Lectured Students on Long Island Geology/History/Native Americans
- Oversaw Archeological Activities at Historic Site in Smithtown
- Assisted in the preparation and cataloguing of historic and prehistoric artifacts

### **EDUCATION**

MS ENVIRONMENTAL SCIENCE, September 2002 - Present.

- Adelphi University, 1 South Avenue, Garden City, New York.

### **RELATED COURSES:**

- Groundwater hydrology
- Toxicology
- Conservation Preservation Regulation
- Energy and The Environment
- Virology
- Pollution Controls

BS Anthropology, May 2001.

- Adelphi University, Garden City, New York. Overall GPA: 3.7

### **Prior Experience**

Principle Member for Clothing Company, Mengwear®, LLC

Manager for Italian Restaurant

### **Member**

Suffolk County Archaeological Association

**APPENDIX D**

**Boring Logs**





**LAUREL ENVIRONMENTAL ASSOCIATES, LTD.**

**SOIL BORING LOG**

5/17/2005

Client: Commerce Bank & Yonkers Realty Corp. **SB-2**  
 Site Location: 325 & 327 Yonkers Ave., Yonkers, NY  
 Job#: 05-160.1

Field Geologist: SAY, BCM, STB Drill Type: .6610 dual track mounted GeoProbe®  
 Driller: SAY, BCM, STB Sample Type: Split \_\_\_\_\_  
 Weather Cond. Sunny Grab \_\_\_\_\_  
 Temp: 75 degrees Fahrenheit Core: 5'

SOIL TYPE CODES		Boring Profile*	PID (ppm)	Description/Remarks
Well graded gravels or gravel/sand mix	1			
Poorly graded gravels or gravel/sand mix	2			
	3			
Well graded sands, gravelly sands, no fines	4			
	5	GW	0.0	
Poorly graded sands, gravelly sands, no fines	6	GP	0.0	
	7	BD	0.0	
Silty sands, sand silt mixtures	8			
	9			
Inorganic silts, fine sand, silty-clayey fine sands	10			
	11			
Inorganic clays, gravelly/ sandy clays, silty clays	12			
	13			
Organic silts, organic silty clays of low plasticity	14			
	15			
Organic clays of med. to high plasticity, organic silts	16			
	17			
Peat and other highly organic soils	18			
	19			
Bedrock etc.	20			
	21			
Other (fill, etc) Specify				
Misc. Comments				
refusal at 7'				

\* =Depth relative to grade

**LAUREL ENVIRONMENTAL ASSOCIATES, LTD.**

**SOIL BORING LOG**

**5/17/2005**

Client: Commerce Bank & Yonkers Realty Corp. **SB-3**  
 Site Location: 325 & 327 Yonkers Ave., Yonkers, NY  
 Job#: 05-160.1

Field Geologist: SAY, BCM, STB Drill Type: 6610 dual track mounted GeoProbe®  
 Driller: SAY, BCM, STB Sample Type: Split \_\_\_\_\_  
 Weather Cond. Sunny Grab \_\_\_\_\_  
 Temp: 75 degrees Fahrenheit Core: 5'

SOIL TYPE CODES		Boring Profile*	PID (ppm)	Description/Remarks
Well graded gravels or gravel/sand mix		1		
Poorly graded gravels or gravel/sand mix		2		
Well graded sands, gravelly sands, no fines		3		
Poorly graded sands, gravelly sands, no fines		4		
Silty sands, sand silt mixtures		5	0.0	GW
Inorganic silts, fine sand, silty-clayey fine sands		6	0.0	GP
Inorganic clays, gravelly/sandy clays, silty clays		7	0.0	GP
Organic silts, organic silty clays of low plasticity		8	0.0	OL
Organic clays of med. to high plasticity, organic silts		9	0.0	OL
Peat and other highly organic soils		10	0.0	BD
Bedrock etc.		11		
Other (fill, etc) Specify		12		
		13		
		14		
		15		
		16		
		17		
		18		
		19		
		20		
		21		
<b>Misc. Comments</b>				
refusal at 10'				

\* =Depth relative to grade

**LAUREL ENVIRONMENTAL ASSOCIATES, LTD.**

**SOIL BORING LOG**

5/17/2005

Client: Commerce Bank & Yonkers Realty Corp. **SB-4**  
 Site Location: 325 & 327 Yonkers Ave., Yonkers, NY  
 Job#: 05-160.1

Field Geologist: SAY, BCM, STB Drill Type: .6610 dual track mounted GeoProbe®  
 Driller: SAY, BCM, STB Sample Type: Split \_\_\_\_\_  
 Weather Cond. Sunny Grab \_\_\_\_\_  
 Temp: 75 degrees Fahrenheit Core: 5'

SOIL TYPE CODES		Boring Profile*	PID (ppm)	Description/Remarks
Soil Type Code	Visual Representation			
Well graded gravels or gravel/sand mix		1		
Poorly graded gravels or gravel/sand mix		2		
Well graded sands, gravelly sands, no fines		3		
Poorly graded sands, gravelly sands, no fines		4		
Silty sands, sand silt mixtures		5	GW 0.0	
Inorganic silts, fine sand, silty-clayey fine sands		6	GP 0.0	
Inorganic clays, gravelly/sandy clays, silty clays		7	BD 0.0	
Organic silts, organic silty clays of low plasticity		8		
Organic clays of med. to high plasticity, organic silts		9		
Peat and other highly organic soils		10		
Bedrock etc.		11		
Other (fill, etc) Specify		12		
		13		
		14		
		15		
		16		
		17		
		18		
		19		
		20		
		21		
Misc. Comments				
refusal at 7'				

\* =Depth relative to grade

**LAUREL ENVIRONMENTAL ASSOCIATES, LTD.**

**SOIL BORING LOG**

5/17/2005

Client: Commerce Bank & Yonkers Realty Corp. **SB-5**  
 Site Location: 325 & 327 Yonkers Ave., Yonkers, NY  
 Job#: 05-160.1

Field Geologist: SAY, BCM, STB Drill Type: .6610 dual track mounted GeoProbe®  
 Driller: SAY, BCM, STB Sample Type: Split \_\_\_\_\_  
 Weather Cond. Sunny Grab \_\_\_\_\_  
 Temp: 75 degrees Fahrenheit Core: 5'

SOIL TYPE CODES		Boring Profile*	PID (ppm)	Description/Remarks
Soil Type Description	Soil Type Code			
Well graded gravels or gravel/sand mix	1			
Poorly graded gravels or gravel/sand mix	2			
Well graded sands, gravelly sands, no fines	3			
Poorly graded sands, gravelly sands, no fines	4			
Silty sands, sand silt mixtures	5	OL	0.0	
Inorganic silts, fine sand, silty-clayey fine sands	6	OL	0.0	
Inorganic clays, gravelly/ sandy clays, silty clays	7	OH	0.0	
Organic silts, organic silty clays of low plasticity	8	OH	0.0	
Organic clays of med. to high plasticity, organic silts	9	OH	0.0	
Peat and other highly organic soils	10	BD	0.0	
Bedrock etc.	11			
Other (fill, etc) Specify	12			
	13			
	14			
	15			
	16			
	17			
	18			
	19			
	20			
	21			
<b>Misc. Comments</b>				
refusal at 10'				

\* =Depth relative to grade

**LAUREL ENVIRONMENTAL ASSOCIATES, LTD.**

**SOIL BORING LOG**

5/17/2005

Client: Commerce Bank & Yonkers Realty Corp. SB-6  
 Site Location: 325 & 327 Yonkers Ave., Yonkers, NY  
 Job#: 05-160.1

Field Geologist: SAY, BCM, STB Drill Type: .6610 dual track mounted GeoProbe®  
 Driller: SAY, BCM, STB Sample Type: Split \_\_\_\_\_  
 Weather Cond. Sunny Grab \_\_\_\_\_  
 Temp: 75 degrees Fahrenheit Core: 5'

SOIL TYPE CODES		Boring Profile*	PID (ppm)	Description/Remarks
Well graded gravels or gravel/sand mix		1		
Poorly graded gravels or gravel/sand mix		2		
Well graded sands, gravelly sands, no fines		3		
Poorly graded sands, gravelly sands, no fines		4		
Silty sands, sand silt mixtures		5	CL	0.0
Inorganic silts, fine sand, silty-clayey fine sands		6	CL	0.0
Inorganic clays, gravelly/ sandy clays, silty clays		7	OL	0.0
Organic silts, organic silty clays of low plasticity		8	OH	0.0
Organic clays of med. to high plasticity, organic silts		9	SW	0.0
Peat and other highly organic soils		10	BD	0.0
Bedrock etc.		11		
Other (fill, etc) Specify		12		
		13		
		14		
		15		
		16		
		17		
		18		
		19		
		20		
		21		
Misc. Comments				
refusal at 10'				

\* =Depth relative to grade

**LAUREL ENVIRONMENTAL ASSOCIATES, LTD.**

**SOIL BORING LOG**

5/17/2005

Client: Commerce Bank & Yonkers Realty Corp. SB-7  
 Site Location: 325 & 327 Yonkers Ave., Yonkers, NY  
 Job#: 05-160.1

Field Geologist: SAY, BCM, STB Drill Type: .6610 dual track mounted GeoProbe®  
 Driller: SAY, BCM, STB Sample Type: Split \_\_\_\_\_  
 Weather Cond. Sunny Grab \_\_\_\_\_  
 Temp: 75 degrees Fahrenheit Core: 5'

SOIL TYPE CODES	Boring Profile*	PID (ppm)	Description/Remarks
Well graded gravels or gravel/sand mix	1		
Poorly graded gravels or gravel/sand mix	2		
Well graded sands, gravelly sands, no fines	3		
Poorly graded sands, gravelly sands, no fines	4 SP		
Silty sands, sand silt mixtures	5 SP	2.0	
Inorganic silts, fine sand, silty-clayey fine sands	6 OL	5.6	
Inorganic clays, gravelly/sandy clays, silty clays	7 SP	7.8	
Organic silts, organic silty clays of low plasticity	8 SP	0.8	
Organic clays of med. to high plasticity, organic silts	9 CL	0.4	
Peat and other highly organic soils	10 CL	0.1	
Bedrock etc.	11 CL	0.4	
Other (fill, etc) Specify	12 ML	1.6	
Misc. Comments	13 SM	4.1	
	14 SW	5.2	
	15 SW	20.1	dark grey soil with odor
	16 SW	10	dark grey soil with odor
	17 SW	105	grey, wet soil with strong odor
	18		
	19		
	20		
	21		

\* =Depth relative to grade

**LAUREL ENVIRONMENTAL ASSOCIATES, LTD.**

**SOIL BORING LOG**

5/17/2005

**Client:** Commerce Bank & Yonkers Realty Corp. SB-8  
**Site Location:** 325 & 327 Yonkers Ave., Yonkers, NY  
**Job#:** 05-160.1

**Field Geologist:** SAY, BCM, STB      **Drill Type:** .6610 dual track mounted GeoProbe®  
**Driller:** SAY, BCM, STB      **Sample Type:**      Split  
**Weather Cond.** Sunny      Grab  
**Temp:** 75 degrees Fahrenheit      Core: 5'

<b>SOIL TYPE CODES</b>		<b>Boring Profile*</b>	<b>PID (ppm)</b>	<b>Description/Remarks</b>
Well graded gravels or gravel/sand mix		1		
Poorly graded gravels or gravel/sand mix		2		
Well graded sands, gravelly sands, no fines		3		
Poorly graded sands, gravelly sands, no fines		4 SP		
Silty sands, sand silt mixtures		5 SP	7.5	
Inorganic silts, fine sand, silty-clayey fine sands		6 OL	0.4	
Inorganic clays, gravelly/sandy clays, silty clays		7 SP	0.0	
Organic silts, organic silty clays of low plasticity		8 SP	8.7	
Organic clays of med. to high plasticity, organic silts		9 CL	0.9	
Peat and other highly organic soils		10 CL	0.7	
Bedrock etc.		11 CL	0.0	
Other (fill, etc) Specify		12 ML	0.0	
		13 SM	0.0	
		14 SW	4.4	brown soil, clay with odor
		15 SW	61.9	
		16 SW	53.0	dark grey soil with odor
		17 SW	50.0	dark grey soil with odor
		18 SM	148.0	grey, wet soil with strong odor
		19 SM	166.0	grey, wet soil with strong odor
		20 SM	98.0	grey, wet soil with strong odor
		21 SM	53.8	grey, wet soil with odor
<b>Misc. Comments</b>				

\* =Depth relative to grade

SOIL BORING LOG

5/17/2005

Client: Commerce Bank & Yonkers Realty Corp. SB-9  
 Site Location: 325 & 327 Yonkers Ave., Yonkers, NY  
 Job#: 05-160.1

Field Geologist: SAY, BCM, STB Drill Type: 6610 dual track mounted GeoProbe®  
 Driller: SAY, BCM, STB Sample Type: Split \_\_\_\_\_  
 Weather Cond. Sunny Grab \_\_\_\_\_  
 Temp: 75 degrees Fahrenheit Core: 5'

SOIL TYPE CODES		Boring Profile*	PID (ppm)	Description/Remarks
Well graded gravels or gravel/sand mix		1		
Poorly graded gravels or gravel/sand mix		2		
		3		
Well graded sands, gravelly sands, no fines		4 SP		
		5 SP	2.0	
Poorly graded sands, gravelly sands, no fines		6 OL	0.0	
		7 SP	0.0	
Silty sands, sand silt mixtures		8 CL	0.0	
		9 CL	0.0	
Inorganic silts, fine sand, silty-clayey fine sands		10 CL	0.0	
		11 CL	0.0	
Inorganic clays, gravelly/ sandy clays, silty clays		12 SM	0.0	
		13 SM	0.2	
Organic silts, organic silty clays of low plasticity		14 SW	0.0	
		15 SW	0.7	
Organic clays of med. to high plasticity, organic silts		16 SW	2.0	
		17 SW	16.0	light grey, wet soil
Peat and other highly organic soils				
Bedrock etc.				
Other (fill, etc) Specify				
<b>Misc. Comments</b>				

\* =Depth relative to grade



**SOIL BORING LOG**

5/17/2005

Client: Commerce Bank & Yonkers Realty Corp. SB-10  
 Site Location: 325 & 327 Yonkers Ave., Yonkers, NY  
 Job#: 05-160.1

Field Geologist: SAY, BCM, STB  
 Driller: SAY, BCM, STB  
 Weather Cond: Sunny  
 Temp: 75 degrees Fahrenheit

Drill Type: .6610 dual track mounted GeoProbe®  
 Sample Type: Split \_\_\_\_\_  
 Grab \_\_\_\_\_  
 Core: 5'

SOIL TYPE CODES	Boring Profile*	PID (ppm)	Description/Remarks
Well graded gravels or gravel/sand mix	1		
Poorly graded gravels or gravel/sand mix	2		
Well graded sands, gravelly sands, no fines	3		
Poorly graded sands, gravelly sands, no fines	4		
Silty sands, sand silt mixtures	5 GP	4.8	
Inorganic silts, fine sand, silty-clayey fine sands	6 CL	1.0	
Inorganic clays, gravelly/sandy clays, silty clays	7 SP	0.0	
Organic silts, organic silty clays of low plasticity	8 SP	0.0	
Organic clays of med. to high plasticity, organic silts	9 SP	0.0	
Peat and other highly organic soils	10 ML	0.0	
Bedrock etc.	11 ML	0.0	
Other (fill, etc) Specify	12 ML	1.5	
Misc. Comments	13 GW	4.2	
	14 GW	6.6	
	15 GW	0.2	
	16 CL	0.3	
	17 CL	1.2	

\* =Depth relative to grade

**LAUREL ENVIRONMENTAL ASSOCIATES, LTD.**

**SOIL BORING LOG**







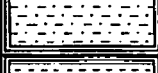


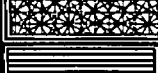

5/18/2005

Client: Commerce Bank & Yonkers Realty Corp.   **SB-11**  
 Site Location: 325 & 327 Yonkers Ave., Yonkers, NY  
 Job#: 05-160.1

Field Geologist: SAY, BCM, STB                                  Drill Type: .6610 dual track mounted GeoProbe®  
 Driller: SAY, BCM, STB    Sample Type:    Split\_\_\_\_\_

Weather Cond. Sunny    Grab\_\_\_\_\_

Temp: 75 degrees Fahrenheit    Core: 5'

SOIL TYPE CODES		Boring Profile*	PID (ppm)	Description/Remarks
Well graded gravels or gravel/sand mix		1		
Poorly graded gravels or gravel/sand mix		2 GP	0.0	
		3 GP	0.0	
Well graded sands, gravelly sands, no fines		4 SW	0.0	
		5 SW	0.0	
Poorly graded sands, gravelly sands, no fines		6 GP	0.0	
		7 GP	0.0	
Silty sands, sand silt mixtures		8 GP	0.0	
		9 GP	0.0	
Inorganic silts, fine sand, silty-clayey fine sands		10 GP	0.0	
		11 GP	0.0	
Inorganic clays, gravelly/ sandy clays, silty clays		12 GW	0.0	
		13 GW	0.0	
Organic silts, organic silty clays of low plasticity		14 GW	0.0	
		15 GW	0.0	
Organic clays of med. to high plasticity, organic silts		16 CL	0.0	
		17 CL	0.0	
Peat and other highly organic soils				
Bedrock etc.				
Other (fill, etc) Specify				
<b>Misc. Comments</b>				

\* =Depth relative to grade

**LAUREL ENVIRONMENTAL ASSOCIATES, LTD.**

**SOIL BORING LOG**

5/18/2005

Client: Commerce Bank & Yonkers Realty Corp. **SB-12**  
 Site Location: 325 & 327 Yonkers Ave., Yonkers, NY  
 Job#: 05-160.1

Field Geologist: SAY, BCM, STB Drill Type: .6610 dual track mounted GeoProbe®  
 Driller: SAY, BCM, STB Sample Type: Split \_\_\_\_\_  
 Weather Cond. Sunny Grab \_\_\_\_\_  
 Temp: 75 degrees Fahrenheit Core: 5'

SOIL TYPE CODES		Boring Profile*	PID (ppm)	Description/Remarks
Well graded gravels or gravel/sand mix	1			
Poorly graded gravels or gravel/sand mix	2	GP	0.0	
Well graded sands, gravelly sands, no fines	3	GP	0.0	
Poorly graded sands, gravelly sands, no fines	4	SW	0.0	
Silty sands, sand silt mixtures	5	ML	0.0	
Inorganic silts, fine sand, silty-clayey fine sands	6	GP	0.0	
Inorganic clays, gravelly/ sandy clays, silty clays	7	GP	0.0	
Organic silts, organic silty clays of low plasticity	8	GP	0.0	
Organic clays of med. to high plasticity, organic silts	9	GP	0.0	
Peat and other highly organic soils	10	GP	0.0	
Bedrock etc.	11	GP	0.0	
Other (fill, etc) Specify	12	GP	0.0	
	13	GP	0.0	
	14	GP	0.0	
	15	GP	0.0	
	16	GP	0.0	
	17	GP	0.0	
<b>Misc. Comments</b>				

\* =Depth relative to grade

**SOIL BORING LOG**

**5/18/2005**

**Client:** Commerce Bank & Yonkers Realty Corp. SB-13  
**Site Location:** 325 & 327 Yonkers Ave., Yonkers, NY  
**Job#:** 05-160.1

**Field Geologist:** SAY, BCM, STB      **Drill Type:** .6610 dual track mounted GeoProbe®  
**Driller:** SAY, BCM, STB      **Sample Type:** Split \_\_\_\_\_  
**Weather Cond.** Sunny      Grab \_\_\_\_\_  
**Temp:** 75 degrees Fahrenheit      Core: 5'

SOIL TYPE CODES	Boring Profile*	PID (ppm)	Description/Remarks
Well graded gravels or gravel/sand mix	1		
Poorly graded gravels or gravel/sand mix	2 GP	0.0	
Well graded sands, gravelly sands, no fines	3 GP	0.0	
Poorly graded sands, gravelly sands, no fines	4 SW	0.0	
Silty sands, sand silt mixtures	5 SW	0.0	
Inorganic silts, fine sand, silty-clayey fine sands	6 GP	0.0	
Inorganic clays, gravelly/sandy clays, silty clays	7 GP	0.0	
Organic silts, organic silty clays of low plasticity	8 SM	0.0	
Organic clays of med. to high plasticity, organic silts	9 SM	0.0	
Peat and other highly organic soils	10 SM	0.0	
Bedrock etc.	11 SM	0.0	
Other (fill, etc) Specify	12 SM	0.0	
	13 CL	0.0	
	14 CL	0.0	
	15 CL	0.0	
	16 OH	0.0	
	17 SM	0.0	
<b>Misc. Comments</b>			

\* =Depth relative to grade

SOIL BORING LOG

5/18/2005

Client: Commerce Bank & Yonkers Realty Corp. **SB-14**  
 Site Location: 325 & 327 Yonkers Ave., Yonkers, NY  
 Job#: 05-160.1

Field Geologist: SAY, BCM, STB Drill Type: .6610 dual track mounted GeoProbe®  
 Driller: SAY, BCM, STB Sample Type: Split           
 Weather Cond. Sunny Grab           
 Temp: 75 degrees Fahrenheit Core: 5'

SOIL TYPE CODES		Boring Profile*	PID (ppm)	Description/Remarks
Well graded gravels or gravel/sand mix		1		
Poorly graded gravels or gravel/sand mix		2 GP	0.0	
Well graded sands, gravelly sands, no fines		3 GP	0.0	
Poorly graded sands, gravelly sands, no fines		4 SW	0.0	
Silty sands, sand silt mixtures		5 SW	0.0	
Inorganic silts, fine sand, silty-clayey fine sands		6 GP	0.0	
Inorganic clays, gravelly/sandy clays, silty clays		7 GP	0.0	
Organic silts, organic silty clays of low plasticity		8 SM	0.0	
Organic clays of med. to high plasticity, organic silts		9 SM	0.0	
Peat and other highly organic soils		10 SM	0.0	
Bedrock etc.		11 SM	0.0	
Other (fill, etc) Specify		12 SM	0.0	
		13 CL	0.0	
		14 CL	0.0	
		15 CL	0.0	
		16 OH	0.0	
		17 SM	0.0	

\* =Depth relative to grade

LAUREL ENVIRONMENTAL ASSOCIATES, LTD.

SOIL BORING LOG

5/19/2005

Client: Commerce Bank & Yonkers Realty Corp. SB-15  
 Site Location: 325 & 327 Yonkers Ave., Yonkers, NY  
 Job#: 05-160.1

Field Geologist: SAY, BCM, STB Drill Type: 6610 dual track mounted GeoProbe®  
 Driller: SAY, BCM, STB Sample Type: Split           
 Weather Cond. Sunny Grab           
 Temp: 75 degrees Fahrenheit Core: 5'

SOIL TYPE CODES		Boring Profile*	PID (ppm)	Description/Remarks
Well graded gravels or gravel/sand mix		1 GP	0.0	
Poorly graded gravels or gravel/sand mix		2 GP	0.0	
Well graded sands, gravelly sands, no fines		3 GP	0.0	
Poorly graded sands, gravelly sands, no fines		4 SW	0.0	
Silty sands, sand silt mixtures		5 SW	0.0	
Inorganic silts, fine sand, silty-clayey fine sands		6 GP	0.0	
Inorganic clays, gravelly/ sandy clays, silty clays		7 GP	0.0	
Organic silts, organic silty clays of low plasticity		8 SM	0.0	
Organic clays of med. to high plasticity, organic silts		9 SM	0.0	
Peat and other highly organic soils		10 SM	0.0	
Bedrock etc.		11 SM	0.0	
Other (fill, etc) Specify		12 SM	0.0	
		13 ML	0.0	
		14 ML	0.0	
		15 ML	0.0	

\* =Depth relative to grade

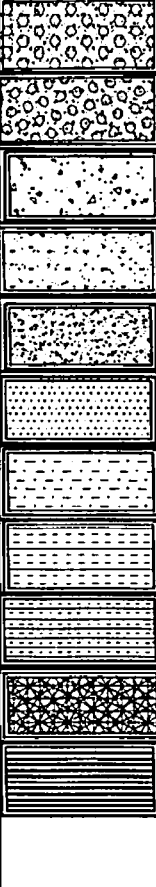
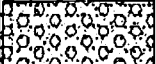
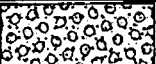




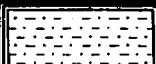
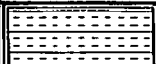

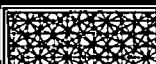

**LAUREL ENVIRONMENTAL ASSOCIATES, LTD.**

**SOIL BORING LOG**

5/19/2005

Client: Commerce Bank & Yonkers Realty Corp. **SB-16**  
 Site Location: 325 & 327 Yonkers Ave., Yonkers, NY  
 Job#: 05-160.1

Field Geologist: SAY, BCM, STB Drill Type: .6610 dual track mounted GeoProbe®  
 Driller: SAY, BCM, STB Sample Type: Split \_\_\_\_\_  
 Weather Cond. Sunny Grab \_\_\_\_\_  
 Temp: 75 degrees Fahrenheit Core: 5'

SOIL TYPE CODES		Boring Profile*	PID (ppm)	Description/Remarks
				
Well graded gravels or gravel/sand mix				
Poorly graded gravels or gravel/sand mix		3 GP	0.0	
Well graded sands, gravelly sands, no fines		4 CL	0.0	
Poorly graded sands, gravelly sands, no fines		5 SL	0.0	
Silty sands, sand silt mixtures		6 SL	0.0	
Inorganic silts, fine sand, silty-clayey fine sands		7 SL	0.0	
Inorganic clays, gravelly/ sandy clays, silty clays		8 SL	0.0	
Organic silts, organic silty clays of low plasticity				
Organic clays of med. to high plasticity, organic silts				
Peat and other highly organic soils				
Bedrock etc.				
Other (fill, etc) Specify				
<b>Misc. Comments</b>				
refusal at 8'				

\* =Depth relative to grade

LAUREL ENVIRONMENTAL ASSOCIATES, LTD.

SOIL BORING LOG

5/19/2005

Client: Commerce Bank & Yonkers Realty Corp. **SB-17**  
 Site Location: 325 & 327 Yonkers Ave., Yonkers, NY  
 Job#: 05-160.1

Field Geologist: SAY, BCM, STB Drill Type: 6610 dual track mounted GeoProbe®  
 Driller: SAY, BCM, STB Sample Type: Split \_\_\_\_\_  
 Weather Cond. Sunny Grab \_\_\_\_\_  
 Temp: 75 degrees Fahrenheit Core: 5'

SOIL TYPE CODES		Boring Profile*	PID (ppm)	Description/Remarks
Well graded gravels or gravel/sand mix		1 GP	0.0	
Poorly graded gravels or gravel/sand mix		2 ML	0.0	
Well graded sands, gravelly sands, no fines		3 ML	0.0	
Poorly graded sands, gravelly sands, no fines		4 ML	0.0	
Silty sands, sand silt mixtures		5 ML	0.0	
Inorganic silts, fine sand, silty-clayey fine sands				
Inorganic clays, gravelly/ sandy clays, silty clays				
Organic silts, organic silty clays of low plasticity				
Organic clays of med. to high plasticity, organic silts				
Peat and other highly organic soils				
Bedrock etc.				
Other (fill, etc) Specify				
<b>Misc. Comments</b>				
refusal at 5'				

\* =Depth relative to grade



**LAUREL ENVIRONMENTAL ASSOCIATES, LTD.**

**SOIL BORING LOG**

5/18/2005

Client: Commerce Bank & Yonkers Realty Corp. SB-18  
 Site Location: 325 & 327 Yonkers Ave., Yonkers, NY  
 Job#: 05-160.1

Field Geologist: SAY, BCM, STB Drill Type: .6610 dual track mounted GeoProbe®  
 Driller: SAY, BCM, STB Sample Type: Split  
 Weather Cond. Sunny Grab  
 Temp: 75 degrees Fahrenheit Core: 5'

SOIL TYPE CODES	Boring Profile*	PID (ppm)	Description/Remarks
Well graded gravels or gravel/sand mix	1 GP	0.0	
Poorly graded gravels or gravel/sand mix	2 GP	0.0	
Well graded sands, gravelly sands, no fines	3 SP	0.0	
Poorly graded sands, gravelly sands, no fines	4 SP	0.0	
Silty sands, sand silt mixtures	5 GW	0.0	
Inorganic silts, fine sand, silty-clayey fine sands			
Inorganic clays, gravelly/ sandy clays, silty clays			
Organic silts, organic silty clays of low plasticity			
Organic clays of med. to high plasticity, organic silts			
Peat and other highly organic soils			
Bedrock etc.			
Other (fill, etc) Specify			
<b>Misc. Comments</b>			
refusal at 5'			

\* =Depth relative to grade