# DRAFT REMEDIAL INVESTIGATION REPORT

Coral Island Shopping Center 1650 Richmond Avenue Staten Island, New York

**NYSDEC BCP #C243033** 

Prepared for

WWP ASSOCIATES, LLC 8816 Six Forks road - Suite 201 Raleigh, North Carolina 27615

# **ROUX ASSOCIATES, INC.**

Environmental Consulting & Management



209 Shafter Street, Islandia, New York 11749 ♦ 631-232-2600

# TABLE OF CONTENTS

1.0 INTRODUCTION	1
2.0 SITE DESCRIPTION AND HISTORY	7
2.1 Topography	
2.2 Water Supply	
2.3 Geologic Setting	
2.4 Site Operational History	
2.5 Site Investigation History	
3.0 DISCUSSION OF INVESTIGATION ACTIVITIES	
3.1 Task 1 - Compliance Audit of Dry Cleaner	
3.2 Task 2 - Soil Vapor Screening	
3.3.1 Ambient Air Sampling and Son Vapor Sampling	
3.3.2 Soil Vapor Sampling	
3.4 Task 4 - Soil Boring and Sampling	
3.5 Task 5 - Surface Soil Sampling	
3.6 Task 6 - Temporary Monitoring Well Installation	
3.7 Task 7 - Survey	
3.8 Task 8 - Water-Level Measurements and Groundwater Sampling	
3.9 Laboratory Analyses	
3.10 Decontamination	
3.11 Data Validation	
4.0 PRESENTATION OF ANALYTICAL RESULTS	
4.1 Soil Vapor Screening Results	
4.2.1 VOCs in Soil Vapor From the Outdoor Locations	
4.2.2 VOCs in Soil Vapor From Sub-Slab Locations	
4.2.2 VOCS III SOII Vapoi From Sub-Stab Locations	
4.3.1 Onsite Indoor Air Sample Results.	
4.3.2 Offsite Outdoor Air Sample Results	
4.3.3 Offsite Indoor Air Sample Results	
4.4 Soil Sampling Results	
4.4.1 Onsite Soil Sampling Results	
4.4.2 Offsite Soil Sampling Results	
4.5 Water-Level Measurements	
4.6 Groundwater Sampling Results	
4.7 Compliance Audit	
5.0 DISCUSSION OF THE NATURE AND EXTENT OF CONTAMINANTS	30
5.1 Hydrogeology	
5.1.1 Site Specific Geology	
5.1.2 Shallow Water Levels	
5.1.3 Deep Water Levels	
5.2 Soil Quality	
5.3 Groundwater Quality	

# **TABLE OF CONTENTS**

#### (Continued)

5.4 Soil Vapor and Air Quality	34
6.0 QUALITATIVE EXPOSURE ASSESSMENT	37
7.0 CONCLUSIONS AND RECOMMENDATIONS	40

#### **TABLES**

- 1. Summary of Sampling Locations
- 2. Summary of Well Construction Details
- 3. Summary of Soil Vapor Screening Data
- 4. Summary of Volatile Organic Compounds Detected in Soil Vapor
- 5. Summary of Volatile Organic Compounds Detected in Air
- 6. Summary of Volatile Organic Compounds Detected in Soil
- 7. Summary of Semivolatile Organic Compounds Detected in Soil
- 8. Summary of Metals Detected in Soil
- 9. Summary of Polychlorinated Biphenyls Detected in Soil
- 10. Summary of Pesticides and Herbicides Detected in Soil
- 11. Summary of Water Levels
- 12. Summary of Volatile Organic Compounds Detected in Groundwater
- 13. Summary of Semivolatile Organic Compounds Detected in Groundwater
- 14. Summary of Metals Detected in Groundwater
- 15. Summary of Polychlorinated Biphenyls Detected in Groundwater
- 16. Summary of Pesticides and Herbicides Detected in Groundwater

# **FIGURES**

- 1. Site Location Map
- 2. Soil Vapor Screening Locations

## **APPENDICES**

- A. Compliance Audit of Charming Cleaners
- B. Soil Boring and Monitoring Well Construction Logs
- C. Analytical Data
- D. Data Usability Summary Report

## **PLATES**

- 1. Site Plan
- 2. Sampling Locations
- 3. Water-Level Elevations in Shallow Monitoring Wells September 28, 2005

## TABLE OF CONTENTS

(Continued)

# **PLATES** (continued)

- 4. Water-Level Elevations in Deep Monitoring Wells September 28, 2005
- 5. Water-Level Elevations in Shallow Monitoring Wells August 14, 2006
- 6. Water-Level Elevations in Deep Monitoring Wells August 14, 2006
- 7. Volatile Organic Compounds of Concern Detected in Groundwater Above NYSDEC AWQSGVs
- 8. Generalized Hydrogeologic Cross Section A-A'

#### 1.0 INTRODUCTION

On behalf of WWP Associates, LLC (WWP), Roux Associates, Inc. (Roux Associates) has prepared this Remedial Investigation (RI) Report for the Coral Island Shopping Center (Site) located at 1650 Richmond Avenue, Staten Island, New York (Figure 1). The RI was conducted in accordance with the provisions of the Brownfield Cleanup Agreement, Index Number: W2-1040-05-01 dated March 2005 between the New York State Department of Environmental Conservation (NYSDEC) and WWP.

The RI was conducted in accordance with the April 18, 2005 RI Work Plan approved by the NYSDEC. The scope of work presented in the RI Work Plan was developed to further define the nature and extent of impacted soil and groundwater related to historical operations of the dry cleaners onsite and specifically included the following objectives:

- Confirmation of all historic dry cleaning operations at the Site;
- Refine the delineation of tetrachloroethene (PCE)-impacted soil above the water table at the Site;
- Evaluate soil quality and the potential for residual Dense Non-Aqueous Phase Liquids (DNAPLs) to exist below the water table;
- Determine the nature and extent of potential impacts to groundwater quality resulting from historical operations of a dry cleaner located at the Site; and
- Evaluate the potential for impacts to soil vapor associated with subsurface contamination to occur and the potential for vapor intrusion into adjacent buildings.
- This RI Report also includes summaries of NYSDEC approved supplemental investigations conducted in accordance with the Work Plan, including:
- Indoor air sampling at Our Lady of Pity Church (Church) and the Moore Catholic High School (School) performed in November 2005;
- A Supplemental Remedial Investigation (SRI) performed in August 2006; and
- Indoor and outdoor air and sub-slab soil vapor sampling at the Church and the School performed in December 2006.

Previous investigations performed at the Site are discussed below and summarized in the flowing reports:

- MTS EnviroSurv. "Hazardous Substances Survey and Report." August 12, 1994.
- EBI Consulting. "Phase I Environmental Site Assessment Report." June 17, 2004.
- EBI Consulting. "Limited Subsurface Investigation Report." July 13, 2004.
- Roux Associates, Inc. "Site Assessment Report." September 14, 2004.

## 2.0 SITE DESCRIPTION AND HISTORY

The Site is located at 1650 Richmond Avenue, Staten Island, New York (Figure 1), which is located in Richmond County, Borough of Staten Island, Block 2236, Lot 125, at latitude 40° 36' 27" north and longitude 74° 9' 47" west. The Coral Island Shopping Center consists of two single-story buildings (Northern Building and Southern Building), each with multiple tenants and a parking lot (Plate 1). A complete list of tenants for the shopping center was provided to the NYSDEC as part of the Brownfield Cleanup Program (BCP) Application. The building at the north end of the Site (Northern Building) includes the Charming Cleaners Dry Cleaner (Dry Cleaner), the focus of the RI. The tenant space to the west of the Dry Cleaner is the Tic-Tac Meats and Deli (Market), a small market with a kitchen and storage in the rear of the store. A utility room for the entire building is located off the kitchen area at the rear of the Market space. The tenant space to the east of the Dry Cleaner is the J+J Page Stationary (Stationary).

The area behind the dry cleaner is gravel covered (over landscaping fabric) and is only 15 feet wide (approximate), with the building to the south and a chain link fence on the property line to the north. A transformer is located approximately 20 feet to the west of the back door of the cleaners, with less than three feet of clearance between the building and the transformer, and the transformer and the chain link fence. There is a concrete sidewalk east of the Dry Cleaner space to a point where there is less than four feet of clearance between the property line fence and the corner of the building.

Immediately north of the Site and adjacent to the Dry Cleaner is the Church property, specifically a grass covered area behind a large multi-use building that includes meeting rooms, a kitchen, and a gym mostly used for basketball (Multi-Use Building). The chapel and a residence for Church personnel are located further to the north. The Moore Catholic High School (School) is located to the west and northwest. The School property includes three main buildings, a group of modular classrooms consisting of multiple trailers parked on an asphalt parking lot (Modular Classrooms), the main building with classrooms, gym, cafeteria, and offices (Main Building), and an administration building with offices and unused classrooms (Administration Building). The School's football field is to the west. Richmond Avenue is located to the east of the Site. There is a McDonald's restaurant located immediately to the southeast of the Site that has an access driveway from the Coral Island Shopping Center parking lot. There is a Mobil service

station, additional commercial buildings, and Victory Boulevard located to the south of McDonald's. Residential properties and Victory Boulevard are located to the southwest. Victory Boulevard and Richmond Avenue are large commercial corridors with mixed residential and commercial use, including auto repair, gasoline station, and car wash facilities. Plate 1 - Site Plan includes an aerial photograph showing general use of adjacent properties.

## 2.1 Topography

The Site topography is relatively flat with an approximate elevation of 30 feet above mean sea level. Most of the surface runoff at the site is directed towards catch basins in the shopping center parking lot connected to the New York City storm sewer system. However, direct precipitation to the graveled area behind the northern building infiltrates into the subsurface.

In general, regional topography slopes gently to the west. The nearest surface water body is the Saw Mill Creek located approximately 1.75 miles west of the Site.

# 2.2 Water Supply

Potable water in Staten Island is supplied by the New York City Bureau of Water and Sewer Operations. There are no public supply wells onsite or on the Church or School properties. Although it has not been conclusively verified, it is also unlikely that there are any private wells located near the Site.

## 2.3 Geologic Setting

The Site is located in the Embayed section of the Coastal Plain physiogeographic province. The province is characterized by areas of low relief and consists of unconsolidated Cretaceous Coastal Plain sediments overlying igneous and metamorphic bedrock. A detailed description of the sediments underlying the Site as observed during the RI is presented in Section 5.2 Hydrogeology.

## 2.4 Site Operational History

Sanborn Fire Insurance Maps reviewed by EBI Consultants (EBI), as presented in a June 17, 2004 "Phase I Environmental Site Assessment Report" (Phase I ESA), indicated that a house was located on the Site in 1917 and that between 1937 and 1950, the Site appeared vacant.

Building Department records indicate that the property was used as a parking lot as early as 1949 and a bowling alley was constructed on the Site sometime between 1955 and 1958. The bowling ally was part of the Northern Building. EBI identified the bowling alley as Building A. In 1958, two pipeline easements (one liquefied natural gas and one jet fuel) were granted that cross the Site in a west to east direction approximately 30 feet south of the Northern Building.

In 1974, the bowling alley was converted into a strip mall-type shopping center. The Northern Building was expanded in 1995 to its current configuration (Plate 1). EBI identified the expansion as Buildings B and C. The entire Northern Building (identified by EBI as Buildings A, B, and C) is continuous. A separate building, the Southern Building (identified by EBI as Building D), was constructed in the southern portion of the Site, also in 1995 (Plate 1).

As part of the RI, Roux Associates conducted a search for records in the Staten Island Department of Buildings, as well as with the current owner of the shopping center. Based on those searches and a review of historical reports, it was determined that dry cleaning operations at the Site commenced in 1975 in the Northern Building. All dry cleaning operations were performed in the same tenant space since 1975 (Plate 1) and no other occupants of any building at the Site that would potentially use PCE were identified. Since 1975, there have been four operators of the dry cleaners at the Site. Ilio-Umberto Cleaning & Tailoring, Inc. operated the facility from 1975 to 1986. DFG Dry Cleaning Corp., doing business as (d/b/a) Coral Lanes Cleaners, began operation in 1986. Operation of the facility transitioned to Chim Bok Chung d/b/a Charming French Cleaners between 1986 and 1993 (the exact date is unknown). In 1993, the current operator, Guyon Cleaners, Inc. d/b/a Charming Cleaners assumed operation of the facility.

A 1994 "Hazardous Substances Survey and Report" prepared by MTS EnviroSurv reported that a majority of cleaning activities conducted by Charming Cleaners were performed offsite. In addition, MTS EnviroSurv was able to review waste manifests for verification of removal of PCE waste by Safety Kleen. There were no floor drains observed in the dry cleaner space during the 1994 inspection by MTS EnviroSurv. The current dry cleaning tenant, Charming Cleaners, operates fourth generation self-enclosed units, as reported in the Phase I ESA and in the facility audit conducted as part of this RI (Appendix A). These units were installed at the facility after

2000. There were no floor drains observed in the Dry Cleaner space during the 2004 inspection by EBI or during the RI. Waste handling manifests dating from 2000 to 2004 were reviewed by EBI as part of the Phase I ESA and to January 2007 by Roux Associates during the RI.

The Site was connected to an onsite septic tank with leaching field from 1958 (construction of bowling alley) to 1982. Building Department records indicate that the Site was connected to the New York City sewer system in 1982, at which time the septic tank was cleaned out and filled with sand. The former leachfield is reported to have been west of the bowling alley, which is now under part of the 1995 expansion of the Northern Building, and the parking lot south of the Northern Building. A geophysical investigation was performed as part of the RI to identify the approximate area of the former leachfield and any structures associated with the former septic system. However, the geophysical investigation did not identify the former leachfield or any subsurface structures. A sewer investigation consisting of videotaping the sanitary line in the area was performed by the owner outside the scope of the RI. There were no breaks observed in the sanitary line.

As discussed above, Roux Associates conducted a search for records in the Staten Island Department of Buildings, as well as with the current owner of the Site to develop a better understanding of the layout of the current and historical site facilities. However, no documentation describing information beyond what was already presented in the RI Work Plan was discovered. Roux Associates and the NYSDEC did use specific information presented by a local plumber on the Site's sewer system to establish the location of monitoring well cluster MW-107.

## 2.5 Site Investigation History

An August 12, 1994, the "Hazardous Substances Survey and Report" was prepared by MTS EnviroSurv for the Site. The report summarized a Site Inspection, review of Building Department records, and analytical data from nine soil samples. MTS reviewed records that indicated Building A was connected to a septic tank with a leachfield from 1958 to 1982. The location of the leachfield, as described by MTS, places it partially under the 1995 expansion of the Northern Building and the parking lot just south of the Northern Building. MTS obtained a soil sample (Sample 1) from 8 to 10 feet bls in the reported location of the former leachfield.

Soil Sample 1 was analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and the Target Analyte List of metals. Analytical results indicated that PCE was not detected at a detection limit of 12 micrograms per kilogram (µg/kg). A detection of lead in Sample 1 of 7,070 milligrams per kilogram (mg/kg) resulted in an additional eight samples being obtained and analyzed for lead only. Lead concentrations in the additional samples ranged from 6.0 mg/kg to 62.6 mg/kg, suggesting either an erroneous result from Sample 1 or a very limited area exhibiting a high concentration of lead that could not be duplicated.

In 2004, a "Phase I Environmental Site Assessment Report" (Phase I ESA) was prepared by EBI on behalf of a lending institution. Following the recommendations in the Phase I ESA, EBI performed a Limited Subsurface Investigation. The Limited Subsurface Investigation identified soil impacted by PCE and trichloroethene (TCE) behind the Charming Cleaners facility at concentrations ranging from 2,600 µg/kg to 7,400,000 µg/kg. EBI also identified groundwater behind the dry cleaner as being impacted by cis-1,2 dichloroethene (cis-1,2-DCE), TCE, and PCE at concentrations ranging from 4,800 micrograms per liter (µg/L) to 170,000 µg/L. Three additional soil samples and two additional groundwater samples were collected south of and under the building slab as part of the EBI investigation. These samples did not indicate impacts above NYSDEC Recommended Soil Cleanup Objectives (RSCOs) or Ambient Water Quality Standards (AWQS).

A Limited Site Assessment was performed in July 2004 by Roux Associates to confirm the analytical results obtained by EBI and to determine the lateral extent of impacted soil, as well as groundwater in the downgradient direction. Four air, 16 soil, and 5 groundwater samples were collected as part of the Limited Site Assessment. Roux Associates collected 16 soil samples from 10 soil borings at the Site (SB-1 to SB-10). Concentrations of PCE and its associated degradation products detected above NYSDEC RSCOs were observed in one soil sample only. The maximum VOC concentration observed was 3,100 μg/kg of cis-1,2-DCE in soil boring SB-2 from the one to two foot interval below land surface (bls), located approximately 20 feet west of the back door of the Dry Cleaners. The maximum concentration of PCE observed was 2,000 μg/kg, also from the 1-2 foot interval bls at SB-2. Despite sampling within a few feet of

the samples obtained by EBI, the Site Assessment samples obtained by Roux Associates did not confirm the 7,400,000 µg/kg PCE concentration observed in the EBI samples.

Five groundwater samples were collected at the Site during the Limited Site Assessment by Roux Associates in July 2004. The shallow saturated zone was sampled at four locations across the Site and the groundwater flow direction was determined to be following the northern property line toward the west. Impacts by VOCs, including PCE and its associated degradation products, were detected in the shallow saturated zone at concentrations above NYSDEC AWQS, but significantly lower than observed by EBI. For example, the maximum concentration of PCE observed by Roux Associates was 7,500 µg/L (PZ-4), compared to 170,000 µg/L observed by EBI. The shallow saturated zone did not extend to the downgradient (western) property boundary. A deeper saturated zone was observed at two locations and sampled at the western Site boundary (PZ-6). VOCs were detected in the deeper saturated zone at this location but at concentrations below AWQS.

Three indoor ambient air samples and one outdoor ambient air sample were collected by Roux Associates as part of the 2004 Site Assessment. One indoor air sample was collected within the Dry Cleaner. Two indoor air samples were collected in adjacent businesses: one in the Market to the west and one in the Stationery to the east. One outdoor ambient air sample was collected in the parking lot approximately 50 feet south of the Dry Cleaner. PCE was not detected in the Market or the Stationery air samples. PCE was detected at 3,900 micrograms per cubic meter (µg/m³) in the sample collected from inside the Dry Cleaner. This concentration falls within a range of PCE concentrations typically detected in dry cleaning facilities and may be attributed to off-gassing of cleaned clothing hanging in the facility.

Following the September 2004 Site Assessment Report, WWP submitted a BCP Application to the NYSDEC. In March 2005, WWP and the NYSDEC entered into a Brownfield Cleanup Agreement to implement a Remedial Response Program for the Site. As discussed above, this RI was conducted based on the April 18, 2005 RI Work Plan, an October 25, 2005 "Draft Preliminary Soil Gas Analytical Results" letter to the NYSDEC, a June 12, 2006 "Supplemental Investigation Proposal" letter to the NYSDEC, a July 20, 2006 letter from the NYSDEC to Roux

Associates, and an October 25, 2006 "Confirmation Vapor Sampling" lostate Department of Health (NYSDOH) to the NYSDEC.	etter from the New York

## 3.0 DISCUSSION OF INVESTIGATION ACTIVITIES

The scope of work for the RI was conducted according to the methods discussed in the RI Work Plan. Each task is described below in detail.

The scope of work included the following tasks:

- Task 1 Compliance Audit and Site History Review (discussed in Section 2.4);
- Task 2 Soil Vapor Screening;
- Task 3 Ambient Air Sampling and Soil Vapor Sampling;
- Task 4 Soil Boring and Sampling;
- Task 5 Surface Soil Sampling;
- Task 6 Temporary Monitoring Well Installation;
- Task 7 Survey; and
- Task 8 Water-Level Measurement and Groundwater Sampling.

## 3.1 Task 1 - Compliance Audit of Dry Cleaner

An environmental compliance audit of the Dry Cleaner was performed on September 1, 2005 and January 26, 2007. A summary of the audit findings is presented in Section 4.7 and the full compliance audit is presented as Appendix A.

## 3.2 Task 2 - Soil Vapor Screening

Fifty-five soil vapor screening locations (Figure 2) were advanced during the RI in August 2005 in an approximate three-foot by three-foot grid pattern (with allowances for utilities and aboveground obstructions) behind the dry cleaner and to the west to identify potential shallow PCE source areas. At each location, a ½-inch diameter steel rod was advanced two feet bls to create a void space. Polyethylene tubing was inserted to just above the bottom of the void and the annular space around the tubing was sealed at the surface with a clean cloth to minimize intrusion of ambient air. A PID was used to monitor soil vapor continuously for one minute and a one-minute running average of VOC concentrations in the soil vapor was recorded.

# 3.3 Task 3 - Ambient Air Sampling and Soil Vapor Sampling

# 3.3.1 Ambient Air Sampling

Three ambient air samples and a duplicate were collected during the RI in September 2005; 10 air samples were collected in November 2005 and seven air samples plus a duplicate were collected during both the SRI in August 2006 and during a confirmation event in December 2006, as summarized below:

	Designation	Location	Type
RI	AS-101	Dry Cleaners	Indoor
RI	AS-102	Utility room behind Market	Indoor
RI	AS-103	South of Church gym	Outdoor
RI	AS-103 (DUP)	South of Church gym	Outdoor
11/05	AS-104	School Modular Classrooms girl's bathroom	Indoor
11/05	AS-105	School Modular Classrooms Room M-7	Indoor
11/05	AS-106	School Modular Classrooms Room M-10	Indoor
11/05	AS-107	South of School Modular Classrooms	Outdoor
11/05	AS-108	School Main Building kitchen/cafeteria	Indoor
11/05	AS-109	School Administration Building Room CV-5	Indoor
11/05	AS-110	Church gym	Indoor
11/05	AS-111	Church storage room off gym	Indoor
11/05	AS-112	Church general purpose room	Indoor
11/05	AS-113	South of Church gym	Outdoor
SRI	AS-301	South of School cafeteria	Outdoor
SRI	AS-302	School Main Building kitchen/cafeteria	Indoor
SRI	AS-302 (DUP)	School Main Building kitchen/cafeteria	Indoor
SRI	AS-303	School Main Building Office	Indoor

	Designation	Location	Туре
SRI	AS-304	School Main Building Room A-6	Indoor
SRI	AS-305	South of Church gym	Outdoor
SRI	AS-306	Church gym	Indoor
SRI	AS-307	Church classroom	Indoor
12/06	AS-301	South of School cafeteria	Outdoor
12/06	AS-302	School Main Building kitchen/cafeteria	Indoor
12/06	AS-303	School Main Building Office	Indoor
12/06	AS-304	School Main Building Room A-6	Indoor
12/06	AS-305	South of Church gym	Outdoor
12/06	AS-306	Church gym	Indoor
12/06	AS-306 (DUP)	Church gym	Indoor
12/06	AS-307	Church classroom	Indoor

DUP - Duplicate sample

Note that, as discussed above in Section 2.5: Site Investigation History, ambient air samples were collected by Roux Associates during the Limited Site Assessment in July 2004 from within the Dry Cleaner and the tenant spaces immediately east and west of the dry cleaner (Market and Stationary), as well as in the parking lot south of the Dry Cleaner.

At each ambient air sampling location, a sample was collected in a pre-evacuated six-liter Summa canister and regulator supplied by the laboratory. During the Limited Site Assessment and the RI, the Summa canister was allowed to collect the sample over a 0.5-hour period. During the SRI and December 2006 event, the Summa canisters were allowed to collect the sample over an 8-hour period. Once the Summa canister was filled, the valve on the canister was closed. Air samples collected during the RI were analyzed for Target Compound List (TCL) VOCs using USEPA method TO-15 and for a reduced list using USEPA method TO-15 SIM during the SRI and December 2006 confirmatory sampling event.

# 3.3.2 Soil Vapor Sampling

Three soil vapor samples were collected during the RI in September 2005 and five soil vapor samples and a duplicate were collected during both the SRI in August 2006 and during a confirmation event in December 2006, as summarized below:

	Designation	Location	Туре
RI	SG-101	Dry Cleaners	sub-slab
RI	SG-102	Utility room behind Market	sub-slab
RI	SG-103	South of Church gym	outdoor soil
SRI	SV-201	School Main Building kitchen closet	sub-slab
SRI	SV-202	School Main Building telephone room	sub-slab
SRI	SV-203	South of Church gym	outdoor soil
SRI	SV-204	Church Storage room off gym	sub-slab
SRI	SV-204 (DUP)	Church Storage room off gym	sub-slab
SRI	SV-205	Church Small boiler room	sub-slab
12/06	SV-201	School Main Building kitchen closet	sub-slab
12/06	SV-202	School Main Building telephone room	sub-slab
12/06	SV-204	Church storage room off gym	sub-slab
12/06	SV-205	Church small boiler room	sub-slab
12/06	SV-206	School Main Building Room A-6	sub-slab
12/06	SV-206 (DUP)	School Main Building Room A-6	sub-slab

DUP - Duplicate sample

No sample collected in December 2006 from SV-203 due to water being drawn into sample.

All sampling locations were selected by the NYSDEC, NYSDOH, and Roux Associates during several site visits. The Northern Building of the Coral Island Shopping Center, the Main Building of the School, the Administration Building of the School, and the Multi-Use Building of the Church are all slab on grade. The Modular Classrooms are multiple trailers parked on an asphalt parking lot. There is a void space between the trailers and the asphalt that is covered only with plywood.

Sub-slab soil vapor sampling ports were installed by first coring a 4-inch diameter hole through the concrete floor with a coring machine and then advancing a Geoprobe® rod to a depth of approximately one foot below the top of the concrete slab. For soil vapor sampling location SV-203, Geoprobe rods were advanced to two feet bls. At each location, a permanent soil vapor sampling port consisting of a one-foot long stainless steel screen was advanced to the bottom of the Geoprobe® rod with a polyethylene sampling tube running to the surface. The annular space around the screen was filled with sand. A flush mount protective cover was installed above the screen and set in place with concrete. Following installation, the location was covered with an enclosure that was flooded with helium tracer gas as a quality assurance/quality control measure to verify that the soil vapor samples were not compromised by inadvertent introduction of ambient air into the sample.

One soil vapor grab sample was collected (SG-103). At this location, a Geoprobe® rod equipped with a Geoprobe soil vapor sampling connector and a disposable drive point was advanced 2 to 2.5 feet into the ground. Once at the desired depth, the Geoprobe rod was retracted approximately six inches, creating a void space. One end of a polyethylene sampling tube was connected to an adapter inserted into the Geoprobe rods. The adapter was threaded onto the post run tubing connector at the bottom of the rods, sealing off the ambient air with a silicon o-ring. The other end of the sampling tube was run through an enclosure that covers the top of the sample probe. As discussed above, the integrity of the sampling location was tested using helium as a tracer gas.

Sampling tubing from each temporary or permanent point was connected to a disposable three-way stopcock. Tubing from one of the stopcock ports led to a vacuum pump and tubing from the other stopcock port led to a pre-evacuated six-liter Summa canister supplied by the laboratory.

The stopcock valve isolated the pump and the Summa canister. Initially, the valve leading to the Summa canister was closed and the valve leading to the vacuum pump was open. The soil vapor sampling location was purged of approximately three tubing volumes using the vacuum pump set at a rate equal to or less than 0.2 liters per minute. Following purging, the valve leading to the pump was closed, the pump turned off, and the valve leading to the Summa canister was opened. Each sample was collected in a pre-evacuated six-liter Summa canister with a regulator supplied by the laboratory. During the RI, the Summa canister was allowed to collect the sample over a 0.5-hour period. During the SRI and December 2006 event, the Summa canisters were allowed to collect the sample over an 8-hour period. Once the Summa canister was filled, the valve on the canister was closed and the canister disconnected from the sampling tubing. Soil vapor samples collected during the RI were analyzed for TCL VOCs using USEPA method TO-15 and for a reduced list using USEPA method TO-15 SIM during the SRI and December 2006 confirmatory sampling event.

# 3.4 Task 4 - Soil Boring and Sampling

Twenty-six soil borings were completed during the RI and 19 were completed during the SRI (Plate 2). Thirty-one samples and one duplicate from 17 of the 26 soil borings were analyzed during the RI. Thirty-four samples and two duplicates from all 19 of the soil borings were analyzed during the SRI. Table 1 summarizes soil borings completed at the Site.

Prior to subsurface activity, soil boring locations were cleared for utilities using ground-penetrating radar and electromagnetic tracing. At each soil boring location, soil samples were collected using a Geoprobe direct push sampler. Soil samples were collected in five-foot increments to the completion depth indicated in Table 1. Each five-foot increment was collected in dedicated acetate sleeves. The acetate sleeve was laid on a piece of polyethylene sheeting and opened. Soil samples in the acetate sleeve were separated into two-foot sections and screened with a PID. Following the PID screening, a portion of soil from each two-foot section was placed into pre-cleaned sample jars and placed on ice in a cooler at 4°C. All remaining soils were visually characterized according to the Unified Soils Classification System (USCS) and placed into zip-lock plastic storage bags and homogenized. The bags were allowed to stand for approximately 30 minutes and the bag headspace was monitored for organic vapors with a PID.

All soil samples were analyzed for TCL VOCs. In addition, soil samples collected from soil borings SB-101, SB-107, SB-107A, SB-108, SB-109, SB-113, SB-114, SB-115, SB-116, and SB-117 were analyzed for TCL SVOCs, TCL pesticides and herbicides, TCL polychlorinated biphenyls, and the target analyte list of metals.

Soil borings were backfilled with either concrete, bentonite chips, or sand (shallow soil borings on Church property) and the ground surface was restored to match pre-installation conditions. All soil cuttings generated during the soil sampling task were containerized for offsite disposal.

# 3.5 Task 5 - Surface Soil Sampling

Two surface soil samples (SB-127 and SB-128) were collected from beneath the grassy area on the adjacent Church property immediately north of the Site (Plate 2). At each location, soil from the zero to two-inch (0.17 feet) interval below the grass was collected using a hand trowel. Samples were placed into pre-cleaned four-ounce VOC sample jars and placed on ice in a cooler at 4° C. Surface soil samples were analyzed for TCL VOCs.

# 3.6 Task 6 - Temporary Monitoring Well Installation

Thirteen two-well clusters--each consisting of a shallow and deep temporary monitoring well-were installed in September 2005 during the RI (Plate 2). Four two-well clusters were installed in August 2006 during the SRI. One well in each cluster was screened above the top of the shallow silt unit identified during the preliminary investigation and one well was screened above the top of the deeper silt/clay unit. Well construction details are provided in Table 2 and in Monitoring Well Construction Logs (Appendix B).

A soil boring was advanced at each well cluster location using the Geoprobe dual-tube sampling system from ground surface through the shallow silt/clay unit and into the deeper clay unit. Each soil interval was collected in dedicated acetate sleeves. After a soil interval was collected, the acetate sleeve was laid on a piece of clean polyethylene sheeting and opened. Soils in the acetate sleeve were screened with a PID and then visually characterized according to the USCS.

Once the desired depth of the boreholes had been reached, an outer probe rod with an expendable anchor point attached at the bottom was advanced. Once the probe rods were at the desired

depth, one five-foot length of Geoprobe pre-packed screen and Schedule 40 PVC riser pipe was connected to the anchor point with a snap-lock connector. Geoprobe pre-packed screens are five-foot long sections of 1-inch Schedule 40 PVC with 0.01-inch slots encased inside a 2.5-inch diameter stainless steel wire mesh with 0.011-inch pore size. The void between the PVC and wire mesh is packed with 20/40 grade silica sand. The anchor point was dislodged from the probe rods and the probe rods retracted. Clean #1 sand was poured into the annulus between the borehole and the riser pipe to approximately one foot below ground surface. Concrete was used to fill the remaining annular space to the surface. The temporary monitoring wells were finished with a flush-mounted well cover. The second monitoring well in each cluster was installed within five feet of the first monitoring well.

#### 3.7 Task 7 - Survey

The measuring point of all temporary monitoring wells was surveyed and referenced vertically and horizontally to the National Geodetic Vertical Datum (NGVD) of 1988 and the North American Datum 1983, respectively. Survey data are provided in Table 2.

## 3.8 Task 8 - Water-Level Measurements and Groundwater Sampling

Two rounds of water-level measurements were performed: one during the RI on September 28, 2005 and one during the SRI on August 14, 2006.

Groundwater samples were collected during the RI from four of the shallow temporary monitoring wells and all 13 of the deep wells. At nine of the well clusters, there was insufficient water in the shallow well to obtain a sample. Groundwater samples were also collected as grab samples from eight soil borings during the RI (SB-113 through SB-120). Groundwater samples were collected from both wells at each of the four clusters installed during the SRI.

Groundwater samples were collected approximately one to two weeks after well installation or immediately following completion of the soil boring through a Geoprobe screen for grab samples. At each groundwater sampling location, groundwater samples were collected using low-flow (minimal drawdown) procedures. Prior to sample collection, each point was purged at low-flow evacuation rates of 0.1 to 0.5 liters per minute (L/min) using either a bladder pump or a peristaltic pump. Flow rates were adjusted to maintain a drawdown of less than 0.3 feet during

purging, where possible. An in-line water quality measurement device (Horiba U-22) was used

to monitor water quality indicator parameters such as pH, conductivity, dissolved oxygen (DO),

oxygen reduction potential (ORP), temperature, and turbidity. Measurements were taken

periodically until, at a minimum, four of the six parameters had stabilized for three successive

readings or the point ran dry. Stabilization was achieved when the indicator parameter were

within the following ranges:

pH: +/- 0.1 standard units

• conductivity: +/- 3%

• ORP: +/- 10 mv

• Temperature, turbidity and DO: +/- 10%

Upon parameter stabilization, sampling was initiated. Groundwater samples were collected at

the same flow rate as purging using the same device as was used for purging. VOC samples

were collected first and directly into pre-preserved sample containers.

All groundwater samples were analyzed for TCL VOCs. In addition, groundwater samples

collected from monitoring wells MW-101S, MW-101D, MW-104D, MW-107S, MW-107D, and

MW-108D, were analyzed for TCL SVOCs, TCL pesticides and herbicides, TCL polychlorinated

biphenyls, and the target analyte list of metals.

Monitoring wells MW-103S, MW-104S, MW-105S, MW-106S, MW-108S, MW-109S,

MW-111S, MW-112S, and MW-126S, all shallow wells in the cluster, were not sampled due to

the lack of water in the wells.

3.9 Laboratory Analyses

All samples selected for analysis were transported to Hampton Clarke/Veritech (NYSDOH

Certification Number 10602) of Fairfield, New Jersey and analyzed as described above. Air and

soil vapor samples were subcontracted to Air Toxics Ltd (NYSDOH Certification Number

11291) of Folsom, California.

# 3.10 Decontamination

All non-disposable field equipment used during groundwater sampling was decontaminated between each sampling location to avoid cross contamination. All non-disposable sampling equipment (i.e., Geoprobe rods, trowel) was decontaminated through the following steps:

- Fresh water rinse;
- · Scrubbing with non-phosphorus detergent wash; and
- Fresh water rinse.

Disposable, phthalate-free gloves were worn during all sampling and decontamination activities. All wastewater generated during decontamination was containerized for disposal offsite.

#### 3.11 Data Validation

The laboratory was instructed to provide all data in NYSDEC Analytical Services Protocol (ASP) Category B deliverable with case narratives describing how closely the data met the quality objectives as described by the NYSDEC ASP. All data was submitted to a third party data validation subcontractor for preparation of at Data Usability Summary Report (DUSR).

#### 4.0 PRESENTATION OF ANALYTICAL RESULTS

The results summarized in this section include results from the RI performed in September 2005, the air sampling round performed in November 2005, the SRI performed in August 2006, and the December 2006 indoor air and sub-slab soil vapor sampling round. Analytical data was provided in NYSDEC ASP Category B deliverable packages (attached on diskette as Appendix C) with case narratives describing how closely the data met the quality objectives as described by the NYSDEC ASP. A DUSR for all data is currently being prepared by a third party data validation subcontractor. Once finalized, the DUSR will be included as Appendix D of this report.

Analytical results for onsite soil samples were compared to NYSDEC Restricted Use Soil Cleanup Objectives (SCOs) for the Protection of Public Health for Commercial Properties presented in 6 NYCRR Subpart 375-6. Analytical results for offsite soil samples were compared to NYSDEC Unrestricted Use SCOs, also presented in 6 NYCRR Subpart 375-6. These SCOs were selected based on the current, intended, and reasonably anticipated future use of the Site, as well as the anticipated BCP cleanup tracks for soil remediation that will be evaluated as part of the Remedial Action Work Plan.

Analytical results for groundwater samples were compared to the NYSDEC Ambient Water Quality Standards and Guidance Values (AWQSGVs). Presented in the June 1998 Division of Water Technical and Operational Guidance Series (1.1.1) – Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, and an April 2000 Addendum to the June 1998 Division of Water Technical and Operational Guidance Series (1.1.1).

## 4.1 Soil Vapor Screening Results

Table 3 presents a summary of PID soil vapor screening results during the RI. Peak PID measurements ranged from 0.0 parts per million (ppm) to 6.5 ppm and 1-minute time-waited average (TWA) concentrations ranged from 0.0 ppm to 5.0 ppm. The low range in detections was not expected given the relatively high concentrations of VOCs in shallow soil observed by EBI in 2004. The area of SVS-37 and SVS-38 was selected for the placement of monitoring well cluster MW-101 based on the slightly elevated soil vapor screening results and the historical EBI sampling location.

# 4.2 Soil Vapor Sampling Results

Table 4 presents a summary of soil vapor sampling results. The soil vapor samples fall into two groups: sub-slab (i.e., soil pore spaces beneath a building floor slab) and outdoor (i.e., shallow soil pore spaces). The only outdoor samples were in soil immediately south of the Church gym. These locations were sampled once during the RI (SG-103) and once during the SRI (SV-203).

# 4.2.1 VOCs in Soil Vapor From the Outdoor Locations

The following summarizes detections of PCE and associated degradation products in soil vapor from shallow soil south of the Church gym:

Compound	Maximum Concentration (µg/m³)
PCE_	130 (SG-103)
TCE	49 (SG-103)
cis-1,2-DCE	19 (SG-103)
trans-1,2-DCE	9.3 (SG-103)

PCE – tetrachloroethene; TCE – trichloroethene; DCE - dichloroethene  $\mu g/m^3$  – micrograms per cubic meter

The following 10 compounds not associated with PCE from the Dry Cleaners were detected in soil vapor from shallow soil south of the Church gym:

Compound	Maximum Concentration (μg/m³)
acetone	48 (SG-103)
benzene	0.60 (SG-103)
carbon disulfide	6.4 (SG-103)
ethylbenzene	7.1 (SV-203)
2-butanone	13 (SG-103)
styrene	4.9 (SG-103)
toluene	35 (SV-203)
1,1,1-trichloroethane	0.28 (SV-203)
m&p-xylenes	27 (SV-203)
o-xylene	11 (SV-203)

μg/m<sup>3</sup> – micrograms per cubic meter

# 4.2.2 VOCs in Soil Vapor From Sub-Slab Locations

Sub-slab soil vapor samples were obtained both onsite (beneath the Dry Cleaner and the utility room behind Market) and offsite (beneath the Church Multi-Use Building and the School's Main Building).

## Onsite

The following summarizes detections of PCE and associated degradation products in soil vapor from onsite sub-slab locations:

Compound	Maximum Concentration (μg/m³)
cis-1,2-DCE	260 (SG-101)
trans-1,2-DCE	6.4 (SG-101)
PCE	1,300 (SG-101)
TCE	220 (SG-101)
VC	3.3 (SG-101)

PCE – tetrachloroethene; TCE – trichloroethene; DCE - dichloroethene µg/m3 – micrograms per cubic meter

The maximum concentrations of the above five compounds were detected beneath the Dry Cleaners floor slab.

The following 16 compounds not associated with PCE from the Dry Cleaners were detected in soil vapor from onsite sub-slab locations:

Compound	Maximum Concentration (µg/m³)
acetone	14 (SG-102)
carbon disulfide	7.5 (SG-102)
chloroethane	2.1 (SG-101)
chloroform	230 (SG-101)
cyclohexane	6.0 (SG-102)
dichlorodifluoromethane	180 (SG-102)
ethylbenzene	6.5 (SG-101 and SG-102)
hexane	8.4 (SG-102)
2-butanone	4.6 (SG-101)

Compound	Maximum Concentration (µg/m³)
styrene	17 (SG-101)
tetrahydrofuran	5.4 (SG-102)
toluene	98 (SG-102)
1,2,4-trimethylbenzene	4.1 (SG-101)
M&p-xylenes	22 (SG-101)
o-xylene	13 (SG-101)

μg/m<sup>3</sup> – micrograms per cubic meter

# **Offsite**

Offsite sub-slab soil vapor samples were analyzed using the TO-15 SIM method that results in a shorter list of reportable compounds, including benzene, toluene, ethylbenzene, xylenes (i.e., BTEX compounds) and methyl-tertiary butyl ether (MTBE), in addition to PCE and associated degradation products. BTEX compounds and MTBE are associated with petroleum hydrocarbon contamination and are not site-related compounds associated with the dry cleaner.

The following summarizes detections of PCE and associated degradation products in soil vapor from offsite sub-slab locations:

Compound	Maximum Concentration Beneath the Church (μg/m³)	Maximum Concentration Beneath the School (μg/m³)
PCE	12 (SV-204)	45 (SV-201)
TCE	3.0 (SV-205)	4.9 (SV-201)

PCE-tetrachloroethene; TCE-trichloroethene  $\mu g/m3-micrograms$  per cubic meter

The following summarizes BTEX compounds detected in offsite sub-slab soil vapor samples:

Compound	Maximum Concentration Beneath the Church (µg/m³)	Maximum Concentration Beneath the School (μg/m³)
Benzene	4.7 (SV-205)	1.8 (SV-202)
1,2 Dichloroethane	0.26 (SV-205)	nd
Toluene	300 (SV-204)	7,200 (SV-202)
Ethylbenzene	21 (SV-205)	32 (SV-202)
1,1,1 Trichloroethane	0.33 (SV-205)	1.1 (SV-201)
m&p-Xylenes	67 (SV-205)	93 (SV-202)
o-Xylenes	23 (SV-205)	28 (SV-206)

μg/m<sup>3</sup> – micrograms per cubic meter nd – not detected

# 4.3 Air Sampling Results

Table 5 presents a summary of air sampling results. Indoor air samples were obtained onsite (inside the Dry Cleaner and the utility room behind the Market) and offsite (inside the Church Multi-Use Building and all three School buildings). Outdoor air samples were obtained offsite (south of the Church gym, south of the School Modular Classrooms, and south of the School cafeteria). Indoor air samples at the Market and Stationary, as well as an onsite outdoor air sample, had previously been obtained during the Preliminary Site Assessment in 2004.

## 4.3.1 Onsite Indoor Air Sample Results

The following summarizes detections of PCE and associated degradation products in onsite indoor air samples:

Compound	Maximum Concentration (μg/m³)	Location of Maximum Concentration
PCE	710	Dry Cleaners
TCE	8.9	Dry Cleaners

PCE – tetrachloroethene; TCE – trichloroethene µg/m3 – micrograms per cubic meter

The following six compounds not associated with PCE from the Dry Cleaners were detected in indoor air samples from onsite locations:

Compound	Maximum Concentration (µg/m³)	Location of Maximum Concentration
acetone	28	Utility Room
dichlorodifluoromethane	23	Utility Room
ethanol	170	Dry Cleaners
isopropyl alcohol	53	Utility Room
2-butanone	7.9	Utility Room
toluene	4.1	Utility Room

μg/m<sup>3</sup> – micrograms per cubic meter

# 4.3.2 Offsite Outdoor Air Sample Results

Offsite outdoor air samples were obtained in September 2005 (south of the Church gym), November 2005 (south of the School Modular Classrooms and south of the Church gym), and August and December 2006 (south of the School cafeteria and south of the Church gym).

The following summarizes detections of PCE and associated degradation products in offsite outdoor air samples:

Compound	Maximum Concentration Outside the Church (µg/m³)	Maximum Concentration Outside the School (μg/m³)
PCE	32 (AS-305)	0.64 (AS-301)
TCE	0.42 (AS-305)	0.34 (AS-301)

PCE – tetrachloroethene; TCE – trichloroethene µg/m3 – micrograms per cubic meter

Nine compounds not related to the Dry Cleaners were detected at low levels in offsite outdoor air samples, including acetone, benzene, dichlorodifuoromethane, ethylbenzene, propene, tetrahydrofuran, toluene and xylenes. The maximum concentration detected was  $16 \, \mu g/m^3$  of toluene in Sample AS-305 (South of the Church gym).

## 4.3.3 Offsite Indoor Air Sample Results

Offsite indoor air samples were obtained in November 2005 (School's Modular Classrooms, School's Main Building, School's Administration Building and the Church's Multi-Use Building), and August and December 2006 (School's Main Building and the Church's Multi-Use Building).

The following summarizes detections of PCE in offsite indoor air samples:

Designation	PCE (μg/m³)	Location
AS-302	1.1	School's Main
		Building kitchen
AS-303	1.6	School's Main
		Building office
AS-304	18	School's Main
		Building Room A-6
AS-306	27	Church Gym
AS-307	2.7	Church Classroom

ug/m3 – micrograms per cubic meter

Sixteen compounds not related to the Dry Cleaners were detected in offsite indoor air samples, including acetone, benzene, 2-chlorotoluene, cumene, dichlorodifuoromethane, 1,1-dichloroethane ethanol, ethylbenzene, hexane, isopropyl alcohol, MTBE, propene, 1,1,2,2-tetrachloroethene, toluene, vinyl acetate, and xylenes. The maximum concentration detected was 19  $\mu$ g/m³ of m&p-xylenes in Sample AS-302 (School's Main Building kitchen [duplicate sample]).

The range in detection of PCE in indoor air was similar to the range in detections of the other compounds listed above that are not related to the Dry Cleaners.

## 4.4 Soil Sampling Results

Tables 6 through 10 summarize soil sampling analytical data obtained during the RI and SRI for VOCs, SVOCs, metals, PCBs, and pesticides and herbicides, respectively. Soil data were compared with the NYSDEC Subpart 375 (NYCRR Subpart 376-6) Remedial Program Soil

Cleanup Objectives (SCOs). Onsite soil data were evaluated against the restricted commercial SCOs and offsite soil data were evaluated against the unrestricted residential SCOs.

# 4.4.1 Onsite Soil Sampling Results

A review of the onsite soil sampling VOC results indicated that PCE was the only compound potentially associated with the Dry Cleaners detected at concentrations above the restricted commercial SCOs, as summarized below:

Designation	Depth (ft bls)	PCE (150)
SB-101	0.5-2	390
SB-102X	2.5-5	500
SB-103X (DUP)	0.5-2	180
SB-201	3-5	2,200

Concentrations in milligrams per kilogram (mg/kg)

ft bls - feet below land surface

(150) - denotes restricted commercial SCO

(DUP) – duplicate sample

-- - not detected or detected below SCO

One SVOCs (benzo(a)pyrene) was detected in three soil samples (SB-109, SB-114, and SB-115) and one SVOC (dibenzo(a,h)anthracene) was detected in one soil sample (SB-109), all from the zero to two foot interval bls at concentrations slightly above the restricted commercial SCO. There were no other SVOCs, metals, PCBs, or pesticides/herbicides detected above the restricted commercial SCOs in soil samples collected at the Site.

## 4.4.2 Offsite Soil Sampling Results

A review of the offsite soil sampling results indicated that PCE, TCE, and cis-1,2-DCE were the compounds potentially associated with the Dry Cleaners detected at concentrations above the unrestricted residential SCOs, as summarized below:

Designation	Depth (ft bls)	PCE (1.3)	TCE (0.47)	cis-1,2-DCE (0.25)
SB-214	0-2	1,600	15	0.57
SB-214	3-5	11		

Concentrations in milligrams per kilogram (mg/kg)

ft bls - feet below land surface

(1.3) - denotes unrestricted residential SCO

-- - not detected or detected below SCO

Location SB-214 is in the grassy area behind the Church gym immediately north of the Dry Cleaners. One additional VOC (acetone) was detected in soil boring SB-210 at a depth of 3-5 feet, at a concentration that slightly exceeded the unrestricted residential SCO.

## 4.5 Water-Level Measurements

Two rounds of water-level measurements were performed: one during the RI on September 28, 2005 and one during the SRI on August 14, 2006. A summary of water-level data is provided in Table 11. Water-level elevations collected on September 28, 2005 are shown on Plate 3 for shallow monitoring wells and on Plate 4 for deep monitoring wells. Water-level elevations collected on August 14, 2006 are shown on Plate 5 for shallow monitoring wells and on Plate 6 for deep monitoring wells.

## 4.6 Groundwater Sampling Results

Tables 12 through 16 summarizes groundwater sampling analytical data obtained during the RI and SRI for VOCs, SVOCs, metals, PCBs, and pesticides and herbicides, respectively. A review of VOC results indicating detections of compounds potentially associated with the dry cleaners (i.e., PCE and it degradation products) at concentrations above NYSDEC ambient water-quality standards and guidance values (AWQSGVs) is summarized below and on Plate 7.

Well Designation	Location	PCE (5)	TCE (5)	1,1-DCE (5)	cis-1,2- DCE (5)	VC (2)
MW-101S	Onsite	3,500	9,900	220J	31,000	2,800
MW-101D	Onsite	17,000	6,700		19,000	1,500
MW-102S	Onsite	1,200	3,200		11,000	610
MW-102D	Onsite		670		7,800	660
MW-103D	Onsite				220	15
MW-104D	Onsite				69	16
MW-107S	Onsite				21	63
MW-107D	Onsite				380	300
MW-111D	Onsite				17	4.6J
MW-112D	Offsite		20J		760	44J
MW-113S	Offsite	150J	1,600		11,000	380J
MW-113D	Offsite	250	780		2,700	52J

Concentrations in micrograms per liter (µg/L)

<sup>(5) -</sup> denotes AWQSGV in µg/L

<sup>-- -</sup> not detected or detected below AWQSGV

J – estimated concentration

In addition to VOC compounds of concern, methylene chloride and toluene were detected above the NYSDEC AWQSGVs in two wells and ethylbenzene was detected above the NYSDEC AWQSGV in one well. Five metals (iron, magnesium, manganese, nickel, and sodium) were detected in at least one of all six groundwater samples collected for metals at the Site above the NYSDEC AWQSGVs (Table 14). There were no other metals, SVOCs, PCBs, or pesticides/herbicides detected above the NYSDEC AWQSGV in groundwater samples collected at the Site.

# 4.7 Compliance Audit

An environmental compliance audit of the dry cleaner was performed on September 1, 2005 and January 26, 2007. The full compliance audit is attached as Appendix A. The compliance audit concluded that the facility should mark accumulation start dates on full hazardous waste drums and assure that all drums are labeled as hazardous waste and that the labels are readily visible. There were no other specific findings.

#### 5.0 DISCUSSION OF THE NATURE AND EXTENT OF CONTAMINANTS

The following discussion of results includes samples obtained during the Limited Site Assessment performed in July 2004, the RI performed in September 2005, an air sampling round performed in November 2005, the SRI performed in August 2006 and an air and soil vapor sampling round performed in December 2006.

## 5.1 Hydrogeology

The soil boring logs presented in Appendix B were used to create a generalized hydrogeologic cross-section of the Site (Plate 8). The cross section line runs east-west, approximately parallel to and running along the fence that marks the northern border of the Site. In addition, the groundwater levels measured during the RI (September 2005) and SRI (August 2006) were used to prepare water-level elevation maps (Plates 3 through 6).

## 5.1.1 Site Specific Geology

In the Limited Site Assessment performed by Roux Associates in July 2004, preliminary results were interpreted to indicate that the Site was underlain by two clay layers: a shallow brown to gray clay layer approximately two-feet thick at a depth between five feet bls and nine feet bls and a deeper brown clay layer approximately four feet thick at a depth between 12 feet bls and 19 feet bls. These observations had led to the initial conclusion that the shallow saturated zone may be a discontinuous perched zone. However, as shown in Plate 8, the interpretation of subsurface hydrogeology following the RI indicates that a perched zone is probably not beneath most of the Site. In addition, although layers of lower permeable soils were observed during field investigation and were used to select well installation depths, what was originally interpreted as clay layers were interpreted following the RI to be low-permeability mixtures of silt or silt and clay.

Based on a review of the RI results, the area of the Site immediately behind and beneath the dry cleaner (i.e., the source area) is underlain by the following generalized layers:

- a one-inch thick surface course of gravel underlain by landscaping fabric.
- <u>Fill</u> ranging from two to four feet thick and described as a brown coarse to fine sand with brick, glass, concrete, and wood fragments.

- Sand and Silt two to six-foot thick layer of grey to brown, coarse to fine sand and silt, with occasional variable amounts of gravel. For clarification purposes in the discussion below, this layer will be referred to as the sand layer.
- <u>Silt</u> eight to 13-foot thick layer of brown silt with some gravel and little fine sand.
- <u>Silt and Clay</u> Brown silt and clay, greater than 12-feet thick immediately beneath the dry cleaner.

A review of the cross-section (Plate 8) indicates that the sand layer ranges from two to 6.5 feet in thickness beneath most of the Site, with the exception of the western portion. In the vicinity of Well Cluster MW-103S/D beneath the western portion of the Site, the sand layer dips down and increases in thickness to approximately 15 feet and is overlain by a four-foot thick zone of primarily silt with a one-foot thick embedded sand and silt layer. The shallow silt zone was observed to the west at the MW-104S/D cluster, where it is approximately three-feet thick. In the vicinity of Well Cluster MW-108S/D in the eastern portion of the Site, the sand layer is also overlain by a two-foot thick silt layer.

The eight to 13 foot-thick layer consisting of primarily silt beneath the sand layer was also identified beneath most of the Site, with the exception of the western portion, where it pinches out or grades to the coarser sand and silt layer in the vicinity of Well Cluster MW-103S/D. Deep wells screened in this silt layer beneath the Dry Cleaners (MW 101D and MW-102D) indicated impacts by VOCs (discussed below). The relative low permeability of the silt layer is the probable explanation for the relatively high proportions of PCE degradation daughter products in groundwater relative to PCE, as discussed below.

Beneath the silt layer is a finer-grained silt and clay to clay layer. The silt and clay layer is thickest beneath the source area in the vicinity of Well Cluster MW-101S/D, where it is over 12 feet thick. Note that the bottom of the silt and clay layer was not encountered in the boring for Well Cluster MW-101S/D. The silt and clay layer decreases in thickness toward the east and west away from beneath the source area. Toward the east at MW-108S/D, the silt and clay layer is only approximately 2 feet thick. Toward the west at Well Cluster MW-103S/D, only a 1.5-foot thick clay layer is present. The clay layer increases again in thickness further toward the west at

Well Cluster MW-104S/D, where it is over three feet thick. Note that the bottom of the clay layer at MW-104S/D was not encountered.

A sand and silt layer was observed beneath the silt and clay layer at the borings for SB-1, MW-103S/D, and MW-108S/D. The thickness of this layer is unknown and it represents the lowest unit observed at the Site.

## 5.1.2 Shallow Water Levels

A shallow water-level elevation map produced from data obtained during the RI in September 2005 (Plate 3) indicated groundwater flow was away from the source area west-northwest towards the Church and School properties. Shallow zone water levels were only measurable in a limited area around the dry cleaner during the September 2005 RI water-level round because surrounding shallow wells were dry.

As part of the SRI, four additional shallow monitoring wells were installed to the north and northwest of the Site on the Church and School properties, providing a more extensive area of shallow groundwater levels. A shallow water-level elevation map produced from data obtained during the SRI in August 2006 (Plate 5) indicated groundwater flow components in a northwesterly direction in the vicinity of the source area behind the dry cleaner. This groundwater flow direction is consistent with the configuration of the plume of VOCs in groundwater, as discussed below. The shallow groundwater flow direction to the north of the Site beneath School property was more north-northwesterly and then northwesterly in the vicinity of MW-203S and MW-201S.

In addition, groundwater elevations were measured during the August 2006 water level gauging event in wells that were dry during the September 2005 water level gauging event. The increased spatial extent of water across the study area in the shallow zone suggests the shallow silt layer at the Site is acting as a semi permeable barrier to groundwater flow.

## 5.1.3 Deep Water Levels

Groundwater flow directions in the deep zone in September 2005 (Plate 4) were to the west, southwest during the RI. However, this observation contradicted the configuration of the plume

of VOCs in groundwater, as discussed below, and water level measured in August 2006, which suggested more of a west northwesterly component.

A review of water level elevations measured in deep wells in August 2006 (Plate 6) indicated that there was a "high spot" in the potentiometric surface immediate vicinity of the Dry Cleaner with groundwater flow directions radially outward from that location to the south, west and northwest. Deeper groundwater flows toward the west beneath the western portion of the Site, and to the west-northwest beneath School property.

### 5.2 Soil Quality

A review of soil quality data obtained during the three phases of soil investigations performed by Roux Associates at the Site (Limited Site Assessment, RI and SRI) indicated that shallow soil in a focused area behind the Dry Cleaner and Market, and extending onto the Church property in one small area immediately to the north, is impacted by relatively high concentrations of primarily PCE and TCE. The impacted zone is generally restricted to the upper two to five feet of fill. As discussed above, downward vertical migration of PCE may have been impeded by a shallow low-permeability layer of silt at five to seven ft bls that was observed at most soil boring locations.

The highest PCE concentrations (i.e., over 1,000 mg/kg) were observed at the following two locations:

- SB-201, which is onsite on the far side of an electrical transformer 30 feet west of the dry cleaner's back door from the three to five foot bls sampling interval; and
- SB-214, which is offsite located in a grassy area on Church property approximately 20 feet north of the Dry Cleaners from the zero to two foot bls sampling interval.

High concentrations of PCE and TCE were also observed in shallow soil (i.e., less than two ft bls) immediately behind and slightly to the west of the Dry Cleaners along the fence at locations SB-101 and SB-103X, and less than five ft bls at SB-102X, which is located near the electrical transformer.

Based on the information obtained as part of the RI, the probable source of the PCE in shallow soil was direct discharge to the ground of PCE associated with the historic use of the tenant space as a dry cleaner.

### 5.3 Groundwater Quality

A review of groundwater quality data indicates that groundwater to a depth of approximately 20 ft bls is impacted by relatively high concentrations of PCE and associated degradation products beneath the source area behind the Dry Cleaners. A plume of groundwater impacted by VOCs extends offsite toward the west-northwest beneath the Church and School properties (Plate 7). The downgradient offsite extent of the plume was delineated by non-detected concentrations of VOCs in Wells MW-201S/D and MW-203S/D beneath the School property. The lateral offsite (i.e., to the north) extent of the plume was delineated by samples from Wells MW-202S/D, which also did not contain detections of VOCs. The plume extends laterally to the south beneath most of the shopping center building containing the dry cleaners and just south to beneath the northern portion of the parking lot. The eastward extent of the plume was delineated by non-detected concentrations of VOCs in Well MW-108D.

The presence of significant concentrations of PCE degradation products (TCE, cis and trans-1,2-DCE and vinyl chloride) and limited downgradient extent of the VOC plume (less than 260 feet from the source area to the leading edge of the plume) indicates that *in situ* biodegradation of PCE in groundwater is occurring. The relative low permeability of the sand and silt units beneath the site result in low groundwater flow rates that, together with reductive dechlorination, have limited the downgradient migration of VOCs. Assuming that the source of contamination began as soon as a dry cleaner began operation at the Site in 1975, the downgradient extent of the plume suggests migration rates of significantly less than 0.1 foot per day. Therefore, the plume is probably in a stable configuration and not increasing significantly in downgradient extent.

### 5.4 Soil Vapor and Air Quality

With the exception of three samples, the September 2005 detection of PCE in the Dry Cleaner itself, the September 2005 detection of 42 micrograms per cubic meter ( $\mu g/m^3$ ) PCE in the utility room off the Market, and the August 2006 detection of 18  $\mu g/m^3$  PCE in the School's Main

Building Room A-6, all of the levels of PCE detected in indoor air fall below the background air concentrations collected concurrently with each sample.

The August 2006 detection of PCE in the School's Main Building Room A-6 (18 μg/m³) appeared to be anomalous based on the concentration of PCE in other indoor air samples collected from the School. This is further supported by the December 2006 sampling event, where PCE in sample AS-304 was 2.7 μg/m³ and the concentration of PCE in sub slab soil vapor (sample SV-207 Dup) was 3.0 μg/m³. During a September 21, 2006 meeting with Church and School representatives, the NYSDEC and NYSDOH indicated that the levels of PCE detected during the August 2006 sampling event do not represent a health risk to building occupants. Analytical results of the December 2006 sampling event are presented in the RI Report.

In the NYSDOH October 2006 Guidance for Evaluating Soil Vapor Intrusion in New York, the NYSDOH provides decision matrices for evaluating indoor air VOC concentrations. The matrices compares sub-slab soil vapor VOC concentrations with indoor air concentrations.

Based on an evaluation of sub-slab, indoor air, and ambient air concentrations; the current use of all spaces (specifically the Dry Cleaner) and the decision matrix for PCE, the utility room off the Market, was the only sampling location evaluated for potential vapor intrusion. Based on this evaluation and discussions with the NYSDEC and NYSDOH, an area of broken concrete floor in the utility room (a preferential pathway) was repaired.

Based on an evaluation of sub-slab, indoor air, and ambient air concentrations; the current use of all spaces; and the decision matrix for TCE, the indoor air sample AS-303 (School office) was the only sampling location evaluated for potential vapor intrusion. The NYSDOH guidance for the concentration of 0.83 μg/m³ of TCE in air sample AS-303 collected in December 2006 and a correlating soil vapor sample of non detect at a detection limit of 16 μg/m³ in sample SV-202, suggests that reasonable and practical measures should be taken to identify the sources and reduce the exposure. Based on previous sampling data at this location and other TCE concentrations from the December 2006 sampling event at the School, the detection of TCE in sample AS-303 may simply be an anomalous result that can be confirmed with a future sampling

event if necessary. Note that the high detection limit of TCE in soil vapor sample SV-202 was a result of a high concentration of toluene, a non-Site related compound, in that sample.

## 6.0 QUALITATIVE EXPOSURE ASSESSMENT

The objective of the qualitative exposure assessment is to describe how human and environmental receptors may be exposed to site contaminants based upon the site-specific conditions and to assess whether there are any complete or potentially complete exposure pathways.

As documented in the prior site investigations, the contaminants of concern (COCs) at the Site include PCE, TCE, 1,1-dichloroethene (1,1 DCE), cis-1,2 DCE, and vinyl chloride. These COCs are all VOCs that have been detected in soil and/or groundwater at concentrations exceeding their respective NYSDEC unrestricted use soil cleanup objectives, NYSDEC commercial restricted use soil cleanup objectives, or NYSDEC AWQSG values for Class GA groundwater. The NYSDEC Class GA AWQSG values were developed to be protective of public health based upon consideration of groundwater as a potential source of drinking water. This exposure scenario is not applicable to the Site given the current land use and the reasonably anticipated land use at the Site. As specified in ECL Article 27-1415(2), the exposure assessment should consider the current conditions, as well as the reasonably anticipated future land use of the site and the affected offsite areas, and the reasonably anticipated future groundwater use.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: (1) a contaminant source; (2) contaminant release and transport mechanisms; (3) a receptor population; (4) a point of exposure; and (5) a route of exposure. The following paragraphs provide an overview discussion of exposure pathways that may potentially exist associated with the Site.

## **Contaminant Sources**

The probable source of VOC contamination in soil and groundwater at the Site was direct discharges to the ground of PCE associated with dry cleaning operations at the site most probably between 1975 and 2000 (the timeframe when a dry cleaner was present onsite and no disposal records are available for review). This resulted in PCE impacts to both onsite and offsite soil and onsite and offsite groundwater. As discussed in Section 4.7, a compliance audit of the current dry cleaning operation suggests that there are no discharges of PCE to the environment.

# Contaminant Release and Transport Mechanisms

The VOCs currently being released at the Site exist in the form of residual material adsorbed to soil particles in the saturated and unsaturated zones and compounds dissolved in groundwater. The leaching of contaminants from soil serves as an ongoing source of contamination to groundwater beneath portions of the Site. In addition, VOCs are migrating through volatilization of compounds into soil vapor in the vicinity of groundwater contamination.

# **Receptor Population**

The potential onsite receptors include occupational workers, construction workers, visitors, or trespassers. Future onsite receptors could also include residents if the property was rezoned and the Site use changed. The potential offsite receptors include offsite workers, students, parishioners, visitors, and trespassers.

### Potential Points and Routes of Exposure

Contaminated soil is limited to specific areas of the Site and at depths below the immediate surface as indicated by subsurface and surficial soil samples collected as part of the RI. However, there is the potential for direct exposure to contaminated soil by anyone digging in the contaminated area.

The Site and surrounding community are supplied by public sources of drinking water which meets all State and Federal standards for drinking water quality. As such, there is no potential for exposure to site contaminants from the public sources of drinking water. Private non-potable water supply wells are not operated on the Site or by the adjacent Church or School.

In areas where there are Site buildings (or future Site buildings) in the vicinity of groundwater contamination, there is potential for volatilization of VOCs to accumulate beneath the building and migrate into indoor air. If such circumstances occur, Site workers could be exposed to contaminants via the indoor air inhalation route of exposure. PCE was detected in indoor air in the Dry Cleaner, a utility room behind the Market, and in one room of the School at concentrations above outdoor ambient air. During a September 21, 2006 meeting with Church and School representatives, the NYSDEC and NYSDOH indicated that the levels of PCE

detected during the August 2006 sampling event do not represent a health risk to building occupants. Analytical results of the December 2006 sampling event are presented in this RI.						

#### 7.0 CONCLUSIONS AND RECOMMENDATIONS

Roux Associates has completed a phased RI and SRI of soil, groundwater, soil vapor, and indoor air quality associated with the release of PCE at the Charming Dry Cleaners in the Coral Island Shopping Center, Staten Island, New York. The RI was performed in September 2005 and the SRI was performed in August 2006. The phased investigation included two rounds of soil and groundwater sampling, during which 44 soil borings were completed and 26 monitoring wells were installed. Four rounds of outdoor and indoor air and soil vapor sampling were performed both onsite in the Dry Cleaners and adjacent businesses, and offsite in the Church and School buildings. The four rounds were performed during the RI, SRI, and during separate sampling events in November 2005 and December 2006 (i.e., during the heating season).

The results of the investigation indicated that shallow soil (i.e., less than five feet deep) in the immediate vicinity of the back of the Dry Cleaners is impacted by concentrations of PCE above NYCRR Sub-part 375.6 restricted commercial soil cleanup objectives. Shallow soil impacted by high concentrations of PCE were also observed in a small area immediately north of the Site on Church property.

Associated with the impacted soil is a plume of relatively high concentrations of dissolved VOCs in underlying groundwater. The plume extends offsite toward the west-northwest beneath Church and School properties. The maximum downgradient extent of the plume is approximately 260 feet. The VOCs detected in groundwater include PCE and high concentrations of associated degradation products TCE, cis and trans-1,2-dischloroethene and vinyl chloride. The presence of significant concentrations of degradation products indicates that natural biodegradation of the VOCs in the plume is occurring. The fact that the Dry Cleaners have been operating since 1975, the presence of PCE degradation products and the relatively limited downgradient extent of the plume probably indicate that the plume is in a stable configuration.

Indoor air sampling in the Church and School indicated that all but one detection of PCE in indoor air were below the outdoor ambient air concentrations collected concurrently with each sampling event. Confirmation sampling suggested that the one deviation was an anomalous result. One indoor air sample for TCE suggests that reasonable and practical measures should be

taken to identify the sources and reduce the exposure. Based on other sampling data, the detection of TCE may simply be an anomalous result that can be confirmed with a future sampling event if necessary.

Roux Associates and WWP Associates believe that the RI is complete and the results are sufficient to prepare a Remedial Action Work Plan under the Brownfields Cleanup Program.

Table 1. Summary of Sampling Locations, Coral Island Shopping Center, Staten Island, New York.

Matrix	Sample Location	Sample Depth (ft)_	Sample Date
Air	A-1	na	7/27/2004
Air	A-2	na	7/27/2004
Air	A-3	na	7/27/2004
Air	A-4	na	7/27/2004
Air	AS-101	na	9/21/2005
Air	AS-102	na	9/21/2005
Air	AS-103	na	9/21/2005
Air	AS-103 DUP	na	9/21/2005
Air	AS-104	na	11/1/2005
Air	AS-105	na	11/1/2005
Air	AS-106	na	11/1/2005
Air	AS-107	na	11/1/2005
Air	AS-108	na	11/1/2005
Air	AS-109	na	11/1/2005
Air	AS-110	na	11/3/2005
Air	AS-111	na	11/3/2005
Air	AS-112	na	11/3/2005
Air	AS-113	na	11/3/2005
Air	AS-301	na	8/14/2006
Air	AS-302	na	8/14/2006
Air	AS-302 DUP	na	8/14/2006
Air	AS-303	na	8/14/2006
Air	AS-304	na	8/14/2006
Air	AS-305	na	8/15/2006
Air	AS-306	na	8/15/2006
Air	AS-307	na	8/15/2006
Air	AS-301	na	12/16/2006
Air	AS-302	na	12/16/2006
Air	AS-303	na	12/16/2006
Air	AS-304	na	12/16/2006
Air	AS-305	na	12/1/2006
Air	AS-306	na	12/1/2006
Air	AS-306 DUP	na	12/1/2006
Air	AS-307	na	12/1/2006
Groundwater	MW-101D	13 - 18	09/30/05
Groundwater	MW-101S	5 - 10	09/30/05
Groundwater	MW-102D	13 - 18	09/29/05
Groundwater	MW-102S	5 - 10	09/29/05
Groundwater	MW-103D	19 - 24	09/29/05
Groundwater	MW-104D	18.5 - 23.5	09/29/05
Groundwater	MW-104D DUP	18.5 - 23.5	09/29/05
Groundwater	MW-105D	13.5 - 18.5	09/28/05
Groundwater	MW-106D	14 - 19	09/29/05
Groundwater	MW-107D	22.5 - 27.5	09/29/05
Groundwater	MW-107S	10 - 15	09/29/05

Table 1. Summary of Sampling Locations, Coral Island Shopping Center, Staten Island, New York.

ry or sampling Location	s, corai isiana shopping	5 Conton, Statem Islan
Sample Location	Sample Depth (ft)	Sample Date
MW-108D	13 - 18	09/30/05
MW-109D	15 - 20	09/29/05
MW-111D	20.5 - 25.5	09/30/05
MW-112D	19 - 24	09/30/05
MW-112D DUP	19 - 24	09/30/05
MW-113D	11 - 16	09/30/05
MW-113S	3 - 8	09/30/05
MW-126D	18 - 23	09/28/05
MW-201D	13 - 18	8/14/2006
MW-201S	3.5 - 8.5	8/15/2006
MW-202D	13 - 18	8/15/2006
MW-202S	3.5 - 8.5	8/15/2006
MW-203D	24 - 29	8/14/2006
MW-203S	3.5 - 8.5	8/14/2006
MW-204D	13 - 18	8/14/2006
MW-204D DUP	13 - 18	8/14/2006
MW-204S	3.5 - 8.5	8/14/2006
PZ-2	na	08/30/04
PZ-3	na	08/30/04
PZ-4	na	08/30/04
PZ-5	na	08/30/04
PZ-6	11-12	08/30/04
SB-GW-113	na	09/01/05
SB-GW-114	na	09/01/05
SB-GW-115	na	09/01/05
SB-GW-116	na	09/01/05
SB-GW-117	na	09/22/05
SB-GW-118	na	09/22/05
SB-GW-119	na	09/22/05
SB-GW-120	na	09/22/05
		7/29/04
		7/29/04
		7/29/04
		7/29/04
		7/29/04
		7/29/04
		7/29/04
		7/29/04
		7/29/04
		7/29/04
		7/30/04
		7/30/04
		7/30/04
		7/30/04
SB-9	6-7	7/30/04
	MW-108D MW-109D MW-111D MW-112D MW-112D MW-113D MW-113S MW-126D MW-201D MW-201S MW-202D MW-202S MW-203D MW-203S MW-204D MW-204D MW-204S PZ-2 PZ-3 PZ-4 PZ-5 PZ-6 SB-GW-113 SB-GW-114 SB-GW-115 SB-GW-117 SB-GW-117 SB-GW-118 SB-GW-119	MW-108D 13 - 18 MW-109D 15 - 20 MW-111D 20.5 - 25.5 MW-112D 19 - 24 MW-112D DUP 19 - 24 MW-113D 11 - 16 MW-113S 3 - 8 MW-126D 18 - 23 MW-201D 13 - 18 MW-201D 13 - 18 MW-202D 13 - 18 MW-202D 13 - 18 MW-202S 3.5 - 8.5 MW-203D 24 - 29 MW-203S 3.5 - 8.5 MW-204D DUP 13 - 18 MW-204D DUP 13 - 18 MW-204D DUP 13 - 18 MW-204S 3.5 - 8.5 PZ-2 na PZ-3 na PZ-4 na PZ-5 na PZ-4 na PZ-5 na PZ-6 11-12 SB-GW-113 na SB-GW-114 na SB-GW-115 na SB-GW-116 na SB-GW-117 na SB-GW-118 na SB-GW-119 na SB-GW-119 na SB-GW-119 na SB-GW-120 na SB-1 1-2 SB-1 4-5 SB-1 9-10 SB-1 18-19 SB-2 5-6 SB-2 9-10 SB-3 4-5 SB-4 8-9 SB-5 SB-6 6-8 SB-7 6-8

Table 1. Summary of Sampling Locations, Coral Island Shopping Center, Staten Island, New York.

Matrix	Sample Location	Sample Depth (ft)	Sample Date
Soil	SB-10	7-8	7/30/04
Soil	SB-101	0.5-2	09/06/05
Soil	SB-101	27.5-30	09/06/05
Soil	SB-101	5-7.5	09/06/05
Soil	SB-102X	0.5-2	09/08/05
Soil	SB-102X	2.5-5	09/08/05
Soil	SB-102X	30-32.5	09/08/05
Soil	SB-103X	0.5-2	09/06/05
Soil	SB-103X	7.5-10	09/06/05
Soil	SB-103X DUP	0.5-2	09/06/05
Soil	SB-104X	0.5-2	09/08/05
Soil	SB-104X	4-6	09/08/05
Soil	SB-104X	7.5-10	09/08/05
Soil	SB-105X	1.5-3	09/07/05
Soil	SB-105X	4.5-6	09/07/05
Soil	SB-107	0.5-2	09/01/05
Soil	SB-107	4-6	09/01/05
Soil	SB-107A	0.5-2	09/14/05
Soil	SB-107A	4-6	09/14/05
Soil	SB-108	0.5-2	09/19/05
Soil	SB-108	2-4	09/19/05
Soil	SB-108	4-6	09/19/05
Soil	SB-109	0.5-2	09/01/05
Soil	SB-109	4-6	09/01/05
Soil	SB-111	0.5-2	09/16/05
Soil	SB-111	4-6	09/16/05
Soil	SB-113	0-2	09/01/05
Soil	SB-114	0-2	09/01/05
Soil	SB-115	0-2	09/01/05
Soil	SB-116	6-8	09/01/05
Soil	SB-117	0.5-2	09/20/05
Soil	SB-127	0-0.17	09/21/05
Soil	SB-128	0-0.17	09/21/05
Soil	SB-201	3-5	8/8/2006
Soil	SB-202	3-5	8/4/2006
Soil	SB-202 DUP	3-5	8/4/2006
Soil	SB-203	3-5	8/4/2006
Soil	SB-204	3-5	8/4/2006
Soil	SB-205	8-10	8/2/2006
Soil	SB-205	12-14	8/2/2006
Soil	SB-206	0-2	8/1/2006
Soil	SB-206	3-5	8/1/2006
Soil	SB-207	0-2	8/1/2006
Soil	SB-207	3-5	8/1/2006
Soil	SB-208	0-2	8/1/2006

Table 1. Summary of Sampling Locations, Coral Island Shopping Center, Staten Island, New York.

<u>Matrix</u>	Sample Location	Sample Depth (ft)	Sample Date
Soil	SB-208	3-5	8/1/2006
Soil	SB-209	0-2	8/1/2006
Soil	SB-209	3-5	8/1/2006
Soil	SB-210	0-2	8/1/2006
Soil	SB-210	3-5	8/1/2006
Soil	SB-211	0-2	8/1/2006
Soil	SB-211	3-5	8/1/2006
Soil	SB-212	0-2	8/1/2006
Soil	SB-212	3-5	8/1/2006
Soil	SB-213	0-2	8/1/2006
Soil	SB-213	3-5	8/1/2006
Soil	SB-214	0-2	8/1/2006
Soil	SB-214	3-5	8/1/2006
Soil	SB-214 DUP	3-5	8/1/2006
Soil	SB-215	0-2	8/1/2006
Soil	SB-215	3-5	8/1/2006
Soil	SB-216	0-2	8/1/2006
Soil	SB-216	3-5	8/1/2006
Soil	SB-217	0-2	8/1/2006
Soil	SB-217	3-5	8/1/2006
Soil	SB-218	0-2	8/1/2006
Soil	SB-218	3-5	8/1/2006
Soil	SB-219	0-2	8/1/2006
Soil	SB-219	3-5	8/1/2006
Soil Vapor	SG-101	10-16 in	9/21/2005
Soil Vapor	SG-102	4-10 in	9/21/2005
Soil Vapor	SG-103	2.5-3	9/21/2005
Soil Vapor	SV-201	4-10 in	8/14/2006
Soil Vapor	SV-202	4-10 in	8/14/2006
Soil Vapor	SV-203	2.5-3	8/15/2006
Soil Vapor	SV-204	4-10 in	8/15/2006
Soil Vapor	SV-204 DUP	4-10 in	8/15/2006
Soil Vapor	SV-205	4-10 in	8/15/2006
Soil Vapor	SV-201	4-10 in	12/16/2006
Soil Vapor	SV-202	4-10 in	12/16/2006
Soil Vapor	SV-204	4-10 in	12/1/2006
Soil Vapor	SV-205	4-10 in	12/1/2006
Soil Vapor	SV-206	4-10 in	12/16/2006
Soil Vapor	SV-206 DUP	<u>4-10</u> in	12/16/2006

in - Inches

DUP - Duplicate

ft - Feet

na - Not applicable

Table 2. Summary of Well Construction Details, Coral Island Shooing Center, Staten Island, New York

Measuring Point	
Elevation	Screened Interval

			Lievation				
Designation	Northing	Easting	(ft amsl)	(	ft b	t bls)	
MW-101S	160,977.3	938,957.3	33.25	5.0	-	10.0	
MW-101D	160,978.9	938,957.8	32.79	13.0	-	18.0	
MW-102S	160,992.5	938,927.9	32.49	5.0	-	10.0	
MW-102D	160,990.8	938,928.6	32.60	13.0	-	18.0	
MW-103S	161,041.0	938,714.4	33.39	2.0	-	7.0	
MW-103D	161,040.8	938,716.0	33.45	19.0	-	24.0	
MW-104S	161,053.3	938,602.2	33.53	2.5	-	7.5	
MW104D	161,053.6	938,600.7	33.56	18.5	-	23.5	
MW-105S	160,933.4	938,567.5	32.61	1.0	-	6.0	
MW-105D	160,931.7	938,567.0	32.56	13.5	-	18.5	
MW-106S	160,942.2	938,705.2	32.94	1.0	-	6.0	
MW-106D	160,942.2	938,703.2	32.80	14.0	-	19.0	
MW-107S	160,913.2	938,785.8	32.42	10.0	-	15.0	
MW-107D	160,912.4	938,787.8	32.40	22.5	-	27.5	
MW-108S	160,912.9	939,137.9	34.83	3.0	-	8.0	
MW-108D	160,910.9	939,137.4	34.85	13.0	-	18.0	
MW-109S	160,677.4	938,883.8	32.38	6.0	-	1.0	
MW-109D	160,676.5	938,885.4	32.25	15.0	-	20.0	
MW-111S	160,873.2	938,949.7	33.63	2.5	-	7.5	
MW-111D	160,873.8	938,947.4	33.60	20.5	-	25.5	
MW-112S	161,125.9	938,698.0	32.61	2.0	-	7.0	
MW-112D	161,125.5	938,699.4	32.53	19.0	-	24.0	
MW-113S	161,020.4	938,907.1	30.89	3.0	-	8.0	
MW-113D	161,022.0	938,907.6	31.04	11.0	-	16.0	
MW-126S	160,818.1	938,544.5	33.26	2.5	-	7.5	
MW-126D	160,819.7	938,544.9	33.24	18.0	-	23.0	
MW-201S	161,289.0	938,435.0	30.25	3.5	-	8.5	
MW-201D	161,284.0	938,430.0	30.16	13.0	-	18.0	
MW-202S	161,186.0	938,949.0	29.88	3.5	-	8.5	
MW-202D	161,191.0	938,943.0	29.92	13.0	-	18.0	
MW-203S	161,245.0	938,670.0	31.46	3.5	-	8.5	
MW-203D	161,249.0	938,673.0	31.42	24.0	-	29.0	
MW-204S	161,363.0	938,805.0	30.81	3.5	-	8.5	
MW-204D	161,367.0	938,806.0	30.80	13.0	-	18.0	

ft: feet

amsl: above mean sea level bmp: below measuring point

NA: not applicable

Table 3. Summary of Soil Vapor Screening Data, Coral Island Shopping Center, Staten Island, New York.

Sampling Location	Time of Sample Collection	Peak Concentration (ppm)	1-Minute TWA Concentration (ppm)
Ambient	13:13	0.0	0.0
SVS-1	12:45	0.4	0.1
SVS-2	12:48	0.4	0.0
SVS-3	12:51	0.2	0.0
SVS-4	12:52	0.8	0.4
SVS-5	12:54	1.8	0.5
SVS-6	12:57	0.2	0.0
SVS-7	12:59	0.3	0.0
SVS-8	13:01	0.2	0.0
SVS-9	13:05	0.2	0.1
SVS-10	13:10	0.8	0.0
SVS-11	13:15	0.3	0.0
SVS-12	13:20	0.1	0.0
SVS-13	13:23	0.0	0.0
SVS-14	13:30	0.0	0.0
SVS-15	13:33	0.0	0.0
SVS-16	13:35	0.5	0.2
SVS-17	13:40	6.5	5.0
SVS-18	13:49	1.4	0.8
SVS-19	13:53	0.6	0.0
SVS-20	13:55	0.0	0.0
SVS-21	14:30	0.6	0.2
SVS-22	14:01	0.8	0.1
SVS-23	14:03	0.3	0.0
SVS-24	14:06	0.7	0.0
SVS-25	NS	NS	NS
SVS-26	14:09	0.3	0.0
SVS-27	14:13	0.3	0.0
SVS-28	14:20	1.2	0.8
SVS-29	NS	NS	NS
SVS-30	14:25	0.8	0.6
SVS-31	14:27	0.3	0.3
SVS-32	14:32	0.3	0.0
SVS-33	14:35	0.2	0.0
SVS-34	14:38	0.2	0.0
SVS-35	14:40	0.1	0.0
SVS-36	14:42	0.2	0.0

Table 3. Summary of Soil Vapor Screening Data, Coral Island Shopping Center, Staten Island, New York.

Sampling Location	Time of Sample Collection	Peak Concentration (ppm)	1-Minute TWA Concentration (ppm)
SVS-37	14:45	5.6	3.5
SVS-38	14:47	5.1	3.1
SVS-39	14:50	2.2	1.4
SVS-40	14:52	2.5	1.1
SVS-41	14:55	2.8	0.9
SVS-42	15:59	0.6	0.3
SVS-43	15:00	2.2	0.7
SVS-44	15:10	1.4	0.7
SVS-45	15:30	0.3	0.2
SVS-46	15:35	1.0	0.3
SVS-47	NS	NS	NS
SVS-48	15:41	0.8	0.6
SVS-49	15:43	0.9	0.7
SVS-50	NS	NS	NS
SVS-51	15:45	0.6	0.3
SVS-52	15:47	0.7	0.4
SVS-53	15:49	0.2	0.0
SVS-54	15:54	0.7	0.5
SVS-55	NS	NS	NS
SVS-56	15:57	0.7	0.2
SVS-57	16:03	0.5	0.5
SVS-58	16:09	0.4	0.2
SVS-59	16:12	0.6	0.5
SVS-60	16:15	0.4	0.1

ppm - parts per million

TWA - Time weighted average

NS - Not collected due to water being at the surface

Table 4. Summary of Volatile Organic Compounds Detected in Soil Vapor, Coral Island Shopping Center, Staten Island, New York.

	Sample ID:	SG-101	SG-102	SG-103	SV-201	SV-201	SV-202	SV-202	SV-203	SV-204
	Sample Location:	Dry Cleaner	Utility Room Behind Tic-Tac Market	South of Church Gym	School Main Building - Kitchen Closet	School Main Building - Kitchen Closet	School Main Building - Telephone Room	School Main Building - Telephone Room	Gvm	Church -Storage Room off Gym
	Sub-slab/outdoor: Sample Date:	sub-slab 9/21/05	sub-slab 9/21/05	outdoor 9/21/05	sub-slab 8/14/06	sub-slab 12/16/06	sub-slab 8/14/06	sub-slab 12/16/06	outdoor 8/15/06	sub-slab 8/15/06
Analyte (concentrations in μg/m <sup>3</sup> )	CAS#								_	
Acetone	67-64-1	8.7	14	48	nr	H.	nr	nr	nτ	nr
Benzene	71-43-2	2.4 U	2.8 U	2.5 U	1.3	1.6	1.8	23 U	0.60	0.65
Benzyl chloride	100-44-7	3.8 U	4.6 U	4.1 U	กเ	nr	nr	nr	nr	nr
Bromodichloromethane	75-27-4	5.0 U	6.0 U	5.3 U	nr	nr	nr	nr.	nr	nr
Bromoform	75-25-2	7.7 U	9.2 U	8.2 U	nr	nr	nr	nr	nr	nr
Bromomethane	74-83-9	2.9 U	3.5 U	3.1 U	nr	nr	nr	nr	nr	nr
1,3-Butadiene	106-99-0	1.6 U	2.0 U	1.7 U	nr	nr	nr	nr	mr	nr
Carbon disulfide	75-15-0	2.8	7.5	6.4	nr	DT.	n.	nr	nr.	111
Carbon tetrachloride	56-23-5	4.7 U	5.6 U	5.0 U	nr	nr	nr	nr	nr	nr
Chlorobenzene	108-90-7	3.4 U	4.1 U	3.6 U	nr	nr	nr	nr	ш	nr
Chloroethane	75-00-3	2.1	2.4 U	2.1 U	nr	nr	nr	nr	nr	nr
Chloroform	67-66-3	230	26	3.8 U	nr.	nr	nr	171	nr	nr
Chloromethane	74-87-3	6.2 U	7.4 U	6.5 U	nr	nr	nr	nr	nr	nr
3-Chloropropene	107-05-1	9.3 U	11 U	9.9 U	nr	nr	nr	nr	nr	nr
Cumene	98-82-8	3.7 U	4.4 U	3.9 U	nr	UL.	nr	i).	ÐΓ	nr
Cyclohexane	110-82-7	5.2	6.0	2.7 U	nr	nc	M	nr	nr	nr
Dibromochloromethane	124-48-1	6.3 U	7.6 U	6.7 U	nr	111	ŊΓ	:D (*	nr	nr
1,2-Dibromoethane	106-93-4	5.7 U	6.9 U	6.1 U	n.	nr	nr	n:	nr	nr
1,2-Dichlorobenzene	95-50-1	4.5 U	5.4 U	4.7 U	in.	nr	nг	กา	nr	nr
1.3-Dichlorobenzene	541-73-1	4.5 U	5.4 U	4.8 U	nr	nr	οε	M.	nr	nr
1,4-Dichlorobenzene	106-46-7	4.5 U	5.4 U	4.8 U	nr	nr	nr	nr	nr	nr
Dichlorodifluoromethane	75-71-8	4.6	180	3.9 U	nr	nr	pr	nr	nr.	nr
1,1-Dichloroethane	75-34-3	3.0 U	3.6 U	3.2 U	0.13 U	0.13 U	0.26 U	12 U	0.13 U	0.26 U
1,2-Dichlorocthane	107-06-2	3.0 U	3.6 U	3.2 U	0.13 U	0.13 U	0.26 U	12 U	0.13 U	0.26 U
1.1-Dichloroethene	75-35-4	3.0 U	3.5 U	3.1 U	0.063 U	0.063 U	0.12 U	5.8 U	0.065 U	0.12 U
cis-1,2-Dichloroethene	156-59-2	260	3.5 U	19	0.12 U	0.12 U	0.12 U	12 U	0.13 U	0.25 U
trans-1,2-Dichloroethene	156-60-5	6.4	3.5 U	9.3	0.63 U	0.63 U	1.2 U	58 U	0.65 U	1.2 U
1,2-Dichloropropane	78-87-5	3.4 U	4.1 U	3.6 U	nr	nr	Dr.	nr	nr	nr
cis-1,3-Dichloropropene	10061-01-5	3.4 U	4.1 U	3.6 U	nr	nr	nr 	ur	nr	nr
trans-1,3-Dichloropropene	10061-02-6	3.4 U	4.1 U	3.6 U	nr	nr	nr	nr	nr	n:
Dichlorotetrafluoroethane	76-14-2	5.2 U	6.2 U	5.5 U	nr	DF.	nr	nr	nr	i) F
1,4-Dioxane	123-91-1	11 U	13 U	11 U	nr	m.	nr	nr	1A1.	1/11,
Ethanol	64-17-5	5.6 U	6.7 U	6.0 U	nr	m.	nr	nr	nr	nr
Ethylbenzene	100-41-2	6.5	6.5	3.4 U	5.2	21	5.3	32	7.1	7.2
4-Ethyltoluene	622-96-8	3.7 U	4.4 U	3.9 U	111	pr	nr	01	nr	nr
Heptane	142-82-5	3.0 U	3.7 U	3.2 U	nr	nr	nr	ar	nr	nr
Hexachlorobutadiene	87-68-3	32 U	38 U	34 U	m.	nr	nr '''	111.	nr	nr
Hexane	110-54-3	7.4	8.4	2.8 U	nr	nr	nr	iir	nr	nr
Isopropyl alcohol	67-63-0	7.3 U	8.8 U	7.8 U	nr	131.	nr'	III.	101	nr
2-Hexanone	591-78-6	12 U	15 U	13 U	nt	Dr.	13T	nr	111.	1,15.
2-Butanone (MEK)	78-93-3	4.6	2.6	13	nr	nr.	'nг	n:	nr	nr
4-Methyl-2-pentanone	108-10-1	3.0 U	3.7 U	3.2 U	<u>nr</u>	UF	nr	<u></u>	nr	nr

Table 4. Summary of Volatile Organic Compounds Detected in Soil Vapor, Coral Island Shopping Center, Staten Island, New York.

	Sample ID:	SG-101	SG-102	SG-103	SV-201	SV-201	SV-202	SV-202	SV-203	SV-204
	Sample Location:	Dry Cleaner	Utility Room Behind Tic-Tac Market	South of Church Gym	School Main Building - Kitchen Closet	School Main Building - Kitchen Closet	School Main Building - Telephone Room	School Main Building - Telephone Room	Gvm	Church -Storage Room off Gym
	Sub-slab/outdoor: Sample Date:	sub-slab 9/21/05	sub-slab 9/21/05	outdoor 9/21/05	sub-slab 8/14/06	sub-slab 12/16/06	sub-slab 8/14/06	sub-slab 12/16/06	outdoor 8/15/06	sub-slab 8/15/06
Analyte (concentrations in μg/m³)	CAS#									
Methylene chloride	75-09-2	2.6 U	3.1 U	2.7 U	nr	nr	nr	nε	nr	nr
Methyl-t-butyl ether	1634-04-4	2.7 U	3.2 U	2.8 U	0.57 U	0.57 U	1.1 U	53 U	0.59 U	1.1 U
Propylbenzene	103-65-1	3.7 U	4.4 U	3.9 U	nr	nr	nr	nr	nr	m.
Styrene	100-42-5	17	14	4.9	nr	nr	nr	nr	nr	nr
1,1,2,2-Tetrachloroethane	79-34-5	5.1 U	6.1 U	5.4 U	0.22 U	0.22 U	0.43 U	20 U	0.22 UJ	0.43 UJ
Tetrachloroethene	127-18-4	1,300	790	130	45	11	17	20 U	76	12
Tetrahydrofuran	109-99-9	3.4	5.4	2.3 U	nr	nr	nr	nr	ur	m
Toluene	108-88-3	40	98	6.0	62	74	170	7,200	35	170
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	5.7 U	6.8 U	6.0 U	nr	nr	nr	nr	nr	nr
1,2,4-Trichlorobenzene	120-82-1	22 U	26 U	23 U	nr	nr	nr	nı	nr	nr
1,1,1-Trichloroethane	71-55-6	4.1 U	4.9 U	4.3 U	1.1	0.56	0.34 U	16 U	0.28	0.34 U
1,1,2-Trichloroethane	79-00-5	4.1 U	4.9 U	4.3 U	0.17 U	0.17 U	0.34 U	16 U	0.18 U	0.34 U
Trichloroethene	79-01-6	220	55	49	4.9	1.7	0.72	16 U	2.9	0.39
Trichlorofluoromethane	75-69-4	4.2 U	5.0 U	4.4 U	nr	nr	nr	nr	nr	nr
1,2,4-Trimethylbenzene	95-63-6	4.1	4.4 U	3.9 U	nr	nr	nr	nı	nr	nr
1,3,5-Trimethylbenzene	108-67-8	3.7 U	4.4 U	3.9 U	nr	ur	nr	nr	nr	nr
2,2,4-Trimethylpentane	540-84-1	3.5 U	4.2 U	3.7 U	nr	mr	nr	nr	nr	nr
Vinyl chloride	75-01-04	3.3	2.3 U	2.0 U	0.040 U	0.040 U	0.081 U	3.7 U	0.042 U	0.081 U
M&p-Xylenes	1330-20-7	22	20	7.2	21	72	22	93	27	27
o-Xylene	95-47-6	13	12	4.3	6.0	26	5.9	26	11	10

CAS # - Chemical Abstract System Number

DUP - Duplicate sample

J - Estimated concentration

nr - Not reported

U - Not detected above reporting limit shown

Table 4. Summary of Volatile Organic Compounds Detected in Soil Vapor, Coral Island Shopping Center, Staten Island, New York.

	Sample ID:	SV-204 DUP	SV-204	SV-205	SV-205	SV-206	SV-206 DUP
	Sample Location:	Church -Storage Room off Gym	Church -Storage Room off Gym	Church - Small Boileroom	Church - Small Boileroom	School Main Building - Room A-6	School Main Building - Room A-6
	Sub-slab/outdoor: Sample Date:	sub-slab 8/15/06	sub-slab 12/1/06	sub-slab 8/15/06	sub-slab 12/1/06	sub-slab 12/16/06	sub-slab 12/16/06
Analyte (concentrations in µg/m³)	CAS#						
Acetone	67-64-1	nr	nr	nr	nr	nr	nr
Benzene	71-43-2	0.62	3.3	1.2	4.7	1.1	1.1
Benzyl chloride	100-44-7	nr	nr	nr	ЮF	ar	nr
Bromodichloromethane	75-27-4	nr	nr	ul.	111	nr	nr
Bromoform	75-25-2	nr	nr	nr	nr	ur	nr
Bromomethane	74-83-9	nr	111	nr	nr	nr	nr
1.3-Butadiene	106-99-0	nr	nr	nr	ne	nc	nr
Carbon disulfide	75-15-0	nr	nr	nr	nr	nr	115
Carbon tetrachloride	56-23-5	er er	nr	ur	ម្រ.	nr	11.
Chlorobenzene	108-90-7	ur	nr	nr	nr	nr	nc
Chloroethane	75-00-3	nr	nı	nr	111	DT.	nr
Chloroform	67-66-3	nr	nг	1)1.	m.	ar	nr
Chloromethane	74-87-3	nr	ar	nr	nr	nr	nr
3-Chloropropene	107-05-1	nt	nr 	nr	nr	117	nr
Cumene	98-82-8	nr	inr	nr	nc	111	nr
Cyclohexane	110-82-7	nr	nr	ar	nr	nr	)W
Dibromochloromethane	124-48-1	nr	nr	nr	nr nr	DI.	nr
1.2-Dibromoethane	106-93-4	137	nc	nr			
1,2-Dichlorobenzene	95-50-1	111	nr	Ui,	មារ 	nr	nr
1,3-Dichlorobenzene	541-73-1	n.	nr	nr nr	nr	nr	nc
1,4-Dichlorobenzene	106-46-7	nr			iir	nr	nr
Dichlorodifluoromethane	75-71-8		ar	nr	nr	111	nr
1,1-Dichloroethane	75-71-8 75-34-3	nr 0.25 U	nr 0.50 U	nr 0.19 U	nr	nr o 12 ti	nr
•					0.13 U	0.12 U	0.11 U
1,2-Dichloroethane	107-06-2	0.25 U	0.50 U	0.26	0.13 U	0.12 U	0.11 U
1,1-Dichloroethene	75-35-4	0.12 U	0.25 U	0.091 U	0.064 U	0.057 U	0.055 U
cis-1,2-Dichloroethene	156-59-2	0.24 U	0.49 U	0.18 U	0.13 U	0.11 U	0.11 U
trans-1,2-Dichloroethene	156-60-5	1.2 U	2.5 U	0.91 U	0.64 U	0.57 U	0.55 U
1,2-Dichloropropane	78-87-5	1117	nr	nr.	m	UL	១٢
cis-1,3-Dichloropropene	10061-01-5	nr	nr	nr	nr	m	ut
trans-1,3-Dichloropropene	10061-02-6	nr	nr	nr.	nr	nr	nr
Dichlorotetrafluoroethane	76-14-2	nr	nr	nt	nr	nr	111
1,4-Dioxane	123-91-1	nr	111,	nr	nr	nr	111
Ethanol	64-17-5	nr	nr	111	nr	nr	nr
Ethylbenzene	100-41-2	7.2	10	9.4	21	20	20
4-Ethyltoluene	622-96-8	nr.	nr	nr	nr	nr	ut
Heptane	142-82-5	mr	nr	nr	nr	13.1	nr
Hexachlorobutadiene	87-68-3	nı'	nr	m:	111,	W	ur
Hexane	110-54-3	nr	ыı	nr	nr	ıγr	nr
Isopropyl alcohol	67-63-0	nr	nr	nr	ne	III.	mr
2-Hexanone	591-78-6	nr	nr	nr	nr	DΓ	ш
2-Butanone (MEK)	78-93-3	nr	nr	nr	nr	nr	nr
4-Methyl-2-pentanone	108-10-1	117	DI.	nr	101	<u>nr</u>	nr

Table 4. Summary of Volatile Organic Compounds Detected in Soil Vapor, Coral Island Shopping Center, Staten Island, New York.

	Sample ID:	SV-204 DUP	SV-204	SV-205	SV-205	SV-206	SV-206 DUP
	Sample Location:	Church -Storage Room off Gym	Church -Storage Room off Gym	Church - Small Boileroom	Church - Small Boileroom	School Main Building - Room A-6	School Main Building - Room A-6
	Sub-slab/outdoor: Sample Date:	sub-slab 8/15/06	sub-slab 12/1/06	sub-slab 8/15/06	sub-slab 12/1/06	sub-slab 12/16/06	sub-slab 12/16/06
Analyte (concentrations in µg/m³)	CAS#				<u>_</u>		
Methylene chloride Methyl-t-butyl ether Propylbenzene Styrene 1,1,2,2-Tetrachloroethane Tetrachloroethene Tetrahydrofuran Toluene 1,1,2-Trichloro-1,2,2-trifluoroethane 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene Trichloroethene Trichlorofluoromethane	75-09-2 1634-04-4 103-65-1 100-42-5 79-34-5 127-18-4 109-99-9 108-88-3 76-13-1 120-82-1 71-55-6 79-00-5 79-01-6 75-69-4	nr 1.1 U nr nr 0.42 UJ 12 nr 170 nr nr 0.34 U 0.34 U 0.38	nr 2.2 U nr nr 0.85 U 9.9 mr 300 nr nr 0.68 U 0.68 U 1.6	nr 0.83 U or nr 0.32 UJ 4.2 nr 120 ar ur 0.33 0.25 U 0.70 nr	nr 0.58 U mr nr 0.22 U 4.4 nr 81 nr 0.18 U 0.18 U 3 nr	nr 0.52 U nr nr 0.20 U 2.9 tr 34 nr nr 0.16 U 0.15 U	0.50 U nr nr 0.19 U 3 nr 33 nr nr 0.15 U 0.15 U 0.15 U
1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene	95-63-6 108-67-8	nr nr	nr nr	nr nr	nr nr	nr nr	nr nr
2,2,4-Trimethylpentane Vinyl chloride M&p-Xylenes o-Xylene	540-84-1 75-01-04 1330-20-7 95-47-6	or 0.079 U 27 11	nr 0.16 U 32 10	0.059 U 32 13	0.041 U 67 23	nr 0.037 U 74 28	0.036 U 73 27

CAS # - Chemical Abstract System Number

DUP - Duplicate sample

J - Estimated concentration

nr - Not reported

U - Not detected above reporting limit shown

Table 5. Summary of Volatile Organic Compounds Detected in Air, Coral Island Shopping Center, Staten Island, New York.

	Sample ID:	A-1	A-2	A-3	A-4	AS-101	AS-102	AS-103	AS-103 DUP	AS-104
	Sample Location:	Tic-Tac Market	Dry Cleaner	Stationary	Parking Lot South of Dry Cleaner	Dry Cleaner	Utility Room Behind Tic-Tac Market	South of Church Gym	South of Church Gym	School Modular Unit - Girl's Bathroom
	Indoor / Outdoor: Sample Date:	Indoor 7/27/2004	Indoor 7/27/2004	Indoor 7/27/2004	Outdoor 7/27/2004	Indoor 09/21/05	Indoor 09/21/05	Outdoor 09/21/05	Outdoor 09/21/05	Indoor 11/1/2005
Analyte (concentrations in µg/m³)	CAS#							_		
Acetone	67-64-1	14	240 U	14	24	12	28	8.0 U	8.0 U	14
Benzene	71-43-2	1.6 U	32 U	1.6 U	2.2	2.3 U	2.4 U	2.7 U	2.7 U	2 U
Benzyl chloride	100-44-7	nr	nг	nr	OL.	3.8 U	3.9 U	4.3 U	4.3 U	3 U
Bromodichloromethane	75-27-4	3.4 U	67 U	3 4 U	3.4 U	4.9 U	5.1 U	5.6 U	5.6 U	3 U
Bromoethene	593-60-2	2 2 U	44 U	2 2 U	2.2 U	nr	nr	nr	nr	2 U
Bromoform	75-25-2	5.2 U	100 U	5 2 U	5.2 U	7.5 U	7.8 U	8.7 U	8.7 U	5 U
Bromomethane	74-83-9	19 U	39 U	1.9 U	1.9 U	2.8 U	3.0 U	3.3 U	3.3 U	2 U
1,3-Butadiene	106-99-0	1.1 U	22 U	LIÜ	1,1 U	1.6 U	1.7 U	1.8 U	1.8 U	1 U
tert-Butyl alcohol	75-65-0	15 U	300 U	15 U	15 U	nr	nr	nr	nr	2 U
Carbon disulfide	75-15-0	(.6.U	31 U	1.6 U	4.4	2.3 U	2.4 U	2.6 U	2.6 U	2 U
Carbon tetrachloride	56-23-5	3.1.0	63 U	3.1 U	3.1 U	4.6 U	4.8 U	5.3 U	5.3 U	3 U
Chlorobenzene	108-90-7	2.3 U	46 U	2.3 U	2.3 U	3.4 U	3.5 U	3.9 U	3.9 U	2 U
Chloroethane	75-00-3	13 U	26 U	13 U	1.3 U	1.9 U	2.0 U	2.2 U	2.2 U	1 U
Chloroform	67-66-3	2.4 U	49 U	240	2.4 U	3.6 U	3.7 U	4.1 U	4.1 U	2 U
Chloromethane	74-87-3	1.1	21 U	1.4	1.1	6.0 U	6.3 U	6.9 U	6.9 U	1 U
3-Chloropropene	107-05-1	1.6 U	31 U	1.6 U	1.1 16 U	9.1 U	9.5 U	10 U	10 U	2 U
• •	95-49-8	2.6 U	52 U		26U					2.7
2-Chlorotoluene	98-82-8			2.6 U		nr 3.6 U	nr 3.7 U	nr 4.1 U	nr 4.1 U	2.7 2 U
Cumene	96-62-6 110-82-7	nr	nr 34 U	ηr	nr			4.1 U 2.9 U		2 U
Cyclohexane		1.7 U		1.7 U	1.7 U	2.5 U	2.6 U		2.9 U	
Dibromochloromethane	124-48-1	4.3 U	85 U	4.3 U	4.3 U	6.2 U	6.5 U	7.2 U	7.2 U	4 U
1,2-Dibromoethane	106-93-4	3.8 U	77 U	3.8 U	3.8 U	5.6 U	5.8 U	6.4 U	6.4 U	4 U
1,2-Dichlorobenzene	95-50-1	3.0 U	60 U	3 O U	3.0 U	4.4 U	4.6 U	5.0 U	5.0 U	3 U
1,3-Dichlorobenzene	541-73-1	3.0 U	60 U	3 O U	3.0 U	4.4 U	4.6 U	5.0 U	5.0 U	3 U
1,4-Dichlorobenzene	106-46-7	3.0 U	60 U	3.0 U	3.0 11	4.4 U	4.6 U	5.0 U	5.0 U	3 U
Dichlorodifluoromethane	75-71-8	11	49 U	2.7	2.8	10	23	4.2 U	4.2 U	2 U
1,1-Dichloroethane	75-34-3	2.0 U	40 U	2.0 U	2.0 U	3.0 U	3.1 U	3.4 U	3.4 U	2 U
1,2-Dichloroethane	107-06-2	2.0 U	40 U	2.0 U	2.0 U	3.0 U	3.1 U	3.4 U	3.4 U	2 U
1,1-Dichloroethene	75-35-4	2.0 U	40 U	2.0 U	2.0 U	2.9 U	3.0 U	3.3 U	3.3 U	2 U
cis-1,2-Dichloroethene	156-59-2	2.0 U	40 U	2.0 U	2.0 U	2.9 U	3.0 U	3.3 U	3.3 U	2 U
trans-1,2-Dichloroethene	156-60-5	2.0 U	40 U	2.0 U	2.0 U	2.9 U	3.0 U	3.3 U	3.3 U	2 U
1,2-Dichloropropane	78-87-5	2.3 U	46 U	2.3 U	2.3 U	3.4 U	3.5 U	3.9 U	3.9 U	2 U
cis-1,3-Dichloropropene	10061-01-5	2.3 U	45 U	2.3 U	2.3 U	3.3 U	3.4 U	3.8 U	3.8 U	2 U
trans-1,3-Dichloropropene	10061-02-6	2.3 U	45 U	2.3 U	2.3 U	3.3 U	3.4 U	3.8 U	3.8 U	2 U
Dichlorotetrafluoroethane	76-14-2	nг	DI.	nr	nr	5.1 U	5.3 U	5.9 U	5.9 U	3 U
1,4-Dioxane	123-91-1	18 U	360 U	18 U	18 U	10 U	11 U	12 U	12 U	2 U
Ethanol	64-17-5	nr	nr	nr	nr	170	80	6.3 U	6.3 U	3.2
Ethyl acetate	141-78-6	nr	пг	nr	nr	ar	nr	nr	nr	2 U
Ethylbenzene	100-41-2	2.2 U	43 U	2.2 U	3.0	3.2 U	3.3 U	3.6 U	3.6 U	2 U
4-Ethyltoluene	622-96-8	2.5 U	49 U	25 U	2.5 U	3.6 U	3.7 U	4.1 U	4.1 U	2 U
Heptane	142-82-5	2.0 U	41 U	2.0 €	2.0 U	3.0 U	3.1 U	3.4 U	3.4 U	2 U
Hexachlorobutadiene	87-68-3	5.3 U	110 U	5.3 U	5.3 U	31 U	32 U	36 U	36 U	5 U
Hexane	110-54-3	2.2	35 U	2.3	3.5	2.6 U	2.7 U	3.0 U	3.0 U	2 U

Table 5. Summary of Volatile Organic Compounds Detected in Air, Coral Island Shopping Center, Staten Island, New York.

	Sample ID:	A-1	A-2	A-3	A-4	AS-101	AS-102	AS-103	AS-103 DUP	AS-104
	Sample Location:	Tic-Tac Market	Dry Cleaner	Stationary	Parking Lot South of Dry Cleaner	Dry Cleaner	Utility Room Behind Tic-Tac Market	South of Church Gym	South of Church Gym	School Modular Unit - Girl's Bathroom
	Indoor / Outdoor: Sample Date:	Indoor 7/27/2004	Indoor 7/27/2004	Indoor 7/27/2004	Outdoor 7/27/2004	Indoor 09/21/05	Indoor 09/21/05	Outdoor 09/21/05	Outdoor 09/21/05	Indoor 11/1/2005
Analyte (concentrations in μg/m³)	CAS#									
Isopropyl alcohol	67-63-0	14	250 U	12 U	12 U	7.2 U	53	8.2 U	8.2 U	1.5
2-Hexanone	591-78-6	2.0 U	41 U	2.0 U	2.0 U	12 U	12 U	14 U	14 U	2 U
2-Butanone (MEK)	78-93-3	1.5 U	29 U	1.5 U	2.6	2.2 U	7.9	2.5 U	2.5 U	1 U
4-Methyl-2-pentanone	108-10-1	2.0 U	41 U	2.0 U	2.0 U	3.0 U	3.1 U	3.4 U	3.4 U	2 U
Methylene chloride	75-09-2	1. <b>7</b> U	35 U	1. <b>7</b> U	1.7 U	2.5 U	2.6 U	2.9 U	2.9 U	2 U
Methyl-t-butyl ether	1634-04-4	1.8 U	36 U	1.8 U	1.8 U	2.6 U	2.7 U	3.0 U	3.0 U	2 U
Propene	115-07-1	nr	nr	nr	nr	nr	nr	nr	nr	2.4
Propylbenzene	103-65-1	nr	nr	nr	nr	3.6 U	3.7 U	4.1 U	4.1 U	nr
Styrene	100-42-5	2.1 U	43 U	2.1 U	2.1 U	3.1 U	3.2 U	3.6 U	3.6 U	2 U
1,1,2,2-Tetrachloroethane	79-34-5	3.4 U	69 U	3.4 U	3.4 U	5.0 U	5.2 U	5.8 U	5.8 U	3 U
Tetrachloroethene	127-18-4	3.4 U	3,900	3.4 U	33	710	42	5.7 U	5.7 U	3 U
Tetrahydrofuran	109-99-9	15 U	290 U	15 U	15 U	2.2 U	2.2 U	2.6	2.5 U	1 U
Toluene	108-88-3	2.9	38 U	15	15	2.8 U	4.1	3.2 U	3.2 U	12
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	nr	nr	nr	nr	5.6 U	5.8 U	6.4 U	6.4 U	4 U
1,2,4-Trichlorobenzene	120-82-1	3.7 U	74 U	3.7 U	3.7 U	22 U	22 U	25 U	25 U	4 U
1,1,1-Trichloroethane	71-55-6	2.7 U	55 U	2.7 U	2.7 U	4.0 U	4.1 U	4.6 U	4.6 U	3 U
1,1,2-Trichloroethane	79-00-5	2.7 U	55 U	2.7 U	2.7 U	4.0 U	4.1 U	4.6 U	4.6 U	3 U
Trichloroethene	79-01-6	2.7 U	91	2.7 U	2.7 U	8.9	4.1 U	4.5 U	4.5 U	3 U
Trichlorofluoromethane	75-69-4	2.8 U	56 U	2.8 U	2.8 U	4.1 U	4.3 U	4.7 U	4.7 U	3 U
1,2,4-Trimethylbenzene	95-63-6	2.5 U	49 U	2.5 U	2.5 U	3.6 U	3.7 U	4.1 U	4.1 U	2 U
1,3,5-Trimethylbenzene	108-67-8	2.5 U	49 U	2.5 U	2.5 U	3.6 U	3.7 U	4.1 U	4.1 U	2 U
2,2,4-Trimethylpentane	540-84-1	2.3 U	47 U	23 U	2.6	3.4 U	3.6 U	3.9 U	3.9 U	2 U
Vinyl acetate	108-05-4	nr	nι	11 <b>r</b>	nr	nr	nr	<b>r</b> i.r	nr	3.9
Vinyl chloride	75-01-04	1.3 U	26 U	1.3 U	1.3 U	1.9 U	1.9 U	2.1 U	2.1 U	1 U
M&p-Xylenes	1330-20-7	2.2 U	43 U	2.2 U	9.1	3.2 U	3.3 U	9.8	9.3	2 U
o-Xylene	95-47-6	2.2 U	43 U	2.2 U	2.7	3.2 U	3.3 U	5.4	5.9	2 U

CAS # - Chemical Abstract System Number

DUP - Duplicate sample

J - Estimated concentration

nr - Not reported

U - Not detected above reporting limit shown

Table 5. Summary of Volatile Organic Compounds Detected in Air, Coral Island Shopping Center, Staten Island, New York.

	Sample ID:	AS-105	AS-106	AS-107	AS-108	AS-109	AS-110	AS-111	AS-112	AS-113
	Sample Location:	School Modular Unit - Room M-7	School Modular Unit - Room M-10	School Outdoor Ambient Air - South of Modular Unit	School Main Building - Cafeteria/ Kitchen	School Administration Building - Room CV-5	Church - Gym	Church - Storage Room off Gym	Church - General Purpose Room	Church Outdoor Ambient Air - South of Gym
	Indoor / Outdoor: Sample Date:	Indoor 11/1/2005	Indoor 11/1/2005	Outdoor 11/1/2005	Indoor 11/1/2005	Indoor 11/1/2005	Indoor 11/2/2005	Indoor 11/2/2005	Indoor 11/2/2005	Outdoor 11/2/2005
Analyte (concentrations in µg/m³)	CAS#									
Acetone	67-64-1	16	13	3.9	7.7	8.3	5.7	8.6	3.4	1.7
Benzene	71-43-2	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzyl chloride	100-44-7	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Bromodichloromethane	75-27-4	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Bromoethene	593-60-2	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Bromoform	75-25-2	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	74-83-9	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1.3-Butadiene	106-99-0	1 U	1 U	1 U	1 U	l U	1 U	1 U	1 U	1 U
tert-Butyl alcohol	75-65-0	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Carbon disulfide	75-15-0	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Carbon tetrachloride	56-23-5	3 Ü	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Chlorobenzene	108-90-7	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroethane	75-00-3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	67-66-3	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloromethane	74-87-3	1 U	1 U	1 U	ίÜ	1 U	1 U	1 U	1 U	1 U
3-Chloropropene	107-05-1	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2-Chlorotoluene	95-49-8	3.3	2.9	3 U	5.6	4	3 U	4.4	3 U	3 U
Cumene	98-82-8	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Cyclohexane	110-82-7	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Dibromochloromethane	124-48-1	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
1,2-Dibromoethane	106-93-4	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
1,2-Dichlorobenzene	95-50-1	3 U	3 U	3 U	3 U	3 U	3 U	3 U		3 U
									3 U	
1,3-Dichlorobenzene	541-73-1	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
1,4-Dichlorobenzene	106-46-7	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Dichlorodifluoromethane	75-71-8	2 U	2.6	2.5	2.6	2.5	2 U	2.6	2 U	2.5
1,1-Dichloroethane	75-34-3	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichloroethane	107-06-2	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,1-Dichloroethene	75-35-4	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
cis-1,2-Dichloroethene	156-59-2	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
trans-1,2-Dichloroethene	156-60-5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichloropropane	78-87-5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
cis-1,3-Dichloropropene	10061-01-5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
trans-1,3-Dichloropropene	10061-02-6	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Dichlorotetrafluoroethane	76-14-2	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
1,4-Dioxane	123-91-1	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Ethanol	64-17-5	5.4	4.2	1 U	15	2.7	5.3	9.6	1.5	1 U
Ethyl acetate	141-78-6	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	100-41-2	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
4-Ethyltoluene	622-96-8	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Heptane	142-82-5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Hexachlorobutadiene	87-68-3	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Hexane	110-54-3	2.4	2.3	2 U	2.4	2 U	2 U	2 U	2 U	2 U

Table 5. Summary of Volatile Organic Compounds Detected in Air, Coral Island Shopping Center, Staten Island, New York.

	Sample ID:	AS-105	AS-106	AS-107	AS-108	AS-109	AS-110	AS-111	AS-112	AS-113
	Sample Location:		School Modular Unit - Room M-10	School Outdoor Ambient Air - South of Modular Unit	School Main Building - Cafeteria/ Kitchen	School Administration Building - Room CV-5	Church - Gym	Church - Storage Room off Gym	Church - General Purpose Room	Church Outdoor Ambient Air - South of Gym
	Indoor / Outdoor: Sample Date:	Indoor 11/1/2005	Indoor 11/1/2005	Outdoor 11/1/2005	Indoor 11/1/2005	Indoor 11/1/2005	Indoor 11/2/2005	Indoor 11/2/2005	Indoor 11/2/2005	Outdoor 11/2/2005
Analyte (concentrations in μg/m <sup>3</sup> )										
Isopropyl alcohol	67-63-0	3.6	2.7	1 U	2	1 U	3.2	4.2	1.6	1 U
2-Hexanone	591-78-6	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2-Butanone (MEK)	78-93-3	l U	1 U	1 U	1 U	1 U	1 U	ΙU	1 U	1 U
4-Methyl-2-pentanone	108-10-1	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Methylene chloride	75-09-2	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Methyl-t-butyl ether	1634-04-4	2.2	2	2 U	1.9	2 U	2 U	2 U	2 U	2 U
Propene	115-07-1	3.4	3.1	1.3	2.7	2.3	2.1	2.4	1.1	1
Propylbenzene	103-65-1	GΓ	ηr	M	ħτ	nr	nr	nr	$n\mathbf{r}$	nr
Styrene	100-42-5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,1,2,2-Tetrachloroethane	79-34-5	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Tetrachloroethene	127-18-4	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Tetrahydrofuran	109-99-9	ΙU	1 U	1 U	1 U	1 U	1 U	1 U	١U	1 U
Toluene	108-88-3	10	9.8	5.5	6.7	14	6.4	3.5	3.7	2.6
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
1,2,4-Trichlorobenzene	120-82-1	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
1,1,1-Trichloroethane	71-55-6	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
1,1,2-Trichloroethane	79-00-5	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Trichloroethene	79-01-6	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Trichlorofluoromethane	75-69-4	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
1,2,4-Trimethylbenzene	95-63-6	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,3,5-Trimethylbenzene	108-67-8	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2,2,4-Trimethylpentane	540-84-1	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Vinyl acetate	108-05-4	4.4	5	2 U	3.6	2.6	2 U	2 U	2 U	2 U
Vinyl chloride	75-01-04	l U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
M&p-Xylenes	1330-20-7	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
o-Xylene	95-47-6	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U

CAS # - Chemical Abstract System Number

DUP - Duplicate sample

J - Estimated concentration

nr - Not reported

U - Not detected above reporting limit shown

Table 5. Summary of Volatile Organic Compounds Detected in Air, Coral Island Shopping Center, Staten Island, New York.

	Sample ID:	AS-301	AS-301	AS-302	AS-302 DUP	AS-302	AS-303	AS-303	AS-304	AS-304
	Sample Location:	School Outdoor Ambient Air - South of Cafeteria	School Outdoor Ambient Air - South of Cafeteria	School Main Building - Kitchen	School Main Building - Kitchen	School Main Building - Kitchen	School Main Building - Office	School Main Building - Office	School Main Building - Room A-6	School Main Building - Room A-6
	Indoor / Outdoor: Sample Date:	Outdoor 8/14/2006	Outdoor 12/16/2006	Indoor 8/14/2006	Indoor 8/14/2006	Indoor 12/16/2006	1ndoor 8/14/2006	Indoor 12/16/2006	Indoor 8/14/2006	Indoor 12/16/2006
Analyte (concentrations in µg/m³)	CAS#									
Acetone	67-64-1	17.7	nr	nr.	nr	nr.	ur	or	กา	nr
Benzene	71-43-2	0.80	0.77	6.7	7.1	1.3	1.3	1.3	1.2	1
Benzyl chloride	100-44-7	nr	nr	fiΓ	nr	nr	nr	nr	nr	nr
Bromodichloromethane	75-27-4	nr	nr	nr	nr	nr	nr	nr	nr	nr
Bromoethene	593-60-2	nr	INF	nr	ÐΓ	nr	nr	nr	ກເ	nr
Bromoform	75-25-2	nr	nr	nr	nr	nr	nr	nr	nr	nr
Bromomethane	74-83-9	nr	nr	nr	nr	nr	nr	nr	ħr	nr
1.3-Butadiene	106-99-0	nr	ut	nr	กเ	nr	nΣ	or	nr	nr
tert-Butyl alcohol	75-65-0	nr	nr	nr.	n <b>r</b>	nr	nr	nr	pr	nr
Carbon disulfide	75-15-0	nr	nr	nr 	nr	nr	กร	or	nr	nr
Carbon tetrachloride	56-23-5	nr	nΓ	nr	nr	ne	nr	nr	nr	וור
Chlorobenzene	108-90-7	nr	nr	nr	nr	nr	nr	nr	nr	11.
Chloroethane	75-00-3	nr	17.1	nr	n <b>r</b>	nr	nr	nr	nг	nr
Chloroform	67-66-3	nr	nr	115	nr	nr	nr	nr	nr	nr
Chloromethane	74-87-3	nr	ni'	137	กะ	11 <b>r</b>	nr	nr		nr
3-Chloropropene	107-05-1								nr	
2-Chlorotoluene	95-49-8	or	nr	nr	nr	nr 	U.E	or	nr	nr
	98-82-8	or	nr	nr.	nr	nr	er	nr	nr	nr
Cumene		nr	nr	nı.	nr	nc	m.	nr	ħΓ	nr
Cyclohexane	110-82-7	Пr	nΓ	nr	nr	nr	nr	nr	nr	nr
Dibromochloromethane	124-48-1	nr	nr	nr	nr	nr	nr nr	nr	nr	nr
1,2-Dibromoethane	106-93-4	nr	nr	nr	'nΓ	nr	nr	nr	nr	иL
1,2-Dichlorobenzene	95-50-1	nr	nr	nr	ŊΓ	iJ1.	nr	nr	nr	nr
1,3-Dichlorobenzene	541-73-1	nr	nr	ur	nr	יור	nr	nr	nr	nr
1,4-Dichlorobenzene	106-46-7	()T	nr	nτ	nr	nr	nr	nr	nr	nr
Dichlorodifluoromethane	75-71-8	110	nr	nr	nr	nr	nr	nr.	nr	nr
1,1-Dichloroethane	75-34-3	0.13 U	0.12 U	0.13 U	0.14 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U
1,2-Dichloroethane	107-06-2	0.13 U	0.12 U	0.13 U	0.14 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U
1,1-Dichloroethene	75-35-4	0.064 U	0.061 U	0.065 U	0.069 U	0.058 U	0.058 U	0.064 U	0.064 U	0.058 U
cis-1,2-Dichloroethene	156-59-2	0.13 U	0.12 U	0.13 U	0.14 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U
trans-1,2-Dichloroethene	156-60-5	0.64 U	0.61 U	0.65 U	0.69 U	0.58 U	0.58 U	0.64 U	0.64 U	0.58 U
1,2-Dichloropropane	78-87-5	nr	nr	mr	nr	nr	nr	rur	nr	rur
cis-1,3-Dichloropropene	10061-01-5	nr	nr	nr	nr	nr	m	nr	nr	nr
trans-1,3-Dichloropropene	10061-02-6	nr	nr	nr	nr	nr	រារិ	nr	nr	nr
Dichlorotetrafluoroethane	76-14-2	nr	nr	nr	nr	nr	nr	nr	nr	nr
1,4-Dioxane	123-91-1	nr	nr	nr	nr	nr	nr	nr	nr	'nг
Ethanol	64-17-5	nr	nr	nr	nr	nr	n۲	L/L	nr	ıĭτ
Ethyl acetate	141-78-6	nr'	nr	nr	nr	nr	nr	nr	nr	nr
Ethylbenzene	100-41-2	2.7	0.71	5.0	5.7	0.7	1.2	1.2	0.98	0.43
4-Ethyltoluene	622-96-8	nτ	nr	nr	nr	nr	nΓ	nr	nr	nε
Heptane	142-82-5	nr	nr	nr	nr	nr	ŊΓ	nr	nr	nr
Hexachlorobutadiene	87-68-3	or	nr	nr	nr	nr	nr	זנו	nr	nr
Hexane	110-54-3	ur	nr	nr	nr	nr	n <b>r</b>	nr	n <b>r</b>	nr

Table 5. Summary of Volatile Organic Compounds Detected in Air, Coral Island Shopping Center, Staten Island, New York.

	Sample ID:	AS-301	AS-301	AS-302	AS-302 DUP	AS-302	AS-303	AS-303	AS-304	AS-304
	Sample Location:	School Outdoor Ambient Air - South of Cafeteria	School Outdoor Ambient Air - South of Cafeteria	School Main Building - Kitchen	School Main Building - Kitchen	School Main Building - Kitchen	School Main Building - Office	School Main Building - Office	School Main Building - Room A-6	School Main Building - Room A-6
	Indoor / Outdoor: Sample Date:	Outdoor 8/14/2006	Outdoor 12/16/2006	Indoor 8/14/2006	Indoor 8/14/2006	Indoor 12/16/2006	Indoor 8/14/2006	Indoor 12/16/2006	Indoor 8/14/2006	Indoor 12/16/2006
Analyte (concentrations in μg/m <sup>3</sup> )	CAS#								_	
Isopropyl alcohol	67-63-0	nr	nr	nr	nr	nr	nr	nr	nr	nr
2-Hexanone	591-78-6	nr	nr	nr	nr	nr	nr	nr	nr	nr
2-Butanone (MEK)	78-93-3	13.5	nr	nr	nr	nr	nг	nr	1) <b>r</b>	n <b>r</b>
4-Methyl-2-pentanone	108-10-1	nr	nr	nr	nr	nr	nr	nr	nr	'nΓ
Methylene chloride	75-09-2	nr	nr	nr	nr	nr	nr	nr	nr	nr
Methyl-t-butyl ether	1634-04-4	0.58 U	0.56 U	0.59 U	0.63 U	0.53 U	0.54	0.58 U	0.86	0.53 U
Propene	115-07-1	nr	nr	tir	nr	nr	nr	nr	nr	nr
Propylbenzene	103-65-1	nr	nr	nr	nr	nr	ıπ	nr	nr	nr
Styrene	100-42-5	nr	nr	nr	nr	n <b>r</b>	nr	BF	nr	nr
1,1,2,2-Tetrachloroethane	79-34-5	0.22 U	0.21 U	0.22 U	0.24 U	0.20 U	0.20 U	0.22 U	0.22 U	0.20 U
Tetrachloroethene	127-18-4	0.64	0.21 U	0.59	0.54	1.1	0.43	1.6	18	2.7
Tetrahydrofuran	109-99-9	nr	III	nr	nr	nr	nr	nr	nr	nr
Toluene	108-88-3	17	2.8	25	28	13	7.8	19	31	8.8
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	nr	nr	nr	nr	nr	nr	nr	nr	nr
1,2,4-Trichlorobenzene	120-82-1	nr	n!	nr	nr	IJ٢	nr	nr	nr	nr
1,1,1-Trichloroethane	71-55-6	0.18 U	0.17 U	0.18 U	0.19 U	0.16 U	0.16 U	0.18 U	0.18 U	0.16 U
1,1,2-Trichloroethane	79-00-5	0.18 U	0.17 U	0.18 U	0.19 U	0.16 U	0.16 U	0.18 U	0.18 U	0.16 U
Trichloroethene	79-01-6	0.34	0.17 U	0.18 U	0.19 U	0.16 U	0.16 U	0.83	0.17 U	0.16 U
Trichlorofluoromethane	75-69-4	nr.	nr	nr	nr	nr	nr	nr	iJΓ	i\r
1,2,4-Trimethylbenzene	95-63-6	nr	nr	nr	nr	nr	nr	nr	nr	111
1,3,5-Trimethylbenzene	108-67-8	nr	nr	nr	nr	nr	nr	nr	nr	nr
2,2,4-Trimethylpentane	540-84-1	nr	nr	H	nr	nr	nr	nr	nr	nr
Vinyl acetate	108-05-4	nr	nr	nг	IJ٢	ill	nr	nr	nr	TH.
Vinyl chloride	75-01 <b>-</b> 04	0.041 U	0.040 U	0.042 U	0.045 U	0.037 U	0.037 U	0.041 U	0.041 U	0.037 U
M&p-Xylenes	1330-20-7	11	2.4	16	19	2.2	3.5	3.1	2.6	1.3
o-Xylene	95-47-6	3.0	0.86	6.6	7.7	0.85	1.6	1.2	1.0	0.49

CAS # - Chemical Abstract System Number

DUP - Duplicate sample

J - Estimated concentration

nr - Not reported

U - Not detected above reporting limit shown

Table 5. Summary of Volatile Organic Compounds Detected in Air, Coral Island Shopping Center, Staten Island, New York.

	Sample ID:	AS-305	AS-305	AS-306	AS-306	AS-306 DUP	AS-307	AS-307
	Sample Location:		Church Outdoor Ambient Air - South of Gym	Church - Gym	Church - Gym	Church - Gym	Church - Classroom	Church - Classroom
	Indoor / Outdoor: Sample Date:	Outdoor 8/15/2006	Outdoor 12/1/2006	Indoor 8/15/2006	Indoor 12/1/2006	Indoor 12/1/2006	Indoor 8/15/2006	Indoor 12/1/2006
Analyte (concentrations in μg/m³)	CAS#							
Acetone	67-64-1	nr	nr	nr	nr	nr	nr	nr
Benzene	71-43-2	0.76	4.8	1.8	4.4	4.5	0.78	1.4
Benzyl chloride	100-44-7	nı'	nr	nr	กร	nr	nr	nr
Bromodichloromethane	75-27-4		nr m	nr	mr	ur		nr
Bromoethene	593-60-2	nr nr	nr nr		'nΓ		nr	
	75-25-2	nr		nr		nr	111	nr
Bromoform	74-83-9	nr	nr	nr	nr	nr	nr	nr
Bromomethane		nr	nr	nr	nr	nr	nr	nr
1,3-Butadiene	106-99-0	nr	nr	nr	nr	nr	ni'	mr
tert-Butyl alcohol	75-65-0	nr	nr	nr	ijΓ	nr	nr	nr
Carbon disulfide	75-15-0	nt	nr	m	ijΓ	nr	nr	nr
Carbon tetrachloride	56-23-5	nr	nr	nr	nr	nr	nr	nr
Chlorobenzene	108-90-7	m.	nr	Νť	nr	nr	nr -	nr
Chloroethane	75-00-3	nr	nr	nΓ	nr	nr	nr	ıπ
Chloroform	67-66-3	'nΓ	nr	nr	nr	nr	nr	111
Chloromethane	74-87-3	nr	nr	LII.	LH.	nr	nr	nr
3-Chloropropene	107-05-1	иr	17.1	ııΓ	nr	nr	nr	nr
2-Chlorotoluene	95-49-8	nr	nr	nr	nr	nr	nr	nr
Cumene	98-82-8	nr	nr	nr	nr	nr	ыr	nr
Cyclohexane	110-82-7	nr	M.	nr	i)r	nr	nr	nr
Dibromochloromethane	124-48-1	nr	nr	nr	nr	nr	nr	FiF
1,2-Dibromoethane	106-93-4	nr	nr	nr	nr	nr	ŊΓ	nr
1,2-Dichlorobenzene	95-50-1	nr	nr	nr	nr	nr	nr	nr
1,3-Dichlorobenzene	541-73-1	nr	nr	nr	nr	nr	mr	m
1,4-Dichlorobenzene	106-46-7	nг	nr	ព្	nr	nr	nr	nr
Dichlorodifluoromethane	75-71-8	111	171	nr	nr	nr	nr	nr
1,1-Dichloroethane	75-34-3	0.13 U	0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U
1,2-Dichloroethane	107-06-2	0.13 U	0.12 U	0.31	0.12 U	0.13 U	0.13 U	0.12 U
1,1-Dichloroethene	75-35-4	0.063 U	0.059 U	0.059 U	0.059 U	0.064 U	0.065 U	0.061 U
cis-1,2-Dichloroethene	156-59-2	0.12 U	0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U
trans-1,2-Dichloroethene	156-60-5	0.63 U	0.59 U	0.59 U	0.59 U	0.64 U	0.65 U	0.61 U
1,2-Dichloropropane	78-87-5	nr	nr	hr	nr	nr	nr	Пſ
cis-1,3-Dichloropropene	10061-01-5	nr	nr	er.	rır	nr	ŊΓ	nr
trans-1,3-Dichloropropene	10061-02-6	nr	nr	nr	nr	nr	nr	nr
Dichlorotetrafluoroethane	76-14-2	nr	nr	nr	pr	nr	nr	nr
1,4-Dioxane	123-91-1	nr	nr	nr	nr	i)[	nr	nr
Ethanol	64-17-5	nr	nr	nr	nr	nr	nr , iii	nr
Ethyl acetate	141-78-6	nr	nr	nr	nr	nr	nr	or
Ethyl acctate Ethylbenzene	100-41-2	2.2	0.8	1.6	0.91	1	0.92	0.86
4-Ethyltoluene	622-96-8	nr	nr	nr	0.91 nr	nr	0.92 nr	nr
Heptane	142-82-5	nr in	111.	or	nr	nr	nr	nr
Hexachlorobutadiene	87-68-3	nr	ur	nr	111	nr	nr	nr
Hexane	110-54-3	nc	nr	nr	nr	1) L.	DI.	nr

Table 5. Summary of Volatile Organic Compounds Detected in Air, Coral Island Shopping Center, Staten Island, New York.

	Sample ID:	AS-305	AS-305	AS-306	AS-306	AS-306 DUP	AS-307	AS-307
	Sample Location:	Church Outdoor Ambient Air - South of Gym	Church Outdoor Ambient Air - South of Gym	Church - Gym	Church - Gym	Church - Gym	Church - Classroom	Church - Classroom
	Indoor / Outdoor: Sample Date:	Outdoor 8/15/2006	Outdoor 12/1/2006	Indoor 8/15/2006	1ndoor 12/1/2006	Indoor 12/1/2006	Indoor 8/15/2006	Indoor 12/1/2006
Analyte (concentrations in μg/m <sup>3</sup> )	CAS#							
Isopropyl alcohol	67-63-0	nr	nr	ınr	ını	nr	nr	n:
2-Hexanone	591-78-6	nr	ur	nr	nr	nr	nr	nr
2-Butanone (MEK)	78-93-3	nr	nr	nr	nr	nr	nr	nr
4-Methyl-2-pentanone	108-10-1	nr	nr	nr	m	nr	nr	or
Methylene chloride	75-09-2	nr	nr	nr	nr	nr	nr.	nr
Methyl-t-butyl ether	1634-04-4	0.57 U	0.54 U	0.54 U	0.54 U	0.58 U	0.59 U	0.56 U
Propene	115-07-1	nr	nr	nr	nr	nr	nr	nr
Propylbenzene	103-65-1	nr	nr	nr	nr	nr	m	nr
Styrene	100-42-5	ыr	nr	ur	nr	nr	nr	nr
1,1,2,2-Tetrachloroethane	79-34-5	0.22 U	0.20 U	0.27 J	0.20 U	0.22 U	0.22 UJ	0.21 U
Tetrachloroethene	127-18-4	3.0	32	1.7	27	27	2.7	2
Tetrahydrofuran	109-99-9	nr	nr	nr	111	าาา	nr	nr
Toluene	108-88-3	16	3.8	3.9	4.6	4.9	4.6	4.2
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	nr	nr	nr	nr	nr	n.	nr
1,2,4-Trichlorobenzene	120-82-1	nr	nr	nr	nr	nr	nr	nr
1,1,1-Trichloroethane	71-55-6	0.17 U	0.16 U	0.16 U	0.16 U	0.18 U	0.18 U	0.17 U
1,1,2-Trichloroethane	79-00-5	0.17 U	0.16 U	0.16 U	0.16 U	0.18 U	0.18 U	0.17 U
Trichloroethene	79-01-6	0.42	0.27	0.16 U	0.16 U	0.17 U	0.18 U	0.1 <b>7</b> U
Trichlorofluoromethane	75-69-4	nr	nr	nr	กร	iir	nr	rir
1,2,4-Trimethylbenzene	95-63-6	nr	nr	nr	111"	n <b>r</b>	nr	nr
1,3,5-Trimethylbenzene	108-67-8	nr	nr	nr	nr	nr	nr	nr
2,2,4-Trimethylpentane	540-84-1	nr	nr	nτ	nr	nr	nr	nr
Vinyl acetate	108-05-4	nr	nr	nr	nε	nr	nr	nr
Vinyl chloride	75-01-04	0.040 U	0.038 U	0.038 U	0.038 U	0.041 U	0.042 U	0.040 U
M&p-Xylenes	1330-20-7	9,4	2.6	4.5	2.9	3.1	2.6	2.5
o-Xylene	95-47-6	2.3	0.77	1.2	0.87	1	0.81	0.97

CAS # - Chemical Abstract System Number

DUP - Duplicate sample

J - Estimated concentration

nr - Not reported

U - Not detected above reporting limit shown

Table 6. Summary of Volatile Organic Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

Analyte (Concentrations in μg/kg)	NYSDEC Unrestricted Residential (offsite)	NYSDEC Restricted Commercial (onsite)	Sample Location: Sample Date: Sample Depth (ft bls): Onsite/Offsite:	SB-1 7/29/04 1-2 onsite	SB-1 7/29/04 4-5 onsite	SB-1 7/29/04 9-10 onsite	SB-1 7/29/04 18-19 onsite	SB-2 7/29/04 1-2 onsite	SB-2 7/29/04 5-6 onsite	SB-2 7/29/04 9-10 onsite	SB-3 7/29/04 4-5 onsite
(CONTRACTOR OF PARTIES	(012700)	(51121)			0				<u> </u>		Onorce
Acetone	50	500,000		28 U	240	31 U	30 U	3800 U	29 U	28 U	150 U
Benzene	60	44,000		1.1 U	1.2 U	1.3 U	1.2 U	150 U	1.2 U	1.1 U	6.2 U
Bromodichloromethane				5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
Bromoform				5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
Bromomethane				5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
2-Butanone (MEK)	120	500,000		28 U	29 U	31 U	30 U	3800 U	29 U	28 U	150 U
Carbon disulfide				5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
Carbon tetrachloride	760	22,000		5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
Chlorobenzene	1,100	500,000		5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
Chloroethane	· <b></b>			5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
Chloroform	370	350,000		5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
Chloromethane				5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
Dibromochloromethane				5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
1.1-Dichloroethane	270	240,000		5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
1.2-Dichloroethane	20	30,000		5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
1,1-Dichloroethene	330	500,000		5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
cis-1,2-Dichloroethene	250	500,000		5.7 U	5.8 U	6.3 U	1.4 J	3,100	5.9 U	87	87
trans-1,2-Dichloroethene	190	500,000		5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
1,2-Dichloropropane				5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
cis-1,3-Dichloropropene				5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
trans-1,3-Dichloropropene				5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
Ethylbenzene	1,000	390,000		1.1 U	1.2 U	1.3 U	1.2 U	150 U	1.2 U	1.1 U	6.2 U
2-Hexanone				23 U	23 U	25 U	24 U	3000 U	24 U	23 U	120 U
4-Methyl-2-pentanone				23 U	23 U	25 U	24 U	3000 U	24 U	23 U	120 U
Methylene chloride	50	500,000		9.5 B	10 B	11 B	11 B	760 U	21 B	9.9 B	110 B
Styrene				5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
1,1,2,2-Tetrachloroethane				5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
Tetrachloroethene	1,300	150,000		5.7 U	5.8 U	6.3 U	6.1 U	2,000	5.9 U	5.7 U	920
Toluene	700	500,000		5.7 0	14	7	1.2 U	150 U	1.2 U	1.3	31
1,1,1-Trichloroethane	680	500,000		5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	1.3 5.7 U	31 U
1,1,2-Trichloroethane				5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	5.7 U	31 U
Trichloroethene	470	200,000		5.7 U	5.8 U	6.3 U	6.1 U	1,300	5.9 U	5.7 U	66
Vinyl chloride	20	13,000		5.7 U	5.8 U	6.3 U	6.1 U	760 U	5.9 U	3.7 U 4.1 J	31 U
M&p-Xylenes	260	500,000		2.3 U	2.3 U	2.5 U	2.4 U	300 U	3.9 U 2.4 U	4.1 J 2.3 U	12 U
o-Xylene	260	500,000		2.3 U 1.1 U	2.3 U 1.2 U	2.3 U 1.3 U	2.4 U 1.2 U	300 U 150 U			6.2 U
Xylenes (total)	260	500,000		nr					1.2 U	1.1 U	
Notes:		300,000		111	nr	nr	nr	nr	nr	nr	nr

-- - No NYSDEC standard available

μg/kg - Micrograms per kilogram

B - Analyte detected in laboratory blank

Bold - analyte was detected above the NYSDEC Standard

DUP - Duplicate

E - Result exceeded calibration range, secondary dilution required

ft bls - Feet below land surface

J - Estimated value

nr - Not reported

NYSDEC - New York State Department of Environmental Conservation

U - Analyte not detected at the detection limit shown

Table 6. Summary of Volatile Organic Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

Analyte	NYSDEC Unrestricted Residential (offsite)	NYSDEC Restricted Commercial (onsite)	Sample Location: Sample Date: Sample Depth (ft bls): Onsite/Offsite:	SB-4 7/29/04 8-9 onsite	SB-5 7/29/04 8-9	SB-6 7/30/04 4-5	SB-6 7/30/04 6-8	SB-7 7/30/04 6-8 onsite	SB-8 7/30/04 7-8	SB-9 7/30/04 6-7	SB-10 7/30/04 7-8
(Concentrations in μg/kg)	(onsite)	(onsite)	Onsite/Offsite:	onsite	onsite	onsite	onsite	onsite	onsite	onsite	onsite
Acetone	50	500,000		31 U	30 U	29 U	29 U	29 U	29 U	30 U	30 U
Benzene	60	44,000		1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Bromodichloromethane				6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
Bromoform				6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
Bromomethane				6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
2-Butanone (MEK)	120	500,000		31 U	30 U	100	50	46	79	72	81
Carbon disulfide				6.3 U	6 U	2.1 J	5.8 U	5.8 U	5.8 U	6 U	6 U
Carbon tetrachloride	760	22,000		6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
Chlorobenzene	1,100	500,000		6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
Chloroethane	´			6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
Chloroform	370	350,000		6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
Chloromethane				6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
Dibromochloromethane	~=			6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
1,1-Dichloroethane	270	240,000		6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
1,2-Dichloroethane	20	30,000		6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
1,1-Dichloroethene	330	500,000		6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
cis-1,2-Dichloroethene	250	500,000		24	6 U	39	180	98	5.8 U	6 U	6 U
trans-1,2-Dichloroethene	190	500,000		6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
1,2-Dichloropropane				6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
cis-1,3-Dichloropropene				6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
trans-1,3-Dichloropropene				6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
Ethylbenzene	1,000	390,000		1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
2-Hexanone	·			25 U	24 U	24 U	23 U	23 U	23 U	24 U	24 U
4-Methyl-2-pentanone				25 U	24 U	24 U	23 U	23 U	23 U	24 U	24 U
Methylene chloride	50	500,000		11 B	11 B	12 B	13 B	22 B	24 B	27 B	26 B
Styrene				6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
1,1,2,2-Tetrachloroethane				6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
Tetrachloroethene	1,300	150,000		37	6 U	15	23	5.8 U	5.8 U	6 U	6 U
Toluene	700	500,000		1.3 U	1.8	7.4	3.4	2.1	1.3	1.2 U	2.7
1,1,1-Trichloroethane	680	500,000		6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
1,1,2-Trichloroethane				6.3 U	6 U	5.9 U	5.8 U	5.8 U	5.8 U	6 U	6 U
Trichloroethene	470	200,000		12	6 U	3.8 J	16	5.8 U	5.8 U	6 U	6 U
Vinyl chloride	20	13,000		6.3 U	6 U	2.6 J	3.6 J	5.8 U	5.8 U	6 U	6 U
M&p-Xylenes	260	500,000		2.5 U	2.4 U	2.4 U	2.3 U	2.3 U	2.3 U	2.4 U	2.4 U
o-Xylene	260	500,000		1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Xylenes (total)	260	500,000		nr	nr	nr	nr	nr	nr	nr	nr

<sup>-- -</sup> No NYSDEC standard available

μg/kg - Micrograms per kilogram

B - Analyte detected in laboratory blank

Bold - analyte was detected above the NYSDEC Standard

DUP - Duplicate

E - Result exceeded calibration range, secondary dilution required

ft bls - Feet below land surface

J - Estimated value

nr - Not reported

NYSDEC - New York State Department of Environmental Conservation

U - Analyte not detected at the detection limit shown

Table 6. Summary of Volatile Organic Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

	NYSDEC Unrestricted	NYSDEC Restricted	Sample Location: Sample Date:	SB-101 09/06/05	SB-101 09/06/05	SB-101 09/06/05	SB-102X 09/08/05	SB-102X 09/08/05	SB-102X 09/08/05	SB-103X 09/06/05	SB-103X 09/06/05
Analyte	Residential	Commercial	Sample Depth (ft bls):	0.5-2	5 <b>-</b> 7.5	27.5-30	0.5-2	2.5-5	30-32.5	0.5-2	7.5-10
(Concentrations in µg/kg)	(offsite)	(onsite)	Onsite/Offsite:	onsite	onsite	onsite	onsite	onsite	onsite	onsite	onsite
(60110011111111111111111111111111111111	(======)	(=====)									
Acetone	50	500,000		79,000 U	46	130 J	90 J	36,000 U	24 J	37,000 U	26 J
Benzene	60	44,000		3,200 U	1.2 U	5.9 U	5.6 U	1,500 U	1.1 U	1,500 U	1.1 U
Bromodichloromethane				16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
Bromoform				16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
Bromomethane				16,000 U	12 U	59 U	28 U	7,300 U	5.7 U	7,400 U	11 U
2-Butanone (MEK)	120	500,000		16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
Carbon disulfide				16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
Carbon tetrachloride	760	22,000		16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
Chlorobenzene	1,100	500,000		16,000 U	1.2 U	5.9 U	28 U	7,300 U	5.7 U	7,400 U	1.1 U
Chloroethane	·			16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
Chloroform	370	350,000		16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
Chloromethane				16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
Dibromochloromethane				16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
1.1-Dichloroethane	270	240,000		16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
1,2-Dichloroethane	20	30,000		16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
1,1-Dichloroethene	330	500,000		16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
cis-1,2-Dichloroethene	250	500,000		16,000 U	34	130	240	7,300 U	19	7,400 U	1.2 J
trans-1,2-Dichloroethene	190	500,000		16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
1,2-Dichloropropane				16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
cis-1,3-Dichloropropene				16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
trans-1,3-Dichloropropene				16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
Ethylbenzene	1,000	390,000		3,200 U	1.2 U	5.9 U	5.6 U	1,500 U	1.1 U	1,500 U	1.1 U
2-Hexanone				16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
4-Methyl-2-pentanone				16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
Methylene chloride	50	500,000		10,000 JB	41 B	210 B	84 B	2,400 JB	18 B	7,400 U	32 B
Styrene				16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
1,1,2,2-Tetrachloroethane				16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
Tetrachloroethene	1,300	150,000		390,000	110	280	1100	500,000	2.7 J	88,000	5.7 U
Toluene	700	500,000		3,200 U	1.2 U	5.9 U	5.6 U	1,500 U	1.1 U	1,500 U	1.1 U
1,1,1-Trichloroethane	680	500,000		16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
1,1,2-Trichloroethane		~=		16,000 U	5.8 U	29 U	28 U	7,300 U	5.7 U	7,400 U	5.7 U
Trichloroethene	470	200,000		18,000	22	19 J	50	2,100 J	5.7 U	3,500 J	5.7 U
Vinyl chloride	20	13,000		16,000 U	5.8 U	5.9 J	55	7,300 U	5.7 U	7,400 U	5.7 U
M&p-Xylenes	260	500,000		nr	nг	nr	nr	nr	nr	nr	nr
o-Xylene	260	500,000		3,200 U	1.2 U	5.9 U	5.6 U	1,500 U	1.1 U	1,500 U	1.1 U
Xylenes (total)	260	500,000		6,300 U	2.3 U	12 U	11 U	2,900 U	2.3 U	3,000 U	2.3 U

<sup>-- -</sup> No NYSDEC standard available

μg/kg - Micrograms per kilogram

B - Analyte detected in laboratory blank

Bold - analyte was detected above the NYSDEC Standard

DUP - Duplicate

E - Result exceeded calibration range, secondary dilution required

ft bls - Feet below land surface

J - Estimated value

nr - Not reported

NYSDEC - New York State Department of Environmental Conservation

U - Analyte not detected at the detection limit shown

Table 6. Summary of Volatile Organic Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

	NYSDEC	NYSDEC Restricted	Sample Location: S		SB-104X 09/08/05	SB-104X	SB-104X 09/08/05	SB-105X	SB-105X	SB-107	SB-107
A1 A -	Unrestricted Residential	Commercial	Sample Date:	09/06/05 0.5-2	0.5-2	09/08/05 4-6	7.5-10	09/07/05	09/07/05	09/01/05	09/01/05
Analyte (Concentrations in µg/kg)	(offsite)	(onsite)	Sample Depth (ft bls): Onsite/Offsite:	onsite	onsite	onsite	onsite	1.5-3 onsite	4.5-6 onsite	0.5-2 onsite	4-6 onsite
(Concentrations in µg/kg)	(onsite)	(onsite)	Olisico Olisic.	Olisice	Olisite	Olisite	Olisite	Olisite	Onsite	OIISITC	Onsite
Acetone	50	500,000		38,000 U	59	64	29 U	28 U	52	28	19 J
Benzene	60	44,000		1,500 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Bromodichloromethane				7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
Bromoform				7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
Bromomethane				7,500 U	6 U	6.1 U	5.7 U	11 U	11 U	11 U	11 U
2-Butanone (MEK)	120	500,000		7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
Carbon disulfide				7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
Carbon tetrachloride	760	22,000		7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
Chlorobenzene	1,100	500,000		7,500 U	6 U	6.1 U	5.7 U	1.1 U	1.1 U	1.1 U	1.1 U
Chloroethane				7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
Chloroform	370	350,000		7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
Chloromethane				7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
Dibromochloromethane				7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
1.1-Dichloroethane	270	240,000		7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
1,2-Dichloroethane	20	30,000		7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
1,1-Dichloroethene	330	500,000		7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
cis-1,2-Dichloroethene	250	500,000		3,200 J	6 U	49	49	5.7 U	5.7 U	5.4 U	5.4 U
trans-1,2-Dichloroethene	190	500,000		7,500 U	6 U	3.7 J	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
1,2-Dichloropropane		<u></u>		7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
cis-1,3-Dichloropropene				7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
trans-1,3-Dichloropropene				7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
Ethylbenzene	1,000	390,000		1,500 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
2-Hexanone				7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
4-Methyl-2-pentanone				7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
Methylene chloride	50	500,000		8,200 B	20 B	24 B	19 B	27 B	28 B	24 B	25 B
Styrene				7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
1,1,2,2-Tetrachloroethane				7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
Tetrachloroethene	1,300	150,000		180,000	3.7 J	6.1 U	5.7 U	1.3 J	5.7 U	1.1 J	5.4 U
Toluene	700	500,000		1500 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
1,1,1-Trichloroethane	680	500,000		7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
1,1,2-Trichloroethane				7,500 U	6 U	6.1 U	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
Trichloroethene	470	200,000		4,800 J	6 U	3.1 J	5.7 U	5.7 U	5.7 U	5.4 U	5.4 U
Vinyl chloride	20	13,000		7,500 U	6 U	6.1 U	5.7 U	1.7 J	5.7 U	5.4 U	5.4 U
M&p-Xylenes	260	500,000		nr	nr	nr	nr	nr	nr	nr	nr
o-Xylene	260	500,000		1,500 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Xylenes (total)	260	500,000		3,000 U	2.4 U	2.4 U	2.3 U	2.3 U	2.3 U	2.2 U	2.2 U
Notes:	200		<del></del>	3,000 0	2.4 U			2.3 U	∠.3_∪	2.2 U	2.2 ()

μg/kg - Micrograms per kilogram

<sup>-- -</sup> No NYSDEC standard available

B - Analyte detected in laboratory blank

Bold - analyte was detected above the NYSDEC Standard

DUP - Duplicate

E - Result exceeded calibration range, secondary dilution required

ft bls - Feet below land surface

J - Estimated value

nr - Not reported

NYSDEC - New York State Department of Environmental Conservation

U - Analyte not detected at the detection limit shown

Table 6. Summary of Volatile Organic Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

Analyte (Concentrations in µg/kg)	NYSDEC Unrestricted Residential (offsite)	NYSDEC Restricted Commercial (onsite)	Sample Location: Sample Date: Sample Depth (ft bls): Onsite/Offsite:	SB-107A 09/14/05 0.5-2 onsite	SB-107A 09/14/05 4-6 onsite	SB-108 09/19/05 0.5-2 onsite	SB-108 09/19/05 2-4 onsite	SB-108 09/19/05 4-6 onsite	SB-109 09/01/05 0.5-2 onsite	SB-109 09/01/05 4-6 onsite	SB-111 09/16/05 0.5-2 onsite
	50	500,000			20.11		100		247		
Acetone	50	500,000		99	30 U	63	100	52	24 J	51	35
Benzene	60	44,000		1.1 U	1.2 U	1.1 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U
Bromodichloromethane				5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
Bromoform				5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
Bromomethane		<del></del>		11 U	12 U	11 U	12 U	11 U	11 U	11 U	11 U
2-Butanone (MEK)	120	500,000		5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
Carbon disulfide				5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
Carbon tetrachloride	760	22,000		5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
Chlorobenzene	1,100	500,000		1.1 U	1.2 U	1.1 U	1.2 U	1.1 U	1.1 <b>U</b>	1.1 U	1.1 U
Chloroethane				5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
Chloroform	370	350,000		5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
Chloromethane		~~		5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
Dibromochloromethane				5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
1,1-Dichloroethane	270	240,000		5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
1,2-Dichloroethane	20	30,000		5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
1,1-Dichloroethene	330	500,000		5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
cis-1,2-Dichloroethene	250	500,000		5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
trans-1,2-Dichloroethene	190	500,000		5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
1,2-Dichloropropane				5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
cis-1,3-Dichloropropene				5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
trans-1,3-Dichloropropene				5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
Ethylbenzene	1,000	390,000		3.9	1.2 U	1.1 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U
2-Hexanone	·			5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
4-Methyl-2-pentanone				5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
Methylene chloride	50	500,000		12 B	17 B	30 B	32 B	34 B	23 B	31 B	24 B
Styrene				5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
1.1.2.2-Tetrachloroethane				5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
Tetrachloroethene	1,300	150,000		5.3 U	6 U	5.6 U	5.8 U	5.7 U	5,6 U	5.7 U	5.3 U
Toluene	700	500,000		1.1 U	1.2 U	1.I U	2.7	1.1 U	1.1 U	1.1 U	1.3
1,1,1-Trichloroethane	680	500,000		5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
1,1,2-Trichloroethane				5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
Trichloroethene	470	200,000		5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
Vinyl chloride	20	13,000		5.3 U	6 U	5.6 U	5.8 U	5.7 U	5.6 U	5.7 U	5.3 U
M&p-Xylenes	260	500,000				nr					
o-Xylene	260	500,000		nr 6.4	nr 1.2 U	1.1 U	nr 1.2 U	nr 1.1 U	nr 1,1 U	nr 1.1 U	nr 1.1 U
Xylenes (total)	260	500,000		16	2.4 U	2.2 U	2.3 U	2.3 U	2.2 U	2,3 U	2.1 U
Notes:		300,000		16	2.4 U	2.2 U	2.3 U	2.3 U	2.2 U	2.3 U	

<sup>-- -</sup> No NYSDEC standard available

μg/kg - Micrograms per kilogram

B - Analyte detected in laboratory blank

Bold - analyte was detected above the NYSDEC Standard

DUP - Duplicate

E - Result exceeded calibration range, secondary dilution required

ft bls - Feet below land surface

J - Estimated value

nr - Not reported

NYSDEC - New York State Department of Environmental Conservation

U - Analyte not detected at the detection limit shown

Table 6. Summary of Volatile Organic Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

	NYSDEC Unrestricted	NYSDEC Restricted	Sample Location: Sample Date:	SB-111 09/16/05	SB-113 09/01/05	SB-114 09/01/05	SB-115 09/01/05	SB-116 09/01/05	SB-117 09/20/05	SB-127 09/21/05	SB-128 09/21/05
Analyte	Residential	Commercial	Sample Depth (ft bis):	4-6	0-2	0-2	0-2	6-8	0.5-2	0-0.17	0-0.17
(Concentrations in µg/kg)	(offsite)	(onsite)	Onsite/Offsite:	onsite	onsite	onsite	onsite	onsite	onsite	offsite	offsite
(80)				•							
Acetone	50	500,000		53	28 U	27 U	27 U	20 J	55	31 U	26 U
Benzene	60	44,000		1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.1 U
Bromodichloromethane		••		6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
Bromoform				6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
Bromomethane				12 U	11 U	11 U	11 U	12 U	11 U	12 U	11 U
2-Butanone (MEK)	120	500,000		6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
Carbon disulfide				6 U	5.6 U	5.4 U	5.5 U	5.8 U	1.9 J	6.2 U	5.3 U
Carbon tetrachloride	760	22,000		6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
Chlorobenzene	1,100	500,000		1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.1 U
Chloroethane	·			6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
Chloroform	370	350,000		6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
Chloromethane				6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
Dibromochloromethane				6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
1.1-Dichloroethane	270	240,000		6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
1,2-Dichloroethane	20	30,000		6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
1.1-Dichloroethene	330	500,000		6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
cis-1,2-Dichloroethene	250	500,000		6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	3 Ј	5.3 U
trans-1,2-Dichloroethene	190	500,000		6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
1,2-Dichloropropane				6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
cis-1,3-Dichloropropene				6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
trans-1,3-Dichloropropene				6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
Ethylbenzene	1,000	390,000		1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.1 U
2-Hexanone				6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
4-Methyl-2-pentanone				6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
Methylene chloride	50	500,000		31 B	27 B	25 B	23 B	28 B	30 B	27 B	32 B
Styrene				6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
1,1,2,2-Tetrachloroethane				6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
Tetrachloroethene	1,300	150,000		6 U	1.2 J	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
Toluene	700	500,000		2.1	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.1 U
1,1,1-Trichloroethane	680	500,000		6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
1,1,2-Trichloroethane				6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
Trichloroethene	470	200,000		6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
Vinyl chloride	20	13,000		6 U	5.6 U	5.4 U	5.5 U	5.8 U	5.5 U	6.2 U	5.3 U
M&p-Xylenes	260	500,000		nr							
o-Xylene	260	500,000		1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.1 U
Xylenes (total)	260	500,000		2.4 U	2.2 U	2.2 U	2.2 U	2.3 U	2.2 U	2.5 U	2.1 U
Notes:	200		<del></del>	2.70	2.20		2.2 0		2.20	2.30	

μg/kg - Micrograms per kilogram

<sup>-- -</sup> No NYSDEC standard available

B - Analyte detected in laboratory blank

Bold - analyte was detected above the NYSDEC Standard

DUP - Duplicate

E - Result exceeded calibration range, secondary dilution required

ft bls - Feet below land surface

J - Estimated value

nr - Not reported

NYSDEC - New York State Department of Environmental Conservation

U - Analyte not detected at the detection limit shown

Table 6. Summary of Volatile Organic Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

Analyte (Concentrations in µg/kg)	NYSDEC Unrestricted Residential (offsite)	NYSDEC Restricted Commercial (onsite)	Sample Location: Sample Date: Sample Depth (ft bls): Onsite/Offsite:	SB-201 8/8/2006 3-5 onsite	SB-202 8/4/2006 3-5 onsite	SB-202 DUP 8/4/2006 3-5 onsite	SB-203 8/4/2006 3-5 onsite	SB-204 8/4/2006 3-5 onsite	SB-205 8/2/2006 8-10 _onsite	SB-205 8/2/2006 12-14 onsite	SB-206 8/1/2006 0-2 offsite
Acetone	50	500,000		370,000 U	30 U	30 U	29 U	30 U	29 U	29 U	28 U
Benzene	60	44,000		15,000 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.1 U	1.1 U
Bromodichloromethane				74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
Bromoform				74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
Bromomethane				74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
2-Butanone (MEK)	120	500,000		74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
Carbon disulfide	120	300,000		74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
Carbon tetrachloride	760	22,000		74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
	1,100	500,000		74,000 U 74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	-	5.7 U 5.7 U
Chlorobenzene Chloroethane						6 U	5.9 U			5.7 U 5.7 U	5.7 U
Chloroform	370	250,000		74,000 U	6 U	6 U	5.9 U	6 U 6 U	5.8 U		5.7 U 5.7 U
		350,000		74,000 U	6 U				5.8 U	5.7 U	
Chloromethane				74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
Dibromochloromethane				74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
1,1-Dichloroethane	270	240,000		74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
1,2-Dichloroethane	20	30,000		74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
1,1-Dichloroethene	330	500,000		74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
cis-1,2-Dichloroethene	250	500,000		74,000 U	6 U	6 U	5.9 U	6 U	9.7	5.3 J	5.7 U
trans-1,2-Dichloroethene	190	500,000		74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
1,2-Dichloropropane				74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5. <b>7</b> U
cis-1,3-Dichloropropene				74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
trans-1,3-Dichloropropene				74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5. <b>7</b> U
Ethylbenzene	1,000	390,000		15,000 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.1 U	1.1 U
2-Hexanone				74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
4-Methyl-2-pentanone				74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
Methylene chloride	50	500,000		74,000 U	14 B	13 B	19 B	17 B	11 B	9.8 B	9.6 B
Styrene				74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
1,1,2,2-Tetrachloroethane				74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
Tetrachloroethene	1,300	150,000		2,200,000	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	8.7
Toluene	700	500,000		15,000 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.1 U	1.1 U
1,1,1-Trichloroethane	680	500,000		74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
1,1,2-Trichloroethane		<u></u>		74,000 U	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
Trichloroethene	470	200,000		65,000 J	6 U	6 U	5.9 U	6 U	5.8 U	5.7 U	5.7 U
Vinyl chloride	20	13,000		74,000 U	6 U	6 Ü	5.9 U	6 U	5.8 U	5.7 U	5.7 U
M&p-Xylenes	260	500,000		30000 U	2.4 U	2.4 U	2.4 U	2.4 U	2.3 U	2.3 U	2.3 U
o-Xylene	260	500,000		15,000 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.1 U	1.1 U
Xylenes (total)	260	500,000		nr	nr	nr	nr	nr	nr	nr	nr

<sup>-- -</sup> No NYSDEC standard available

µg/kg - Micrograms per kilogram

B - Analyte detected in laboratory blank

Bold - analyte was detected above the NYSDEC Standard

DUP - Duplicate

E - Result exceeded calibration range, secondary dilution required

ft bis - Feet below land surface

J - Estimated value

nr - Not reported

NYSDEC - New York State Department of Environmental Conservation

U - Analyte not detected at the detection limit shown

Table 6. Summary of Volatile Organic Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

Analyte (Concentrations in μg/kg)	NYSDEC Unrestricted Residential (offsite)	NYSDEC Restricted Commercial (onsite)	Sample Location: Sample Date: Sample Depth (ft bls): Onsite/Offsite:	SB-206 8/1/2006 3-5 offsite	SB-207 8/1/2006 0-2 offsite	SB-207 8/1/2006 3-5 offsite	SB-208 8/1/2006 0-2 offsite	SB-208 8/1/2006 3-5 offsite	SB-209 8/1/2006 0-2 offsite	SB-209 8/1/2006 3-5 offsite	SB-210 8/1/2006 0-2 offsite
<u> </u>		500.000		2011		2011	20.11	20.11	20.11		
Acetone	50	500,000		30 U	28 U	29 U	28 U	28 U	29 U	45	33 U
Benzene	60	44,000		1.2 U	1.1 U	1.2 U	1.1 U	1.1 U	1.2 U	1.2 U	1.3 U
Bromodichloromethane				6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
Bromoform				6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
Bromomethane				6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
2-Butanone (MEK)	120	500,000		6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
Carbon disulfide				6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	2.3 J	6.6 U
Carbon tetrachloride	760	22,000		6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
Chlorobenzene	1,100	500,000		6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
Chloroethane				6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
Chloroform	370	350,000		6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
Chloromethane				6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
Dibromochloromethane				6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
1.1-Dichloroethane	270	240,000		6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
1.2-Dichloroethane	20	30,000		6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
1,1-Dichloroethene	330	500,000		6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
cis-1,2-Dichloroethene	250	500,000		3.6 J	5.7 U	5.8 U	2.2 J	5.7 U	7.5	14	6.9
trans-1,2-Dichloroethene	190	500,000		6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
1,2-Dichloropropane				6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
cis-1,3-Dichloropropene				6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
trans-1,3-Dichloropropene				6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
Ethylbenzene	1,000	390,000		1.2 U	1.1 U	1.2 U	1.1 U	1.1 U	1.2 U	1.2 U	1.3 U
2-Hexanone		- <del>-</del>		6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
4-Methyl-2-pentanone				6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
•	50	500,000		19 B	3.7 U	3.6 U 14 B	16 B	13 B	3.6 U 14 B	3.6 U 14 B	10 B
Methylene chloride		*		6 U			5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
Styrene					5.7 U	5.8 U		5.7 U 5.7 U			
1,1,2,2-Tetrachloroethane		150,000		6 U	5.7 U	5.8 U	5.7 U		5.8 U	5.8 U	6.6 U
Tetrachloroethene	1,300	150,000		6 U	6.6	5.8 U	12	5.7 U	310	55	38
Toluene	700	500,000		1.2 U	1.1 U	1.2 U	1.1 U	1.1 U	1.2 U	1.2 U	1.3 U
1,1,1-Trichloroethane	680	500,000		6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
1,1,2-Trichloroethane				6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	5.8 U	6.6 U
Trichloroethene	470	200,000		6 U	5.7 U	5.8 U	5.7 U	5.7 U	24	25	6.6 U
Vinyl chloride	20	13,000		6 U	5.7 U	5.8 U	5.7 U	5.7 U	5.8 U	1.5 J	6.6 U
M&p-Xylenes	260	500,000		2.4 U	2.3 U	2.6 U					
o-Xylene	260	500,000		1.2 U	1.1 U	1.2 U	1.1 U	1.1 U	1.2 U	1.2 U	1.3 U
Xylenes (total)	260	500,000		nr							

<sup>-- -</sup> No NYSDEC standard available

μg/kg - Micrograms per kilogram

B - Analyte detected in laboratory blank

Bold - analyte was detected above the NYSDEC Standard

DUP - Duplicate

E - Result exceeded calibration range, secondary dilution required

ft bls - Feet below land surface

J - Estimated value

nr - Not reported

NYSDEC - New York State Department of Environmental Conservation

U - Analyte not detected at the detection limit shown

Table 6. Summary of Volatile Organic Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

Analyte (Concentrations in µg/kg)	NYSDEC Unrestricted Residential (offsite)	NYSDEC Restricted Commercial (onsite)	Sample Location: Sample Date: Sample Depth (ft bls): Onsite/Offsite:	SB-210 8/1/2006 3-5 offsite	SB-211 8/1/2006 0-2 offsite	SB-211 8/1/2006 3-5 offsite	SB-212 8/1/2006 0-2 offsite	SB-212 8/1/2006 3-5 offsite	SB-213 8/1/2006 0-2 offsite	SB-213 8/1/2006 3-5 offsite	SB-214 8/1/2006 0-2 offsite
		500.000			•	20.11					
Acetone	50	500,000		90	28 J	30 U	21 J	29 U	25 J	29 U	30 U
Benzene	60	44,000		1.2 U	1.2 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	1.2 U
Bromodichloromethane				6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
Bromoform				6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
Bromomethane				6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
2-Butanone (MEK)	120	500,000		6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
Carbon disulfide				1.7 J	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
Carbon tetrachloride	760	22,000		6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
Chlorobenzene	1,100	500,000		10	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
Chloroethane	-			6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
Chloroform	370	350,000		6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
Chloromethane				6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
Dibromochloromethane				6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
1,1-Dichloroethane	270	240,000		6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
1,2-Dichloroethane	20	30,000		6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
1,1-Dichloroethene	330	500,000		6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	1.8 J
cis-1,2-Dichloroethene	250	500,000		1.3 J	2.6 J	3.2 J	5.7 U	5.8 U	20	5.7 U	570
trans-1,2-Dichloroethene	190	500,000		6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	3.6 J
1,2-Dichloropropane				6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
cis-1,3-Dichloropropene				6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
trans-1,3-Dichloropropene				6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
Ethylbenzene	1,000	390,000		1.2 U	1.2 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	1.2 U
2-Hexanone				6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
4-Methyl-2-pentanone				6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
Methylene chloride	50	500,000		15 B	13 B	14 B	13 B	14 B	15 B	13 B	12 B
Styrene				6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
1,1,2,2-Tetrachloroethane				6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
Tetrachloroethene	1,300	150,000		6.1 U	20	130	4.9 J	3.4 J	74	5.7 U	1,600,000
Toluene	700	500,000		1.2 U	1.2 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	1.2 U
1,1,1-Trichloroethane	680	500,000		6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
1,1,2-Trichloroethane				6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	6.1 U
Trichloroethene	470	200,000		6.1 U	4.1 J	9.3	5.7 U	5.8 U	16	5.7 U	15,000 J
Vinyl chloride	20	13,000		6.1 U	6 U	6 U	5.7 U	5.8 U	6 U	5.7 U	1.3 J
M&p-Xylenes	260	500,000		2.4 U	2.4 U	2.4 U	2.3 U	2.3 U	2,4 U	2.3 U	2.4 U
o-Xylene	260	500,000		1.2 U	1.2 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	6.5
Xylenes (total)	260	500,000		nr							
Notes:		500,000		111	111			111	111	111	

μg/kg - Micrograms per kilogram

<sup>-- -</sup> No NYSDEC standard available

B - Analyte detected in laboratory blank

Bold - analyte was detected above the NYSDEC Standard

DUP - Duplicate

E - Result exceeded calibration range, secondary dilution required

ft bis - Feet below land surface

J - Estimated value

nr - Not reported

NYSDEC - New York State Department of Environmental Conservation

U - Analyte not detected at the detection limit shown

Table 6. Summary of Volatile Organic Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

Analyte (Concentrations in μg/kg)	NYSDEC Unrestricted Residential (offsite)	NYSDEC Restricted Commercial (onsite)	Sample Location: Sample Date: Sample Depth (ft bls): Onsite/Offsite:	SB-214 8/1/2006 3-5 offsite	SB-214 DUP 8/1/2006 3-5 offsite	SB-215 8/1/2006 0-2 offsite	SB-215 8/1/2006 3-5 offsite	SB-216 8/1/2006 0-2 offsite	SB-216 8/1/2006 3-5 offsite	SB-217 8/1/2006 0-2 offsite	SB-217 8/1/2006 3-5 offsite
•	50	500,000		29 U	150 U	30 U	35	28 U	18 J	29 U	29 J
Acetone	60	44,000		1.2 U	6 U	1.2 U	1.2 U	1.1 U	1.2 U	1.2 U	1.2 U
Benzene		•		5.8 U	30 U	6 U	1.2 U 6 U	5.7 U	6 U	5.8 U	6 U
Bromodichloromethane				5.8 U	30 U	6 U	6 U	5.7 U 5.7 U	6 U	5.8 U 5.8 U	6 U
Bromoform											
Bromomethane		 		5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
2-Butanone (MEK)	120	500,000		5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
Carbon disulfide		- <del>-</del>		5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
Carbon tetrachloride	760	22,000		5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
Chlorobenzene	1,100	500,000		5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
Chloroethane				5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
Chloroform	370	350,000		5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
Chloromethane				5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
Dibromochloromethane				5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
1,1-Dichloroethane	270	240,000		5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
1,2-Dichloroethane	20	30,000		5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
1,1-Dichloroethene	330	500,000		5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
cis-1,2-Dichloroethene	250	500,000		120	30 U	6 U	6 U	5.7 U	6 U	21	6 U
trans-1,2-Dichloroethene	190	500,000		5.8 U	30 U	6 U	6 U	5.7 U	6 U	1.9 J	6 U
1,2-Dichloropropane				5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
cis-1,3-Dichloropropene				5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
trans-1,3-Dichloropropene				5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
Ethylbenzene	1,000	390,000		1.2 U	6 U	1.2 U	1.2 U	1.1 U	1.2 U	1.2 U	1.2 U
2-Hexanone				5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
4-Methyl-2-pentanone				5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
Methylene chloride	50	500,000		12 B	79 B	15 B	16 B	16 B	16 B	13 B	16 B
Styrene				5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
1,1,2,2-Tetrachloroethane				5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
Tetrachloroethene	1,300	150,000		11,000	1,300	6 U	6 U	2.5 J	6 U	52	1.6 J
Toluene	700	500,000		1.2 U	6 U	1.2 U	1.2 U	1.1 U	1.2 U	1.2 U	1.2 U
1,1,1-Trichloroethane	680	500,000		5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
1,1,2-Trichloroethane		500,000		5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
Trichloroethene	470	200,000		390	8.8 J	6 U	6 U	5.7 U	6 U	11	6 U
Vinyl chloride	20	13,000		5.8 U	30 U	6 U	6 U	5.7 U	6 U	5.8 U	6 U
M&p-Xylenes	260 260	500,000		2.3 U	12 U	2.4 U	2.4 U	2.3 U	2.4 U	2.3 U	2.4 U
. ,											
o-Xylene	260	500,000		1.2 U	6 U	1.2 U	1.2 U	1.1 U	1.2 U	1.2 U	1.2 U
Xylenes (total)	260	500,000	<del></del>	nr	nr	nr	nr	nr	<u>nr</u>	nr	nr

<sup>-- -</sup> No NYSDEC standard available

μg/kg - Micrograms per kilogram

B - Analyte detected in laboratory blank

Bold - analyte was detected above the NYSDEC Standard

DUP - Duplicate

E - Result exceeded calibration range, secondary dilution required

ft bls - Feet below land surface

J - Estimated value

nr - Not reported

NYSDEC - New York State Department of Environmental Conservation

U - Analyte not detected at the detection limit shown

Table 6. Summary of Volatile Organic Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

Analyte	NYSDEC Unrestricted Residential	NYSDEC Restricted Commercial	Sample Location: Sample Date: Sample Depth (ft bls):	SB-218 8/1/2006 0-2	SB-218 8/1/2006 3-5	SB-219 8/1/2006 0-2	SB-219 8/1/2006 3-5
(Concentrations in µg/kg)	(offsite)	(onsite)	Onsite/Offsite:	offsite	offsite	offsite	offsite
		500,000		21.11	20.11	30 U	29 U
Acetone	50	500,000		31 U	29 U		
Benzene	60	44,000		1.2 U	1.2 U	1.2 U	1.2 U
Bromodichloromethane				6.2 U	5.9 U	6 U	5.9 U
Bromoform				6.2 U	5.9 U	6 U	5.9 U
Bromomethane				6.2 U	5.9 U	6 U	5.9 U
2-Butanone (MEK)	120	500,000		6.2 U	5.9 U	6 U	5.9 U
Carbon disulfide				6.2 U	5.9 U	6 U	5.9 U
Carbon tetrachloride	760	22,000		6.2 U	5.9 U	6 U	5.9 U
Chlorobenzene	1,100	500,000		6.2 U	5.9 U	6 U	5.9 U
Chloroethane				6.2 U	5.9 U	6 U	5.9 U
Chloroform	370	350,000		6.2 U	5.9 U	6 U	5.9 U
Chloromethane				6.2 U	5.9 U	6 U	5.9 U
Dibromochloromethane				6.2 U	5.9 U	6 U	5.9 U
1,1-Dichloroethane	270	240,000		6.2 U	5.9 U	6 U	5.9 U
1,2-Dichloroethane	20	30,000		6.2 U	5.9 U	6 U	5.9 U
1,1-Dichloroethene	330	500,000		6.2 U	5.9 U	6 U	5.9 U
cis-1,2-Dichloroethene	250	500,000		6.2 U	5.9 U	6 U	5.9 U
trans-1,2-Dichloroethene	190	500,000		6.2 U	5.9 U	6 U	5.9 U
1,2-Dichloropropane				6.2 U	5.9 U	6 U	5.9 U
cis-1,3-Dichloropropene				6.2 U	5.9 U	6 U	5.9 U
trans-1,3-Dichloropropene				6.2 U	5.9 U	6 U	5.9 U
Ethylbenzene	1,000	390,000		1.2 U	1.2 U	1.2 U	1.2 U
2-Hexanone				6.2 U	5.9 U	6 U	5.9 U
4-Methyl-2-pentanone				6.2 U	5.9 U	6 U	5.9 U
Methylene chloride	50	500,000		17 B	17 B	19 B	17 B
Styrene				6.2 U	5.9 U	6 U	5.9 U
1,1,2,2-Tetrachloroethane				6.2 U	5.9 U	6 U	5.9 U
Tetrachloroethene	1,300	150,000		6.2 U	5.9 U	6 U	5.9 U
Toluene	700	500,000		1.2 U	1.2 U	1.2 U	1.2 U
1,1,1-Trichloroethane	680	500,000		6.2 U	5.9 U	6 U	5.9 U
1,1,2-Trichloroethane				6.2 U	5.9 U	6 U	5.9 U
Trichloroethene	470	200,000		6.2 U	5.9 U	6 U	5.9 U
Vinyl chloride	20	13,000		6.2 U	5.9 U	6 U	5.9 U
M&p-Xylenes	260 260	500,000		2.5 U	2.4 U	2.4 U	2.4 U
o-Xylene	260	500,000		1.2 U	2.4 U 1.2 U	1.2 U	1.2 U
•	260 260	500,000					
Xylenes (total) Notes:		300,000		nr	nr	nr	nr

<sup>-- -</sup> No NYSDEC standard available

μg/kg - Micrograms per kilogram

B - Analyte detected in laboratory blank

Bold - analyte was detected above the NYSDEC Standard

DUP - Duplicate

E - Result exceeded calibration range, secondary dilution required

ft bis - Feet below land surface

J - Estimated value

nr - Not reported

NYSDEC - New York State Department of Environmental Conservation

U - Analyte not detected at the detection limit shown

Table 7. Summary of Semivolatile Organic Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

	NYSDEC Restricted	Sample Location: Sample Date:	SB-101 09/06/05	SB-107 09/01/05	SB-107 09/01/05	SB-107A 09/14/05	SB-108 09/19/05	SB-109 09/01/05	SB-113 09/01/05
Analyte	Commercial	Sample Date: Sample Depth (ft bls):	0.5-2	0.5-2	4-6	0.5-2	2-4	0.5-2	0-2
(Concentrations in µg/kg)	(onsite)	Onsite/Offsite:	onsite	onsite	onsite	onsite	onsite	onsite	onsite
(Concentrations in µg/kg)	(Olisice)	Olisite, Olisite.	Olisite	Olisite	Olisite	Olisite	Olisite	Onsite	Offsite
Acenaphthene	500,000		120 J	52 J	360 U	52 J	390 U	410	71 J
Acenaphthylene	500,000		93 J	910 U	910 U	350 U	390 U	930 U	930 U
Anthracene	500,000		390 J	150 J	360 U	120 J	970 U	750	200 J
Benzo(a)anthracene	5,600		1,800	500	88 J	510	390 U	2,400	770
Benzo(a)pyrene	1,000		1,000	520	71 J	700	390 U	2,100	750
Benzo(b)fluoranthene	5,600		1,300	620	110 J	890	46 J	2,700	900
Benzo(g,h,i)perylene	50,000		770	440	75 J	780	390 U	1,400	550
Benzo(k)fluoranthene	56,000		490	220 J	38 J	230 J	390 U	640	390
Bis(2-chloroethoxy)methane			<b>420</b> U	360 U	360 U	350 U	390 U	370 U	370 U
Bis(2-chloroethyl)ether			420 U	910 U	910 U	350 U	390 U	930 U	930 U
Bis(2-ethylhexyl)phthalate			250 J	190 JB	190 JB	110 J	390 U	520 B	5,300 B
4-Bromophenyl phenyl ether			420 U	360 U	360 U	350 U	390 U	370 U	370 U
Butyl benzylphthalate	<del></del>		420 U	360 U	360 U	350 U	390 U	490	370 U
Carbazole			220 J	48 J	360 U	55 J	970 U	300 J	87 J
4-Chloroaniline			420 U	910 U	910 U	890 U	390 U	930 U	930 U
2-Chloronaphthalene			420 U	360 U	360 U	350 U	390 U	370 U	370 U
2-Chlorophenol			420 U	360 U	360 U	350 U	390 U	370 U	370 U
4-Chlorophenyl phenyl ether			420 U	910 U	910 U	350 U	970 U	930 U	930 U
2,2-oxybis (1-chloropropane)			420 U	360 U	360 U	350 U	390 U	370 U	370 U
Chrysene	56,000		1700	540	73 J	530	390 U	2,100	750
Dibenzo(a h)anthracene	560		190 J	120 J	360 U	160 J	390 U	580	170 J
Dibenzofuran			68 J	360 U	360 U	350 U	390 U	160 J	47 J
1,2-Dichlorobenzene	500,000		420 U	910 U	910 U	350 U	390 U	930 U	930 U
1,3-Dichlorobenzene	280,000		420 U	360 U	360 U	350 U	390 U	370 U	370 U
1,4-Dichlorobenzene	130,000		420 U	360 U	360 U	350 U	390 U	370 U	370 U
3,3-Dichlorobenzidine			420 U	360 U	360 U	350 U	390 U	370 U	370 U
2,4-Dichlorophenol			420 U	360 U	360 U	350 U	390 U	370 U	370 U
Diethyl phthalate			420 U	360 U	360 U	350 U	390 U	370 U	370 U
Dimethyl phthalate			420 U	360 U	360 U	350 U	390 U	370 U	370 U
2,4-Dimethylphenol			420 U	360 U	360 U	350 U	390 U	370 U	370 U
Di-n-butyl phthalate			46 J	360 U	360 U	350 U	970 U	58 JB	40 JB
2,4-Dinitrophenol			2,100 U	910 U	910 U	1,800 U	970 U	930 U	930 U
2,4-Dinitrotoluene			420 U	360 U	360 U	350 U	390 U	370 U	370 U
2,6-Dinitrotoluene			420 U	360 U	360 U	350 U	390 U	370 U	370 U
Di-n-octyl phthalate			51 J	360 U	360 U	350 U	390 U	370 U	370 U
Fluoranthene	500,000		1,600	770	120 J	880	47 J	3700	1100
Fluorene	500,000		1,600 150 J	41 J	910 U	36 J	390 U	290 J	59 J
Hexachlorobenzene	6,000		420 U	360 U	360 U	350 U	390 U	370 U	370 U
Hexachlorobutadiene			420 U	360 U	360 U	350 U	390 U	370 U	370 U
Hexachlorocyclopentadiene			420 U	910 U	910 U	890 U	970 U	930 U	930 U
Hexachloroethane	 		420 U	360 U	360 U	890 U	390 U	370 U	370 U

Table 7. Summary of Semivolatile Organic Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

	NYSDEC Restricted	Sample Location: Sample Date:	SB-101 09/06/05	SB-107 09/01/05	SB-107 09/01/05	SB-107A 09/14/05	SB-108 09/19/05	SB-109 09/01/05	SB-113 09/01/05
Analyte	Commercial	Sample Depth (ft bls):	0.5-2	0.5-2	4-6	0.5-2	2-4	0.5-2	0-2
(Concentrations in µg/kg)	(onsite)	Onsite/Offsite:	onsite	onsite	onsite	onsite	onsite	onsite	onsite
1. dana (1.2.2 od) myrono	5.000		750	210 I	46.1	540	200 11	1200	460
Indeno(1,2,3-cd)pyrene	5,000			310 J	46 J	540	390 U	1200	460
Isophorone			420 U	360 U	360 U	350 U	390 U	370 U	370 U
2-Methylnaphthalene			420 U	910 U	910 U	890 U	390 U	82 J	930 U
2-Methylphenol	500,000		<b>420</b> U	360 U	360 U	350 U	390 U	370 U	370 U
4,6-Dinitro-2-methylphenol			2,100 U	910 U	910 U	890 U	970 U	930 U	930 U
4-Chloro-3-methylphenol			<b>42</b> 0 U	360 U	360 U	350 U	390 U	370 U	370 U
4-Methylphenol			420 U	360 U	360 U	350 U	390 U	370 U	370 U
Naphthalene	500,000		51 J	360 U	360 U	350 U	390 U	110 J	370 U
2-Nitroaniline			420 U	360 U	360 U	350 U	390 U	370 U	370 U
3-Nitroaniline			420 U	910 U	910 U	350 U	390 U	930 U	930 U
4-Nitroaniline			420 U	360 U	360 U	350 U	390 U	370 U	370 U
Nitrobenzene			420 U	360 U	360 U	350 U	390 U	370 U	370 U
2-Nitrophenol			420 U	360 U	360 U	350 U	390 U	370 U	370 U
4-Nitrophenol			1.100 U	360 U	360 U	350 U	390 U	370 U	370 U
n-Nitroso-di-n-propylamine			<b>420</b> U	360 U	360 U	350 U	390 U	370 U	370 U
n-Nitrosodiphenylamine			420 U	360 U	360 U	350 U	390 U	370 U	370 U
Pentachlorophenol	6,700		1,100 U	910 U	910 U	1,800 U	970 U	930 U	930 U
Phenanthrene	500,000		1100	560 J	910 U	550	970 U	3000	860 J
Phenol	500,000		420 U	360 U	360 U	350 U	390 U	370 U	370 U
Pyrene	500,000		2,900	1,300	140 J	1,000	46 J	5,400	1,900
1,2,4-Trichlorobenzene	500,000		420 U	360 U	360 U	350 U	390 U	370 U	370 U
2,4,5-Trichlorophenol			420 U	360 U	360 U	350 U	390 U	370 U	370 U
			420 U 420 U	360 U					
2,4,6-Trichlorophenol	10. No.		420 U	<u> </u>	360 U	350 U	390 U	370 U	370 U

-- - No NYSDEC standard available

μg/kg - Micrograms per kilogram

B - Analyte detected in laboratory blank

Bold - analyte was detected above the NYSDEC Standard

DUP - Duplicate

E - Result exceeded calibration range, secondary dilution required

ft bls - Feet below land surface

J - Estimated value

nr - Not reported

NYSDEC - New York State Department of Environmental Conservation

Table 7. Summary of Semivolatile Organic Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

·		•	•	1 0	,	
	NYSDEC	Sample Location:	SB-114	SB-115	SB-116	SB-117
	Restricted	Sample Date:	09/01/05	09/01/05	09/01/05	09/20/05
Analyte	Commercial	Sample Depth (ft bls):	0-2	0-2	6-8	0.5-2
(Concentrations in µg/kg)	(onsite)	Onsite/Offsite:	onsite	onsite	onsite	onsite
Acenaphthene	500,000		220 J	370 U	390 U	490 J
Acenaphthylene	500,000		910 U	82 J	390 U	1,100 U
Anthracene	500,000		630	180 J	390 U	870 J
Benzo(a)anthracene	5,600		1,700	1,300	390 U	1,800
Benzo(a)pyrene	1,000		1,700	1,300	390 U	1,000 J
Benzo(b)fluoranthene	5,600		1,900	1,800	390 U	1,500
Benzo(g,h,i)perylene	50,000		1,100	1,000	390 U	740 J
Benzo(k)fluoranthene	56,000		610	450	390 U	390 J
Bis(2-chloroethoxy)methane			360 U	430 370 U	390 U 390 U	1,100 U
Bis(2-chloroethyl)ether			910 U	920 U		
Bis(2-ethylhexyl)phthalate			390 B		390 U	1,100 U
4-Bromophenyl phenyl ether			360 U	320 JB	63 J	190 J
Butyl benzylphthalate	<del></del>		360 U	370 U	390 U	1,100 U
• • •				98 J	390 U	1,100 U
Carbazole			220 J	140 J	390 U	2,700 U
4-Chloroaniline			910 U	920 U	390 U	1,100 U
2-Chloronaphthalene			360 U	370 U	390 U	1,100 U
2-Chlorophenol			360 U	370 U	390 U	1,100 U
4-Chlorophenyl phenyl ether			910 U	920 U	390 U	2,700 U
2,2-oxybis (1-chloropropane)			360 U	370 U	390 U	1,100 U
Chrysene	56,000		1,500	1,400	390 U	1,900
Dibenzo(a h)anthracene	560		450	380	390 U	1,100 U
Dibenzofuran			120 J	370 U	390 U	270 J
1,2-Dichlorobenzene	500,000		910 U	920 U	390 U	1,100 U
1,3-Dichlorobenzene	280,000		360 U	370 U	390 U	1,100 U
1,4-Dichlorobenzene	130,000		360 U	370 U	390 U	1,100 U
3,3-Dichlorobenzidine			360 U	370 U	390 U	1,100 U
2,4-Dichlorophenol			360 U	370 U	390 U	1,100 U
Diethyl phthalate			360 U	370 U	390 U	1,100 U
Dimethyl phthalate			360 U	370 U	390 U	1,100 U
2,4-Dimethylphenol			360 U	370 U	390 U	1,100 U
Di-n-butyl phthalate			39 JB	370 U	390 U	2,700 U
2,4-Dinitrophenol			910 U	920 U	970 U	2,700 U
2,4-Dinitrotoluene			360 U	370 U	390 U	1,100 U
2,6-Dinitrotoluene			360 U	370 U	390 U	1,100 U
Di-n-octyl phthalate			360 U	370 U	390 U	1,100 U
Fluoranthene	500,000		2200	2,000	390 U	2,700
Fluorene	500,000		220 J	59 J	390 U	470 J
Hexachlorobenzene	6,000		360 U	370 U	390 U	1,100 U
Hexachlorobutadiene			360 U	370 U	390 U	1,100 U
Hexachlorocyclopentadiene			910 U	920 U	390 U	2,700 U
Hexachloroethane			360 U	370 U	390 U	1,100 U

Table 7. Summary of Semivolatile Organic Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

	NYSDEC	Sample Location:	SB-114	SB-115	SB-116	SB-117
	Restricted	Sample Date:	09/01/05	09/01/05	09/01/05	09/20/05
Analyte	Commercial	Sample Depth (ft bls):	0-2	0-2	6-8	0.5-2
(Concentrations in µg/kg)	(onsite)	Onsite/Offsite:	onsite	onsite	onsite	onsite
Indeno(1,2,3-cd)pyrene	5,000		940	790	390 U	680 J
Isophorone			360 U	370 U	390 U	1,100 U
2-Methylnaphthalene			200 J	920 U	390 U	770 J
2-Methylphenol	500,000		360 U	370 U	390 U	1,100 U
4,6-Dinitro-2-methylphenol			910 U	920 U	970 U	2,700 U
4-Chloro-3-methylphenol			360 U	370 U	390 U	1,100 U
4-Methylphenol			360 U	370 U	390 U	1100 U
Naphthalene	500,000		130 J	37 J	390 U	250 J
2-Nitroaniline			360 U	370 U	390 U	1,100 U
3-Nitroaniline			910 U	920 U	390 U	1,100 U
4-Nitroaniline			360 U	370 U	390 U	1,100 U
Nitrobenzene			360 U	370 U	390 U	1,100 U
2-Nitrophenol			360 U	370 U	390 U	1,100 U
4-Nitrophenol			360 U	370 U	390 U	1,100 U
n-Nitroso-di-n-propylamine			360 U	370 U	390 U	1,100 U
n-Nitrosodiphenylamine	<del>-</del> -		360 U	370 U	390 U	1,100 U
Pentachlorophenol	6,700		910 U	920 U	970 U	2,700 U
Phenanthrene	500,000		2100	940	390 U	3,000
Phenol	500,000		360 U	370 U	390 U	1,100 U
Pyrene	500,000		4,200	2,900	390 U	5600
1,2,4-Trichlorobenzene			360 U	370 U	390 U	1,100 U
2,4,5-Trichlorophenol			360 U	370 U	390 U	1,100 U
2,4,6-Trichlorophenol			360 U	370 U	390 U	1,100 U

-- - No NYSDEC standard available

μg/kg - Micrograms per kilogram

B - Analyte detected in laboratory blank

Bold - analyte was detected above the NYSDEC Standard

DUP - Duplicate

E - Result exceeded calibration range, secondary dilution required

ft bls - Feet below land surface

J - Estimated value

nr - Not reported

NYSDEC - New York State Department of Environmental Conservation

Table 8. Summary of Metals Detected in Soil, Coral Island Shopping Center, Staten Island, New York

	NYSDEC	Sample Location:	SB-101	SB-107	SB-107	SB-107A	SB-108	SB-109
	Restricted	Sample Date:	09/06/05	09/01/05	09/01/05	09/14/05	09/19/05	09/01/05
Analyte	Commercial	Sample Depth (ft bls):	0.5-2	0.5-2	4-6	0.5-2	2-4	0.5-2
(Concentrations in mg/kg)	(onsite)	Onsite/Offiste:	onsite	onsite	onsite	onsite	onsite	onsite
Aluminum			4,600	4,600	3,700	6,000	4,900	7,700
Antimony			2.5 U	4.9	2.2 U	2.1 U	2.3 U	2.2 U
Arsenic	16		6.3	4.5	2.4	2.3	2.6	5.3
Barium	400		86	57	22	26	62	89
Beryllium	590		0.76 U	0.65 U	0.65 U	0.64 U	0.7 U	0.67 U
Cadmium	9.3		0.76 U	0.65 U	0.65 U	0.64 U	0.7 U	0.67 U
Calcium			2,300	42,000	2,600	13,000	1,200 U	28,000
Chromium	1,500		13	18	12	11	10	20
Cobalt			3.7	7.5	3.1	9.7	2.9 U	7.5
Copper	270		71	58	16	110	30	48
Cyanide Total	27		0.32 U	0.27 U	0.27 U	0.26 U	0.29 U	0.3
Iron			8,000	9,100	8,300	19,000	5,000	14,000
Lead	1000		91	150	12	29	47	110
Magnesium			1,500	15,000	2,500	6,000	2,400	6,700
Manganese	10,000		89	150	40	170	76	230
Mercury	2.8		0.11 U	0.23	0.091 U	0.089 U	0.097 U	0.12
Nickel	310		27	20	20	19	34	29
Potassium			630 U	820	560	790	580 U	1,800
Selenium	1,500		2.6	2 U	2 U	2.9	2.1 U	2 U
Silver	1,500		3.2 U	2.7 U	2.7 U	2.7 U	2.9 U	2.8 U
Sodium			630 U	540 U	540 U	1,300	580 U	900
Thallium			1.5 U	1.3 U	1.3 U	1.3 U	1.4 U	1.3 U
Vanadium			24	19	15	38	12 U	27
Zinc	10,000		41	300	26	54	30	160

-- - No NYSDEC standard available

mg/kg Milligrams per kilogram

Bold - analyte was detected above the NYSDEC Standard

ft bls - Feet below land surface

NYSDEC - New York State Department of Environmental Conservation

Table 8. Summary of Metals Detected in Soil, Coral Island Shopping Center, Staten Island, New York

	NYSDEC	Sample Location:	SB-113	SB-114	SB-115	SB-116	SB-117
	Restricted	Sample Date:	09/01/05	09/01/05	09/01/05	09/01/05	09/20/05
Analyte	Commercial	Sample Depth (ft bls):	0-2	0-2	0-2	6-8	0.5-2
(Concentrations in mg/kg)	(onsite)	Onsite/Offiste:	onsite	onsite	onsite	onsite	onsite
Aluminum			6,600	7,300	6,400	5,800	5,000
Antimony			2.2 U	2.2 U	2.2 U	2.3 U	2.2 U
Arsenic	16		5.7	5.9	7.6	2.6	3.4
Barium	400		95	92	140	24	46
Beryllium	590		0.67 U	0.65 U	0.66 U	0.7 U	0.66 U
Cadmium	9.3		0.67 U	0.65 U	0.66 U	0.7 U	0.66 U
Calcium			33,000	30,000	6,500	1,200 U	9,800
Chromium	1,500		22	26	17	12	48
Cobalt			7	7.9	4.8	2.9 U	22
Copper	270		36	40	50	6.5	35
Cyanide Total	27		0.34	0.72	0.27 U	0.29 U	0.27 U
Iron			13,000	17,000	12,000	8,000	15,000
Lead	1000		120	140	290	5.8 U	38
Magnesium			6,500	5,900	2,200	1,400	9,200
Manganese	10,000		280	280	160	43	330
Mercury	2.8		0.14	0.24	0.43	0.097 U	0.092 U
Nickel	310		37	40	21	9.3	300
Potassium			1,300	1,800	760	650	710
Selenium	1,500		2 U	2.1	2 U	2.1 U	2 U
Silver	1,500		2.8 U	2.7 U	2.7 U	2.9 U	2.7 U
Sodium			560 U	540 U	550 U	580 U	550 U
Thallium			1.3 U	1.3 U	1.3 U	1.4 U	1.3 U
Vanadium			21	26	20	12	24
Zinc	10,000		120	130	180	22	44

mg/kg Milligrams per kilogram

Bold - analyte was detected above the NYSDEC Standard

ft bls - Feet below land surface

NYSDEC - New York State Department of Environmental Conservation

<sup>-- -</sup> No NYSDEC standard available

Table 9. Summary of Polychlorinated Biphenyl Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

	NYSDEC	Sample Location:	SB-101	SB-107	SB-107	SB-107A	SB-108	SB-109
	Restricted	Sample Date:	09/06/05	09/01/05	09/01/05	09/14/05	09/19/05	09/01/05
Analyte	Commercial	Sample Depth (ft bls):	0.5-2	0.5-2	4-6	0.5-2	2-4	0.5-2
(Concentrations in µg/kg)	(onsite)	Onsite/Offsite:	onsite	onsite	onsite	onsite	onsite	onsite
Aroclor-1016	1,000		32 U	27 U	27 U	27 U	29 U	28 U
Aroclor-1010 Aroclor-1221	1,000		32 U	27 U	27 U	27 U	29 U	28 U
Aroclor-1232	1,000		32 U	27 U	27 U	27 U	29 U	28 U
Aroclor-1242	1,000		32 U	27 U	27 U	27 U	29 U	28 U
Aroclor-1248	1,000		32 U	27 U	27 U	27 U	29 U	28 U
Aroclor-1254	1,000		32 U	100	27 U	27 U	29 U	28 U
Aroclor-1260	1,000		32 U	27 U	27 U	27 U	29 U	61
Total PCBs:	1,000		ND	100	ND	ND	ND_	61

μg/kg - Micrograms per kilogram

Bold - analyte was detected above the NYSDEC Standard

ft bls - Feet below land surface

ND - Not detected

NYSDEC - New York State Department of Environmental Conservation

U - Analyte not detected at the detection limit shown

PCBs - Polychlorinated Biphenyl Compounds

Table 9. Summary of Polychlorinated Biphenyl Compounds Detected in Soil, Coral Island Shopping Center, Staten Island, New York

	NYSDEC	Sample Location:	SB-113	SB-114	SB-115	SB-116	SB-117
	Restricted	Sample Date:	09/01/05	09/01/05	09/01/05	09/01/05	09/20/05
Analyte	Commercial	Sample Depth (ft bls):	0-2	0-2	0-2	6-8	0.5-2
(Concentrations in µg/kg)	(onsite)	Onsite/Offsite:	onsite	onsite	_onsite	onsite	onsite_
A 1 1016	1.000		20.11	07.II	07.11	20.11	27.11
Aroclor-1016	1,000		28 U	27 U	27 U	29 U	27 U
Aroclor-1221	1,000		28 U	27 U	27 U	29 U	27 U
Aroclor-1232	1,000		28 U	27 U	27 U	29 U	27 U
Aroclor-1242	1,000		28 U	27 U	27 U	29 U	27 U
Aroclor-1248	1,000		28 U	27 U	27 U	29 U	27 U
Aroclor-1254	1,000		28 U	27 U	27 U	29 U	27 U
Aroclor-1260	1,000		130	160	27 U	29 U	27 U
Total PCBs:	1,000		130	160	ND	ND	ND

μg/kg - Micrograms per kilogram

Bold - analyte was detected above the NYSDEC Standard

ft bls - Feet below land surface

ND - Not detected

NYSDEC - New York State Department of Environmental Conservation

U - Analyte not detected at the detection limit shown

PCBs - Polychlorinated Biphenyl Compounds

Table 10. Summary of Pesticides and Herbicides Detected in Soil, Coral Island Shopping Center, Staten Island, New York

	NYSDEC	Sample Location:	SB-101	SB-107	SB-107	SB-107A	SB-108	SB-109
	Restricted	Sample Date:	09/06/05	09/01/05	09/01/05	09/14/05	09/19/05	09/01/05
Analyte	Commercial	Sample Depth (ft bls):	0.5-2	0.5-2	4-6	0.5-2	2-4	0.5-2
entrations in μg/kg)	(onsite)	Onsite/Offsite:	onsite	onsite	onsite	<u>onsite</u>	onsite	onsite
2,4,5-T			5.1 U	4.3 U	4.3 U	4.3 U	4.7 U	4.4 U
2,4,5-TP (Silvex)	500,000		5.1 U	4.3 U	4.3 U	4.3 U	4.7 U	4.4 U
2,4-D			5.1 U	4.3 U	4.3 U	4.3 U	4.7 U	4.4 U
4,4'-DDD	62,000		120	5.4 U	16	5.3 U	5.8 U	5.6 U
4,4'-DDE	47,000		15	11	5.4 U	5.3 U	5.8 U	13
4,4'-DDT	92,000		6.3 U	5.4 U	5.4 U	5.3 U	5.8 U	5.6 U
Aldrin	680		6.3 U	5.4 U	5.4 U	5.3 U	5.8 U	5.6 U
alpha-BHC	3,400		6.3 U	5.4 U	5.4 U	5.3 U	5.8 U	5.6 U
beta-BHC	3,000		6.3 U	5.4 U	5.4 U	5.3 U	5.8 U	5.6 U
Chlordane	24,000		13 U	44	11 U	11 U	12 U	180
delta-BHC	500,000		6.3 U	5.4 U	5.4 U	5.3 U	5.8 U	5.6 U
Dicamba			5.1 U	4.3 U	4.3 U	4.3 U	4.7 U	4.4 U
Dieldrin	1,400		6.3 U	5.4 U	5.4 U	5.3 U	5.8 U	5.6 U
Endosulfan I	200,000		6.3 U	5.4 U	5.4 U	5.3 U	5.8 U	5.6 U
Endosulfan II	200,000		6.3 U	5.4 U	5.4 U	5.3 U	5.8 U	5.6 U
Endosulfan sulfate	200,000		6.3 U	5.4 U	5.4 U	5.3 U	5.8 U	5.6 U
Endrin	89,000		6.3 U	5.4 U	5.4 U	5.3 U	5.8 U	5.6 U
Endrin aldehyde			6.3 U	5.4 U	5.4 U	5.3 U	5.8 U	5.6 U
Endrin Ketone			6.3 U	5.4 U	5.4 U	5.3 U	5.8 U	5.6 U
gamma-BHC (Lindane)	9,200		6.3 U	5.4 U	5.4 U	5.3 U	5.8 U	5.6 U
Heptachlor	15,000		6.3 U	5.4 U	5.4 U	5.3 U	5.8 U	5.6 U
Heptachlor epoxide			6.3 U	5.4 U	5.4 U	5.3 U	5.8 U	5.6 U
Methoxychlor			6.3 U	5.4 U	5.4 U	5.3 U	5.8 U	5.6 U
Toxaphene			32 U	27 U	27 U	27 U	29 U	28 U

-- - No NYSDEC standard available

μg/kg - Micrograms per kilogram

Bold - analyte was detected above the NYSDEC Standard

E - Result exceeded calibration range, secondary dilution required

ft bls - Feet below land surface

NYSDEC - New York State Department of Environmental Conservation

Table 10. Summary of Pesticides and Herbicides Detected in Soil, Coral Island Shopping Center, Staten Island, New York

	NYSDEC	Sample Location:	SB-113	SB-114	SB-115	SB-116	SB-117
	Restricted	Sample Date:	09/01/05	09/01/05	09/01/05	09/01/05	09/20/05
Analyte	Commercial	Sample Depth (ft bls):	0-2	0-2	0-2	6-8	0.5-2
entrations in µg/kg)	(onsite)	Onsite/Offsite:	onsite	onsite	onsite	onsite	onsite
2,4,5-T			4.4 U	4.3 U	4.4 U	4.7 U	4.4 U
2,4,5-TP (Silvex)	500,000		4.4 U	4.3 U	4.4 U	4.7 U	4.4 U
2,4-D			4.4 U	4.3 U	4.4 U	4.7 U	4.4 U
4,4'-DDD	62,000		5.6 U	5.4 U	5.5 U	5.8 U	31
4,4'-DDE	47,000		10	9.7	5.5 U	5.8 U	8.8
4,4'-DDT	92,000		5.6 U	5.4 U	5.5 U	5.8 U	5.5 U
Aldrin	680		5.6 U	5.4 U	5.5 U	5.8 U	5.5 U
alpha-BHC	3,400		5.6 U	5.4 U	5.5 U	5.8 U	5.5 U
beta-BHC	3,000		5.6 U	5.4 U	5.5 U	5.8 U	5.5 U
Chlordane	24,000		310	240 E	59	12 U	11 U
delta-BHC	500,000		5.6 U	5.4 U	5.5 U	5.8 U	5.5 U
Dicamba			4.4 U	4.3 U	4.4 U	4.7 U	4.4 U
Dieldrin	1,400		19	34	5.5 U	5.8 U	5.5 U
Endosulfan I	200,000		5.6 U	5.4 U	5.5 U	5.8 U	5.5 U
Endosulfan II	200,000		5.6 U	5.4 U	5.5 U	5.8 U	5.5 U
Endosulfan sulfate	200,000		5.6 U	5.4 U	5.5 U	5.8 U	5.5 U
Endrin	89,000		5.6 U	5.4 U	5.5 U	5.8 U	5.5 U
Endrin aldehyde			5.6 U	5.4 U	5.5 U	5.8 U	5.5 U
Endrin Ketone			5.6 U	5.4 U	5.5 U	5.8 U	5.5 U
gamma-BHC (Lindane)	9,200		5.6 U	5.4 U	5.5 U	5.8 U	5.5 U
Heptachlor	15,000		5.6 U	5.4 U	5.5 U	5.8 U	5.5 U
Heptachlor epoxide			5.6 U	5.4 U	5.5 U	5.8 U	5.5 U
Methoxychlor			5.6 U	5.4 U	5.5 U	5.8 U	5.5 U
Toxaphene			28 U	27 U	27 U	29 U	27 U

μg/kg - Micrograms per kilogram

Bold - analyte was detected above the NYSDEC Standard

E - Result exceeded calibration range, secondary dilution required

ft bls - Feet below land surface

NYSDEC - New York State Department of Environmental Conservation

<sup>-- -</sup> No NYSDEC standard available

Table 11. Summary of Water Levels, Coral Island Shopping Center, Staten Island, New York.

Well Designation         Measure           MW-101D         32           MW-101S         33           MW-102D         32           MW-102S         33           MW-103D         33           MW-103S         33           MW-104D         33           MW-105D         33           MW-105D         33           MW-105S         33           MW-106D         33           MW-107D         33           MW-107D         33           MW-108D         34           MW-109D         33           MW-109D         33           MW-111D         33           MW-111S         33	2.79 3.25 2.60 2.49 3.45 3.39 3.56 3.53 2.56 2.61 2.80	Depth To Water (ft bmp)  6.56 5.59 8.15 6.74 9.65 dry 10.34 dry 9.17 dry	Water Table Elevation (ft amsl)  26.23 27.66 24.45 25.75 23.80 23.22 23.39	5.64 5.11 6.55 5.75 8.38 6.49 8.70 dry	Water Table Elevation (ft amsl)  27.15 28.14 26.05 26.74 25.07 26.90 24.86
MW-101S       33         MW-102D       33         MW-102S       33         MW-103D       33         MW-103S       33         MW-104D       33         MW-104S       33         MW-105D       33         MW-105S       33         MW-106D       33         MW-107D       33         MW-107D       33         MW-108D       34         MW-108S       34         MW-109D       33         MW-111D       33         MW-111S       33	3.25 2.60 2.49 3.45 3.39 3.56 3.53 2.56	5.59 8.15 6.74 9.65 dry 10.34 dry 9.17	27.66 24.45 25.75 23.80  23.22	5.11 6.55 5.75 8.38 6.49 8.70	28.14 26.05 26.74 25.07 26.90 24.86
MW-101S 33 MW-102D 33 MW-102S 33 MW-103D 33 MW-103S 33 MW-104D 33 MW-104D 33 MW-105D 33 MW-106D 33 MW-106D 33 MW-106S 33 MW-107D 33 MW-107D 33 MW-108D 34 MW-108D 34 MW-108D 35 MW-108D 36 MW-109D 36 MW-109D 37 MW-109D 37 MW-109S 37 MW-109S 37 MW-111D 33	3.25 2.60 2.49 3.45 3.39 3.56 3.53 2.56	5.59 8.15 6.74 9.65 dry 10.34 dry 9.17	27.66 24.45 25.75 23.80  23.22	5.11 6.55 5.75 8.38 6.49 8.70	28.14 26.05 26.74 25.07 26.90 24.86
MW-102D 33 MW-102S 33 MW-103D 33 MW-103S 33 MW-104D 33 MW-104D 33 MW-105D 33 MW-106D 33 MW-106D 33 MW-106S 33 MW-107D 33 MW-107D 33 MW-108D 34 MW-108D 34 MW-108D 35 MW-109D 33 MW-109D 33 MW-109S 33 MW-111D 33 MW-111D 33	2.60 2.49 3.45 3.39 3.56 3.53 2.56 2.61	8.15 6.74 9.65 dry 10.34 dry 9.17	24.45 25.75 23.80  23.22	6.55 5.75 8.38 6.49 8.70	26.05 26.74 25.07 26.90 24.86
MW-102S 33 MW-103D 33 MW-103S 33 MW-104D 33 MW-104S 33 MW-105D 33 MW-105D 33 MW-106D 33 MW-106D 33 MW-106S 33 MW-107D 33 MW-107D 33 MW-107D 33 MW-108D 34 MW-108D 35 MW-108D 35 MW-108D 36 MW-109D 33 MW-109D 33 MW-111D 33	2.49 3.45 3.39 3.56 3.53 2.56 2.61	6.74 9.65 dry 10.34 dry 9.17	25.75 23.80  23.22	5.75 8.38 6.49 8.70	26.74 25.07 26.90 24.86
MW-103D 33 MW-103S 33 MW-104D 33 MW-104S 33 MW-105D 33 MW-105S 33 MW-106D 33 MW-106S 33 MW-107D 33 MW-107D 33 MW-107D 33 MW-107D 33 MW-107D 33 MW-108D 34 MW-108D 35 MW-108D 35 MW-109D 33 MW-109D 33 MW-111D 33 MW-111D 33	3.45 3.39 3.56 3.53 2.56 2.61	9.65 dry 10.34 dry 9.17	23.80	8.38 6.49 8.70	25.07 26.90 24.86
MW-103S 33 MW104D 33 MW-104S 33 MW-105D 33 MW-105S 33 MW-106D 33 MW-106S 33 MW-107D 33 MW-107D 33 MW-107D 33 MW-108D 34 MW-108D 34 MW-109D 33 MW-109D 33 MW-111D 33 MW-111D 33	3.39 3.56 3.53 2.56 2.61	dry 10.34 dry 9.17	23.22	6.49 8.70	26.90 24.86
MW104D 33 MW-104S 33 MW-105D 33 MW-105S 33 MW-106D 33 MW-106S 33 MW-107D 33 MW-107D 33 MW-107D 33 MW-108D 34 MW-108S 34 MW-109D 33 MW-109D 33 MW-111D 33 MW-111D 33	3.56 3.53 2.56 2.61	10.34 dry 9.17	23.22	8.70	24.86
MW-104S 33 MW-105D 33 MW-105S 33 MW-106D 33 MW-106S 33 MW-107D 33 MW-107D 33 MW-107D 33 MW-108D 34 MW-108D 33 MW-109D 33 MW-109D 33 MW-111D 33 MW-111D 33	3.53 2.56 2.61	dry 9.17			
MW-105D 33 MW-105S 33 MW-106D 33 MW-106S 33 MW-107D 33 MW-107S 33 MW-108D 34 MW-108S 34 MW-109D 33 MW-109D 33 MW-109S 33 MW-111D 33 MW-111D 33	2.56 2.61	9.17		dry	
MW-105S 3: MW-106D 3: MW-106S 3: MW-107D 3: MW-107S 3: MW-108D 3- MW-108S 3- MW-109D 3: MW-109S 3: MW-111D 3: MW-111S 3:	2.61		23.30		I
MW-106D 33 MW-106S 33 MW-107D 33 MW-107S 33 MW-108D 34 MW-108S 34 MW-109D 33 MW-109D 33 MW-111D 33 MW-111D 33		dry	20.08	8.11	24.45
MW-106S 3: MW-107D 3: MW-107S 3: MW-108D 3- MW-108S 3- MW-109D 3: MW-109D 3: MW-111D 3: MW-111D 3:	2.80			5.06	27.55
MW-107D 33 MW-107S 33 MW-108D 34 MW-108S 34 MW-109D 33 MW-109S 33 MW-111D 33 MW-111D 33		8.70	24.10	7.59	25.21
MW-107S 3:  MW-108D 3-  MW-108S 3-  MW-109D 3:  MW-109S 3:  MW-111D 3:  MW-111S 3:	2.94	dry		dry	
MW-108D 3- MW-108S 3- MW-109D 3: MW-109S 3: MW-111D 3: MW-111S 3:	2.40	9.31	23.09	7.25	25.15
MW-108S 34 MW-109D 33 MW-109S 33 MW-111D 33 MW-111S 33	2.42	7.86	24.56	7.41	25.01
MW-109D 33 MW-109S 33 MW-111D 33 MW-111S 33	1.85	10.34	24.51	8.89	25.96
MW-109S 3: MW-111D 3: MW-111S 3:	1.83	dry		dry	
MW-111D 33 MW-111S 33	2.25	8.67	23.58	6.42	25.83
MW-111S 3:	2.38	dry		5.10	27.28
	3.60	10.33	23.27	7.67	25.93
1444 4400	3.63	6.72	26.91	5.21	28.42
MW-112D 3:	2.53	8.84	23.69	7.09	25.44
MW-112S 3:	2.61	dry	- 1	dry	
MW-113D 3	1.04	6.53	24.51	4.99	26.05
MW-113S 3	0.89	6.05	24.84	4.86	26.03
MW-126D 3:	3.24	9.78	23.46	7.89	25.35
MW-126S 3	3.26	dry		dry	
	0.16	NÁ	NA	7.47	22.69
	0.25	NA	NA NA	7.48	22.77
	9.92	NA	NA	4.08	25.84
	9.88	NA	NA	4.13	25.75
	1.42	NA NA	NA	7.30	24.12
	1.46	NA	NA NA	6.69	24.77
	0.80	NA NA	NA	5.59	25.21
	0.81	NA	NA NA	6.06	24.75

NOTES:

--: not calculated, well dry amsl: above mean sea level bmp: below measuring point

ft feet

NA: not applicable, well not installed

Table 12. Summary of Volatile Organic Compounds Detected in Groundwater, Coral Island Shopping Center, Staten Island, New York

Analyte (Concentrations in µg/L)	NYSDEC AWQSGVs (μg/L)	Sample Location: Sample Date:	MW-101D 09/30/05	MW-101S 09/30/05	MW-102D 09/29/05	MW-102S 09/29/05	MW-103D 09/29/05	MW-104D 09/29/05	MW-104D DUP 09/29/05	MW-105D 09/28/05
Acetone	50		2,500 U		2,500 U	2,500 U	25 U	25 U	25 U	
Benzene	1		100 U	100 U	100 U	100 U	1 U	1 U	1 U	1 U
Bromodichloromethane	50		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
Bromoform	50		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
Bromomethane	5		500 U	500 U	500 U	500 U	5 U	5 U	5 Ü	5 U
2-Butanone (MEK)	50		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
Carbon disulfide	60		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	5		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
Chlorobenzene	5		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
Chloroethane	5		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
Chloroform	7		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
Chloromethane	5		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
Dibromochloromethane	50		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
1.1-Dichloroethane	5		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	5		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
1.1-Dichloroethene	5		500 U	220	500 U	500 U	1.3	5 U	5 U	5 U
cis-1.2-Dichloroethene	5		19,000	31,000	7,800	11,000	220	<b>6</b> 9	84	5 U
trans-1,2-Dichloroethene	5		500 U	500 U	500 U	500 U	1.5	5 U	5 U	5 U
1,2-Dichloropropane	5		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	5		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	5		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
Ethylbenzene	5		100 U	100 U	100 U	100 U	1 U	1 U	1 U	1 U
2-Hexanone	50		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone			500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
Methylene chloride	5		<b>500</b> U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
Styrene	5		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5		17,000	3,500	500 U	1,200	5 U	5 U	5 U	5 U
Toluene	5		100 U	100 U	100 U	100 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	5		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	1		500 U	500 U	500 U	500 U	5 U	5 U	5 U	5 U
Trichloroethene	5		6,700	9,900	670	3,200	9.6	5 U	5 U	5 U
Vinyl chloride	2		1,500	2,800	660	610	15	16	26	1.2
M&p-Xylenes	5		200 U	200 U	200 U	200 U	2 U	2 U	2 U	2 U
o-Xylene	5		100 U	100 U	100 U	100 U	1 U	1 U	1 U	1 U

New York State Department of Environmental Conservation (NYSDEC)

Ambient Water-Quality Standards and Guidance Values (AWQSGVs)

μg/L -Micrograms per liter

B - Analyte detected in laboratory blank

J - Estimated Value

U - Analyte was analyzed for but not detected at the detection limit shown

-- No NYSDEC AWQSGV available

Bold data indicates that analyte was detected above the NYSDEC AWQSGVs

Table 12. Summary of Volatile Organic Compounds Detected in Groundwater, Coral Island Shopping Center, Staten Island, New York

Analyte (Concentrations in µg/L)	NYSDEC AWQSGVs (μg/L)	Sample Location: Sample Date:	MW-106D 09/29/05	MW-107D 09/29/05	MW-107S 09/29/05	MW-108D 09/30/05	MW-109D 09/29/05	MW-111D 09/30/05	MW-112D 09/30/05	MW-112D DUP 09/30/05
Acetone	50		25 U	25 U	 25 U	25 U	 25 U	25 U	500 U	250 U
Benzene	i		1 U	1 U	1 U	1 U	1 U	1 U	20 U	10 U
Bromodichloromethane	50		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
Bromoform	50		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
Bromomethane	5		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
2-Butanone (MEK)	50		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
Carbon disulfide	60		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
Carbon tetrachloride	5		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
Chlorobenzene	5		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
Chloroethane	5		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
Chloroform	7		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
Chloromethane	5		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
Dibromochloromethane	50		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
1,1-Dichloroethane	5		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
1,2-Dichloroethane	5		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
1,1-Dichloroethene	5		5 U	1.2	5 U	5 U	5 U	5 U	100 U	50 U
cis-1,2-Dichloroethene	5		5 U	380	21	5 U	5 U	17	760	1,100
trans-1,2-Dichloroethene	5		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
1,2-Dichloropropane	5		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
cis-1,3-Dichloropropene	5		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
trans-1,3-Dichloropropene	5		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
Ethylbenzene	5		1 U	1 U	1 U	1 U	1 U	1 U	20 U	10 U
2-Hexanone	50		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
4-Methyl-2-pentanone			5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
Methylene chloride	5		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
Styrene	5		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
1,1,2,2-Tetrachloroethane	5		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
Tetrachloroethene	5		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
Toluene	5		1 U	1 U	1 U	1 U	1 U	1 U	20 U	10 U
1,1,1-Trichloroethane	5		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
1,1,2-Trichloroethane	1		5 U	5 U	5 U	5 U	5 U	5 U	100 U	50 U
Trichloroethene	5		5 U	5 U	5 U	5 U	5 U	5 U	20	38
Vinyl chloride	2		5 U	300	63	5 U	5 U	4.6	44	50 U
M&p-Xylenes	5		2 U	2 U	2 U	2 U	2 U	2 U	40 U	<b>20</b> U
o-Xylene	5		1 U	1 U	1 U	1 U	1 U	1 U	20 U	10 U

New York State Department of Environmental Conservation (NYSDEC)

Ambient Water-Quality Standards and Guidance Values (AWQSGVs)

μg/L -Micrograms per liter

B - Analyte detected in laboratory blank

J - Estimated Value

U - Analyte was analyzed for but not detected at the detection limit shown

-- No NYSDEC AWQSGV available

Bold data indicates that analyte was detected above the NYSDEC AWQSGVs

Table 12. Summary of Volatile Organic Compounds Detected in Groundwater, Coral Island Shopping Center, Staten Island, New York

Analyte (Concentrations in μg/L)	NYSDEC AWQSGVs (μg/L)	Sample Location: Sample Date:	MW-113D 09/30/05	MW-113S 09/30/05	MW-126D 09/28/05	MW-201D 8/14/2006	MW-201S 8/15/2006	MW-202D 8/15/2006	MW-202S 8/15/2006	MW-203D 8/14/2006
Acetone	50		1,200 U	2,500 U	25 U	25 U	25 U	25 U	25 U	25 U
Benzene	1		50 U	100 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	50		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	50		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	5		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone (MEK)	50		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	60		250 U	500 U	5 U	5 U	1.5 J	5 U	<b>5</b> U	5 U
Carbon tetrachloride	5		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	5		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	7		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	5		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	50		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
1.1-Dichloroethane	5		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	5		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	5		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	5		2,700	11,000	5 U	1.9	5 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	5		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	5		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	5		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5		50 U	100 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	50		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone			250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
Methylene chloride	5		250 U	500 U	5 U	1.2 B	1 B	5 U	5 U	1.6 B
Styrene	5		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5		250	150	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	5		50 U	100 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	5		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	1		250 U	500 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5		780	1,600	5 U	5 U	5 U	5 U	5 U	5 U
Vinyl chloride	2		52	380	5 U	5 U	5 U	5 U	5 U	5 U
M&p-Xylenes	5		100 U	200 U	2 U	2 U	2 U	2 U	2 U	2 U
o-Xylene	5		50 U	100 U	ĬÜ	1 U	1 U	1 U	1 U	1 U

New York State Department of Environmental Conservation (NYSDEC)

Ambient Water-Quality Standards and Guidance Values (AWQSGVs)

μg/L -Micrograms per liter

B - Analyte detected in laboratory blank

J - Estimated Value

U - Analyte was analyzed for but not detected at the detection limit shown

- - No NYSDEC AWQSGV available

Bold data indicates that analyte was detected above the NYSDEC AWQSGVs

Table 12. Summary of Volatile Organic Compounds Detected in Groundwater, Coral Island Shopping Center, Staten Island, New York

Analyte (Concentrations in μg/L)	NYSDEC AWQSGVs (μg/L)	Sample Location: Sample Date:	MW-203S 8/14/2006	MW-204D 8/14/2006	MW-204D DUP 8/14/2006	MW-204S 8/14/2006	PZ-2 08/30/04	PZ-3 08/30/04	PZ-4 08/30/04	PZ-5 08/30/04
Acetone	50		25 U	25 U	25 U	25 U	2.8 U	2.8 U	140 U	280 U
Benzene	1		1 U	1 U	1 U	1 U	0.41 U	0.41 U	21 U	41 U
Bromodichloromethane	50		5 U	5 U	5 U	5 U	0.52 U	0.52 U	26 U	52 U
Bromoform	50		5 U	5 U	5 U	5 U	0.36 U	0.36 U	18 U	36 U
Bromomethane	5		5 U	5 U	5 U	5 U	0.9 U	0.9 U	45 U	90 U
2-Butanone (MEK)	50		5 U	5 U	5 U	5 U	12 U	12 U	610 U	1,200 U
Carbon disulfide	60		5 U	5 U	5 U	5 U	0.53 U	0.53 U	26 U	<b>5</b> 3 U
Carbon tetrachloride	5		5 U	5 U	5 U	5 U	0.52 U	0.52 U	26 U	52 U
Chlorobenzene	5		5 U	5 U	5 U	5 U	0.55 U	0.55 U	28 U	55 U
Chloroethane	5		5 U	5 U	5 U	5 U	1.3 U	1.3 U	66 U	130 U
Chloroform	7		5 U	5 U	5 U	5 U	1.2 U	1.2 U	59 U	120 U
Chloromethane	5		5 U	5 U	5 U	5 U	1.1 U	1.1 U	56 U	110 U
Dibromochloromethane	50		5 U	5 U	5 U	5 U	0.49 U	0.49 U	25 U	49 U
1,1-Dichloroethane	5		5 U	5 U	5 U	5 U	0.89 U	0.89 U	44 U	89 U
1,2-Dichloroethane	5		5 U	5 U	5 U	5 U	0.69 U	0.69 U	35 U	69 U
1,1-Dichloroethene	5		5 U	5 U	5 U	5 U	0.69 U	0.69 U	35 U	150
cis-1,2-Dichloroethene	5		5 U	5 U	5 U	5 U	38	0.69 U	3,900	12,000
trans-1,2-Dichloroethene	5		5 U	5 U	5 U	5 U	0.69 U	0.69 U	35 U	44 U
1,2-Dichloropropane	5		5 U	5 U	5 U	5 U	0.44 U	0.44 U	22 U	44 U
cis-1,3-Dichloropropene	5		5 U	5 U	5 U	5 U	0.51 U	0.51 U	26 U	51 U
trans-1,3-Dichloropropene	5		5 U	5 U	5 U	5 U	0.62 U	0.62 U	31 U	62 U
Ethylbenzene	5		1 U	1 U	1 U	1 U	0.87 U	0.87 U	44 U	360
2-Hexanone	50		5 U	5 U	5 U	5 U	0.45 U	0.45 U	22 U	45 U
4-Methyl-2-pentanone			5 U	5 U	5 U	5 U	0.44 U	0.44 U	22 U	44 U
Methylene chloride	5		2 B	1 B	5 U	5 U	3.7	2.6	390	660
Styrene	5		5 U	5 U	5 U	5 U	0.44 U	0.44 U	22 U	44 U
1,1,2,2-Tetrachloroethane	5		5 U	5 U	5 U	5 U	0.63 U	0.63 U	32 U	63 U
Tetrachloroethene	5		5 U	5 U	5 U	5 U	46	0.63 U	7,500	630
Toluene	5		1 U	1 Ü	1 U	1 U	2.1	1.5	110	1,900
1.1.1-Trichloroethane	5		5 U	5 U	5 U	5 U	0.64 U	0.64 U	32 U	64 U
1,1,2-Trichloroethane	1		5 U	5 U	5 U	5 U	0.43 U	0.43 U	21 U	43 U
Trichloroethene	5		5 U	5 U	5 U	5 U	11	0.43 U	2,200	680
Vinyl chloride	2		5 U	5 U	5 U	5 U	1.2	0.43 U	21 U	2,200
M&p-Xylenes	5		2 U	2 U	1.1 J	1.3 J	1.1 U	1.1 U	100	1,800
o-Xylene	5		1 U	1 U	1 U	1 U	0.72 U	0.72 U	36 U	770

New York State Department of Environmental Conservation (NYSDEC)

Ambient Water-Quality Standards and Guidance Values (AWQSGVs)

μg/L -Micrograms per liter

B - Analyte detected in laboratory blank

J - Estimated Value

U - Analyte was analyzed for but not detected at the detection limit shown

- - No NYSDEC AWQSGV available

Bold data indicates that analyte was detected above the NYSDEC AWQSGVs

Table 12. Summary of Volatile Organic Compounds Detected in Groundwater, Coral Island Shopping Center, Staten Island, New York

Analyte (Concentrations in μg/L)	NYSDEC AWQSGVs (μg/L)	Sample Location: Sample Date:	PZ-6 (11-12) 08/30/04	SB-GW-113 09/01/05	SB-GW-114 09/01/05	SB-GW-115 09/01/05	SB-GW-116 09/01/05	SB-GW-117 09/22/05	SB-GW-118 09/22/05	SB-GW-119 09/22/05
Acetone	50		2.8 U	25 U	25 U	25 U	25 U	35	25 U	25 U
Benzene	1		0.41 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	50		0.52 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	50		0.36 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	5		0.9 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone (MEK)	50		12 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	60		0.53 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	5		0.52 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5		0.55 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	5		1.3 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	7		1.2 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	5		1.1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	50		0.49 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1.1-Dichloroethane	5		0.89 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1.2-Dichloroethane	5		0.69 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	5		0.44 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	5		4.9	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	5		0.44 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5		0.44 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	5		0.51 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	5		0.62 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5		0.87 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	50		0.45 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone			0.44 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methylene chloride	5		2.9	2.4 B	5 U	1.6	5 U	5 U	5 U	5 U
Styrene	5		0.44 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5		0.44 U 0.63 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	<i>5</i>		2.3	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	, •		2.3 1.7	3 U	1 U	1 U	1 U	1 U	3 U	1 U
	5									5 U
1,1,1-Trichloroethane	5		0.64 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,1,2-Trichloroethane	l ~		0.43 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5		1	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Vinyl chloride	2		0.43 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
M&p-Xylenes	5		1.1 U	2 U	2 U	2 U	2 U	2 U	1.1 J	2 U
o-Xylene	5		0.72 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

New York State Department of Environmental Conservation (NYSDEC)

Ambient Water-Quality Standards and Guidance Values (AWQSGVs)

μg/L -Micrograms per liter

B - Analyte detected in laboratory blank

J - Estimated Value

U - Analyte was analyzed for but not detected at the detection limit shown

- - No NYSDEC AWQSGV available

Bold data indicates that analyte was detected above the NYSDEC AWQSGVs

Table 12. Summary of Volatile Organic Compounds Detected in Groundwater, Coral Island Shopping Center, Staten Island, New York

Analyte (Concentrations in µg/L)	NYSDEC AWQSGVs (μg/L)	Sample Location: Sample Date:	SB-GW-120 09/22/05	FB-081406 8/14/2006	FB-081506 8/15/2006	TB 8/9/2006	Trip blank 08/30/04
Acetone	50		25 U	25 U	25 U	25 U	2.8 U
Benzene	1		1 U	1 U	1 U	1 U	0.41 U
Bromodichloromethane	50		5 U	5 U	5 U	5 U	0.52 U
Bromoform	50		5 U	5 U	5 U	5 U	0.36 U
Bromomethane	5		5 U	5 U	5 U	5 U	0.9 U
2-Butanone (MEK)	50		5 U	5 U	5 U	5 U	12 U
Carbon disulfide	60		5 U	5 U	5 U	5 U	0.53 U
Carbon tetrachloride	5		5 U	5 U	5 U	5 U	0.52 U
Chlorobenzene	5		5 U	5 U	5 U	5 U	0.55 U
Chloroethane	5		5 U	5 U	5 U	5 U	1.3 U
Chloroform	7		5 U	5 U	5 U	5 U	1.2 U
Chloromethane	5		5 U	5 U	5 U	5 U	1.1 U
Dibromochloromethane	50		5 U	5 U	5 U	5 U	0.49 U
1,1-Dichloroethane	5		5 U	5 U	5 U	5 U	0.89 U
1,2-Dichloroethane	5		5 U	5 U	5 U	5 U	0.69 U
1,1-Dichloroethene	5		5 U	5 U	5 U	5 U	0.69 U
cis-1,2-Dichloroethene	5		5 U	5 U	5 U	5 U	0.69 U
trans-1,2-Dichloroethene	5		5 U	5 U	5 U	5 U	0.69 U
1,2-Dichloropropane	5		5 U	5 U	5 U	5 U	0.44 U
cis-1,3-Dichloropropene	5		5 U	5 U	5 U	5 U	0.51 U
trans-1,3-Dichloropropene	5		5 U	5 U	5 U	5 U	0.62 U
Ethylbenzene	5		1 U	l U	1 U	1 U	0.87 U
2-Hexanone	50		5 U	5 U	5 U	5 U	0.45 U
4-Methyl-2-pentanone			5 U	<b>5</b> U	5 U	5 U	0.44 U
Methylene chloride	5		5 U	1.9 B	1.9 B	2 B	1 U
Styrene	5		5 U	5 U	5 U	5 U	0.44 U
1,1,2,2-Tetrachloroethane	5		5 U	5 U	5 U	5 U	0.63 U
Tetrachloroethene	5		5 U	5 U	5 U	5 U	0.69 U
Toluene	5		1 U	I U	1 U	1 U	0.63 U
1,1,1-Trichloroethane	5		5 U	5 U	5 U	5 U	0.64 U
1,1,2-Trichloroethane	1		5 U	5 U	5 U	5 U	0.43 U
Trichloroethene	5		5 U	5 U	5 U	5 U	0.43 U
Vinyl chloride	2		5 U	5 U	5 U	5 U	0.43 U
M&p-Xylenes	5		2.1	2 U	2 U	2 U	1.1 U
o-Xylene	5		1,1	1 U	1 U	1 U	0.72 U

New York State Department of Environmental Conservation (NYSDEC)

Ambient Water-Quality Standards and Guidance Values (AWQSGVs)

μg/L -Micrograms per liter

B - Analyte detected in laboratory blank

Bold data indicates that analyte was detected above the NYSDEC AWQSGVs

J - Estimated Value

U - Analyte was analyzed for but not detected at the detection limit shown

<sup>--</sup> No NYSDEC AWQSGV available

Table 13. Summary of Semivolatile Organic Compounds Detected in Groundwater, Coral Island Shopping Center, Staten Island, New York

Analyte (Concentrations in μg/L)	NYSDEC AWQSGVs (μg/L)	Sample Location: Sample Date:	MW-101D 10/03/05	MW-101S 10/03/05	MW-104D 09/29/05	MW-104D DUP 09/29/05	MW-107D 09/29/05	MW-107S 09/29/05	MW-108D 09/30/05
Acenaphthene	20		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Acenaphthylene	20		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Anthracene	50		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Benzo(a)anthracene	0.002		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Benzo(a)pyrene	ND		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Benzo(b)fluoranthene	0.002		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Benzo(g,h,i)perylene			10 U	10 U	11 U	11 U	11 U	14 U	10 U
Benzo(k)fluoranthene	0.002		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Bis(2-chloroethoxy)methane	5		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Bis(2-chloroethyl)ether	1		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Bis(2-ethylhexyl)phthalate	5		10 U	1.3 J	11 U	11 U	11 U	14 U	10 U
4-Bromophenyl phenyl ether			10 U	10 U	11 U	11 U	11 U	14 U	10 U
Butyl benzylphthalate	50		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Carbazole			10 U	10 U	11 U	11 U	11 U	14 U	10 U
4-Chloroaniline	5		10 U	10 U	11 U	11 U	11 U	14 U	10 U
2-Chloronaphthalene	10		10 U	10 U	11 U	11 U	11 U	14 U	10 U
2-Chlorophenol			10 U	10 U	11 U	11 U	11 U	14 U	10 U
4-Chlorophenyl phenyl ether			10 U	10 U	11 U	11 U	11 U	14 U	10 U
2,2-oxybis (1-chloropropane)	0		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Chrysene	0.002		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Dibenzo(a h)anthracene			10 U	10 U	11 U	11 U	11 U	14 U	10 U
Dibenzofuran	- <del>-</del>		10 U	10 U	11 U	11 U	11 U	14 U	10 U
1,2-Dichlorobenzene	3		10 U	10 U	11 U	11 U	11 U	14 U	10 U
1,3-Dichlorobenzene	3		10 U	10 U	11 U	11 U	11 U	14 U	10 U
1,4-Dichlorobenzene	3		10 U	10 U	11 U	11 U	11 U	14 U	10 U
3,3-Dichlorobenzidine	5		10 U	10 U	11 U	11 U	11 U	14 U	10 U
2,4-Dichlorophenol	5		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Diethyl phthalate	50		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Dimethyl phthalate	50		10 U	10 U	11 U	11 U	11 U	14 U	10 U
2,4-Dimethylphenol	50		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Di-n-butyl phthalate			10 U	10 U	11 U	11 U	11 U	14 U	10 U
2,4-Dinitrophenol	10		25 U	25 U	27 U	27 U	29 U	34 U	25 U
2,4-Dinitrotoluene	5		10 U	10 U	11 U	11 U	11 U	14 U	10 U
2,6-Dinitrotoluene	5		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Di-n-octyl phthalate	50		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Fluoranthene	50		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Fluorene	50		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Hexachlorobenzene	0.04		10 U	10 U	11 U	11 U	11 U	14 U	10 U

Table 13. Summary of Semivolatile Organic Compounds Detected in Groundwater, Coral Island Shopping Center, Staten Island, New York

Analyte (Concentrations in µg/L)	NYSDEC AWQSGVs (μg/L)	Sample Location: MW-101D Sample Date: 10/03/05	MW-101S 10/03/05	MW-104D 09/29/05	MW-104D DUP 09/29/05	MW-107D 09/29/05	MW-107S 09/29/05	MW-108D 09/30/05
(Concentrations in µg/L)	(μg/L)	· · · · · · · · · · · · · · · · · · ·			<del></del>			
Hexachlorobutadiene	0.5	10 U	10 U	11 U	11 U	11 U	14 U	10 U
Hexachlorocyclopentadiene	5	10 U	10 U	11 U	11 U	11 U	14 U	10 U
Hexachloroethane	5	10 U	10 U	11 U	11 U	11 U	14 U	10 U
Indeno(1,2,3-cd)pyrene	0.002	10 U	10 U	11 U	11 U	11 U	14 U	10 U
Isophorone	50	10 U	10 U	11 U	11 U	11 U	14 U	10 U
2-Methylnaphthalene		10 U	10 U	11 U	11 U	11 U	14 U	10 U
2-Methylphenol		10 U	10 U	11 U	11 U	11 U	14 U	10 U
4,6-Dinitro-2-methylphenol		25 U	25 U	27 U	27 U	29 U	34 U	25 U
4-Chloro-3-methylphenol		10 U	10 U	11 U	11 U	11 U	14 U	10 U
4-Methylphenol		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Naphthalene	10	10 U	10 U	11 U	11 U	11 U	14 U	10 U
2-Nitroaniline	5	10 U	10 U	11 U	11 U	11 U	14 U	10 U
3-Nitroaniline	5	10 U	10 U	11 U	11 U	11 U	14 U	10 U
4-Nitroaniline	5	10 U	10 U	11 U	11 U	11 U	14 U	10 U
Nitrobenzene	0.4	10 U	10 U	11 U	11 U	11 U	14 U	10 U
2-Nitrophenol		10 U	10 U	11 U	11 U	11 U	14 U	10 U
4-Nitrophenol		25 U	25 U	11 U	11 U	11 U	14 U	25 U
n-Nitroso-di-n-propylamine		10 U	10 U	11 U	11 U	11 U	14 U	10 U
n-Nitrosodiphenylamine	50	10 U	10 U	11 U	11 U	11 U	14 U	10 U
Pentachlorophenol		25 U	25 U	27 U	27 U	29 U	34 U	25 U
Phenanthrene	50	10 U	10 U	11 U	11 U	11 U	14 U	10 U
Phenol		10 U	10 U	11 U	11 U	11 U	14 U	10 U
Pyrene	50	10 U	10 U	11 U	11 U	11 U	14 U	10 U
1,2,4-Trichlorobenzene	5	10 U	10 U	11 U	11 U	11 U	14 U	10 U
2,4,5-Trichlorophenol		10 U	10 U	11 U	11 U	11 U	14 U	10 U
2,4,6-Trichlorophenol		10 U	10 U	11 U	11 U	11 U	14 U	10 U

- - No NYSDEC AWQSGV available

μg/L -Micrograms per liter

Ambient Water-Quality Standards and Guidance Values (AWQSGVs)

Bold data indicates that analyte was detected above the NYSDEC AWQSGVs

DUP - Duplicate

J - Estimated Value

New York State Department of Environmental Conservation (NYSDEC)

U - Analtye was analyzed for but not detected at the detection limit shown

Table 14. Summary of Metals Detected in Groundwater, Coral Island Shopping Center, Staten Island, New York

	NYSDEC	Sample Location:		MW-101S	MW-104D	MW-104D DUP	MW-107D	MW-107S	MW-108D
Analyte	AWQSGVs	Sample Date:	10/03/05	10/03/05	09/29/05	09/29/05	09/29/05	09/29/05	09/30/05
(Concentrations in μg/L)	(μg/L)								
Aluminum			180 U	180 U	520	180 U	180 U	180 U	180 U
Antimony	3		6 U	6 U	6 U	6 U	6 U	6 U	6 U
Arsenic	25		7.5 U	7.5 U	7.5 U	7.5 U	8.7	7.5 U	7.5 U
Barium	1,000		150	120	150	130	180	140	50 U
Beryllium	3		4 U	4 U	4 U	4 U	4 U	4 U	4 U
Cadmium	5		3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
Calcium			130,000	57,000	30,000	35,000	79,000	38,000	35,000
Chromium	50		50 U	50 U	50 U	50 U	50 U	50 U	50 U
Cobalt			20 U	20 U	20 U	20 U	20 U	20 U	20 U
Copper	200		50 U	50 U	50 U	50 U	50 U	50 U	50 U
Cyanide Total	200		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Iron	300		280 U	540	31,000	34,000	87,000	7,100	4,300
Lead	25		4 U	4 U	4.3	4 U	4 U	4 U	4 U
Magnesium	35,000		22,000	10,000	37,000	39,000	22,000	19,000	25,000
Manganese	300		3,100	940	970	990	2,200	1,700	5,100
Mercury	0.7		0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
Nickel	100		50 U	120	50 U	50 U	50 U	50 U	50 U
Potassium			5,000 U	10,000	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U
Selenium	10		40 U	40 U	40 U	40 U	40 U	40 U	40 U
Silver	50		20 U	20 U	20 U	20 U	20 U	20 U	20 U
Sodium	20,000		26,000	20,000	42,000	41,000	31,000	17,000	190,000
Thallium	12		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vanadium			50 U	50 U	50 U	50 U	50 U	50 U	50 U
Zinc	2,000		_50 U	50 U	50 U	50 U	50 U	50 U	64

New York State Department of Environmental Conservation (NYSDEC) Ambient Water-Quality Standards and Guidance Values (AWQSGVs)  $\mu$ g/L -Micrograms per liter

Bold data indicates that analyte was detected above the NYSDEC AWQSGVs DUP - Duplicate

U - Analyte was analyzed for but not detected at the detection limit shown

<sup>--</sup> No NYSDEC AWQSGV available

Table 15. Summary of Polychlorinated Biphenyl Compounds Detected in Groundwater, Coral Island Shopping Center, Staten Island, New York

Analyte (Concentrations in μg/L)	NYSDEC AWQSGVs (µg/L)	Sample Location: Sample Date:	MW-101D 10/03/05	MW-104D 09/29/05	MW-104D DUP 09/29/05	MW-107D 09/29/05	MW-107S 09/29/05	MW-108D 09/30/05
Aroclor-1016	(1)		0.3 U	0.28 U	0.31 U	0.32 U	0.28 U	0.32 U
Aroclor-1221			0.3 U	0.28 U	0.31 U	0.32 U	0.28 U	0.32 U
Aroclor-1232			0.3 U	0.28 U	0.31 U	0.32 U	0.28 U	0.32 U
Aroclor-1242			0.3 U	0.28 U	0.31 U	0.32 U	0.28 U	0.32 U
Aroclor-1248			0.3 U	0.28 U	0.31 U	0.32 U	0.28 U	0.32 U
Aroclor-1254			0.3 U	0.28 U	0.31 U	0.32 U	0.28 U	0.32 U
Aroclor-1260			0.3 U	0.28 U	0.31 U	0.32 U	0.28 U	0.32 U
Total PCBs:	0.09		ND _	ND	ND_	_ND	ND	ND _

(1) The NYSDEC AWQSGV for Total PCBs (sum of the Aroclors) is 0.09 µg/L

μg/L - Micrograms per liter

U - Indicates that the analyte was analyzed for but not detected at the detection limit shown

NYSDEC - New York State Department of Environmental Conservation

AWQSGVs - Ambient Water - Quality Standards and Guidance Values

Bold data indicates that analyte was detected above the NYSDEC AWQSGVs

PCBs - Polychlorinated Biphenyl Compounds

ND - Non-detectable concetration

Table 16. Summary of Pesticides and Herbicides Detected in Groundwater, Coral Island Shopping Center, Staten Island, New York

Analyte (Concentrations in μg/L)	NYSDEC AWQSGVs (μg/L)	Sample Location: Sample Date: Sample Depth (ft bls):	MW-101D 10/03/05	MW-104D 09/29/05	MW-104D DUP 09/29/05	MW-107D 09/29/05	MW-107S 09/29/05	MW-108D 09/30/05
			0.0411	0.00.41	0.05.11	0.0411	0.22 11	0.00.11
2,4,5-T			0.24 U	0.22 U	0.25 U	0.24 U	0.22 U	0.22 U
2,4,5-TP (Silvex)	0.26		0.24 U	0.22 U	0.25 U	0.24 U	0.22 U	0.22 U
2,4-D	50		0.24 U	0.22 U	0.25 U	0.24 U	0.22 U	0.22 U
4,4'-DDD	0.3		0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
4,4'-DDE	0.2		0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
4,4'-DDT	0.2		0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
Aldrin	0		0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
alpha-BHC			0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
beta-BHC			0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
Chlordane	0.05		0.12 U	0.11 U	0.12 U	0.13 U	0.11 U	0.13 U
delta-BHC			0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
Dicamba			0.24 U	0.22 U	0.25 U	0.24 U	0.22 U	0.22 U
Dieldrin	0.004		0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
Endosulfan 1			0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
Endosulfan II			0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
Endosulfan sulfate			0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
Endrin			0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
Endrin aldehyde			0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
Endrin Ketone			0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
gamma-BHC (Lindane)			0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
Heptachlor	0.04		0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
Heptachlor epoxide	0.03		0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
Methoxychlor	35		0.06 U	0.056 U	0.062 U	0.063 U	0.057 U	0.064 U
Toxaphene	0.06		0.3 U	0.28 U	0.31 U	0.3 <u>2 U</u>	0.28 U	0.32 U

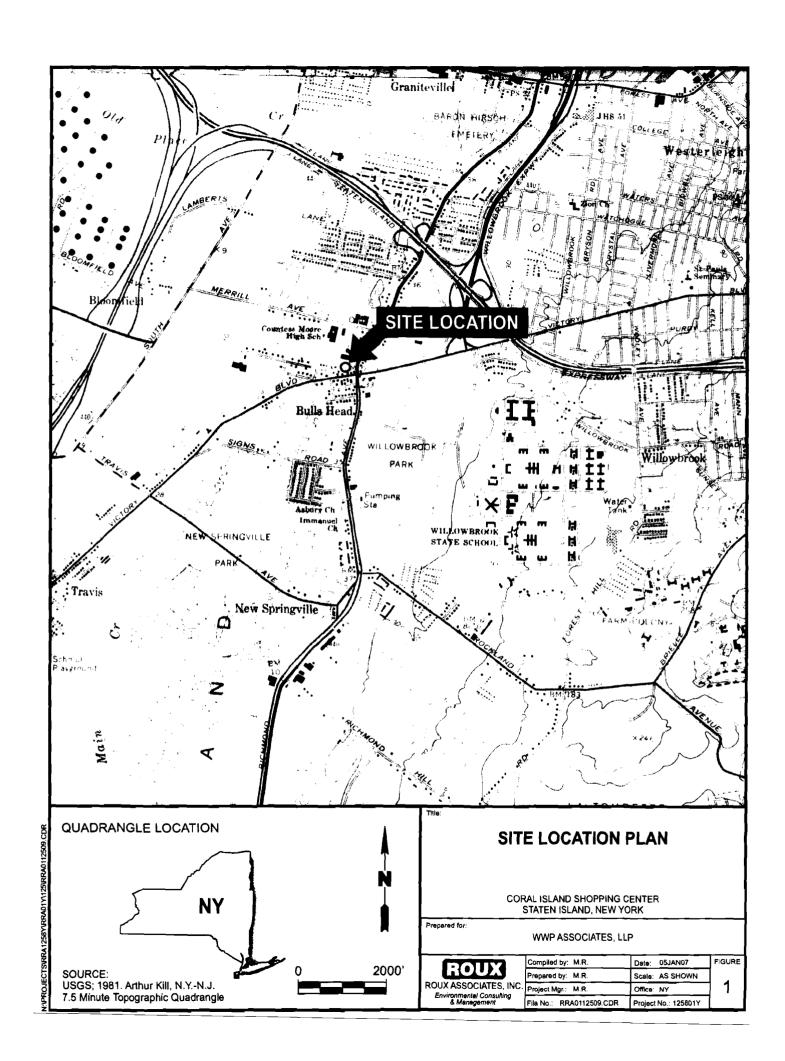
New York State Department of Environmental Conservation (NYSDEC) Ambient Water-Quality Standards and Guidance Values (AWQSGVs)

μg/L -Micrograms per liter

Bold data indicates that analyte was detected above the NYSDEC AWQSGVs

U - Analyte was analyzed for but not detected at the detection limit shown

<sup>--</sup> No NYSDEC AWQSGV available



## APPENDIX A

Compliance Audit of Charming Cleaners

# DRAFT ENVIRONMENTAL COMPLIANCE AUDIT REPORT

Charming Cleaners
Coral Island Shopping Center
1650 Richmond Avenue
Staten Island, New York

Prepared for

WWP ASSOCIATES, LLC Raleigh, North Carolina

# **ROUX ASSOCIATES, INC.**

Environmental Consulting & Management



209 Shafter Street, Islandia, New York 11749 ♦ 631-232-2600

## TABLE OF CONTENTS

1.0	INTRODUCTION	.1
2.0	ENVIRONMENTAL REGULATORY COMPLIANCE AUDIT	.2
	2.1 Background	.2
	2.2 Tanks	.2
	2.2.1 Current Conditions	.2
	2.2.2 Regulatory Requirements	.3
	2.2.3 Findings	.3
	2.3 Hazardous Waste	.3
	2.3.1 Current Conditions	.3
	2.3.2 Regulatory Requirements	.4
	2.3.3 Findings	.4
	2.4 Universal Wastes	.4
	2.5 Medical Wastes	.4
	2.6 Emergency Planning and Community Right to Know (EPCRA)	.5
	2.7 Oil/Used Oil	.5
	2.8 Stormwater	.5
	2.9 Wastewater	.5
	2.9.1 Current Conditions	.5
	2.9.2 Regulatory Requirements	.6
	2.10 Air Emissions – 6 NYCRR Part 232 Perchloroethylene Dry Cleaning Facilities	.6
	2.10.1 Current Conditions	.6
	2.10.2 Regulatory Requirements	
	2.10.3 Findings.	
	2.11 Toxic Substances Control Act (TSCA)	8.
	2.12 Drinking Water	8.
3.0	SUMMARY OF FINDINGS	9
4.0	REPORT LIMITATIONS	1

#### 1.0 INTRODUCTION

Roux Associates, Inc. (Roux Associates) was contracted by WWP Associates, LLC to conduct an environmental compliance audit (the audit) of the Charming Cleaners dry cleaning facility located in the Coral Ridge shopping center at 1650 Richmond Avenue, Staten Island, New York.

Roux Associates conducted the audit on September 1, 2005 and performed an update audit on January 26, 2007. The audit was comprised of two components: an environmental records review and a site inspection. Unless otherwise stated, the information in this report was obtained during the audit.

The following persons attended the records review and the site inspections on September 1, 2005 and January 26, 2007:

- Mr. Gwy H. Min, Manager/Owner, Charming Cleaners
- Ms. Monica McHugh, P.G., Senior Hydrogeologist, Roux Associates

#### 2.0 ENVIRONMENTAL REGULATORY COMPLIANCE AUDIT

#### 2.1 Background

Site operations at the Charming Cleaners dry cleaning facility (the facility) consist of stain removal, dry cleaning, steam pressing, and tailoring. The facility has one fourth-generation perchloroethene dry cleaning machine (closed-loop refrigerated machine with a drying sensor and an integral carbon adsorber) installed in 1998. No other solvents or wet cleaning operations are conducted. The facility operates under Standard Industrial Classification (SIC) Code 7216 assigned for dry cleaning plants.

The following environmental regulatory programs were reviewed during the audit:

- Tanks (aboveground/underground);
- Hazardous Waste;
- Universal Waste;
- Medical Waste;
- Emergency Planning and Community Right to Know (EPCRA);
- Oil/Used Oil
- Stormwater;
- Wastewater;
- Air Emissions 6 NYCCRR Part 232, Perchloroethylene Dry Cleaning Facilities
- Toxic Substances Control Act; and
- Drinking Water.

The audit finding for each regulatory program is discussed in the paragraphs to follow.

#### 2.2 Tanks

#### 2.2.1 Current Conditions

The facility has one 50-gallon aboveground storage tank (AST) for storage of perchloroethene. There are no known underground storage tanks (USTs) at the facility.

#### 2.2.2 Regulatory Requirements

The NYSDEC regulates bulk storage ASTs with a capacity of 185 gallons or greater under 6 NYCRR Part 596 (Hazardous Substance Storage Tank Regulations). These regulations do not apply based on the capacity of the onsite AST (50 gallons). In addition, Spill Prevention Control and Countermeasures plan requirements do not apply since there is no oil stored at the facility.

#### 2.2.3 Findings

There are no findings with respect to storage tanks.

#### 2.3 Hazardous Waste

#### 2.3.1 Current Conditions

The manufacturing facility is a conditionally exempt small quantity generator (CESQG) of hazardous waste consisting of spent perchloroethene (liquid) and perchloroethene-contaminated solids (residues/still bottoms and spent carbon from the carbon adsorber and from the wastewater treatment filter). The liquid and perchloroethene-contaminated solids are stored in two 13-gallon plastic drums inside the facility adjacent to the dry cleaning machine.

At the time of each site inspection, there was one full 13-gallon drum and one partially full 13-gallon drum stored adjacent to the dry cleaning machine within the machine enclosure. At the time of the January 26, 2007 inspection, each drum had a hazardous waste sticker with no accumulation start date on the full drum. Roux Associates instructed Mr. Min to date the drums when they become full and Mr. Min dated the full drum December 15, 2006.

Files maintained at the facility included historical manifests or bills of lading. The facility contracts Safety Kleen Systems, Inc. to remove and dispose of the waste. During the September 1, 2005 inspection, it was noted that some copies of land ban paperwork and signed disposal facility manifest copies were noted, but not for each shipment. During the January 26, 2006 inspection, it was noted that all manifests from 2005 and 2006 included the land ban paperwork and the most recent manifest included a signed disposal facility manifest copy. In 2004, a total of five 13-gallon drums were shipped offsite. In 2005, a total of four 13-gallon drums were shipped offsite. In 2006, a total of two 13-gallon drums were shipped offsite (last shipment was August 4, 2006).

#### 2.3.2 Regulatory Requirements

Under the NYSDEC Hazardous Waste regulations (6 NYCRR 371.1(f)), a generator is a CESQG and exempt from certain requirements such as record keeping if that generator:

- Does not generate in a calendar month more than 100 kilograms of hazardous waste or 1 kilogram of acutely hazardous waste (perchloroethene is not acutely hazardous waste);
- Does not accumulate, at any one time, hazardous waste in quantities exceeding 1,000 kilograms;

The requirements that apply to CESQs include identification of hazardous wastes generated and ensuring the waste is sent to an approved treatment, storage or disposal (TSD) facility.

#### 2.3.3 Findings

The facility should continue to request copies of land ban certifications and signed disposal facility manifest copies from the hazardous waste disposal vendor for each hazardous waste shipment. This will better fulfill the requirement of ensuring the waste is sent to an approved TSD facility.

The facility should mark accumulation start dates on full hazardous waste drums and assure that all drums are labeled as hazardous waste and that the labels are readily visible as required by Hazard Communications regulations.

These findings were communicated to Mr. Min on January 26, 2007.

#### 2.4 Universal Wastes

The facility does not generate or handle universal wastes such as fluorescent lamps and batteries. Light fixtures are replaced by the landlord.

#### 2.5 Medical Wastes

The facility does not generate or handle medical wastes.

#### 2.6 Emergency Planning and Community Right to Know (EPCRA)

The facility does not store extremely hazardous substances (EHS) that exceed the threshold planning quantities (TPQ), and the facility does not store 10,000 pounds or more of a hazardous substance.

Roux Associates noted that the facility submits a Right to Know Facility Inventory Form Tier annually to the city of New York and the form accounted for perchloroethene use/storage at the facility.

#### 2.7 Oil/Used Oil

The facility does not use or store oil at the facility or generate used oil.

#### 2.8 Stormwater

The facility operates under SIC Code 7216. According to 40 CFR 122.26(b)14, this SIC Code is not applicable to stormwater permitting.

#### 2.9 Wastewater

#### 2.9.1 Current Conditions

There are no floor drains in the facility. The facility does not conduct clothes washing in machines other than the dry cleaning machine. There is currently one wastewater stream generated at the site besides sanitary waste which is condensate water from the dry cleaning machine that is separated from perchloroethene, treated through carbon, and evaporated.

Approximately 3 gallons of water resulting from condensation within the dry cleaning machine are generated each week. This wastewater is separated from perchloroethene by a separator ancillary to the dry cleaning machine and discharged through a hose to a 5-gallon container located on the floor adjacent to the machine. Approximately once per week, the operator pours the water from the bucket through a double cartridge carbon filtration device located adjacent to the dry cleaning machine and collects the filtered water in a second 5-gallon container. The water is then transferred from the second container to a pot that is equipped with a heating coil and air discharge hose. The water is boiled in the pot and the resulting steam is discharged to the

atmosphere through the air discharge hose. The facility does not discharge this wastewater stream onsite or to the public sewer system as it is completely evaporated.

The carbon in the double carbon filtration device is changed every 3 to 4 months. The spent carbon is placed in the hazardous waste drums discussed in Section 2.3.1. In 2004, the facility placed the wastewater directly from the separator into the hazardous waste drums. During the January 2004 annual compliance inspection, the inspector indicated that boiling the water after separation without filtration, as the facility had been doing previously, was not in compliance, so the separated water was collected as hazardous waste until the double cartridge carbon filtration unit was installed later in 2004.

#### 2.9.2 Regulatory Requirements

According to 6 NYCRR 232.9, perchloroethene-contaminated wastewater that is evaporated must be treated by physical separation (water separator) and double carbon filtration prior to evaporation. According to Mr. Min, the facility manager, the water is separated and treated through a double cartridge carbon treatment device prior to evaporation via steam boiling. The dry cleaning machine condensate wastewater treatment described above is covered under the facility's air permit discussed in Section 2.10.

# 2.10 Air Emissions – 6 NYCRR Part 232 Perchloroethylene Dry Cleaning Facilities 2.10.1 Current Conditions

As described above, the facility has one fourth-generation dry cleaning machine. The manager, Gwy H. Min, is a trained operator (certification #1337920203) and performs weekly leak inspections and self monitoring. The records are maintained for at least 5 years in log books. The facility is permitted by the NYSDEC Division of Air Resources per 6 NYCRR Part 201-4 (Identification #2-6403-00110) and is inspected annually for compliance by a third party certified inspector. The dry cleaning machine has one emission point equipped with a carbon adsorber. The last compliance inspection report was dated January 5, 2006 and the facility was found to be in compliance. The facility was last inspected on January 5, 2007 and Mr. Min is awaiting a copy of the report. According to Mr. Min, the inspector indicated that the facility was in compliance.

#### 2.10.2 Regulatory Requirements

According to the last annual compliance inspection report and audit observations, the facility appears to be in compliance with air emission registration requirements under 6 NYCRR 201-4 (Minor Facility Registration) and the following 6 NYCRR 232 (Perchloroethylene Dry Cleaning Facilities) requirements:

- <u>Sections 232.1 through 232.3</u> contain general information (applicability, definitions, and variances).
- <u>232.4 Prohibitions</u> the facility does not operate dry-to-dry vented or nonvented equipment as a transfer machine; there are no self-service dry cleaning machines; the facility does not use an immersion heater to evaporate solvent from the untreated effluent of a water separator (this is what the facility had done prior to the 2004 inspection as discussed in Section 2.9); the facility has not constructed, modified, or operated a dry cleaning facility without obtaining a permit/registration; and the facility does not vent perchloroethene emissions into the workroom or facility.
- <u>232.5 Pre-Permitting Requirements for Existing Facilities</u> the facility met the pre-permitting requirements listed in this subpart prior to the issuance of its current minor source air emissions registration (Identification #2-6403-00110).
- 232.6 Equipment Standards and Specification the facility's general exhaust ventilation system, primary emission control system (refrigerated condenser with drying sensor), secondary emission control system (integral carbon adsorber), and spill containment are present in accordance with the specification for fourth-generation machines as indicated in the annual compliance inspection reports.
- 232.7 Leak Inspections and Self Monitoring Requirements the facility's certified operator, Mr. Min, conducts leak checks weekly with a halogenated-hydrocarbon detector and checks for liquid leaks and the temperature of the vapor stream on the inlet and outlet side of the refrigerated condenser is recorded weekly. The weekly measurements are maintained in log books that are kept onsite.
- 232.8 Operation and Maintenance Requirements the components of the dry cleaning machine are operated in accordance with the manufacturer's specifications and Mr. Min performs weekly operation and maintenance, the checklists for which are maintained in a logbook onsite.
- 232.9 Perc-Contaminated Wastewater Management as indicated in Section 2.9 of this report, the facility treats the wastewater from the dry cleaning machine via physical separation (water separator) and double carbon filtration prior to evaporation in accordance with 232.9(b).
- <u>232.10 Hazardous Waste Management</u> All perchloroethene-contaminated wastes (liquid and solid) are handled in accordance with state and federal hazardous waste management regulations, except as noted in Section 2.3.3 of this report (manifest and

labeling recommendations). All perchloroethene-contaminated wastes are stored in tightly sealed containers that are kept closed except when adding waste. Records showing the date and volume of waste shipments are retained for at least five years.

- <u>232.11 Emergency Response</u> the dry cleaning machine is equipped with secondary containment and has an empty drum and rags on hand for spill response. According to Mr. Min, there has never been a release or spill since his ownership of the facility in 1991.
- <u>232.12 Reporting and Recordkeeping</u> the facility maintains the required records (e.g., maintenance log, hazardous waste shipment log, carbon cartridge change-out log, perchloroethene purchase log, inspection checklists, operations and maintenance checklists) onsite for at least five years and has equipment operating manuals onsite.
- <u>232.13 Equipment Testing and Certification</u> this section is not applicable (applies to installation of new equipment).
- 232.14 Owner/Manager Operator Training and Certification The manager, Gwy H. Min, is a trained operator (certification #1337920203) and is the only person who operates the dry cleaning machine and his certification is current (expires 2/28/09).
- <u>232.15 Permitting and Compliance</u> The facility is permitted by the NYSDEC Division of Air Resources (Identification #2-6403-00110).
- <u>232.16 Compliance Inspections</u> the facility is inspected annually by a registered inspector and the inspector submits the reports to the NYSDEC and the facility. Copies of the annual inspection reports are maintained onsite and available upon request to interested individuals for review.
- <u>232.17 Equivalency</u> this section is not applicable (applies to use of alternative equipment).
- <u>232.18 Posting Notice</u> the facility has a NYSDEC notice regarding perchloroethene posted in a conspicuous location.

#### 2.10.3 Findings

There are no findings with respect to air emissions and Part 232 regulations for perchloroethene dry cleaning facilities.

### 2.11 Toxic Substances Control Act (TSCA)

The facility does not handle TSCA-regulated substances or wastes.

#### 2.12 Drinking Water

The facility does not have wells associated with potable or drinking water.

3.0 SUMMARY OF FINDINGS

In conclusion, the following summarizes the findings of this audit conducted at the Charming

Cleaners dry cleaning facility located in Staten Island, New York.

**Tanks** 

No findings.

**Hazardous Wastes** 

The facility should continue to request copies of land ban certifications and signed disposal

facility manifest copies from the hazardous waste disposal vendor for each hazardous waste

shipment. This will better fulfill the requirement of ensuring the waste is sent to an approved

TSD facility.

The facility should mark accumulation start dates on full hazardous waste drums and assure that

all drums are labeled as hazardous waste and that the labels are readily visible.

These findings were communicated to Mr. Min on January 26, 2007.

**Universal Wastes** 

The facility does not generate or handle universal wastes.

**Medical Wastes** 

The facility does not generate or handle medical wastes.

**Emergency Planning and Community Right to Know (EPCRA)** 

No findings.

Oil/Used Oil

The facility does not use or store oil at the facility or generate used oil.

Stormwater

The facility operates under SIC Code 7216. According to 40 CFR 122.26(b)14, this SIC Code is

not applicable to stormwater permitting.

### Wastewater

No findings.

# Air Emissions – 6 NYCRR Part 232 Perchloroethylene Dry Cleaning Facilities

No findings.

## **Toxic Substances Control Act (TSCA)**

The facility does not handle TSCA-regulated substances or wastes.

## **Drinking Water**

The facility does not have wells associated with potable or drinking water.

#### 4.0 REPORT LIMITATIONS

This report describes the results of Roux Associates' Environmental Compliance Audit of the environmental programs affecting the Charming Cleaners dry cleaning facility located in Staten Island, New York. The conclusions stated herein represent the application of a variety of engineering and technical disciplines to material facts and conditions associated with the site and relevant environmental laws and regulations. Some of these facts, conditions, and regulations are subject to change over time; accordingly, the conclusions must be considered within this context. The environmental compliance audit inspections of the facility took place on September 1, 2005 and January 26, 2007.

Roux Associates has performed this compliance review in a professional manner using that degree of skill and care exercised for similar projects under similar conditions by reputable and competent consultants practicing in the field. Roux Associates shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed during the conduct of the audit.

This compliance audit and report does not constitute a judgment on the part of Roux Associates regarding the environmental compliance of operations at the Charming Cleaners facility. This report has been prepared for the exclusive use of WWP Associates, LLC and any third party use of this report is the sole responsibility of WWP Associates, LLC.

### APPENDIX B

Soil Boring and Monitoring Well Construction Logs



9

30

209 Shafter Street Islandia, New York 11749 Telephone: 631-232-2600 Fax: 631-232-9898

Page 1 of 1

WELL CONSTRUCTION LOG

WELL NO.

NORTHING
P-1

PROJECT NO JNAME
122601Y / WWP Associates, LLC

WELL CONSTRUCTION LOG

PASTING
Not Measured

Not Measured

LOCATION
Coral Island Shopping Center

122601Y / WWP Associates, LLC LOGGED BY APPROVED BY M. Roux M. Kroll 1650 Richmond Ave, Staten Island, New York DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA Aquifer Drilling and Testing / Andrea Babel
DRILL BIT DIAMETER/TYPE BOREHOLE DIAME BOREHOLE DIAMETER DRILLING EQUIPMENT/METHOD START-FINISH DATE SAMPLING METHOD 2" Macro-Core 7/29/04-7/29/04 2-in. / Drive Sampler 2-inches 6610DT / Geoprobe CASING MAT JOIA. SCREEN: SCH 40 PVC / 1-inch ELEVATION OF: MAT. SCH 40 PVC TOTAL LENGTH 10.0ft WELL CASING TOP & BOTTOM SCREEN TYPE Slotted SLOT SIZE 20-Slot DIA. 1-inch GROUND SURFACE TOP OF WELL CASING **GRAVEL PACK SIZES** None (Feet) PID Blow Depth, Graphic Visual Description Values REMARKS Counts feet Log per 6" (ppm) Brown- light brown, fine to coarse SAND, little Silt, little Clay, trace Gravel; moist PVC screen was pulled from ground and borehole was backfilled with bentonite. GROUND WATER LEVEL \_5 7/30/04 1" PVC Reddish Brown SILT and CLAY, trace Sample groundwater from P-1 for VOC's. Sand, trace Gravel; wet at 5 feet . . . . .. 10 Bottom of boring at 10 ft bls. 10 15 15 . . . . . 20 20 . . . . .. ... . . . . . 25 25 ...

30



1/10/07

9

209 Shafter Street Islandia, New York 11749 Telephone: 631-232-2600 Fax: 631-232-9898

WELL CONSTRUCTION LOG Page of 1 WELL NO. EASTING Not Measured NORTHING P-2 Not Measured LOCATION Coral Island Shopping Center PROJECT NO NAME 122601Y / WWP Associates, LLC LOGGED BY APPROVED BY M. Roux M. Kroli 1650 Richmond Ave, Staten Island, New York DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA Aquifer Drilling and Testing / Andrea Babel
DRILL BIT DIAMETER/TYPE | BOREHOLE DIAMETER DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE 2-in. / Drive Sampler 2-inches 6610DT / Geoprobe 2" Macro-Core 7/29/04-7/29/04 CASING MATJDIA. SCREEN: MAT. SCH 40 PVC TOTAL LENGTH 10.0ft
WELL CASING TOP & BOTTOM SCREEN TYPE Slotted SCH 40 PVC / 1-inch DIA. 1-inch SLOT SIZE 20-Slot ELEVATION OF: GROUND SURFACE TOP OF WELL CASING GRAVEL PACK SIZES (Feet) None Blow PID Graphic Visual Description Values REMARKS Counts feet Log per 6" (ppm) Brown, fine to coarse SAND, some Silt, little Gravel: wet at 4 feet GROUND PVC screen was pulled from 1" PVC WATER LEVEL ground and borehole was backfilled with bentonite. Sample groundwater from P-2 for VOC's. 5 \_5 Bottom of boring at 5 ft bis. . . . . . . . . . .. . . . . . . . . . .. 10\_ 10 .... 15 15 . . . . . . . . . . . . . . . l . . . . . . 20\_ 20 ROUX.GDT 25 25 122801Y. BORING/FEET 30



**WELL CONSTRUCTION LOG** Page of 1 WELL NO. NORTHING EASTING **Not Measured** Not Measured PROJECT NO NAME Coral Island Shopping Center 122601Y / WWP Associates, LLC APPROVED BY LOGGED BY M. Roux M. Kroll 1650 Richmond Ave, Staten Island, New York DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA Roux Associates / M. Roux BOREHOLE DIAMETER DRILLING EQUIPMENT/METHOD DRILL BIT DIAMETER/TYPE SAMPLING METHOD START-FINISH DATE Hand Tools / Post Hole Digger 7/29/04-7/29/04 8-inches CASING MATJOIA. SCREEN: SCH 40 PVC / 1-inch MAT. SCH 40 PVC TOTAL LENGTH 5.2 ft WELL CASING TOP & BOTTOM SCREEN TYPE Slotted DIA. 1-inch SLOT SIZE 20-Slot GROUND SURFACE **ELEVATION OF:** TOP OF WELL CASING **GRAVEL PACK SIZES** None (Feet) Blow Depth. Graphic Visual Description Counts Values REMARKS Log Coarse GRAVEL over landscape fabric
Brown fine to coarse SAND, little Sllt, little fine Garvel; moist to wet at 5 feet. per 6° (ppm) Brown fine to coarse SAND, little Silt, little . . . . . PVC screen was pulled from GROUND WATER LEVEL 7/30/04 1" PVC ground and borehole was backfilled with bentonite. . . . . . Sample groundwater from P-3 for VOC's. 5 5 Gray to brown CLAY, little Silt, moist Bottom of boring at 5.2 ft bls. 10 10 . . . . .. . . . . . 15 15 20 20 . . . . .. . . . . . ROUX.GDT 25 25 GPJ BORING/FEET

30



209 Shafter Street Islandia, New York 11749 Telephone: 631-232-2600 Fax: 631-232-9898

Page 1 of 1 SOIL BORING LOG

WELL NO.	NORTHING	EASTING						
SB-1	Not Measured	Not Measured						
PROJECT NO NAME		LOCATION						
122601Y / WWP Associa	tes, LLC	Coral Island Shopping Center	•					
APPROVED BY	LOGGED BY							
M. Roux	M. Kroll	1650 Richmond Ave, Staten Island, New York						
DRILLING CONTRACTOR/DR	ILLER	GEOGRAPHIC AREA						
Aquifer Drilling and Testi	ng / Andrea Babel							
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE				
2-in. / Drive Sampler	2-inches	6610DT / Geoprobe	2" Macro-Core	7/29/04-7/29/04				
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL						
Not Measured	Not Measured	Bentonite						

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS	
		Reddish Brown fine to coarse SAND, some Gravel, trace Silt; moist				
	6.00.00				Sample soils for VOC's	
			1	0	(1-2')	
	[:::0::]			<b>y</b> )		
	F 5 (5) F 4 F 1	District fire to accome CAND Time Council limit Did	1	11		
		Brown, fine to coarse SAND, little Gravel, little Silt		A I		
	5. 77. 8.					
••••	<b>5</b>			0		
5	(a) (0)		}		Sample soils for VOC's	
<u>~</u>		Brownish Gray CLAY, little fine Sand, little Silt; wet	1		(4-5')	
	[	Distribution of the contract o	[		(,	
			} .			
				0		
			j (	[]		
		Light Brownish Gray fine SAND and SILT, trace Clay, wet	ļ	1)		
	[					
	F - 1		1 1	0		
40	<u> </u>				0	
<u>10                                    </u>	= - =	Proup fine CAND and Cli Touri	]	-	Sample soils for VOC's	
		Brown fine SAND and SILT; wet	( l		(9-10°)	
			, )	T .		
				0		
•••	<b>├</b> - ' \			71		
				H		
• • • •				1		
			}			
			(	0		
<u> 15</u>	1					
	) — →	Brown fine SAND and SILT; wet				
	i			ľ		
	F - 1		[	0		
			\	11		
•••	<u> </u>		[ [	4		
	<u> </u>		}	•	Sample soils for VOC's	
•••	===	Brown CLAY; wet		0	(18-19')	
20_	- F. F. F. F.	Brown GRAVEL; wet	ľ		• • • •	
	0 - 0 -	Brown CLAY, little Gravel; moist				
	00					
•	0 0		[	o		
• • • • •	-0- 0-			<b>!</b>   "		
	[°-5-]			11 1		
	- 0 - 0			41 1		
		Brown medium to coarse SAND, some Gravel; wet		0		
25_		Eromi moduli is oceas chire, sonic ciaval, wet		ľ		
	- 10, a Ca - o	Brown fine SAND and SILT, some Gravel, little Clay; moist				
	F					
	L		}			
			, ,	0		
••••	I			<b>[</b>		
30	= =	Brown fine SAND and SILT, some Clay, little Gravel; moist		11		
		-	\ \ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	<b>a</b> l	Bottom of boring at 30 ft b Borehole backfilled with	ls.
	<b>⊢</b> − 1		[	o	Borehole backfilled with bentonite.	



& Management

209 Shafter Street Islandia, New York 11749 Telephone: 631-232-2600 Fax: 631-232-9898

Page 1 of 1

WELL NO.
SB-10

PROJECT NO./NAME
122601Y / WWP Associates, LLC

SOIL BORING LOG

EASTING
Not Measured

LOCATION
Coral Island Shopping Center

APPROVED BY

M. ROLIX

DRILLING CONTRACTOR/DRILLER

LOGGED BY

M. Kroll

1650 Richmond Ave, Staten Island, New York

GEOGRAPHIC AREA

Aquifer Drilling and Testing / Andrea Babel
DRILL BIT DIAMETER/TYPE BOREHOLE DIAMETER

DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE

2-in. / Drive Sampler 2-inches 5400 / Geoprobe 2" Macro-Core 7/30/04-7/30/04

LAND SURFACE ELEVATION DEPTH TO WATER

Not Measured Not Measured Bentonite

Not Measi	Men	Not Measured	Bentonne			
epth, feet	Graph Log		sual Description	Blow Counts per 6"	PfD Values (ppm)	REMARKS
	ø.:::		ND, some Gravel, little Silt; moist	J J	(5500)	
	: D				o	
		Brown fine to medium SA	AND, some Silt, trace Clay; moist		<b>!</b>	
				{	0	
· · •		Tan fine SAND and SILT	, trace Gravel; moist to wet			
<u>i_</u>					0	
		Tannish Brown fine SANI	D and SILT; wet at 7 feet			
	OUND				0	Sample soils for VOC's
WATE	R LEVEL 30/04 =	Brown CLAY, some Silt,	trace Sand: moist			(7-8')
					0	Bottom of boring at 9 ft bis. Borehole was backfilled wi
<u>0</u>						bentonite.
				{		
• ••				1		
				1		
5_	}			1		
• ••	-			}		
• ••				}		
	}			{		
<u>0</u>				{		
• •-				}	}	
	}					
<u>5_</u>						
		}				
••	}				}	
5 	{					
• • • •					1	



**WELL CONSTRUCTION LOG** Page of 1 WELL NO. NORTHING EASTING SB-11/P-6 Not Measured Not Measured LOCATION
Coral Island Shopping Center PROJECT NO NAME 122601Y / WWP Associates, LLC LOGGED BY APPROVED BY M. Kroli 1650 Richmond Ave, Staten Island, New York DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA Aquifer Drilling and Testing / Andrea Babel DRILL BIT DIAMETER/TYPE | BOREHOLE DIAMETER DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE 2-in. / Drive Sampler 2-inches 5400 / Geoprobe 2" Macro-Core 7/30/04-7/30/04 CASING MATJDIA SCREEN: SCH 40 PVC / 1-inch MAT. SCH 40 PVC TOTAL LENGTH 5.0 ft WELL CASING TOP & BOTTOM SCREEN TYPE Slotted DIA. 1-inch SLOT SIZE 20-Slot GROUND SURFACE TOP OF WELL CASING **ELEVATION OF:** GRAVEL PACK SIZES (Feet) None Blow Depth, feet Graphic Visual Description Counts Vaíues REMARKS Log per 6' (ppm) Brown fine to coarse SAND, little Gravel, little Concrete; moist Brown fine to coarse SAND, little Silt. 1" PVC Screen trace Gravel; moist . . . . .. . **. .** . .. Installed piezometer was dry. PVC screen was pulled from 5 ground and borehole was 5 Brown CLAY, little Silt; moist to wet backfilled with bentonite. Gray fine SAND and SILT, trace Clay, moist Gray fine SAND and SILT; wet 10 10 Brown fine SAND and SILT; wet Sample groundwater GW-1 for VOC's (11-12'). Brown CLAY; moist Bottom of boring at 14 ft bls. 15 15 20 20 . . . . . 9 25 25 . . . . .. 30 30



Environmental Consulting & Management

Page 1 of 1

Fax: 631-232-9898

SOIL BORING LOG

Page 1 o	f 1		BORING LOG			
WELL NO. SB-2		NORTHING <b>Not Measured</b>	EASTING Not Measured			
PROJECT NO./N	AME		LOCATION Coral Island Shopping Center			
122601Y / WM APPROVED BY	/P Associat	ES, LLC LOGGED BY	Coral Island Shopping Center			
M. Roux		M. Kroli	1650 Richmond Ave, Staten Isl	and, New	York	
DRILLING CONT			GEOGRAPHIC AREA			
<b>Aquiter Dhillin</b> DRILL BIT DIAME	g and lesur Ter/Type	ng / Andrea Babel BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING	METHOD	START-FINISH DATE
2-in. / Drive Sa	ampier	2-inches	6610DT / Geoprobe	2" Macro-	-Core	7/29/04-7/29/04
LAND SURFACE <b>Not Measured</b>		DEPTH TO WATER  Not Measured	BACKFILL Bentonite			
NOL Measured		INO IMEASUREU	Det not title			
Depth, feet	Graphic Log	Visua	al Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
·		Brown fine to coarse SAND, s Wood; moist	ome Gravel, little Silt, trace Concrete, trace			
		, , , , , , , , , , , , , , , , , , , ,		1	612	
				}	1	Sample soil for VOC's (1-2
	.0.0	į.		}	11	
					A	
		Gray fine to medium SAND; n	noist		16.2	
5				_∤	_	
		Grayish Brown fine SAND and	I SIL Į; <del>WO</del> T	}		Sample soil for VOC's (5-6
	x = x	Brown SILT and CLAY, little fi	ne Sand, trace Gravel; moist	_	19.7	\ \ \
• • • •	×	4			1	
****		1			11	
	×x	]			1	
	フラフティ	Brown CLAY; moist		-1 {	25.3	Sample soil for VOC's
10	1////	Brown CLAY, trace Gravel, tra	ace Silt: moist	) !		(9-10')
		DIOWIT CLAT, IJace Gravel, IJa	on, most			
****					25.1	}
••••		7			11	
		1		}	Al .	
		1		} }	20.5	
	<i>'////</i>				ا <b>ھ</b> ا	Bottom of boring at 15 ft bla Borehole was backfilled with
15		<del> </del>	<del>_</del>	$\dashv$		bentonite.
					}	
					}	
••••		}				
		}		) }	}	
				}		
				1 1		
20_					1	
••••						
				}	{	
		}		}		
		}			{	
					}	
25_					}	
<del></del>						
	}			}	{	
				}	}	
		1				
				1	-	



Page 1	of 1		IL BORING LOG			
WELL NO.	3-3	NORTHING Not Measured	EASTING Not Measured			
PROJECT NO	D./NAME	NOL Measured	LOCATION			
122601Y / V	WP Associat	es, LLC	Coral Island Shopping Center	•		
APPROVED B  M. ROUX	SY	LOGGED BY M. Kroll	1650 Richmond Ave, Staten I	sland Now	Vork	
DRILLING CO	NTRACTOR/DRI	LLER	GEOGRAPHIC AREA	SIGIRU, ITCTT	<u> </u>	
Aquifer Dril	lling and Testir METER/TYPE	ng / Andrea Babel BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING	METHOD	START-FINISH DATE
2-in. / Drive		2-inches	6610DT / Geoprobe	2" Macro		7/29/04-7/29/04
LAND SURFA	CE ELEVATION	DEPTH TO WATER	BACKFILL			
Not Measur	red	Not Measured	Bentonite			
Depth,	Graphic			Blow	PID	DEMARKS
feet	Log	VISI	ual Description	Counts per 6"	Values (ppm)	REMARKS
		Brownish Red fine to coars	e SAND, some Silt, some Gravel; moist			
	<u> </u>	1			6	
••••	<u> </u>	1			ı °	
	= =	Grayish Tan fine SAND and	I SILT, trace Clay; moist to wet			
•		<u>-</u>				
		-			18.4	
5	=====	Brown CLAY, trace fine Sar	nd: wet to moist		Ţ	Sample soils for VOC's (4-5')
			·		Ă	Bottom of boring at 6 ft bls.
••••						Borehole was backfilled with bentonite.
10_						
					. ]	
····						
<u>15</u>						
		}				
****						
20		1				
••••						
••••						
25_						
30						



**WELL CONSTRUCTION LOG** Page of 1 WELL NO. NORTHING EASTING SB-4/P-4 Not Measured Not Measured PROJECT NO NAME **Coral Island Shopping Center** 122601Y / WWP Associates, LLC LOGGED BY APPROVED BY M. Roux M. Kroll 1650 Richmond Ave, Staten Island, New York DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA Aquifer Drilling and Testing / Andrea Babel
DRILL BIT DIAMETER/TYPE BOREHOLE DIAMETER DRILLING EQUIPMENT/METHOD START-FINISH DATE SAMPLING METHOD 2-in. / Drive Sampler 2-inches 6610DT / Geoprobe 2" Macro-Core 7/29/04-7/29/04 CASING MAT/DIA. SCREEN: MAT. SCH 40 PVC TOTAL LENGTH 10.0ft WELL CASING TOP & BOTTOM SCREEN SCH 40 PVC / 1-inch TYPE Slotted DIA. 1-inch SLOT SIZE 20-Slot **ELEVATION OF: GROUND SURFACE** TOP OF WELL CASING GRAVEL PACK SIZES None (Feet) PID Depth, Graphic Visual Description Counts Values REMARKS feet Log per 6" (ppm) Brown fine to coarse SAND, some Gravel, little Silt; moist . . . . . 10.4 . . . . . . PVC screen was pulled from Brownish Tan fine SAND, some Sitt; ground and borehole was . . . . . ackfilled with bentonite GROUND WATER LEVEL 30.5 5 7/30/04 5 1" PVC Brownish Gray fine SAND and SILT: wet Screen 0 Brown fine SAND and SILT; wet Sample soils for VOC's 158 Brown CLAY; wet (8-9'). Sample groundwater from P-4 for VOC's. 10 10 Bottom of boring at 10 ft bls . . . . . . . . . . 15 15 20 20 . . . . . ... 1/10/07 ... CGDT 25 25 9 122601Y. NG/FEET . . . . . . . . . . **≅** 30

30



Page 1 of 1 SOIL BORING LOG

age i ui i		E BOIMITO EGG						
WELL NO.	NORTHING	EASTING						
SB-5	Not Measured	Not Measured						
PROJECT NO NAME		LOCATION						
122601Y / WWP Associate	es, LLC	Coral Island Shopping Center	7					
APPROVED BY	LOGGED BY							
M. Roux	M. Kroil	1650 Richmond Ave, Staten Island, New York						
DRILLING CONTRACTOR/DRI	LLER	GEOGRAPHIC AREA						
Aquifer Drilling and Testin	ng / Andrea Babel	_						
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE				
2-in, / Drive Sampler	2-inches	6610DT / Geoprobe	2" Macro-Core	7/29/04-7/29/04				
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL						
Not Measured	Not Measured	<b>Bentonite</b>						

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown fine to coarse SAND, some Gravel, trace Concrete; moist			
			ľ		
				0	•••
		Tannish Brown fine SAND and SILT, trace Clay; moist	}	I	
	r i	,,	}	A.	<b></b>
				0	•••
5			}	_	ئ
	\ <u>-</u>	Brown fine SAND and SILT, little Clay; wet		1	
			}	o	•••
			{	11	
	= =	Brown fine SAND and SILT; wet	{	11	
	T		,	<b>4</b> )	Sample sails for VOC's
· · · · · ·		Brown CLAY; moist		) U	(8-9')
10_					Bottom of boring at 10 ft bls1 Borehole was backfilled with
	}		}		bentonite.
			}		
					***
			]		
•••••	}		)	}	
15			}	}	<u>1</u>
• • • • •			}		
	{ (				•••
	{ [		[		
				1	<b></b> ,
	-				
20	1		Ì	1	<u>_2</u>
			1		
	1 1		{		
	1				
	}	İ			
	1			}	•••
25	1				_ <u>2</u>
<u>25</u>			}	-	_=
			}		
	}		}		
	1 1				
			]		
					3



Page 1 of 1 SOIL BORING LOG

SB-6 CT NO NAME		Not Measured	LOCATION	<b>.</b>		
1Y / WWP A		<u>s, LLC</u>	Coral Island Shopping Cent	ter		
VED BY		LOGGED BY				
UX	TOP	M. Kroll	1650 Richmond Ave, Stater GEOGRAPHIC AREA	n island, New	York	
NG CONTRAC			GEOGRAPHIC AREA			
<b>BY DYNNING AN</b> BIT DIAMETER	NI ESUN	g / Andrea Babel BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING	METHOD	START-FINISH DATE
Drive Samp		2-inches	5400 / Geoprobe	2" Macro-		7/30/04-7/30/04
SURFACE ELE	VATION	DEPTH TO WATER	BACKFILL.			
easured		Not Measured	Bentonite			
				Blow	PID	
	Graphic Log		ual Description	Counts per 6*	Values (ppm)	REMARKS
Į.		Brown fine to coarse SAND	, some Silt, trace Clay, trace Gravel; mois	si		
ļ-					3.1	
-		Brownish Tan fine SAND ar	nd SILT trace Clav: moiet		1	
-	· _ <del>· -</del>	COMPINENT FOR THE CANAD OF	a citi a coo city, illust		A	
-					21.1	
		Personal Control CAND	roma Silt wat	ſ	36.3	
-		Brownish Gray fine SAND,	some SIII, wet	] }	30.3	Sample soils for VOC's
					V	(4-5')
		 			<b>!</b> (	
[ <u>.</u>	××	Brown CLAY and SILT, trac	e Graver; moist		A)	
5					319	Sample soils for VOC's
Ē	×					(6-8')
						Bottom of boring at 8 ft bls Borehole was backfilled wi
						bentonite.
				}		1
					}	
				}		
					1	1
Ì				1		
		10				{
				ĺ		
1				}	1	{
-				[ [		
1					ĺ	
Į						]
						1
						1
						1
				{		
}					}	
						ļ
1					{	
				j		
					{	
				[		
1					1	1
}						
{						
{						
ļ						



209 Shafter Street Islandia, New York 11749 Telephone: 631-232-2600 Fax: 631-232-9898

WELL CONSTRUCTION LOG Page 1 of 1 WELL NO. NORTHING **EASTING** SB-7/P-5 **Not Measured** Not Measured PROJECT NO NAME LOCATION
Coral Island Shopping Center 122601Y / WWP Associates, LLC APPROVED BY LOGGED BY M. ROUX M. Kroll 1650 Richmond Ave, Staten Island, New York DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA Aquifer Drilling and Testing / Andrea Babel
DRILL BIT DIAMETER/TYPE BOREHOLE DIAME BOREHOLE DIAMETER DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE 2-in. / Drive Sampler 7/30/04-7/30/04 2-inches 5400 / Geoprobe 2" Macro-Core CASING MAT /DIA SCREEN: TYPE Slotted
GROUND SURFACE MAT. SCH 40 PVC TOTAL LENGTH 8.0 ft
TOP OF WELL CASING TOP & BOTTOM SCREEN SCH 40 PVC / 1-inch DIA. 1-inch SLOT SIZE 20-Slot ELEVATION OF: **GRAVEL PACK SIZES** (Feet) None Blow ЫD Depth, Visual Description REMARKS Values Counts Log per 6 (ppm) Brown fine to coarse SAND, some SIIt, little Gravel: moist 87.2 PVC screen was pulled from ground and borehole was Brown fine to coarse SAND, some Sitt, backfilled with bentonite. little Clay; moist . . . . . 6.2 Slight organic odor . . . . . 1°PVC Scr Gravish Brown fine to medium SAND. 12.5 little Silt, trace Clay; wet 5 \_5 Gravish Brown fine to medium SAND. little Silt; wet Brown CLAY and SILT, trace Gravel; 109 Sample soils for VOC's moist (6-8'). Sample groundwater from P-5 for VOC's. Bottom of boring at 8 ft bis. 10\_ 10 . . . . .. 15 15 20 20 . . . . .. . . . . .. X) 25 25 9 30 N 30



Page 1 of	1	SO	IL BORING LOG				
WELL NO.		NORTHING Not Measured	EASTING Not Measured				
SB-8 PROJECT NOJNA	ME	NOT MEASURE	LOCATION				
122601Y / WWI	P Associat	es, LLC	Coral Island Shopping Center	•			
APPROVED BY		LOGGED BY	1650 Richmond Ave, Staten I	sland New \	/ork		
DRILLING CONTR		LLER	GEOGRAPHIC AREA	Skira, Itow	OIK	<del></del>	
Aquifer Drilling	andTestin	ig / Andrea Babel BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING	VETUOD	START-FINISH DATE	
DRILL BIT DIAMET <b>2-in. / Drive Sa</b> l		BOREHOLE DIAMETER  2-inches	5400 / Geoprobe	2" Macro-		7/30/04-7/30/04	
LAND SURFACE E		DEPTH TO WATER	BACKFILL				
Not Measured		Not Measured	Bentonite				
epth, feet	Graphic Log	Vis	ual Description	Blow Counts per 6*	PID Values (ppm)	REMARKS	
	6:00°.V	Brown fine to coarse SAND	), some Gravel, trace Silt; moist				
••••					0		
		1					
**	1-77	Brown, fine to coarse SANI	D, some Silt, little Clay; moist		Å		
• • • •	1	1			0		
•••	1212	Brownish Gray fine SAND a	and SILT: wet		-		
5	<u> </u>	WOWING GIAY HIR SAND O	2m 0121, WOL	1	1		
	+	_			0		
GROUND		Gray fine SAND and SILT;	wet	{			
WATER LEVE 7/30/04		-		\ \ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	o		
		-				Sample soils for VOC's	
	x _ x	Brown CLAY and SILT, trac	ce Gravel; moist	_		(7-8')	
	××	1			o		
10		<del> </del>			<b>-</b>	Bottom of boring at 10 ft bis. Borehole was backfilled with	
	}	}				borenoje was backlilled with bentonite.	
• • • •	}			1	}		
					}		
	{			1			
		1			1 1		
	}			1	1		
<u>15</u>				}	1		
					1 (		
		}			1		
••••	}	}			1		
• • • •	}				1		
••••					1		
20_				} {	1		
<del></del>				<b> </b>			
				}	}		
				{	}		
				1	1		
•••	{				1		
	}	}			1		
25	}	}					
		}			1		
					1		
	{			1	1		
 25    30		}		{	1		
• • • •		}			1		
	-	}					
20							



Page 1 of 1 SOIL BORING LOG

122601Y / WWP	Associat	es, LLC	Coral Island Shopping C				
APPROVED BY		LOGGED BY	4000 51 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
M. Roux		M. Kroll	1650 Richmond Ave, Sta	men Island, I	New Y	DITK	
DRILLING CONTRA			GEOGRAPHIC AREA				
PAGUITET DTILLING	and lestin	g / Andrea Babel BOREHOLE DIAMETER	DRILLING EQUIPMENT/METI	HOD SAME	LING	ETHOD	START-FINISH DATE
2-in. / Drive San		2-inches	5400 / Geoprobe		acro-C		7/30/04-7/30/04
AND SURFACE FI	EVATION	DEPTH TO WATER	BACKFILL		<u> </u>	, C, C	770004 170004
Not Measured		Not Measured	Bentonite				
Pepth, feet	Graphic Log	Vist	ual Description	Co	ow unts r 6"	PID Values (ppm)	REMARKS
		Brown fine to coarse SAND	), some Gravel, little Silt; trace Wood;	moist		0	
••••		Dark Grayish Brown fine to	medium SAND, some Silt, trace Grav	vel; moist			
••••		Gray fine SAND and SILT,	little Clav moist to wet			0	
5			July,e.a. 12 Wat	{		o	
GROUND WATER LEVEL 7/30/04	L	Gray fine SAND and SILT, I					
7/30/04	× ×		oist				Sample soils for VOC's (6-7') Bottom of boring at 8 ft bls.
						[ [	Borehole was backfilled with bentonite.
<u>10                                    </u>						}	
••••						}	
 15 _						}	
						}	
••••							
••••							
20_							
····							
••••					{	}	
						}	
 <u>25</u>							
						}	
••••							
	1					1	
****	1				{	ĺ	



WELL	NO. <b>MW-101D</b>	NORTHING 160978.9		EASTING 938957.8				
	CT NO NAME			LOCATION				
	1Y / Coral Island S			1650 Richm	nond Avenue			
APPRO <b>DRAF</b>	OVED BY	LOGGED BY  J. Sakellis		States Iola	nd Naw York			
	NG CONTRACTOR/DR			GEOGRAPHI	<b>nd, New York</b> Carea			
	Associates / J. Vei		_				_	
	BIT DIAMETER/TYPE	BOREHOLE DIAM	ETER		QUIPMENT/METHOD	SAMPLING		START-FINISH DATE
	<b>Drive Sampler</b> G MAT/DIA.	3.25-inches SCREEN:		6620 / Geo	probe	2" Macro-	Core	8/26/05-8/26/05
	1-inch	TYPE Pre-Pa	icked MA	T. <b>PVC</b>	TOTAL LENGTH 5	.0 n DIA	. 1-inch	SLOT SIZE 20-Slot
		OUND SURFACE		ELL CASING	TOP & BOTTOM SCI		GRAVE	L PACK SIZES
(Feet)	33.		32.79		<u>20.2 / 15.2</u>		Morie	<u>#1</u>
44.	Flushmount Wellbox	1" J Plug	0ki			Blow	PID	
epth, feet		_	Graphic Log	Visual	Description	Counts per 6"	Values	REMARKS
	——————————————————————————————————————	7 _ 0	17777	Brown coarse to	fine SAND, little Gravel,		(ppm)	Lithology data was obtained
		Cement Grou	(H	little Silt, trace B	rick, trace Glass; moist	'		from SB-101.
			HHH	(fill)		Ì	725	Hand excavated to 5ft bis as
	$\leftrightarrow$	$\mathbb{R}$	mm					part of utility clearance.
	-	$\bowtie$	F	Dark brown to bla	ack, coarse to fine	· -	G 13.3	Sampled 0.5 to 2 ft. interval for VOC, SVOC, Pesticide,
• • • • •	$\rightleftarrows$	RA	HHH.	SAND, little orga	nics (Weeds, Roots);			PCB, Herbicide, TAL Metals
	$\rightleftarrows$	KX	B 1 3—1 1 1	moist (fill)				and Cyanide analyses.
5	<del>5</del> 27	R-\(\alpha\)	FFFF.	Grey, medium to trace Brick; mois	fine SAND, trace Silt,			
5	$\Rightarrow \Box$	R+S	1 1 1 1 1		parse to fine SAND,			Sampled groundwater for
	$\rightleftarrows$	$K\!\!\!\!/\!\!\!\!/$		some Gravel, tra				VOC, SVOC, Pesticide,
	<del></del>	Bentonite				] ]		PCB, Herbicide, TAL Metals and Cyanide analyses.
	$\rightarrow$	R	.a. 0				248	Sampled 5 to 7.5 ft. interval
	$\rightarrow$	$\bowtie$		Brown, coarse to	fine SAND, some	· }	11	for VOC analysis.
· ••	<b>→</b>			Gravel, little Silt;		i l	<b>i</b> l	
	$\rightleftarrows$	$K \rightarrow$					20.7	
)	<del>-</del>	R-X	p . 0					
-	$\Rightarrow \Box$	RA		Brown, SILT, son	ne medium to fine Sand,	_	<b>i</b>	
	$\longleftarrow$	$\langle \dot{\nabla} \dot{\lambda} \rangle$		little Gravel; wet	•		ľ	
	••••						42 5	
•	:::: <u>:</u> -	#1 Morie San					43.5	
		1" PVC Riser	F 7		Clay, trace Gravel;		11	
•				moist/wet	•		<b>a</b> l	
-	::::						71.1	
;	::::=						<b>"</b>	
_		n			Clay, trace Gravel;	· -		
	****	Pre-pack Screen		moist/wet	•			
							84.5	
•						]	64.5	
		Bottom Plug		Brown, crushed f	Rock, little Gravel, little	7	1	
-			<i>(3/3/3/3/3</i> /3/3/3/3/3/3/3/3/3/3/3/3/3/3/	Silt; moist/dry		7   I		
	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Bentonite		Brown, SILT, son moist	ne Clay, trace Gravel;		208	
)_	<del></del>	Slumy						
_	1 A A		1999/A/A/A	Brown, SILT, little	Clay, moist			
							42.4	
							42.4	
			100000 TO 10000 TO 100000	Brown, SILT, son	ne Clay, moist	7 1	1	
							24.7	
· <del></del>							34.7	
<u>.</u>								
					ne Clay, little fine Sand;			
				moist			1	
							27.3	
							-7.5	
					ne Clay, little fine Sand,			Sampled 27.5 to 30 ft.
					v· moiet		<b>.</b> ,	:
			L  <del> </del>	ittle crushed Roc	n, IIIUlot	- 14		interval for VOC analysis.
  0				me crushed Roc	r, IIVISL		22.5	Bottom of soil boring at 30 ft



VELL NO.	NORTHING		EASTING 938957.3			
MW-101S PROJECT NO NAME	160977.3		LOCATION			
125801Y / Coral Islan			1650 Richmond Avenue			
APPROVED BY	LOGGED BY		Otatan Inland Marris Valle			
DRAFT DRILLING CONTRACTOR	J. Sakell <u>is</u>		Staten Island, New York GEOGRAPHIC AREA			
Roux Associates / J.			SECOND HOPELA			
RILL BIT DIAMETER/TY		METER	DRILLING EQUIPMENT/METHOD	SAMPLING ME		START-FINISH DATE
2-in. / Drive Sampler	3.25-inches		6620 / Geoprobe	2" Macro-Co	ore	8/26/05-8/26/06
CASING MAT/DIA. PVC / 1-inch	SCREEN: TYPE <b>Pre-P</b>	ackad MA	T. <b>PVC</b> TOTAL LENGTH	50 # DIA	1-inch	SLOT SIZE 20-Slot
LEVATION OF:	GROUND SURFACE		LL CASING TOP & BOTTOM SO			PACK SIZES
Feet)	33.44	33.25	28.4 / 23.4		Morie #	1
Flushmount Wellbox	1" J Plug			Blow	PID	
epth, ieet		Graphic Log	Visual Description	Counts	Values	REMARKS
				per 6°	(ppm)	
	Cement Gro	1 1 1 1 1 1	Brown, coarse to fine SAND, little Grave ittle Silt, trace Brick, trace Glass; moist		(	Lithology data was obtaine from SB-101.
	Cernant Gro		(fill)	1 1		Hand excavated to 5ft bis a
<u>.</u>		PATH				part of utility clearance
-\>	- Bentonite	HHH.	Dark brown to black, coarse to fine	G		Sampled 0.5 to 2 ft. interva for VOC analysis.
··· <del>//</del>		mm :	SAND, little organics (Weeds, Roots);	[ [ ]	10.5	,
	1" PVC Rise	- H++++1 1	moist (fili)		1	
••••••	#1 Morie Sa		Grey, medium to fine SAND, trace Silt, race Brick; moist/wet (fill)		}	
<u>5</u> .			Grey to brown, coarse to fine SAND,		Į,	Sampled groundwater for
	<b>■ ::::</b>		some Gravel, trace Silt; wet		, I	VOC. SVOC. TAL Metals.
***	<b>□</b> ‡::::					and CN analysis. Sampled 5 to 7.5 ft. interva
		. a				Sampled 5 to 7.5 it interval for VOC analysis.
	Pre-pack Screen		Brown, coarse to fine SAND, some		1	•
		8.7.8.	Gravel, little Silt; wet		20.7	
****					20.7	Bottom of soil boring at 10
0	Bottom Plug					ols.
					1	
••••					}	
		]			)	
		1		] ]	}	
+ 1 41		(				
***					1	
		}			}	
15						
***					J	
•••					]	
***		1		-	1	
		}			ł	
•••		1 1			1	
•••					}	
20		1				
<del></del>					ĺ	
					{	
					{	
1.4.49		-		] ] ]	)	
					}	
				- {     1	(	
•••		}			ł	
<u>.5</u>					}	
					}	
					ļ	
•••		} }			1	
		}		1 1	1	
•••						
		) )			ſ	



VELL NO.	NORTHING		NSTRUCTION LOG				
MW-102D	160999.8		938928.6				
ROJECT NO NAME			LOCATION 1650 Richmond Avenue				
<b>25801Y / Coral Isla</b> PPROVED BY	nd Shopping Center LOGGED BY						
RAFT	J. Sakellis		Staten Island, New York				
RILLING CONTRACTO			GEOGRAPHIC AREA				
loux Associates / J				0.1451.0.14	iczuon	OTABT CINION BATT	
RILL BIT DIAMETER/T		METER	DRILLING EQUIPMENT/METHOD  6620 / Geoprobe	SAMPLING M		START-FINISH DATE 8/24/05-8/24/05	
<b>-in. / Drive Sample</b> ASING MAT <i>J</i> DIA.	r 3.25-inches SCREEN:		6620 / Geoprobe	Z Macro-C	,Ore	0/24/03-0/24/03	_
VC / 1-inch	TYPE Pre-F	acked MA1	r. <b>PVC</b> TOTAL LENGTH	5.0 ft DIA.	1-inch	SLOT SIZE 20-Slot	Ĺ.
LEVATION OF:	GROUND SURFACE	TOP OF WE	LL CASING TOP & BOTTOM S		GRAVEL	PACK SIZES	_
eet)	33.01	32.60	20.0 / 15.0		Morie i	<u>#1</u>	_
Flushmont Wellbox	1" J Plug			Blow	PID		
opth,		Graphic Log	Visual Description	Counts	Values	REMARKS	
			from to tan come to fine CAND little	per 6"	(ppm) 0.5		_
	Cement Gro		Brown to tan, coarse to fine SAND, little Gravel, trace Glass, trace Plastic; dry (1		0.5		
		HHH	- · · · · · · · · · · · · · · · · · · ·	] (-	7		
		kiziti-	Andrews An Blands		- 22		
			Dark brown to black, medium to fine SAND, some organic material, trace		2.2		
			Gravel; moist	G	7		
				L	1.5		
:·:·			Grey, medium to fine SAND; moist	] [_	12.0		
- :::		F. · · · · · · · · · · · · · · · · · · ·	Brown, medium to fine SAND, trace Silt	1G	à	Sampled groundwater for	
• • • • • • • • • • • • • • • • • • • •		• • • • • • • • • • • • • • • • • • •	vet		_	VOC analysis.	
••••••	1" PVC Rise		Brown, fine SAND, little Silt, trace Grave	el;	17.9		
			<del>vet</del>	<b> </b>	'}	}	
				<u>{</u>	\		
··· 💸							
			Brown, SILT, little Clay, trace Gravel;		6.5		
)	Bentonite	[ <b>"</b>	nort.	] [4	V		
<u>-</u> 34			Brown, SILT, some Clay, trace Gravel;		2.3		
<del>*</del>		- 13/3/3/3/3 <b>"</b>	noist		[]		
					J		
···	#1 Morie Sa	and A			V	ļ	
		11111111 E	Brown, SILT, some fine Sand, trace		10.4	}	
••••			Gravel; wet	<b> </b> ▼	'}	}	
				1	.}	}	
<u>.</u>						}	
-	Pre-Packed		Brown, SILT, little Clay, trace Gravel;	) N	6.6		
	Screen	<u></u>	noist	<b> </b>   <b> </b>   <b> </b>	'}	}	
•••		[]			\}	}	
· · ·		74/7/2/2/			<b>1</b>		
•••	Bottom Plu		Brown, SILT, some Clay, trace Gravel; noist	<b>N</b>	17.4		
•••	• • • • • • • • • • • • • • • • • • •	<i>- 1999/99</i> 99 "		} <b>}</b>	']		
	Sand Fill				V		
<u>.</u> ;;			Charles City See See See	<u>.</u>	GE E		
$\rightleftarrows$	<b>₩</b>		Brown, SILT, some Clay, trace fine San noist	u,	65.5		
··· <u>:</u>	3 <del>-25-25-</del>			<u> </u>	}		
😽	<del>-</del> X-X-X				J	}	
-	Bentonite		Brown, SILT, some Clay, trace fine San	<del>,</del> → 📜	<i>7</i> 7.9	,	
··	Slumy		noist	~, ) \ <b>\</b>	,,,,		
🔆	→			<b>                                </b>			
<b>7</b>	<del>4</del> 444						
<u>5</u>	757	XXXXXX		——————————————————————————————————————	9		
				}	1		
• ••		}		}			
***		}		}			
		}		}			
• • •		}			'		
						i e e e e e e e e e e e e e e e e e e e	
•••		}			] ,		



WELL I			NORTHING		EASTING				
חסס ור	MW-102S	L	160922.5_		938927.9 LOCATION	<del></del>			
	CT NO INAME 1 <b>Y / Coral Islan</b>	d Shor	nning Center		1650 Rich	mond Avenue			
	VED BY		LOGGED BY						
DRAF			J. Sakellis		Staten isi	and, New York			
	NG CONTRACTOR Associates / J. '		<b>:</b> ₭		GEOGRAPI	TIL AKEA			
	ASSOCIATES / J. BIT DIAMETER/TYP		DREHOLE DIAM	ETER	DRILLING E	QUIPMENT/METHOD	SAMPLING	METHOD	START-FINISH DATE
2-in./_	Drive Sampler	3.	25-inches		6620 / Ge	•	2" Macro	Core	8/24/05-8/24/05
CASING	G MAT./DIA.	SC	CREEN:		- 00.60	TOTAL :	: O A	. d had	CI OT CITE 30 CI-4
	<b>1-inch</b> TION OF:	GROUN	TYPE <b>Pre-P</b> a ND SURFACE		T. <b>PVC</b> ELL CASING	TOTAL LENGTH 5 TOP & BOTTOM SC		A. <b>1-inch</b>	SLOT SIZE 20-Slot PACK SIZES
ELEVA (Feet)		32.97	1D OUNT AUC	32.49		28.0 / 23.0		Morie	
<u> </u>	Flushmount		1" J Plug				P!	PID	
Depth,	Wellbox			Graphic	Visua	l Description	Blow Counts	Values	REMARKS
feet		$\leq$	] 	Log		•	per 6"	(ppm)	
	6.7	\[ \sqrt{\sq}}}}}}\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}\sqrt{\sqrt{\sqrt{\sq}}}}}}}}\signition}\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}\sqrt{\sqrt{\sqrt{\sq}}}}}}}}\signition}\sqrt{\sqrt{\sq}}}}}}\signition}\sqrt{\sqrt{\sqrt{\sq}}}}}}\signition}\sqrt{\sqrt{\sint{\sint{\sint{\sq}}}}}}}\signition}\sqrt{\sint{\sint{\	٠, المعار ر		Brown to tan, o	oarse to fine SAND, little lass, trace Plastic; dry (fil	n		
• • • •			Concrete mix	, that	Sieroi, liaud U	, uave i iasuu, ui j (iii	<b>'</b>		
	- XA		Ø	HHH		<del></del>	_		Sampled 0.5 to 2 ft. interval
	$\leftarrow$		Bentonite			olack, medium to fine rganic material, trace	1		for VOC analysis.
			. <del>.</del>		Gravel; moist	- Service indicates, 1000c		}	Sampled 2.5 to 5 ft. interval
	****		。; •_• 1° PVC Rise					}	for VOC analysis.
					Grey, medium 1	to fine SAND; moist	} }	}	
5	9 9 9 9 9 9 9 9	:	•:•		Brown, medium	n to fine SAND, trace Silt;		}	Sampled groundwater for
	° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° °		:		wet		}	}	VOC analysis.
			• • •	<b>↓</b>	Brown, fine SAI wet	ND, little Silt, trace Gravel	F	}	
• • • •		≕∷	on product					Ì	
		$\equiv$ :	Pre-Packed Screen				]		
			•••	<del></del>	Brown SILT III	tle Clay, trace Gravel;			
••••			·:•		moist	at only, according			
10	*_ * * * *		Bottom Plug			<del></del>	_		į
							) ]		
							}	}	
							}	}	
15				1			} }		
14							}		
								1	
••••									
· · · · ·							,		
20_									
							)		
••••									
• • • •				}			}	}	
								}	
							} }		
· · · •								1	
25_									
									In
				}					
							) )		
				1			1		
				1 1			,	1	



ELL NO.	20		RTHING		EASTING			
MW-10 OJECT NO.A		161	040.8		<b>938716</b> LOCATION			
5801Y / Co		honnin	a Center		1650 Richmond Avenue			
PROVED BY		LOC	GED BY					
RAFT			akellis		Staten Island, New York			
RILLING CONT					GEOGRAPHIC AREA			
oux Associa			LIOUE DIAME	-T-D	DRILLING EQUIPMENT/METHOD	SAMPLING M	בדשמת	START-FINISH DATE
RILL BIT DIAM! in. / Drive S		I I	HOLE DIAME I <b>nches</b>	EIEK	6620 / Geoprobe	2º Macro-C		8/25/05-8/25/05
SING MAT/D	Autipici A.	SCRE			ouzo / Geopiose	_ 11,00,00	<u></u>	
/C / 1-inch			PE Pre-Pa	cked M	T. PVC TOTAL LENGTH 5.		1-inch	SLOT SIZE 20-Slot
EVATION OF:			URFACE		ELL CASING TOP & BOTTOM SCR	REEN		PACK SIZES
et)		.72	45 1 Dhua	33.45	14.7 / 9.7		Morie i	<u> </u>
Flushmo Welli		/	∕1" J Plug	Obis		Blow	PID	
eth, vron. et				Graphic Log	Visual Description	Counts per 6"	Values	REMARKS
		7 6		_	Danier madium to fine CAND come	pero	(ppm) 0.6	
	XZ/	V//2	<u>'_</u>	HALL	Brown, medium to fine SAND, some Gravel, little cobbles, trace plactic, metal	G	0.6	Sampled 0.5 to 2 ft. interval
••			Cement Grout		wire and brick, dry.		0.3	for VOC analysis.
	<i>\( \/ \)</i>	<i>\(\/\)</i> .			Dark Brown, course to fine SAND, some			
•	$\rightleftarrows$	$\mathbb{R}^{2}$			Gravel, trace silt, trace brick, organic material, moist.	C	i	
••	$\Leftrightarrow$	KX		HHH			}	
	$\bowtie$			F444			}	
-	$\Rightarrow \exists$	$R \rightarrow \Omega$		-	Grey SILT, little fine sand, moist.	7	0.5	
_	$\rightarrow \rightarrow \rightarrow$	$K \rightarrow K \rightarrow$						
	$\bowtie$	$\mathbb{R}$					]	Sampled groundwater for VOC analysis.
	$\rightarrow \!$	$\mathbb{R}$		<del></del>	Dark Brown to black, medium to fine	→ <b>/</b>	0.4	VOC dilaysis.
	$\leftarrow$	$K \rightarrow$	B "		SAND, some Silt, little organic material,	<u> </u>		
-	$\Rightarrow$	$\mathbb{K}$	Bentonite	\\	moist.	/ 🎍		
	$\rightleftarrows$				Gray SILT, little clay, little fine sand, moist/wet.	4	0.6	Sampled 7.5 to 10 ft. interval
	$\rightleftarrows$	$\mathbb{K}$			Brown, fine SAND, little silt, wet.	′               <b>Y</b>	}	for VOC analysis.
	$\Rightarrow \Rightarrow $	$\aleph$				-	J	
_	$\Rightarrow \Rightarrow \Rightarrow$						· ·	
-	$\prec \!\! \prec \!\! \prec$	$\mathcal{W}$			Brown, fine SAND, trace silt, wet.		1.0	
	$\Rightarrow \exists 1$	$\mathbb{R}$				-}		
	$\bowtie$	$\mathbb{H}$				-{		
	· · · · · · · · · · · · · · · · · · ·	,,,,		1		1		
<b></b>	•••••	$\cdots$				1	1.2	
	::::	:				<b> </b>		
•						1		
	::::			· ·				
-	-		1" PVC Riser #1 Morie Sand		Brown, fine sand, trace silt, wet		1.6	
		ļ.,.,-	# I MORE SERV	1			'}	
		· · · · ·		1				
•							V	
	••••	• • • • • • • • • • • • • • • • • • • •					1.7	
•	*** <b>*</b>	$\{::::$		}			'}	
-	:::	::::		·			}	
	:::::	∄ःःः					Y	}
-	::::	<b>≓∷</b> ∷:		H+	Brown, fine SAND, little silt, wet.	-	1.6	
	::::=	<b>∄;</b> `		1.	. ,		7	
•	::::=	<b>****</b>	Pre-pack	]		j		
-	:::::=	$\exists \cdots$	Screen			<b>1</b>		
		$\exists \cdots$		<del></del>	Brown, fine SAND, some Silt, wet.		0.9	
••	₩	<b>≓∷</b> ∷:		111111	Brown, medium to high plasticity clay,		1	
	::: <u>:</u> :		Bottom plug		wet.	-{	}	
	- <del>\</del>	$\triangle$	Bentonite		Brown, medium to fine SAND, some Silt,	Д 🍱	ľ	
_			Slurry	H	some Gravel, wet.	H	1	
							[	
••							}	
							}	
				}			}	
				}		1 1	Į.	
				1		1	1	
-						}	}	



VELL NO.	NORTHING		EASTING			
MW-103S PROJECT NO NAME	161041		<b>938714.4</b> LOCATION			<del></del>
125801Y / Coral Island	Shopping Center		1650 Richmond Avenue			
PPROVED BY	LOGGED BY		7			
DRAFT	J. Sakellis		Staten Island, New York			
DRILLING CONTRACTOR/			GEOGRAPHIC AREA			
<b>ROUX Associates / J. \</b> DRILL BIT DIAMETER/TYP		FTER	DRILLING EQUIPMENT/METHOD	SAMPLING	METHOD	START-FINISH DATE
2-in. / Drive Sampler	3.25-inches		6620 / Geoprobe	2" Macro		8/25/05-8/25/05
CASING MAT JOIA.	SCREEN:					
PVC / 1-inch	TYPE Pre-Pa		T. PVC TOTAL LENGTH		A. 1-inch	SLOT SIZE 20-Slot
	GROUND SURFACE 33.73	33.39	ELL CASING TOP & BOTTOM S 31.7 / 26.7	CKEEN	Morie #	PACK SIZES
Flushmount	√1" J Plug	<del> </del>	<u> </u>		MOIR #	<del></del>
epth, Wellbox		Graphic	Viewal Departmen	Blow	PID Values	REMARKS
eet	_	Log	Visual Description	Counts per 6*	(ppm)	KEMPKKS
	Cement Grou		Brown, medium to fine SAND, some		7	
	Bentonite	HAAAA '	Gravel, little cobbles, trace plactic, met	al		ampled 0.5 to 2 ft. interval
	#1 Morie San		wire and brick, dry. Dark Brown, course to fine SAND, som	e	fc	or VOC analysis.
	1" PVC Riser		Gravel, trace silt, trace brick, organic	-		
		FT444	material, moist.			
*••••		HHH				
	<b>=</b> ::::		Grey SILT, little fine sand, moist.			
5_	Pre-pack Screen	F===				
•••••						
	<b>⊒</b> ∷∷		Dark Brown to black, medium to fine		}	
	Bottom Plug		SAND, some Silt, little organic material	,		
···	5 6 6 DOLLOW I ING	1	moist.		1 1	
					s	ampled 7.5 to 10 ft. interv
					fic	or VOC analysis.
•••						
0_				{		
		[		{		
•••		1		}		
• • •		1			1	
··-						
		1				
		1				
* • • •						
5		}				
		}			}	
•••		1				
,,		}		] !	1	
		}			1	
					1	
•••		}			<b>\</b>	
				}	1	
<u>o_</u>					1	
•••					1	
				) {	1	
•••				1	1	
•••						
5_						
<u>~ .</u>				} }	}	
		1		}	1	
•••		1				
		}			}	
•••					}	
		1 1			1 1	
		}		] !	) 1	



Page 1 of 1 WELL CONSTRUCTION LOG

WELL N		NORTHING		NSTRUCTION LOG			
100 IC	MW-104D	161053.6		938600.7			
	CT NO NAME 1Y / Coral Island S	nonnina Center		LOCATION  1650 Richmond Avenue			
VPPRO	VED BY	LOGGED BY					
DRAF		J. Sakellis		Staten Island, New York			
	NG CONTRACTOR/DR			GEOGRAPHIC AREA			
	<b>Associates / J. Vei</b> BIT DIAMETER/TYPE	SS   BOREHOLE DIAM	ETER	DRILLING EQUIPMENT/METHOD	SAMPLING M	ETHOD	START-FINISH DATE
2-in./	Drive Sampler	3.25-inches		6620 / Geoprobe	2" Macro-C		8/30/05-9/9/05
CASING	MAT/DIA.	SCREEN:		<del></del>		4	
	<b>1-inch</b> TION OF: GRO	TYPE Pre-Pa		AT. <b>PVC</b> TOTAL LENGTH • ELL CASING TOP & BOTTOM SO		1-inch	SLOT SIZE <b>20-Slot</b> L PACK SIZES
Feet)	33.		33.56	10.3 / 15.3	r, 4mb-1 T	Morie	
	Flushmount Wellbox	1" J Plug			DI	PID	
epth, feet	TOILUIK \		Graphic Log	Visual Description	Blow Counts	Velues	REMARKS
<del></del> -				<u>·</u>	per 6"	(ppm)	· · · · · · · · · · · · · · · · · · ·
	2 0	Cement Grou		Asphalt		Ì	Sampled 0.5 to 2 ft. interval
•••	000	O A Cement Grou		Brown, course to fine SAND, some	$\neg$	0.3	for VOC analysis.
	$\rightleftarrows$	RA .		Gravel, trace Brick, trace Concrete, trace organic material (Lumber), moist. (fill)	9	1	
	$\rightleftarrows$	KX		Brown, course to fine SAND, little gravel	-   G	à	}
•••	$\rightleftarrows$		HALL	little organic material (Lumber), trace	.	9.3	
	$\rightleftarrows$	KX	1 1 1 1 1	Brick trace Concrete, moist, (fill)			0
5	$\Rightarrow \exists$		1 1	Grey, fine SAND, little silt, moist.		0.1	Sampled 4 to 6 ft. interval for VOC analysis.
_	$\rightleftarrows$	$\bowtie$		Brown to black, fine SAND, little Silt, little organic material (Roots, Weeds), moist.	<b>"</b> /	<b>.</b>	Sampled groundwater for
	<b>☆</b>	Bentonite		Grey to black, fine SAND, some Silt, little		ı	VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals
	$\rightleftarrows$	KX		black organic material, moist. Grey SILT, little clay, moist.	J	0.2	and Cyanide analyses.
	$\not \bowtie$	<b>₽</b> ₩		• •		-	
	$\rightleftarrows$	KX		Grey SILT, little clay, moist/wet			Sampled 7.5 to 10 ft. interval for VOC analysis.
	$\Rightarrow \exists$	<b>₽</b> ₩				0.3	TOT 400 citalysis.
	$\bowtie$	$\bowtie$	7.1	Brown, fine SAND, trace silt, wet.		Ĭ	
<u>o_</u>		ĸ.Ÿ		Brown, fine SAND, trace silt, wet.			
	• • • • •	• • • • •	1	E. S. Frigue Co. 2 (15), 11000 ONLy WOL.		1	
	• , • , • ]	<b>::::</b> :					
•••	• • • • • • • • • • • • • • • • • • • •	• • • •				0.2	
		  ••••  •••• #1 Morie San		Brown fine SAND, trace silt, wet.			
		**** ** WINNE 28U					
•••	· · · · · · · · · · · · · · · · · · ·	1° PVC Riser	1			0.1	}
5_			1			<u> </u>	
_	• • • • •			Brown, fine SAND, trace silt, wet.			
•••	****					l	
	••••	••••				0.4	
	•••••	••••		Brown fine CAND come Cit		]	
	••••	••••		Brown, fine SAND, some Sitt, wet.			
• • •	::::	•••••				0.9	
				Brown, fine SAND, some Silt, wet.	_	I	
20_	::::	· · · · · · · · · · · · · · · · · · ·		Brown CLAY, little silt, wet.		7	
•••		Pre-pack		·		1	
	::::	Screen				0.1	}
· · ··		• • • •				ſ	Bottom of soil boring at 22.5
• • • •		• • • • •				1	ft bis.
	<u> </u>	Bottom Plug				1	
					}	[	
<u>.5</u>						}	
• • •			1				



WELL NO.	NORTHING		EASTING 938602.2				
MW-104S PROJECT NO /NAME	161053.3		LOCATION				
125801Y / Coral Island		<u></u>	1650 Richmond As	renue			
APPROVED BY DRAFT	LOGGED BY  J. Sakellis		Staten Island, New	y Vork			
DRILLING CONTRACTOR			GEOGRAPHIC AREA	TOIN			
Roux Associates / J.			DOM LINO FOLUDIATION	TAKETHOD	CALADIANCA	4500	CTADT EINIGH DATE
DRILL BIT DIAMETER/TYF 2-in. / Drive Sampler	PE BOREHOLE DIA 3.25-inches	METER	DRILLING EQUIPMENT 6620 / Geoprobe	I/METHOD	SAMPLING I		START-FINISH DATE 9/9/05-9/9/05
CASING MAT/DIA.	SCREEN:				L MACO	<u> </u>	
PVC / 1-inch	TYPE Pre-f	Packed MA		AL LENGTH -5		1-inch	SLOT SIZE 20-Slot PACK SIZES
	GROUND SURFACE 33.78	33.53	26.3 /		CEEN	Morie i	
Flushmount	1° J Plug				<b></b>	PID	<u> </u>
epth, Wellbox		Graphic Log	Visual Descr	iption	Blow Counts	Values	REMARKS
feet					per 6°	(ppm)	
			Asphalt		1	1	Sampled 0.5 to 2 ft. interval
	1" PVC Ris	er PPPP	Brown, course to fine SAN		7	0.3	for VOC analysis.
	Berntonite	HATT	Gravel, trace Brick, trace C organic material (Lumber)	, moist. (fill)			
···			Brown, course to fine SAN	D, little gravel,		4	}
؞ ؙڡ <sub>ۣ</sub> ٞڡ؞		Hill	little organic material (Lum Brick trace Concrete, mois			9.3	
	#1 Morie S	and	Grey, fine SAND, little silt,	moist.	7		Sampled 4 to 6 ft. interval for
5	Pre-pack	F	Brown to black, fine SAND	), little Silt, little	7	0.1	VOC analysis.
• • • • • • • • • • • • • • • • • • • •	Screen	<u>                                   </u>	organic material (Roots, W Grey to black, fine SAND,	some Silt. little	<b>/</b>		
		\	black organic material, mo	ist.	/	0.2	
	Bottom Plu		Grey SILT, little clay, mois	t.		V	Bottom of well at 7.5 ft bis.
		•					DOLONI OF WOR GET 1.5 II DIS.
						}	
<u>10</u>		-			}		
••••							
						1	
					1	1	
						1	
		}			}		
<u>15</u>						{	{
						}	
					}	}	
• • • •		}			}	}	{
						}	
20		}			{		
<del></del> -						1	
* * * * *						}	
• • • •						}	
****						}	
••••					}		
25_		}					
<del></del>						1	
****						}	
						{	
						}	
4						1	}
****					1		
30					1 1	1 1	}



WELL I	NO. <b>MW-105D</b>	NORTHING 160931.7		EASTING 938567					
PROJE	CT NO NAME	100931.7		LOCATION					
12580	1Y / Coral Island S	hopping Center	<u> </u>	1650 Richr	nond Avenue				
	OVED BY	LOGGED BY		Ctatas Inla	Navy Vards				
DRAF	'I NG CONTRACTOR/DR	<b>J. Sakellis</b>		GEOGRAPH	ind, New York			<u> </u>	
	Associates / J. Vei			0200.11.	1071121				
DRILL E	BIT DIAMETER/TYPE	BOREHOLE DIA	METER		QUIPMENT/METHOD	SAMPLING N		START-FINISH DATE	_
2-in./	Drive Sampler	3.25-inches		6620 / Geo	probe	2" Macro-	Core	8/29/05-8/29/05	
	G MAT./DIA. <b>1-inch</b>	SCREEN: TYPE <b>Pre-F</b>	Packed MA	т. <b>РVС</b>	TOTAL LENGTH -	50e DIA	. 1-inch	SLOT SIZE 20-Slot	
		OUND SURFACE		ELL CASING	TOP & BOTTOM SC			L PACK SIZES	_
(Feet)	32.		32.56		14.4 / 19.4		Morie	#1	
	Flushmount Wellbox	1" J Plug				Blow	PID		
epth, feet			Graphic Log	Visual	Description	Counts	Values	REMARKS	
				O	auma to fina CAND	per 6"	(ppm)	T	
		Cernent Gro			ourse to fine SAND, me Concrete, little brick		0.4		
• • • •				and silt, dry/mois					•
	+	R <del>X</del>	mm				a	Sampled 1.5 to 3 ft. interva	4.
	$\rightleftarrows$	$\bowtie$	HHH					for VOC analysis.	
	$\rightleftarrows$		mm						•
	$\rightleftarrows$	KXX	HHH				_		
5	<del>-</del>	R-\		Brown to grey, m	nedium to fine SAND, rganic material, trace		0.4	Compled 4.54- C.S. 1-4:	
<u>5</u>	$\rightleftarrows$	$\mathbb{R}$		gravel, moist.	rywno maioliai, uadb		0.5	Sampled 4.5 to 6 ft. interval for VOC analysis.	4 _
	$\rightleftarrows$	Bentonite	[]	Grey SILT, little	clary, trace fine sand,	_	7	Sampled groundwater for	
	<b>***</b>			dry/moist.		]}		VOC analysis.	•
• • •	$\longleftrightarrow$	$\bowtie$		Grey, fine SAND	, some Sitt, moist/wet.				
	$\rightarrow \simeq$	KX .		Grey, fine SAND	, some Silt, wet		0.6		
	<del></del>			• •					••
	$\qquad \qquad \forall \forall$	$\mathbb{R}^{2}$		Brown, fine SAN	D, little silt, wet.				
0	$\rightleftarrows$	<del>                                      </del>							
<u>-</u>	?:::::::::::::::::::::::::::::::::::::	· · · · · · · · · · · · · · · · · · ·					0.6		-
	``````````````````````````````````````	ຸ້າ ໍ້າໍ້າໍ້າ ******* 1" PVC Rise							
	******	ໍ້ໍໍໍ່ໍໍໍ່ *** ** #1 Morie Sa				-   -			
• • • •		· · · · · · · · · · · · · · · · · · ·		Brown, fine SAN	D. little silt, wet.		N		
		• • • • • •		,	_,		1.1		
	******	* * * * * * * * * * * * * * * * * * * *							
· • •	::::	<b></b>					V.		
5_		<b>-</b>					V		
_				Brown, fine SAN	D, some Silt, wet		0.9	1	-
• • •	***	Pre-Packed					<b>!</b>		
		Screen					V		
• • ••							N		••
				Brown, high plas	ticity CLAY, little silt, wet	t.	0.6		
	••••	Bottom Plug					<b>'</b>		
• • • •							N .		••
0_							Ŋ		2
• • •									••
							1		
• • • •									
									••
<u>:5</u> _									3
•••									••
<u>30</u>				_					3



Page 1 of 1 WELLNO.	NORTHING	LLL OU	EASTING	TION LOG			
MW-105S	160933.4	:	938567.5				
PROJECT NO NAME	land Shopping Center	,	LOCATION 1650 Richma	ond Avenue			
APPROVED BY	LOGGED BY		7				
DRAFT DRILLING CONTRACT	J. Sakeliis		Staten Islan GEOGRAPHIC	d, New York			
Roux Associates /			GEOGRAFIIC	ANICA			
DRILL BIT DIAMETER	TYPE BOREHOLE DIA	METER	<b>I</b>	JIPMENT/METHOD	SAMPLING		START-FINISH DATE
<b>2-in. / Drive Samp</b> l CASING MAT <i>I</i> DIA.	ler 3.25-inches SCREEN:		6620 / Geop	robe	2" Macro-	Core	8/29/05-8/29/05
PVC / 1-inch	TYPE Pre-P		T. PVC	TOTAL LENGTH 5		1-inch	SLOT SIZE 20-Slot
ELEVATION OF:	GROUND SURFACE 32.85	TOP OF WI 32.61	ELL CASING	TOP & BOTTOM SC 31.9 / 26.9	REEN	GRAVEI Morie	L PACK SIZES
(Feet) Flushmount		32.01		31.37 20.3			#1
Depth, Wellbox		Graphic	Visual D	Description	Blow Counts	PID Values	REMARKS
feet		Log			per 6°	(ppm)	T
6.9	Cement Gro		some Gravel, som	urse to fine SAND, le Concrete, little brick		ł	
	1° PVC Risk	"HHH!	and silt, dry/moist				0
		HHH.					Sampled 1.5 to 3 ft. interval for VOC analysis.
		THAT I					
•	Pre-pack Screen	西田					1
	Screen		Brown to grey, me	dium to fine SAND, panic material, trace	7 1		5 1 1 4 5 to 5 6 to to col
<u>5</u> :			gravel <u>, m</u> oist.	pariic material, bace	1		Sampled 4.5 to 6 ft. interval for VOC analysis.
	Bottom Plug		Grey SILT, little cla dry/moist.	ay, trace fine sand,			·
		1	ury///kolac		_	1	
• • • •						ĺ	
						ĺ	
10							
<u> 17 -</u>							
••••							
****					] ]		
		) )					
••••					1		
		1			}	}	
15		} }					
		}					
••••		}					
** * **							
		1				1	
		1				}	
••••						}	
20		1					}
••••		1			1 1	-	
					}	{	{
		}			}	1	}
					}	1	
						1	
25_						1	
<del></del>					1	}	
						}	
						1	}
25    30						1	}
****						1	1
30		1					



ELL NO.		NORTHING		EASTING			
	V-106D	160942.2		938703.2			
	NO NAME	Chanalas O4-		LOCATION 1650 Richmond Avenue			
		Shopping Center LOGGED BY		- 1000 recipioner Pacific			
PROVED RAFT	, 11	J. Sakellis		Staten Island, New York			
III LING C	CONTRACTOR/E	DRILLER		GEOGRAPHIC AREA			
	sociates / J. V			023010111137111111			
	DIAMETER/TYPE		TER	DRILLING EQUIPMENT/METHOD	SAMPLIN	G METHOD	START-FINISH DATE
	ve Sampler	3.25-inches		6620 / Geoprobe	2" Macr	o-Core	9/12/05-9/12/05
SING MA		SCREEN:		_ <del></del>			
/C / 1-in	nch	TYPE Pre-Pa		T. <b>PVC</b> TOTAL LENGTH		DIA. <b>1-inch</b>	SLOT SIZE 20-Slot
EVATION		ROUND SURFACE		ELL CASING TOP & BOTTOM :	SCREEN		PACK SIZES
eet)		3.13	32.80	14.1 / 19.1		Morie #	<u> </u>
	shmount Wellbox	1" J Plug			Blow	PID	
en,	AA GIIDOX		Graphic	Visual Description	Counts		REMARKS
st.			Log	1.011. D000po	per 6"	(ppm)	
	- 62 % T			Asphalt		0.6	
	°oa	O Cement Grout		Brown, course to fine SAND, some		1 1	
	_0 \	0 1		Gravel, little silt, trace brick, dry/moist.	.	1 }	Sampled 0.5 to 2 ft. interval
	:HOH:	$\mathbb{R}$	4444		1	1 1	for VOC analysis.
	$\Rightarrow \Rightarrow$	$\forall \rightarrow$	mm		1		
••	-₩	$\mathcal{K} \rightarrow$	HHH		1	M 1	
	$A \hookrightarrow A$	ЮK	HALLY.	Cross to dark arms for CAND ac C	164	1 }	
		K->->		Grey to dark grey, fine SAND, some S trace black organic material.	nı,		
	$\rightarrow$		}	race black organic material.	1	-{	Complet 4 to 6 ft interval f
		Bentonite	H	Grey SILT, little fine sand, little clay,			Sampled 4 to 6 ft. interval fi VOC analysis.
	$\bowtie$	$\mathbb{R}^{2}$		moist.	A		VOC analysis. Upper silt/clay unit begins a
-	$\forall \forall$	KX	1	Grey, fine SAND, trace slit, moist/wet.	/	{ <b>**</b> }	approximately 5.5 ft. bis.
	$\leftarrow$	Ю <del>Н</del> =:	}		1	₩{	Sampled groundwater for
•	$\rightarrow \rightarrow$	1º PVC Riser	1		ļ	<b>     </b>	VOC analysis.
_	$\rightarrow$	15-C2	<u> </u>	Brown, fine SAND, trace silt, wet.		0.2	
-	;.;;(	F.:	; · .     '	POWIT, INTE CATED, ILOUG SIIL, WOL.	}	14	
		••••	1		1	▲	
	****	• • • •	1		J		
-	•:•:•:		1		}	i	
	 ا		<u> </u>		}	0.4	
	• • • • •	#1 Morie Sand	<b>4</b> • • • • • • • • • • • • • • • • • • •		1	<b>   </b>	
	*****		10 11 11		ļ	<b>       </b>	
	:::::		1		}		
	••••	• • • • • • • • • • • • • • • • • • • •	} · · · ] •	Brown, fine SAND, trace silt, wet.	}	0.5	
••	****		}	many many are a super and sage	(		
	• • • • •	<b>, , , , ,</b>	1		}	<b> </b>	
-	<u></u>	<b>⋽</b> .∷	1		}		
_	*:••	<b>≓</b> ∷∷			1		
-		<b>≕</b>	1		ļ	0.9	
	::::E	<b>≒</b> ∷∷	1 11				
	::::	Pre-pack	1: 3		}	<b>  T</b>	
-	::::: <u>:</u>	Screen	1.		1	171	
	::::: <u>:</u> ::	<b>∃</b> :∷:	1		ļ	1.2	
	:::::=	=;:::	10 : 1		}		Lower sitt/clay unit begins a
		<b>∃</b> ::::	1111111	Brown CLAY, little silt, moist/wet.			approximately 18 ft. bls.
•	* * * *	Bottom Plug					Bottom of well at 19 ft bis.
_					1		
-						17 1	
			1		1	-{ <b>}</b> - }	
•			}		1	{	
••			1			11	
			1		1	1) 1	
			1				
			1		1	1 (	
			1		į		
			1			4 1	
-			1		ŀ		
			1		}		
			1			] {	
			1		ļ	]	
			} L		}	11 1	
					ł	{   }	
			<b> </b>		J	11 1	
			1		1		
-			1		1	-1 1 1	
			, ,		- 1	(   '	



WELL NO.	NORTHING		EASTING				
MW-106S	160942.2		938705.2				
PROJECT NO NAME	d Oh		LOCATION 1650 Richmond Avenue				
<mark>125801Y / Coral Island</mark> APPROVED BY	LOGGED BY						
DRAFT	J. Sakellis		Staten Island, New York				
DRILLING CONTRACTOR	DRILLER		GEOGRAPHIC AREA				
Roux Associates / J.	Veiss						
DRILL BIT DIAMETER/TYP	E BOREHOLE DIAM	ETER	DRILLING EQUIPMENT/METHOD	SAMPLIN			START-FINISH DATE
2-in, / Drive Sampler	3.25-inches		6620 / Geoprobe	2" Macr	<u>o-Co</u>	re	9/12/05-9/12/05
CASING MAT /DIA.	SCREEN:		- 740	50a .	<b>4</b>	inal	SLOT SIZE 20-Slot
PVC / 1-inch	TYPE <b>Pre-Pa</b> GROUND SURFACE		AT. <b>PVC</b> TOTAL LENGTH TOP & BOTTOM S		DIA. 1		PACK SIZES
	33.15	32.94	27.2 / 32.2	OILLIA		<b>Morie #</b>	
(Feet) Flushmount		JE. 07					<u></u>
epth, Wellbox		Graphic		Blow		PID	DEMARKO
feet		Log	Visual Description	Counts per 6*		alues (ppm)	REMARKS
	Cernent Grou		Asphalt	7	$\tau$	0.6	
P 7	Bentonite		Brown, course to fine SAND, some		$\{ \}$	0.0	
	1' PVC Riser	mm	Gravel, little silt, trace brick, dry/moist.	1	+	- {	Sampled 0.5 to 2 ft. interval
	=₹::::	4444	•			}	for VOC analysis.
		DTT -			G	{	
*, *, *, *, *, *, *, *, *, *, *, *, *, *	<b>⊒</b> :∷:	HHH			$ \mathcal{A} $	1	
*****	Pre-pack	<del></del>	Grey to dark grey, fine SAND, some Sit			l	
	Screen	J + +	trace black organic material.	7	( )	l	
5	#1 Morie San	<b>d</b> [ — [	_	_ ]			Sampled 4 to 6 ft, interval for
			Grey SILT, little fine sand, little clay,		Y	0.0	VOC analysis.
	Bottom Plug	h	moist.	_/_		}	Upper sitt/clay unit begins at approximately 5.5 ft, bls.
		1 1,	Grey, fine SAND, trace silt, moist/wet.		11		approximately 5.5 it. bis. Bottom of well is at 6 ft bis.
		(		[			DOLLOTT OF WELL IS ALL O IL DIS.
		{				Ì	
		} (				Ì	
		} (				Í	
		} (			1	Í	
<u>10</u>		] [			{ {	1	
		1			1	{	
					1	{	
		1		1	11	ſ	
****		1 1			) }	)	
					11	}	
		1				}	
• • • • •		1		}	} }	}	
15		1			11	)	
		1			11	j	
		1			1 }	}	
		1				j	
••••		1		)		)	
		1				}	
••••		1		}		,	
		1		}			
				}	+		
20_		}			( )		
		1			{ }	Ì	
		1		1	11	1	
		1			1 }	1	
		} }		}	} }	)	
		}		1	11	}	
••••		}		1	11	}	
		1		-	1 }	}	
O.E.		1		{	1	}	
25_		1		-	1	}	
		1		}	11	}	
****		1		1	1	}	
		1		}	1	}	
****		1			1	1	
••••		1				}	
		}			1	1	
****		1			+		
		i l		1			



WELL NO		NORTHING		EASTING			
	<b>W-107AD</b> FNOJNAME	160912.4		938787.8 LOCATION			
		d Shopping Center		1650 Richmond Avenue			
APPROVE		LOGGED BY		_			
DRAFT		J. Sakellis		Staten Island, New York			
	CONTRACTOR			GEOGRAPHIC AREA			
	ssociates / J.		ETED	In Front of Jeweler	SAMPLING N	AETHON	START-FINISH DATE
	DIAMETER/TY	i	EIER	DRILLING EQUIPMENT/METHOD	2" Macro-		9/14/05-9/14/05
	rive Sampler MAT./DIA.	3.25-inches SCREEN:		6620 / Geoprobe	z macru-	-V16	37 1-805-37 1-803
PVC / 1-		TYPE Pre-Pa	acked MA	T. <b>PVC</b> TOTAL LENGTH -5	.0 ft DIA	. 1-inch	SLOT SIZE 20-Slot
ELEVATION		GROUND SURFACE		ELL CASING TOP & BOTTOM SCR			PACK SIZES
(Feet)		32.61	32.40	5.6 / 10.6		Morie #	H
Ā	lushmount Wellbox	1" J Plug			Blow	PID	
Depth,	AA GAIDOX		Graphic	Visual Description	Counts	Values	REMARKS
feet			Log		per 6"	(ppm)	
				Asphalt	_	}	
	0.0	Cement Grou		Brown, coarse to fine SAND, some Gravel, little Asphalt, trace Silt, Glass,		18.2	Sampled 0.5 to 2 ft, interval
	~ <u>~</u> ~	l KA		and Brick, (fill); dry.		-1 1	for VOC, SVOC, Pesticide,
• • • •	<del></del>			Brown to grey, fine SAND, little Silt, trace	7 1	기 !	PCB, Herbicide, TAL Metals
	$\rightarrow$	1 KX		Gravel, trace organic materials (i.e. weeds and roots); moist.		1 1	and Cyanide analyses. Hand excavated to 4ft bis as
	<b>☆</b>	1 (2)		moods and roots j, inclist.			part of utility clearance
<del></del>	; <del>\</del>			Brown, medium to fine SAND; moist.	{	<b>=</b>	
5	$\leftarrow$	1 62				4.8	
	$\Rightarrow$	1 K2X		Grey to brown, medium to fine SAND,		N	
				trace Silt; moist/wet. Brown, medium to fine SAND, trace Silt;	- (	1.9	Complet Ato 68 interior
	GROUND -	<b>1</b> KX		Brown, medium to line SAND, trace Sit; wet		/	Sampled 4 to 6 ft. interval for VOC, SVOC, Pesticide,
	TER LEVEL	<b>∮</b> K <del>X</del> X			_	4.0	PCB, Herbicide, TAL Metals
	<del></del>			Brown, medium to fine SAND; wet.			and Cyanide analyses.
	$\rightarrow$					<b>/</b> }	
	$\leftarrow$	1 KX			1 1/	4.2	
10	<b>→</b>	Berntonite				N I	
10			*****	Brown, medium to fine SAND, trace Silt;	7		
	$\leftarrow$	1 KX		wet		,	
	$\rightarrow$	1 R <del>-</del> 2	[::::::::]			3.6	
	$\Rightarrow$					[]	
	<del> </del>		<del>    -   -   -   -   -   -   -  </del>	Brown SILT, little fine SAND; wet.	¦	[] [	
· • • • •	· <del>\</del>	8 R <del>-X</del>	[====]	, <del> ,</del>		lf l	
	<b>→</b>	<b>1</b>	7777	Brown Clay, trace Silt; moist/wet	<b>⊣</b> \	4.1	
16		<b>1</b> K☆≺				1	
15	- <del>-</del>	1° PVC Riser	( <del></del>	Brown SILT, little Gravel, trace fine Sand;	-	<b></b>	
	$\Rightarrow$			moist/wet.		1	
	$\rightarrow$	<b>1</b> K☆				6.3	
	$\rightarrow$	<b>₹</b>	1		-		
	<b>→</b>				-		
	, <del>, , ,</del> , ,	] [;·····			- } - }	<b>\</b> {	
· · · · ·	****	}				5.8	
	••••	}	<del> </del>			]	
20_		#1 Morie San	di	Brown, fine SAND, trace Gravel and Silt;			
	, , , ,	}		wet.			
	• • • • • • • • • • • • • • • • • • • •					4.9	
	`a`o", * * * * * 4 ^ 4 * * *		<u> </u> :::::::::			"	
			******	Brown, coarse to fine SAND, trace Silt	- 1		
	****			and Gravel; wet.	)		
	****				}	4.2	
	•••••					7-2	
25_	•••••	Pre-pack Screen		Brown, fine SAND, some Silt, trace Clay		-	l ithologu data uma abtainnad
				and Gravel; wet.			Lithology data was obtained from SB-107A, performed
• • • • •	••••		```	· · · · · · · · · · · · · · · · · · ·			9/14/2005
	::::					5.3	
- / • ••	••••	Bottom Plug	···· <u>···</u>	Daniel Cil T Rive O'co. Acc. Co. Co.	_	[[ ]	
				Brown SILT, little Clay, trace fine Sand; moist/wet.	1		
					}		
• • • •						5.1	
30					1		



PROJECT NO JAME  25801Y / Coral Island Shopping Center  IPPROVED BY  IRAFT  J. Sakellis  Staten Island, New York  GEOGRAPHIC AREA In Front of Jeweler  PRILL ING CONTRACTOR/DRILLER  RILL ING CONTRACTOR/DRILLER  ROUX Associates / J. Veiss  In Front of Jeweler  DRILLING EQUIPMENT/METHOD  SAMPLING METHOD  START-FINISH DATE  ASSING MAT./DIA.  SCREEN:  TYPE Pre-Packed  MAT. PVC  TOTAL LENGTH -5.0 ft DIA. 1-inch  SLOT SIZE 20-Slot  GRAVEL PACK SIZES  Morie #1  Flushmount  Wellbox  Brown, coarse to fine SAND, some Gravel, little Asphalt, trace Silt, Glass, and Brick, (fill); dry.  Brown to grey, fine SAND, little Silt, trace Gravel, little Asphalt, trace Brown to grey, fine SAND, little Silt, trace Gravel, little Asphalt, trace Brown to grey, fine SAND, little Silt, trace PCB, Herbidde, TAL Metalia  And Crayle, trace organic materials (i.e.  Brown to grey, fine SAND, little Silt, trace PCB, Herbidde, TAL Metalia and Cyanide analyses.	WELL NO		NORTH 16001			EASTING 938785.8			
Staten Island, New York  RAFT  RAFT  RILLING CONTRACTORDRULER  GEOGRAPHIC AREA  GEOGRAPHIC AREA  In Front of Jeweler  In Front of Jeweler  SARC MAT JOW.  SARCHER PROPERLY  SCREEN PROCES OF OF WILL CASING TOP & SOTTOM SORED  SARCH MAT JOW.  SCREEN PROCES OF OF WILL CASING TOP & SOTTOM SORED  GRAVEL PACK SIZES  SUBJECTION OF GROUND SURFACE TOP OF WILL CASING TOP & SOTTOM SORED  IT J PLOT IN SORED  SARCH MAT JOW.  SCREEN PROCES OF OF WILL CASING TOP & SOTTOM SORED  GRAVEL PACK SIZES  Moris #1  From Comment Growth, Illino SAND, some Gravel, Illino SAND, some Gravel, Illino SAND, some Gravel, Illino SAND, some Gravel, Illino SAND, some SAND, moist  GROUND SURFACE TOP OF WILL CASING TOP & SOTTOM SORED  Comment Growth  From Comment Gravel, Illino SAND, some SAND, some Gravel, Illino SAND, some Gravel, Illino SAND, some SAND	PROJECT	NO./NAME				LOCATION			<del></del>
PROVED BY RRATT RILLING CONTRACTOR/DRILLER ROOM ASSOCIATION SCREEN HILLING CONTRACTOR/DRILLER GEOGRAPHIC APECA HILLING CONTRACTOR/DRILLING HILLING GEOGRAPHIC APECA HILLING CONTRACTOR HILLING GEOGRAPHIC APECA HILLING CONTRACTOR HILLING GEOGRAPHIC APECA HILLING GEO	125801Y	/ / Coral Islan	nd Shopping (	Center		1650 Richmond Avenue			
GEOGRAPHIC AVENER IN FORT OF JAVENER IN FORT OF JAV	<b>IPPROVE</b>		LOGGE	ED BY		Otatam Injered Alexa Med			
The control of the well of the control of the well of the control of the contro		CONTRACTO		Keliis					
PRILLEY DIAMETER TYPE    Common   Commo									
ASSING MAT JOLA VEY PRO-Packed LEVATION OF: GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN TY, TIZZY  Graphic Log	DRILL BIT	DIAMETER/T	PE BOREHO	LE DIAMET	TER	DRILLING EQUIPMENT/METHOD	SAMPLING	METHOD	
TYPE Pre-Packed MAT. PVC  INCALLENGTH - 5.0 ft. DIA. 1-Inch. SLOT SIZE 20-Size LEVATION OF GROUND SUPFACE TO FO FWELL CASING TOP & BOTTOM SCREEN  RAWEL PACK SIZES MAYEL TOP A BOTTOM SCREEN  RAWEL PACK SIZES MAYEL TOP A BOTTOM SCREEN TOP A BOTTOM	2-in <u>. / Dr</u>	rive Sample				6620 / Geoprobe	2" Macro-	-Core	9/14/05-9/15/05
ASPURING OFFICE SPECIAL TOP OF WELL CASING TOP & BOTTON SCREEN  17.71/22.7    Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   17.71/22.7   Wildow   1					lead o	- FMC - TOTAL I SUCH !	F.A	ماميك ف	01 07 017 20 Clad
Flushmount Welfbox Remain Grout  Cament Grout  Applicati  Cament Grout  Cament Grout  Applicati  Cament Grout  Cam									
Wellbox Wellbox Wellbox Us u al D e s cription Blow Counts Wellbox Well us a FEMANIX Graphic Log  Cement Grout  Asphalt Frown, coarse to fine SAND, some Gravel, trace organic materials (i.e. weeds and roca), moles.  Brown, medium to fine SAND, moist.  Grey to brown, medium to fine SAND, trace Silt, wet  T PVC Rises Brown, medium to fine SAND, trace Silt, wet  T PVC Rises Brown, medium to fine SAND, trace Silt, wet  Brown, medium to fine SAND, trace Silt, wet  T PVC Rises Brown, medium to fine SAND, trace Silt, wet  Brown, medium to fine SAND, trace Silt, wet  Brown, medium to fine SAND, trace Silt, wet  Brown, sill, T, little Gravel, trace fine Sand;  Brown, fine SAND, trace Silt, wet  Brown, coarse to fine SAND, trace Silt, wet  Brown, fine SAND, trace Silt, moist/wet  Brown, sill, T, little Gravel, trace fine Sand;  Brown, coarse to fine SAND, trace Silt, wet  Brown, coarse to fine SAND, trace Silt, wet  Brown, sill, T, little Gravel, trace fine Sand;  Brown, coarse to fine SAND, trace Silt, wet  Brown, coarse to fine SAND, trace Silt, wet  Brown, sill, T, little Gravel, trace fine Sand;  Brown, coarse to fine SAND, trace Silt, wet  Brown, sill, T, little Gravel, trace fine Sand;  Brown, sill, T, little Gravel, trace fine Sand;  Brown, some Silt, trace fine Sand;		J. 1 O		u /IOL			VLLI4		
Asphalt Asphalt Forward Country Asphalt Forward Country Brown, coarse to fine SAND, some Gravel, filth Asphalt, trace Sit, Class, and Brick (filth), filth SAND, trace Sit, trace Brown, medium to fine SAND, trace Sit, wed.  Brown, medium to fine SAND, trace Sit, well Brown, fine SAND, trace Sit, well  Brown, fine SAND, trace Sit, well  Brown, fine SAND, trace Sit, well  Brown, fine SAND, trace Sit, well  Brown, fine SAND, trace Sit, well  Brown, fine SAND, trace Sit, rece Clay, rece Clayd, well.  Brown, fine SAND, some Sit, trace Clay, rece Clayd, well.  Brown, SLT, little Clay, trace fine Sand, Frace Clayd, trace fine Sand, Frace				" J Plug					
Asphalt  Brown, coarse to fine SAND, some Gravel, little Asphalt, trace Sit, Class, and Brick, (fill), dry.  Brown to gray, fine SAND, little Sit, trace Gravel, little Asphalt, trace Sit, Class, and Brick, (fill), dry.  Brown to gray, fine SAND, little Sit, trace Gravel, little Asphalt, trace Sit, Class, and Brick, (fill), dry.  Brown, medium to fine SAND, moist.  Gray to brown, medium to fine SAND, moist.  GROUND  Brown, medium to fine SAND, trace Sit, wet  Brown, medium to fine SAND, trace Sit, wet  1º PVC Riser  et Morie Sand  Brown, medium to fine SAND, trace Sit, wet  3.6  Brown, medium to fine SAND, trace Sit, wet  3.6  Brown, sit, T, little Gravel, trace fine Sand; moist/wet.  Brown, coarse to fine SAND, trace Sit, wet.  5.  Brown, fine SAND, trace Sit, moist/wet  Brown, coarse to fine SAND, trace Sit, wet.  5.  Brown, fine SAND, trace Gravel and Sit, wet.  5.  Brown, fine SAND, some Sit, trace Clay, trace Gravel; wet.  Brown, fine SAND, some Sit, trace Clay, trace Gravel; wet.	epth,	Wellbox \			Graphic	Visual Description			DCMADKE
Asphat  Asphat  Asphat  Asphat  Brown, carse to fine SAND, some  Gravel, title Asphat, trace Sit, Glass, and Strick, (fill), dip  Brown to gray, fine SAND, moist.  GROUND  WATER LEVEL  Brown, medium to fine SAND, trace Sit, wed  Brown SILT, little Gravel, trace fine Sand; moist/wet  Brown, fine SAND, trace Sit, trace fine Sand; moist/wet  Brown, fine SAND, trace Sit, trace fine Sand; moist/wet  Brown, fine SAND, some Sit, trace Cisy, trace Gravel and Sit, wet.  Brown, fine SAND, some Sit, trace Cisy, trace Gravel, wet.  Brown, fine SAND, some Sit, trace Cisy, trace Gravel, wet.  Brown, fine SAND, some Sit, trace Cisy, trace Gravel, wet.  Brown, SILT, little Cisy, trace fine Sand; fine SAND, some Sit, trace Cisy, trace Gravel, wet.	eet	1			Log	Visual Description			LUCAMANA
Brown, coarse to fine SAND, some Silt, strace fine Sand, strace for the SAND, some Sand, strace silt, class, and Birks, (filt), dry.  Brown, medium to fine SAND, misst.  Brown, medium to fine SAND, moist.  GROUND  Brown, medium to fine SAND, trace Silt, west.  Brown, medium to fine SAND, trace Silt, west.  11 PVC Riser.  12 Brown, medium to fine SAND, trace Silt, west.  13 Brown, silt, little fine SAND, west.  14 Brown, silt, little fine SAND, west.  15 Brown, silt, little Grevel, trace fine Sand; moist/west.  16 Brown, fine SAND, trace Silt, west.  17 PVC Riser.  18 Brown, silt, little Grevel, trace fine Sand; moist/west.  19 Brown, fine SAND, trace Silt, west.  10 Brown, fine SAND, trace Gravel and Silt, west.  10 Brown, fine SAND, some Silt, trace Clay, trace fine Sand; moist/west.  18 Brown, silt, little Clay, trace fine Sand; moist west.			70						
and Brick, (RII); dry.  Brown to gray, fine SAND, little Silt, trace Gravel and Cyaride analyses.  Brown, medium to fine SAND, moist.  Brown, medium to fine SAND, race Silt; wet.  Brown, medium to fine SAND, trace Silt; wet.  1*PVC Reer  1*PVC Reer  1*PVC Reer  Brown, medium to fine SAND, trace Silt; wet.  Brown, medium to fine SAND, trace Silt; wet.  1*PVC Reer  Brown, medium to fine SAND, trace Silt; wet.  Brown SLT, little Gravel, trace fine Sand; moist/wet.  Brown, fine SAND, trace Silt; wet.  Brown, fine SAND, trace Silt; moist/wet.  Brown, fine SAND, some Silt, trace fine Sand; moist, wet.  Brown, fine SAND, some Silt, trace fine Sand; manually fine Sa		°0 .	9 10 9	ment Grout	444			1 1	
Brown, SAND, trace Sitt, mote SAND, trace Sitt, mote SAND, trace Sitt, mote sand Sand State Sand, sand Sand State Sand Sand Sand Sand Sand Sand Sand Sand		27	V KA	k	MH				Sampled 0.5 to 2 ft. interval
Gravel, trace organic materials (i.e., woods and cycls); moist.  Bentonite  Bentonite  Grey to brown, medium to fine SAND, trace Silt, wet.  GROUND  WATER LEVEL  Discovery medium to fine SAND, trace Silt, wet.  11 PVC Reer  #1 Morte Sand  Brown, medium to fine SAND, trace Silt, wet.  Brown, medium to fine SAND, trace Silt, wet.  12 Pre-pack  Brown SILT, little fine SAND, trace Silt, wet.  Brown Clay, trace Silt, moist/wet.  Brown SILT, little Gravel, trace fine Sand; moist/wet.  Brown, fine SAND, trace Silt, wet.  Brown, fine SAND, trace Silt, trace Clay, trace Gravel and Silt, wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel, wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel, wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel, wet.		$\Diamond$	4 KX	•	:::: <del>:::::::::::::::::::::::::::::::::</del>		(	계	PCB, Herbicide, TAL Metals
Bentonite  Bentonite  Bentonite  Bentonite  Grey to brown, medium to fine SAND, moist.  Grey to brown, medium to fine SAND, trace Silt, was present and silt, wet.  1.9  Brown, medium to fine SAND, trace Silt, was present and silt, wet.  Brown, medium to fine SAND, trace Silt, wet.  1.9  Brown, medium to fine SAND, trace Silt, wet.  1.9  Brown, medium to fine SAND, trace Silt, wet.  3.6  Brown Silt, little fine SAND, trace Silt, wet.  3.6  Brown Silt, little Gravel, trace fine Sand; moist/wet.  Brown, fine SAND, trace Silt and Gravel; wet.  5.  Brown, fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace fine Sand; moist/wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel wet.		$\Rightarrow$				Gravel, trace organic materials (i.e.			and Cyanide analyses.
Brown, medium to fine SAND, moist.  Grey to brown, medium to fine SAND, trace Silt; trace Silt moist/wet.  Brown, medium to fine SAND, trace Silt; wet.  1º PVC Riser  1º Riser  1º Riser  1º Pvc Riser  1º Riser		$\rightleftarrows$	<b>√</b> K53			weeds and roots); moist.			
Bentonite  Grey to brown, medium to fine SAND, trace Silt; work MATER LEVEL  Brown, medium to fine SAND, trace Silt; work MATER LEVEL  1 **PVC Riser**  2 **I Morie Sand  3 **A  Brown, medium to fine SAND, trace Silt; wet  3 **A  3 **A  3 **A  4 **A  Brown Silt, liftle fine SAND, trace Silt; wet  4 **A  Brown, fine SAND, trace fine Sand; moist/wet  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, Silt, little Clay, trace fine Sand;		$\triangle$	1 KX	•		Roum madium to fine CAMP, maint	_		пол эр-то <i>гн</i> , репоглед 9/14/2005
GROUND WATER LEVEL  1º PVC Riser  1º Brown, medium to fine SAND, trace Silt; wet  1º Pvc Riser  1º Brown, medium to fine SAND, trace Silt; wet  3.6  1.9  4.2  3.6  3.6  3.6  3.6  3.6  3.6  3.6  3	5	$\Rightarrow$	)   <del></del>	ntonite		BIOWIT, MEDIUM to line SAINU; MOISE		4.8	Sampled 4 to 6 ft. interval fo
Brown, medium to fine SAND, trace Silt; wet.  1º PVC Rieer  1º PVC Rieer  1º Pre-pack Screen  Brown SILT, little fine SAND, trace Silt; wet.  3.6  Brown SILT, little Gravel, trace fine Sand; moist/wet  Brown, fine SAND, trace Silt; wet.  Brown, fine SAND, trace Silt; wet.  Brown, fine SAND, trace Silt; moist/wet  Brown, fine SAND, trace Silt; moist/wet  Brown, fine SAND, trace Gravel and Silt; wet.  Brown, fine SAND, trace Silt; moist/wet.  Brown, fine SAND, trace Silt; moist/wet.	_	$\rightleftarrows$			••••••			<u> </u>	VOC analysis.
GRÖUND WATER LEVEL  11 PVC Riser 91 Morie Sand Brown, medium to fine SAND; wet.  24.2  3.6  3.6  3.6  3.6  3.6  3.6  3.6  3		<u> </u>	-1 R>> -	<u>.</u>	: <u>.</u>			_	
Brown, medium to fine SAND; wet.  4.2  Brown, medium to fine SAND; wet.  4.2  Brown, medium to fine SAND, trace Silt; wet.  Brown SILT, little fine SAND; wet.  Brown SILT, little fine SAND; wet.  Brown SILT, little Gravel, trace fine Sand; moist/wet.  Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel, wet.  Brown, silt, little Gravel, trace fine Sand; moist/wet.  Brown, fine SAND, trace Gravel and Silt; wet.  Brown, silt, little Clay, trace fine Sand; brown, silt, trace Clay, trace Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace fine Sand;				۴.					
Brown, medium to fine SAND; wet.  1' PVC Riser 6! Morie Sand.  Brown, medium to fine SAND, trace Silt; wet.  3.6  Brown SILT, little fine SAND; wet.  Brown SILT, little fine SAND; wet.  Brown SILT, little fine SAND; wet.  Brown SILT, little Gravel, trace fine Sand; moist/wet.  Brown, fine SAND, trace Gravel and Silt; wet.  Brown, fine SAND, trace Gravel and Silt; wet.  Brown, fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Ciay, trace Gravel; wet.  Brown, fine SAND, some Silt, trace Ciay, trace Gravel; wet.	WA	TER LEVEL	<b>√</b> KX		••••••	WGL			
1 PVC Riser  ## Morie Sand  Brown, medium to fine SAND, trace Silt wet  3.6  Brown SILT, little fine SAND; wet.  Brown SILT, little fine SAND; wet.  Brown SILT, little Gravel, trace fine Sand; moist/wet  Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel, wet.		- ☆	4 KX	<del>-</del>	<del></del>	Brown, medium to fine SAND; wet.	· -		
Brown, medium to fine SAND, trace Silt, wet  Brown SILT, little fine SAND; wet.  Brown SILT, little fine SAND; wet.  Brown SILT, little Gravel, trace fine Sand; moist/wet  Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.	• • • •			<b>!</b> :	:::::::::	· ,		<b>v</b>	-
Brown, medium to fine SAND, trace Silt, wet  Brown SILT, little fine SAND; wet.  Brown SILT, little fine SAND; wet.  Brown SILT, little Gravel, trace fine Sand; moist/wet  Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.		••••	1"1	PVC Riser				42	
Brown, medium to fine SAND, trace Silt; wet  3.6  Brown Sil.T, little fine SAND; wet.  Brown Sil.T, little Gravel, trace fine Sand; moist/wet.  Brown, fine SAND, trace Gravel and Silt; wet.  Brown, fine SAND, trace Silt and Gravel; wet.  Brown, sil.T, little Clay, trace Silt, trace Clay, trace Gravel; wet.		••••	- FATATA	L.				<u> </u>	
Brown, fine SAND, trace Silt moist/wet  Brown, fine SAND, trace Silt and Gravel, wet.  Brown, fine SAND, trace Silt and Gravel and Silt and Gravel, wet.  Brown, silt, trace fine Sand; frace Gravel and Silt and Gravel, wet.  Brown, fine SAND, trace Silt and Gravel, wet.	<u>u</u>			<del>*</del>	<del>:::::::</del> }	Brown, medium to fine SAND trace Sith			
Brown SILT, little fine SAND; wet.  Brown SILT, little fine SAND; wet.  4.1  Brown SILT, little fine SAND; wet.  Brown SILT, little fine SAND; wet.  Brown, fine SAND, trace fine Sand; wet.  Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, SILT, little Clay, trace fine Sand;		• • • • •	:= <b>:</b> ::::	<b>,</b>					
Brown SILT, little fine SAND; wet.  Brown Clay, trace Silt; moist/wet  4.1  Brown SILT, little fine SAND; wet.  Brown SILT, little Gravel, trace fine Sand; moist/wet.  Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.		••••						36	
Brown SILT, little Gravel, trace fine Sand;  Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.				[:				J. J.J	
Brown Clay, trace Silt; moist/wet  Brown SILT, little Gravel, trace fine Sand; moist/wet.  Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.						Brown SILT little fine SAND wet		[]	
Brown SiLT, little Gravel, trace fine Sand; moist/wet.  Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.		• • • •	:⊟≕∷∷ Scr	reen _		DOWN OILT, BUG HIS WITE, WOL.			
Brown SiLT, little Gravel, trace fine Sand; moist/wet.  Brown, fine SAND, trace Gravel and Silt; west.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.		• , • , •		F	7777	Brown Clay trace Silt: moisthust	<sub>i</sub>	41	
Brown, SILT, little Gravel, trace fine Sand; moist/wet.  Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.		·•••			////	Diown day, nade on, molecular		7.1	
Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.	5	<u></u> .	Bot	ttom Plug 👱	<u> </u>	Brown SII T little Gravel trace fine Sand	_		
Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, Sill, T, little Clay, trace fine Sand;				-					
Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, SILT, little Clay, trace fine Sand;	· · · ·			F				1	
Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, SILT, little Clay, trace fine Sand;				<u> -</u>					
Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, SILT, little Clay, trace fine Sand;				F.					
Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, SILT, little Clay, trace fine Sand;				-				}	
Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, SILT, little Clay, trace fine Sand;				E					
Brown, fine SAND, trace Gravel and Silt; wet.  Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, SILT, little Clay, trace fine Sand;				-				1 1	
Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, SILT, little Clay, trace fine Sand;	<u>0</u>			-		Brown fine SAND trace Cross and City	-	1	
Brown, coarse to fine SAND, trace Silt and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, SILT, little Clay, trace fine Sand;				ļ.:					
and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, SILT, little Clay, trace fine Sand;	•••			[.					
and Gravel; wet.  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, SILT, little Clay, trace fine Sand;				F:					
and Gravel; wet.  5  Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, SILT, little Clay, trace fine Sand;						Rows overse to fine SAND trace SIM	4	1	
Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, SiLT, little Clay, trace fine Sand;	· · · ·								
Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, SILT, little Clay, trace fine Sand;				[:		•			
Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.  Brown, SILT, little Clay, trace fine Sand;	_			F:					
Brown, SILT, little Clay, trace fine Sand;	<u>5</u>			<u>.</u>		Proven Spo CANID some City tenes City	4		
Brown, SILT, little Clay, trace fine Sand;				[:					
Brown, SILT, little Clay, trace fine Sand;	•••			F:					
Brown, SILT, little Clay, trace fine Sand;				<b>!</b> :					
							_		
					]				
·····						IIIVISU WOL			
	• • • •								



WELL		NORTHING		EASTING	•			
PRO IE	MW-108D CT NO./NAME	160910.9		939137.4 LOCATION				
		d Shopping Center	r	1650 Rich	nmond Avenue			
<b>APPRO</b>	OVED BY	LOGGED BY						
DRAF		J. Sakellis		Staten Is GEOGRAP	land, New York			
	Associates / J.			GEOGRAP	HIC AREA			
	BIT DIAMETER/TYP		METER	DRILLING!	EQUIPMENT/METHOD	SAMPLING	METHOD	START-FINISH DATE
	Drive Sampler	3.25-inches		6620 / Ge	eoprobe	2" Macro	o-Core	9/19/05-9/19/05
	G MAT./DIA.	SCREEN:	Jackari ·	AAT DAAC	TOTAL LENGTH ⊀	50+ -	IA. 1-inch	SLOT SIZE 20-Slot
	TION OF:	TYPE Pre-F		MAT. <b>PVC</b> WELL CASING	TOP & BOTTOM SC			L PACK SIZES
(Feet)		35.07	34.85		17.1 / 22.1		Morie	
	Flushmount Wellbox	1" J Plug				Blow	PID	
Depth, feet	11 dillox		Graphic Log	Visua	I Description	Counts	Value	REMARKS
1001			- W	- A		per 6*	(ppm)	<del></del>
	2 :a	Coment Gn	out	Asphalt Brown, fine SA	ND, some Silt, little Gravel			Hand excavated to 4ft bis
	00	O A			trace Brick; dry (fill)	"	0.9	part of utility clearance
	+	R <i>5</i> 2	444	Disclete	DRT BHA FA- C	_	G	Sampled 0.5 to 2 ft. interval for VOC analysis.
		KZX			SILT, little fine Sand, trace als (Weeds, Roots,		-	IOI VOC GEIGHYSIS.
	$\Rightarrow$		_}{{\}}}}	Grasses); mol			1.0	Sampled 2 to 4 ft, interval
	$\Rightarrow$			Com Sec Cas	ID some Silt tones Olers	_		VOC, SVOC, Pesticide, PCB, Herbicide, TAL Meta
5				Grey, fine SAN moist	ID, some Silt, trace Clay;	-		and Cyanide analyses.
<u></u>	$\Rightarrow$						0.7	Sampled 4 to 6 ft. interval
· · · · · ·	$\bowtie$	1" PVC Ris	er [****	Description :	Ene CAND Oil Turi	-	111	VOC analysis.
	$\rightarrow$			Brown to grey, Clay; moist/we	fine SAND, some Silt, little t	<b>'</b>	1.5	
	$\rightarrow$	Bentonite						Sampled groundwater for
· · · · · ·	$\Rightarrow \Rightarrow $				ome fine Sand, little Clay,		V	VOC, SVOC, Pesticide, an TAL Metals analyses.
	$\Rightarrow$		- {  {	moist		1	1.0	I AL MICIAIS AFRAINSES.
	$\Rightarrow$		_			-		
10_	$\rightarrow$			 				
	$\rightarrow$	R\\		Brown, SILT, s Gravel, trace C	come fine SAND, little			
							<b> </b>	
	- <del></del>	<del> </del>					0.8	
	<b>X</b>	R52	┟┼┼┼┪┼┼┤	Brown to arev	crushed rock (Sandstone),	_		
• • • • •		<b>□</b> :::'	} <b>*</b> {}}}}}}	some Silt, little	fine Sand, trace Gravel;	'	14	
		#1 Morie Sa	and	moist			0.6	
15	. • . • . • . • . • . • . • . • . • . •							
<u>,,,</u>	`°	Pre Pack	<u> </u>		tle fine Sand, trace Gravel,	.		
	`°`.	Screen		trace Clay; well	l			
							0.7	
	°°°°°							
	<u></u>	Bottom Plu	g	Brown, SILT, li trace fine Sand	ttle Clay, trace Gravel,	1		Bottom of well at 18 ft bis.
			[	uace iiie Send	., <del>110</del> 1		0.6	
20_				Denver	n to fine CANID some City		<b>=</b>	
				Brown, mediur	n to fine SAND, some Silt, te Clay; wet	)		
				,	•	}	0.2	
							<b>  ¶ }</b>	l Wholen, date obt-!
				Brown, coarse	to fine SAND, little Gravel,		111	Lithology data was obtained from SB-108, performed
••••				trace Silt; wet			{ <b>A</b> (	9/19/2005
			1° 00	ı		-	0.2	
25			00			1		Bottom of soil boring at 25
<u>25</u>				<del></del>	<del></del>			bls.
			}			}	} }	
			}			]	} }	
· · · · -						1	1	
			{					
			- {					
30						l l	t t	1



age 1 of 1 VELLNO.	NORTHING		EASTING	CTION LOG	<del></del> -		
MW-108S	160912.9		939137.9				
ROJECT NOJNAME			LOCATION	mond Avenue			
<b>25801Y / Coral Islai</b> PROVED BY	nd Shopping Center LOGGED BY			IIOIM AFCINC			
RAFT	J. Sakellis			and, New York			
RILLING CONTRACTO			GEOGRAPI	HIC AREA			
<b>LOUX Associates / J</b> RILL BIT DIAMETER/TO		AFTER	DRILLING	QUIPMENT/METHOD	SAMPLING N	METHOD	START-FINISH DATE
-in. / Drive Sample			6620 / Ge		2" Macro-C		9/19/05-9/19/05
ASING MAT /DIA.	SCREEN:		- 546			4 inab	SLOT SIZE 20-Slot
VC / 1-inch LEVATION OF:	TYPE Pre-Page GROUND SURFACE		AT. <b>PVC</b> ELL CASING	TOTAL LENGTH -		1-inch GRAVE	PACK SIZES
Feet)	35.0 <del>9</del>	34.83		27.1 / 32.1		Morie	
Flushmount Wellbox	1" J Plug				Blow	PID	
opth,		Graphic Log	Visua	l Description	Counts per 6"	Values (ppm)	REMARKS
		_	Asphalt		pero	(ppin)	Hand excavated to 4ft bis as
0.	O - Cement Gro	u DD	Brown, fine SA	ND, some Silt, little Gravel	, -	1	part of utility clearance
£	1" PVC Rise	HHHH	trace asphalt, to	race Brick; dry (fill)		0.9	Sampled 0.5 to 2 ft. interval for VOC analysis.
··· 🔀	Bentonite			SILT, little fine Sand, trace		à	Lithology data was obtained
<del>;</del> ;			organic materia Grasses); mois	als (Weeds, Roots, t		1.0	from SB-108, performed 9/19/2005
**************************************			,			] 1.0	Sampled 2 to 4 ft. interval fo
			Grey, fine SAN	D, some Silt, trace Clay;		1	VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals
	#1 Morie Sa	nd				0.7	and Cyanide analyses.
	Pre Pack Screen		Denue to	fine SAND, some Silt, little		J	Sampled 4 to 6 ft. interval fo VOC analysis.
***			Clay; moist/wet	nne Sand, some Siil, iilde :	'	1.5	
***							
	Bottom Plug		Brown, SILT, so moist	ome fine Sand, little Clay;	,-	9	Bottom of well at 8 ft bis.
s **		1			1	1	
		1 1					
<u>)                                    </u>					}		
• ••							}
							}
•					[ ]		
• ••							
• ••							
<b>5</b>					]		
<del>-</del>							
• ••		1				1	
						1	
• ••					1		
					1		}
<u>o</u>							)
<del></del>						}	}
						}	
						}	
••							
• ••							
5_							
					1		
• •					1	{	
					1	}	
• ••							
•••							
0						1	\



VELL NO		NORTHING		EASTING				
MW-109D 160676.5 PROJECT NO NAME			93885.4 LOCATION					
		d Shopping Cent	ar .	1650 Richmond Avenue				
PPROVI		LOGGED BY						
RAFT		J. Sakellis		Staten Island, New York				
RILLING	CONTRACTOR	DRILLER		GEOGRAPHIC AREA				
	ssociates / J.				041000000	MERION	OTADT FILIDITES	
	T DIAMETER/TY	1	AMETER	DRILLING EQUIPMENT/METHOD	SAMPLING 2" Macro		START-FINISH DATE 9/1/05-9/1/05	
	<b>MAT./DIA.</b>	3.25-inches SCREEN:		6620 / Geoprobe	2 Macro	-core	9/1/03-9/1/03	
VC / 1.		TYPE Pres	nacked M	AT. <b>PVC</b> TOTAL LENGTH ≺	5.0 ft DI	A. 1-inch	SLOT SIZE 20-Slot	
	ON OF:	GROUND SURFACE		ELL CASING TOP & BOTTOM SC			PACK SIZES	
eet)	O	32.61	32.25	12.6 / 17.6		Morie i		
	lushmount \	/1° J Ph	ıg					
pth,	Wellbox /		Graphic	Visual Description	Blow Counts	PID Values	REMARKS	
æt			Log	Visual Description	per 6"	(ppm)		
	6 4			Asphalt			<del>-</del>	
		Cernent G	Srout U	Brown to grey, course to fine SAND, little		2.6		
			HHH	gravel, little silt, trace brick, trace concrete, trace glass, dry/moist.	}		Sampled 0.5 to 2 ft. interva	
. <b></b>	• • • • •		Hill		.		for VOC, SVOC, Pesticide, PCB, Herbicides, TAL	
	• • • •	Sand	FAAA	Brown to grey, course to fine SAND, little gravel, little silt, trace brick, trace	' J	2.0	Metals and Cyanide	
• ••	3.00		mm	concrete, trace glass, dry/moist.		[G]	analyses.	
	$\rightarrow$	I R <del>-</del> X	HHH	<b>-</b> - <b>-</b>	1			
• ••	$\rightarrow$			Grey to brown SILT, little day, little fine		1.9	Sampled 4 to 6 ft interval fo	
_	$\rightarrow$	1 KX		sand, moist.			VOC analysis.	
	$\leftarrow$					$\hookrightarrow$	Sampled groundwater for	
	· \tag{7}	<b>I</b> K->>	0.0000	Brown, course to fine SAND, some		0.7	VOC analysis.	
		Bentonite		Gravel, little silt, moist.	}	V 0.7		
• ••	<b>→</b>	! <del> </del>	6 (3·6	and all times and tirester.			}	
		) K		Brown, fine SAND, little silt, little gravel,		1.2		
		1 KX		moist.		7	}	
	<del></del>				ì	<b>X</b>		
	<b>*</b>							
<u> </u>		\tau_{\tau_1}		Denum Son CANID IIII - alle IIII - alle IIII		4.		
	`````			Brown, fine SAND, little silt, little gravel, wet.		1.0	}	
	* * * *		{			<b>Y</b>		
	,,,,,	│ <del>│                                  </del>	iser				}	
• ••	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~				_ }			
	• • • •	#1 Morie	Sand	Brown SILT, little fine sand, little clay,		0.8		
				trace gravel, wet.		<b> ▼</b>		
	ૻૣ૽ૼ૽૽ૼ૾૽૾૽ૣ૽૾૽				-	<b>   </b>		
	• • • •						}	
<u>.</u>	• • • •		]	Brown SILT, little fine sand, little day,		1.5		
	****			wet.		V		
• ••	• • • • •	<b>⊟</b> :	[			Ţ		
	• • • •							
• •	****							
	*. <b>*.</b> *.	Pre Pack				1.0	{	
	::::	Screen				<b> ▼</b>   .		
	*****		<u> </u>					
1_	•.••							
<u>'</u>	؞ ؞ ۥ	Bottom P	lug	Brown SILT, little clay, moist.		1.0		
	``	<del>70-0-</del>		Brown SILT, little clay, little fine sand,		V		
• ••	<b>&gt;</b>	~		wet.		[ [		
	$\rightarrow$	Bentonite Slumy						
					_		{	
			į t			{ }		
					}		{	
			}		}	{ {		
<u></u>			1		}			
_			}				)	
			}			) )		
			}			} }	}	
			}			} }		
			{			[		
• •			{			( [		
							i	
• • •					}			



Page 1 of 1	WE	ELL CO	NSTRUCTION LOG	_		
WELL NO.	NORTHING 160677.4		EASTING 938883.8			
PROJECT NO NAME			LOCATION			
125801Y / Coral Island S	Shopping Center		1650 Richmond Avenue			
APPROVED BY DRAFT	LOGGED BY  J. Sakellis		Staten Island, New York			
DRILLING CONTRACTOR/DE			GEOGRAPHIC AREA			
Roux Associates / J. Ve	iss		DRILLING EQUIPMENT/METHOD	SAMPLING M	ETHOD	START-FINISH DATE
DRILL BIT DIAMETER/TYPE  2-in. / Drive Sampler	3.25-inches	EIEK	6620 / Geoprobe	2" Macro-C		9/9/05-9/9/05
CASING MATJOIA.	SCREEN:		<del></del>			
<b>PVC / 1-inch</b> ELEVATION OF: GR	TYPE <b>Pre-Pa</b>		AT. <b>PVC</b> TOTAL LENGTH K		1-inch	SLOT SIZE 20-SIOT PACK SIZES
	2.65	32.38	26.7 / 31.7		Morie #	
Flushmount Wellbox	1" J Plug			Blow	PID	
Depth, feet		Graphic Log	Visual Description	Counts	Values	REMARKS
	Gement Grout	-	Asphalt	per 6"	(ppm)	
	Bentonite		Brown to grey, course to fine SAND, little		2.6	Sampled 0.5 to 2 ft. interval
****	1" PVC Riser	HHH	gravel, little silt, trace brick, trace concrete, trace glass, dry/moist.		À	for VOC, SVOC, Pesticide, PCB, Herbicides, TAL
	#1 Morie Sand		Brown to grey, course to fine SAND, little		2.0	Metals and Cyanide
		开开升	gravel, little silt, trace brick, trace concrete, trace glass, dry/moist.	G		analyses
	Pre-pack Screen	HHH	<u></u>		] {	24.1.1
			Grey to brown SILT, little clay, little fine sand, moist.		.	Sampled 4 to 6 ft interval for 5
<u>5</u> :	<b>-</b>	[	series rang 2015/15/04	G	P) /:	Soil boring shown here is
	Bottom Plug	F===	<del></del>			from Pilot boring MW-109D,
				}	) )	
••••						
****						****
****		1				****
10		1			1	<u>_10</u>
_ <del>-</del> _		1			1	
••••		1 1			1 (	****
****		1			1	
1117		1			}	****
		}			}	
••••		}			}	
15					} {	<u>15</u>
****				1	, J	••••
****						••••
****					1 (	
					1	
20_				1	1 1	20
<u> </u>						
****					} {	••••
••••		}		}	} }	••••
					} )	
				1	, )	••••
****					] ]	
25						<u>25</u>
		1				
****						•-••
		}			1	****
		}			}	••••
						1
****						
30						



209 Shafter Street Islandia, New York 11749 Telephone: 631-232-2600 Fax: 631-232-9898

Page 1 of 1 WELL CONSTRUCTION LOG

WELL	NO. <b>MW-111D</b>		NORTHING 160873.8		EASTING 938947.4				
	CT NO NAME				LOCATION	ond Avenue			
	<b>11Y / Coral Isl</b> OVED BY	and S	hopping Cente LOGGED BY	<u> </u>	1000 MCHI	ond Avenue			
<b>RAF</b>	T		J. Sakellis		Staten Islan	nd, New York			
	NG CONTRACT				GEOGRAPHIC	CAREA			
	Associates / BIT DIAMETER/		SS BOREHOLE DIA	METER	DRILLING EQ	UIPMENT/METHOD	SAMPLING N	METHOD	START-FINISH DATE
2-in./	<b>Drive Sample</b>		3.25-inches		6620 / Georg	<u>orobe</u>	2" Macro-4	Core	9/16/05-9/16/05
	G MAT <i>J</i> DIA. <b>1-inch</b>		SCREEN: TYPE <b>Pre-I</b>	Dackad MAT	T. <b>PVC</b>	TOTAL LENGTH ≺	5.0 # DIA	. 1-inch	SLOT SIZE 20-Slot
	TION OF:	GR	OUND SURFACE		LL CASING	TOP & BOTTOM SCI		GRAVE	L PACK SIZES
Feet)	<b>F</b>	33.		33.60		8.4 / 13.4		Morie	#1
epth,	Flushmount Wellbox		1" J Pluş	) Graphic			Blow	PID	DEMARKS
feet	1	<u> </u>		Log	Visuali	Description	Counts per 6"	Values (ppm)	REMARKS
		- T			Asphalt			T	
		20	Cement G	out Hard	Brown to grey, co Asphalt little Grav	arse to fine SAND, little	_	7.8	Sampled 0.5 to 2 ft. interval for VOC analysis.
. <b></b> .	)- -	<u></u>	5-6	THAT E	Brown, coarse to	fine SAND, little Silt,	- <u> </u>	2.4	
	->	$\not\bowtie$	$\bowtie$		ittle Gravel; dry/n	noist fine SAND, little Silt,	1	1	
• • • •	<i></i>	$\rightleftarrows$	$\not \mapsto \forall$		ittle Gravel, trace	organic material		2.8	
	<u>}</u>	$ \exists$	$\bowtie$	n 1 1 1 1 - 1	Lumber); dry/mo	· · · · · · · · · · · · · · · · · · ·	[=	_	Complet Ato 6 % inter-
5	<b>\( \)</b>	A	$\qquad \qquad $		organic material (	LT, little fine Sand, trace Weeds, Roots);		/	Sampled 4 to 6 ft. interval for VOC analysis.
	<u></u>	$\Xi$	KK	-	noist/wet			2.3	Sampled groundwater for
	<b>\( \)</b>	A	Bentonite	+	Grey, fine SAND,	little Silt, wet		N	VOC analysis.
<b>.</b>	\$	$\forall$	<b>K</b>					V	
	<b>\</b>	$\mathfrak{R}$	<del>                                      </del>		Grey, SILT, trace Brown, SILT, trace	Clay; moist e Clay, trace Gravel;		1.6	
• • • •	5	$\rightleftarrows$	$\not \mapsto \!$		noist	,		<b>7</b>	
	~	$ \forall$	<b>KX</b>		Rmum SII T little	Gravel, trace Clay;	[ <u>]</u>	1.8	
0_	<b>&gt;</b>	$\rightleftarrows$	$\not\vdash\!$	<u> </u>	noist				
	<u>}</u>	$\Xi$	$\bowtie$		Brown, SILT, little noist/wet	fine Sand, trace Grave	t;		}
					I IO IOU WOL				
	• • •	::  _	1" PVC Ris	Her				3.9	
		• • • •	• • • •	┡╃╿╇┩ <del>╏┩╏╃</del>	Brown, SiLT, little	fine Sand, trace Grave	<u>i;</u>	} }	1
	• • •	:::	• • • • • •	-	noist/wet	•	} }	42	
	• • •			111111111				4.3	
15_	• • • • • • • • • • • • • • • • • • • •					For Const. East. Out. 10	: -		
	• • •	* * *	#1 Morie S		3rown SILT, little noist∕wet	fine Sand, trace Gravel	,	l	
	•	• • • •							
•••	***	:::					[ [	3.7	15
	•					fine Sand, trace Gravel	; -	{	
	:•	• • • •	• • • • •	_ []][[]][][]	noist/wet			4.1	n .
	•••	• • • • • • • • • • • • • • • • • • • •							
20_	• • • • • • • • • • • • • • • • • • • •				Rmun SIIT tran	e fine Sand, trace Clay,	_	=	
	• • • • • • • • • • • • • • • • • • • •		<b>::::</b> :		race Gravel; wet	o mie oaitu, Bace Oldy,		ł	
	• • •	∷⊨≣					}	8.0	
•••	•			[				l) JB	
	***		Pre-pack		Brown, SILT, little	fine Sand, little Clay,		i I	
	• • • • • • • • • • • • • • • • • • • •		Screen	[]	I NISU WEL			0.5	}
			<b></b>					ľ	
25_	• •		Bottom Plu	<u>,                                    </u>	Brown, SILT, little	Clay, little Gravel;			D-#
	<u>* •</u>	· •	BOTTOM PIL		noist/wet			1	Bottom of well at 25.5 ft bis.
								2.8	
• • • •							_		
• • • • •					Brown SILT, little ine Sand, trace C	Gravel, little medium to	`	H	
					OGIN, 8000 C	, au		3.1	
									Bottom of soil boring at 30 ft
30				/					bls



VELL NO.	NORTHING	ELL CO	EASTING			
MW-111S	160873.2		938949.7			<u> </u>
PROJECT NO NAME	d Shanning Costs		LOCATION  1650 Richmond Avenue			
25801Y / Coral Islan PPROVED BY	LOGGED BY					
RAFT	J. Sakellis		Staten Island, New York			
RILLING CONTRACTOR	DRILLER		GEOGRAPHIC AREA			· · · · · · · · · · · · · · · · · · ·
ROUX Associates / J. PRILL BIT DIAMETER/TYI		TI-R	DRILLING EQUIPMENT/METHOD	SAMPLING	METHOD	START-FINISH DATE
-in. / Drive Sampler	3.25-inches		6620 / Geoprobe	2" Macro-		9/16/05-9/16/05
ASING MAT/DIA	SCREEN:	-1		E 0 0		01 07 01-4
VC / 1-inch LEVATION OF:	TYPE <b>Pre-Pa</b> GROUND SURFACE		T. <b>PVC</b> TOTAL LENGTH ELL CASING TOP & BOTTOM SO		A. 1-inch GRAVEL	SLOT SIZE 20-Slot PACK SIZES
Feet)	33.90	33.63	26.4 / 31.4		Morie :	
Flushmount	1" J Plug			Blow	PID	
opth, Wellbox		Graphic Log	Visual Description	Counts	Values	REMARKS
				per 6"	(ppm)	161
	Company Company	開	Asphalt Brown to grey, coarse to fine SAND, littl Asphalt little Gravel; dry/moist Brown, coarse to fine SAND, little Silt,	<b>e</b>	7.8	Hand excavated to 4ft bis a part of utility clearance Sampled 0.5 to 2 ft. interva for VOC analysis.
···	1" PVC Riser #1 Morie Sand		little Gravel; dry/moist Brown, coarse to fine SAND, little Silt, little Gravel, trace organic material (Lumber); dry/moist (fill)	- J - \[ \bigg\]	2.8	Lithology data was obtains from SB-111, performed
			Brown to grey, SILT, little fine Sand, trad organic material (Weeds, Roots);	ce		9/16/2005
<u></u>	Pre-pack Screen		organic material (weeds, Roots), moist/wet			Sampled 4 to 6 ft. interval
		\ <del>+</del>  + + + + +	Grey, fine SAND, little Silt; wet		Al .	for VOC analysis.
,	Battom Plug		Grey, SILT, trace Clay; moist		1.6	Bottom of well at 7,5 ft bis.
						DOLUM OF WORLD 1.3 IL DIS.
		{				
0_		1				
· • ••		}				
··· <del>·</del>		1				
• •		1				
····		{		{ }		
5_				}		
		1				
		{ }				
···		}				
•••						
o_						
_		{				
••		}				
••						
. <b></b>						
5_		}				
···		}				
		1				



JUX ASSUCIATES, INC Environmental Consulting & Management

VELL NO.	NORTHING		EASTING				
MW-112D	161125.5		938699.4				
PROJECT NO NAME	and Shanning Cartes	•	LOCATION 1650 Richmo	ond Avenue			
<u>Z5801 Y / COFALISE</u> PPROVED BY	and Shopping Center LOGGED BY	<u>'</u>		<del></del>			
RAFT	J. Sakellis		Staten Islan	d, New York			
RILLING CONTRACTO	DR/DRILLER		GEOGRAPHIC	AREA			
oux Associates /	J. Veiss	AF-12-10	School Yard		TOALIN BIO	ACTUAL D	CTADT CINIOU DATE
RILL BIT DIAMETER/I		METER		JIPMENT/METHOD	SAMPLING N		START-FINISH DATE 8/22/05-8/22/05
<b>-in. / Drive Sampk</b> ASING MAT <i>J</i> DIA.	sr 3.25-inches SCREEN:		6620 / Geop	robe	Z Macro-	-OIE	31 <u>221</u> 13-0122113
VC/1-inch	TYPE Pre-P	acked MAT	r. <b>PVC</b>	TOTAL LENGTH	-5.0 ft DIA	1-inch	SLOT SIZE 20-Slot
EVATION OF:	GROUND SURFACE	TOP OF WE		TOP & BOTTOM SO			PACK SIZES
eet)	32.72	32.53		8.7 / 13.7		Morie #	<u>#1</u>
Flushmount Wellbox	1" J Plug				Blow	PID	
pth, VVeiiDOX \		Graphic Log	Visual D	escription	Counts	Values	REMARKS
					per 6"	(ppm)	
			Brown, course to fi Gravel, little silt, tra		N N	0.3	
🖔	$A \otimes A$		oncrete, dry/mois				
¥/,		HHH				<b>\</b> [	
	Cernent Gro	アアアアト			}		
· <b></b> $\sum_{i}$			Brown to dark brov SAND, some Grav		l l	0.1	
*			SAND, some Grav orick, glass, aspha		1	[	
		HHH -	, 2,,	,,		N I	
<u> </u>		PTTT.				1	
<del>-</del> >	$A \bowtie$		Grey to brown SIL	T, little clay, dry			Top clayey-silt layer begins
	$\mathcal{H}$				1	<b>/</b>	at 5 ft, bls.
5	Bentonite	<del> </del>			-		
· <del>··</del> $\Rightarrow$		F   G	Grey, fine SAND, I	ittle silt, moist.		V	Sampled groundwater for
▽ -≿	$H \bowtie H$		Grey, fine SAND, t	race silt, wet.			VOC analysis.
GROUND	$\mathcal{A}$ R $ \rightarrow$	E	Brown, fine SAND	, trace silt, wet.	[ )	<b>/</b> )	
WATER LEVEL - 8/22/2005							Top clayey-silt layer ends a approximately 9 ft. bls.
• • •		].				N I	арргодинацију о п. из.
<u>)                                    </u>						0.9	1
	1° PVC Rise				( (		
	Tryc Ris	er			] ]]	[] [	
• • •					}	0.8	
						3.3	
·		1				[[	
•••		1			) )1	<b>\</b> )	
5_ ∷			Process Sens CAND	trace cilt word		2.2	
••••			Brown fine SAND,	u ave siil, wel	1	~~	) i
· • • • • • • • • • • • • • • • • • •							
	* #1 Morie Sa	ana			( )	N i	
		·				2.0	
						3.3	
•••		<b>.</b>				[	
···							
		1			1 4	V	
 ::					l l	3.0	
·- 👸						<u> </u>	
	1' Slotted	[· . · . · ]			14	M I	
·-			Brown SILT, little f			<b>\</b>	
			•	high plasticity CLAY,		3.0	
•••			vet.		J	/	Detter daylars beside
· ••••	Bottom Plu						Bottom clay layer begins at 23.5 ft. bls.
<u>5</u>							Bottom of boring at 25 ft. bl
<u>-</u>						7	DOWN OF DOTHING OF ZUIL D
		1				]	
-						}	
• ••							
					1		
• •							
• • •							
0		1 /					



& Management

209 Shafter Street Islandia, New York 11749 Telephone: 631-232-2600 Fax: 631-232-9898

WELL CONSTRUCTION LOG 1 Page of 1 WELL NO. NORTHING **EASTING** MW-112S 161125.9 938698 LOCATION 1650 Richmond Avenue PROJECT NO JNAME 125801Y / Coral Island Shopping Center
APPROVED BY LOGGED BY APPROVED BY DRAFT J. Sakellis Staten Island, New York DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA Roux Associates / J. Veiss
DRILL BIT DIAMETER/TYPE B DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE BOREHOLE DIAMETER 8/22/05-8/22/05 6620 / Geoprobe 2" Macro-Core 2-in. / Drive Sampler 3.25-inches CASING MAT/DIA. SCREEN: TYPE Pre-Packed MAT. PVC SLOT SIZE 20-Slot PVC / 1-inch TOTAL LENGTH -5.0 ft DIA. 1-inch GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN GRAVEL PACK SIZES **ELEVATION OF:** Morie #1 25.8 / 30.8 32.81 32.61 (Feet) Flushmount Blow PID Graphic Depth, feet Counts REMARKS Visual Description Values Log per 6° (ppm) Brown, course to fine SAND, some Gravel, little silt, trace brick, glass, Bentonite concrete, dry/moist. #1 Morie San 1" PVC Riser Brown to dark brown, course to fine SAND, some Gravel, little silt, trace, brick, glass, asphalt, dry/moist. 5 5 Screen Grey to brown SILT, little clay, dry Bottom Plug 10 10 . . . . . . . . . . .... 15 15 •••• 20 20 . . . . . ROUX.GDT 25 25 9 BORING/FEET . . . . . 30



GDT

30

209 Shafter Street Islandia, New York 11749 Telephone: 631-232-2600 Fax: 631-232-9898

WELL CONSTRUCTION LOG Page 1 of 1 WELL NO EASTING NORTHING 161022 938907.6 MW-113D PROJECT NO NAME LOCATION

1650 Richmond Avenue 125801Y / Coral Island Shopping Center
APPROVED BY LOGGED BY DRAFT J. Sakeilis Staten Island, New York DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA Church backyard
DRILLING EQUIPMENT/METHOD Roux Associates / J. Veiss DRILL BIT DIAMETER/TYPE BOREHOLE DIAMETER SAMPLING METHOD START-FINISH DATE 2-in. / Drive Sampler 3.25-inches 8/23/05-8/23/05 6620 / Geoprobe 2" Macro-Core CASING MAT JOIA. SCREEN: PVC / 1-inch TYPE Pre-Packed MAT. PVC TOTAL LENGTH -5.0 ft DIA. 1-inch SLOT SIZE 20-Slot **ELEVATION OF:** GROUND SURFACE TOP OF WELL CASING **TOP & BOTTOM SCREEN GRAVEL PACK SIZES** 31.32 31.04 15.3 / 20.3 Morie #1 (Feet) Flushmount Wellbox PID Blow Depth Graphic Visual Description REMARKS Counts Values feet Log per 6° (ppm) Brown, course to fine SAND, some Cement Grout 0.8 Sampled 0-2 ft. interval for Gravel, trace silt, moist. VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals and Cyanide analyses. Brown to grey, medium to fine SAND, 2.1 little silt, wet. 5 \_5 1º PVC Riser Grey to brown, medium to fine SAND, 2.8 some Silt, wet. . . . . . Bentonite ... . . . . .. Sampled groundwater for Brown CLAY, some Silt, moist/wet. 1.5 VOC analysis. . . . . . Brown CLAY, some Silt, little gravel. 10 10 Brown SILT, some fine Sand, some 1.5 Gravel, wet. Brown SILT, some Clay, little gravel, 1.3 moist. Pre Pack 15 15 2.9 **Bottom Plug** Brown SILT, some Clay, little gravel, moist 10.1 20 20 Brown SILT, some Clay, trace gravel, 16.5 moist . . . . Brown SILT, some Clay, trace fine sand, 40.7 Bentonite moist. . . . . . ... <u>25</u> <u>25</u> Brown SILT, some Clay, moist 36.7 125801Y.GPJ 44 Brown SILT, little clay, little gravel, moist.

30



& Management

209 Shafter Street Islandia, New York 11749 Telephone: 631-232-2600 Fax: 631-232-9898

**WELL CONSTRUCTION LOG** 1 of 1 Page WELL NO. EASTING NORTHING 938907.1 161020.4 MW-113S PROJECT NO NAME I OCATION 1650 Richmond Avenue 125801Y / Coral Island Shopping Center APPROVED BY LOGGED BY Staten Island, New York DRAFT J. Sakellis DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA Roux Associates / J. Veiss DRILL BIT DIAMETER/TYPE BOREHOLE DIAMETER DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE 8/23/05-8/23/05 2" Macro-Core 2-in. / Drive Sampler 3.25-inches 6620 / Geoprobe CASING MAT./DIA. SCREEN: TOTAL LENGTH 5.0 ft TOP & BOTTOM SCREEN TYPE Pre-Packed MAT. PVC DIA. 1-inch SLOT SIZE 20-Slot PVC / 1-inch TOP OF WELL CASING GRAVEL PACK SIZES **GROUND SURFACE ELEVATION OF:** Morie #1 30.89 28.2 / 23.2 31.23 (Feet) Flushmount 1" J Plug PID Wellbox Blow Graphic Depth, feet Values REMARKS Visual Description Counts Log per 6 (ppm) Sampled 0-2 ft. interval for VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals Brown, course to fine SAND, some Gravel, trace silt, moist, 1" PVC Riser and Cyanide analyses. . . . . . Bentonite . . . . .. Brown to grey, medium to fine SAND, little silt, wet. . . . . .. 5 5 Grey to brown, medium to fine SAND, some Silt, wet. . . . . . Screen Sampled groundwater for Brown CLAY, some Silt, moist/wet. VOC analysis. Bottom Plug ... 10 10 . . . . . 15 15 20 20 . . . . . . . . . . .g0 25 25 ... ... BORING/FEET ... 30



30

209 Shafter Street Islandia, New York 11749 Telephone: 631-232-2600 Fax: 631-232-9898

& Management WELL CONSTRUCTION LOG Page of 1 WELL NO. NORTHING EASTING MW-126D 160818.1 938544.5 PROJECT NO NAME LOCATION

1650 Richmond Avenue 125801Y / Coral Island Shopping Center
APPROVED BY LOGGED BY DRAFT J. Sakellis Staten Island, New York DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA Roux Associates / J. Veiss DRILL BIT DIAMETER/TYPE BOREHOLE DIAMETER DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE 9/13/05-9/13/05 2-in. / Drive Sampler 3.25-inches 6620 / Geoprobe 2" Macro-Core CASING MATJDIA. SCREEN: PVC / 1-inch TYPE Pre-Packed MAT. PVC DIA. 1-inch TOTAL LENGTH -5.0 ft SLOT SIZE 20-Slot FLEVATION OF GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN GRAVEL PACK SIZES 33.49 10.5 / 15.5 Morie #1 (Feet) 33.24 1" J Plug Wellbox PID Graphic Depth, REMARKS Visual Description Values Counta Log per 6" (ppm) ے م Asphalt Brown, coarse to fine SAND, some 0 Gravel, trace Brick, trace Concrete, dry. 6.2 (fill) Brown, coarse to fine SAND, some Gravel, trace Silt, trace Brick, dry/moist. 0.3 Brown, SILT, little fine Sand, trace Gravel, trace organic material (Roots), moist 5 5 0.1 Sampled groundwater for VOC analysis. Dark brown, SILT, little fine Sand, trace Gravel, trace organic material (Roots, 0.7 . . . . . Weeds), moist Grey, SILT, little Clay, moist 1" PVC Riser Brown fine SAND, little Sift, wet. Bentonite 0.0 10 10 Brown fine SAND, little Silt, wet. 0.1 Brown, CLAY, trace Silt, wet. Brown, coarse SAND, some Gravel, . . . . . some medium to fine Sand, wet Brown SILT, little fine Sand, trace gravel, 0.0 . . . . 15 15 Brown SILT, some fine Sand, trace gravel, wet 0.2 Brown SILT, some fine Sand, trace . . . . . gravel, wet 0.0 20 20 Brown SILT, little Clay, trace fine Sand, Pre Pack moist/wet Screen 0.0 Brown, CLAY, little Silt, moist/wet. Bottom Plug Bottom of well at 23 ft bis. 0.0 <u>25</u> Bottom of soil boring at 25 ft \_25

30



**WELL CONSTRUCTION LOG** Page of 1 WELL NO. EASTING NORTHING 938544.9 MW-126S 160819.7 PROJECT NO NAME 1650 Richmond Avenue 125801Y / Coral Island Shopping Center
APPROVED BY LOGGED BY DRAFT J. Sakellis Staten Island, New York DRILLING CONTRACTOR/DRILLER GEOGRAPHIC ÁREA Roux Associates / J. Veiss DRILL BIT DIAMETER/TYPE DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE BOREHOLE DIAMETER 9/13/05-9/13/05 3.25-inches 2" Macro-Core 6620 / Geoprobe 2-in, / Drive Sampler CASING MAT /DIA. SCREEN: PVC / 1-inch ELEVATION OF: TYPE Pre-Packed MAT. PVC TOTAL LENGTH -5.0 ft DIA. 1-inch SLOT SIZE 20-Slot GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN GRAVEL PACK SIZES Morie #1 26.0 / 31.0 33.26 (Feet) 33.48 1" J Plug PID Wellbox Blow Graphic Depth. REMARKS Visual Description Counts Values Log per 6" (ppm) ٦ 0 à Asphalt Brown, coarse to fine SAND, some 00 Gravel, trace Brick, trace Concrete, dry. 1" PVC Riser 6.2 (fill) Brown, coarse to fine SAND, some Gravel, trace Silt, trace Brick, dry/moist. . . . . . 0.3 Brown, SILT, little fine Sand, trace Gravel, trace organic material (Roots), moist 5 5 Pre-pack Screen 0.1 Dark brown, SILT, little fine Sand, trace Gravel, trace organic material (Roots, 0.7 Weeds), moist Bottom of well at 7.5 ft bis. **Bottom Plug** Grey, SILT, little Clay, moist .... \_10 10 . . . . . . . . . . 15 15 20 20 . . . . . 25 25 ... BORING/FEET . . . . . .... 30



ROUX ASSOCIATES, INC.

Environmental Consulting
& Management

WELL NO.		NORTHING		EASTING	<del></del> <del>-</del>				
MW-2		Not Measured	<u></u>	Not Meas	ured				
ROJECT NO.	NAME			LOCATION	mond Avenue			-	
1 <b>25801Y / C</b> o		Shopping Center LOGGED BY		IOO NGE	ININI AVGINIC				
DRAFT	•	L Derrending	er	Staten Isla	nd, New York				
RILLING CON		RILLER		GEOGRAPH			_		
Roux Assoc			TEO.	DDILLEGO	OLUMBACA CONTRACTOR ACCORD	SAMPLIN	1C 1	ETHOD	START-FINISH DATE
RILL BIT DIAN		BOREHOLE DIAMI  3.25-inches	EIEK	6620 / Geo	QUIPMENT/METHOD	2" Mac			8/3/06-8/3/06
:ASING MAT./[		SCREEN:		JULEU / GOL	711/100				
VC / 1-inch		TYPE Pre-Pa		T. PVC	TOTAL LENGTH 5		DIA.	1-inch	SLOT SIZE 20-Slot
LEVATION OF	=: GF	ROUND SURFACE	TOP OF WE	ELL CASING	TOP & BOTTOM SCI	REEN			PACK SIZES
Feet) Flushm	ount.	∠1" J Plug			<u> </u>			Morie	#1
	ilbox	1 0 Hog	Graphic			Blow		PID	D5144 DV0
eet	$\Delta$		Log	Visual	Description	Count per 6*		Values (ppm)	REMARKS
				Brown fine SAN	D, some Silt, little fine		$\neg$	1.0	1
		Cement Grou	trong the contract of	Gravel; some ro	ots and natural organic	1		1	
		••••			nches; moist; soft; and at 2.5 and 3.5 feet.		G	Į	No samples collected; PID monitoring only.
		::::							monitoring only.
		,					-	1.2	}
• •	• • • •			1-140- 2-1	OAND Off	_		}	
•••	•••••		-	⊔gnt Grey fine(- Brown staining i	) SAND, some Silt; n top 2 inches; moist;		(3	1	
;			[ ] 1	im.				]	
_		#1 Morie San						1.4	
					ND; wet at bottom 4 feet;			}	
	Ĭ			soft.				Ť	1
• ••			1						}
••								0.7	
							(-	[	
• ••	$\Rightarrow \Box$	<b>₽</b> ÷Φ				-	~	}	
<u>)                                    </u>	$\rightleftarrows$	Bentonite	<del> </del> -	Reddish fine SA	ND: wet fire		<u> </u>	1.6	}
	$\Rightarrow \forall 1$	R-\	'	Nouvisii iirie SA	NO, WOL MIN.			1.0	
• ••		<b>f</b> ::::				-	G		}
	:::::	#1 Morie San	d l						}
		• • • •	· ·				$\vdash$	1.5	
•••		<b>::::</b>				- {			•
• •		<b></b>					G		
5								]	
<u>-</u>					SAND, some Silt; wet;			1.3	
		Pre-pack Screen	1 -11	very soft.				1	
	:::::	<b>∓</b> ∷:			some Silt; wet; very firm;		G	1	
• •		<b>::::</b>		cemented red sa	and at bottom 3 inches.			]	1
		Bottom Plug		5.700 P.D.C	······································			1.3	}
		_			little Silt; wet; very firm; and at bottom 3 inches.				
•••							G	1	,
<u>)</u>			(XXXXXX)				_	Į	
•••						{	-	ļ	
• • •			}			ŀ			
								)	
•••									
• • •								1	
								)	
<u>5</u>								Į.	
							-	1	
•••								}	}
							}	{	
								ļ	,
·n			}				1		
30									



WELL NO. MW-201	S	NORTHING Not Measure	rd	EASTING Not Meas	ured			
PROJECT NO.N.	AME		·u	LOCATION				
125801Y / Cor	al Island S	Shopping Center		1650 Rich	mond Avenue			
APPROVED BY  DRAFT		LOGGED BY	COF	States Inl	and, New York			
DRILLING CONT	RACTOR/D	RILLER	Acı	GEOGRAPI				· ——————
Roux Associa	tes / J. Ve	eiss				10-2-3-3-3-3		
DRILL BIT DIAME 2-in. / <b>Drive S</b> a		3.25-inches	IL TER	6620 / Ge	QUIPMENT/METHOD	SAMPLING 2" Macro-		START-FINISH DATE 8/3/06-8/3/06
CASING MAT/DI		SCREEN:		0020 / G8	AND COLOR	∠ macro-	-UIU	0/3/00-0/3/00
PVC / 1-inch		TYPE Pre-Pa	acked_ M	AT. PVC	TOTAL LENGTH	5.0 ft DV	1-inch	SLOT SIZE 20-Slot
ELEVATION OF:	GI	ROUND SURFACE	TOP OF W	ELL CASING	TOP & BOTTOM SO	REEN	GRAVEL Morie #	PACK SIZES
(Feet) Flushmou	int \	∕ 1" J Plug						
epth, Wellb	ox /		Graphic	Viene	Description	Blow Counts	P1D Values	REMARKS
feet		4	Log	visua	l Description	per 6"	values (ppm)	KEMAKAS
<del></del>		Cement Grou	<b>4</b>	Brown fine SAN	ND, some Silt, little fine			
••••	$\not \bowtie$	1" PVC Rise	r   · · · ·   · · · ·	matter in top 3	nots and natural organic inches; moist; soft;		}	No samples collected: See
	$\rightleftarrows$	Bentonite		cemented red s	and at 2.5 and 3.5 feet.	{	- ( )(	W-201D for PID monitoria
		4.0.4				}	{ }*	esults.
••••		ึ่งใ∙ใ⊤ #1 Morie San ใงไงใง	•				1 1	
		<b>#:::</b>		Light Grey fine(	-) SAND, some Silt;	• 1	1 1	
5				Brown staining firm.	in top 2 inches; moist;	}	1	
<u>-</u> -		<b>≓</b> ∷∷					{ }	
		Pre-pack			AND; wet at bottom 2.5	-	{ }	
		Screen		feet; soft.			1	
••••						{		
	::: <u>:</u>	<b>_</b>	\[ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			}		
		Bottom Plug	h					
			1			{ }	}	
10_			1				}	
,			1					
			1					
			}				} {	
							1	
			1			1	1	
<u>15</u>			1			1	}	
			1					
			1			1		
• • • •			1			1	1	
			}				1	
-							1	
••••						1	1	
20_							1	
							1	
			1			{		
			}			1	1 1	
			1				1	
•••			1				1	
			1				1	
25_			}				1	
_			1				1	
						1	1	
							{	
						- {	}	
			}			-	1	
			1					
			1					



30

209 Shafter Street Islandia, New York 11749 Telephone: 631-232-2600 Fax: 631-232-9898

& Management **WELL CONSTRUCTION LOG** 1 ര 1 Page WELL NO. NORTHING Not Measured MW-202D Not Measured PROJECT NO NAME 125801Y / Coral Island Shopping Center
APPROVED BY LOGGED BY 1650 Richmond Avenue APPROVED BY Staten Island, New York DRAFT L. Derrendinger DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA Roux Associates / J. Veiss DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE DRILL BIT DIAMETER/TYPE BOREHOLE DIAMETER 8/2/06-8/2/06 2" Macro-Core 6620 / Geoprobe 2-in. / Drive Sampler 3.25 CASING MATJDIA. SCREEN: SLOT SIZE 20-Slot TYPE Pre-Packed MAT. PVC TOTAL LENGTH 5.0 ft DIA. 1-inch PVC / 1-inch GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN GRAVEL PACK SIZES **ELEVATION OF:** Morie #1 (Feet) 1° J Plug Flushmount PID Blow Wellbox Depth, Graphic Visual Description Counts Values REMARKS feet Log per 6 (ppm) Dark Brown to Black fine SAND, and Silt, 0.3 Cement Grout some roots and natural organic matter; moist; soft. No samples collected; PID Light Grey fine(-) SAND, some Silt, Dark monitoring only. Brown staining in top 3 inches; moist; firm. 0.3 Light Brown fine(+) to medium(-) SAND; \_5 5 #1 Morie Sand Reddish fine(+) to medium(-) SAND; wet; 0.5 1" PVC Riser - **- - -**. . . . . Reddish fine SAND; wet; firm. 0.6 Reddish CLAY, and Silt, trace fine Sand; very firm; wet. 10 10 1.2 ... Reddish fine(-) SAND, and layers and ... pockets of cemented red sand; wet; firm; o .(\) 1.1 Reddish SILT, and fine(-) Sand, little fine(-) Gravel of cemented Sand; wet; . . . . . 15 15 O8 Pre-pack Screen Reddish SILT, some Clay, little fine . . . . . Gravel of cemented sand; very firm; moist; increase in cemented sand content 0.7 . . . . . in bottom foot. G . . . . . 20 20 . . . . . . . . . . 25 25 9 . . . . . BORING/FEET

30



Page 1 of 1	WE	ELL CO	NSTRUCTION L	.OG			
WELL NO.  MW-202S	NORTHING Not Measured	<b>.</b>	EASTING Not Measured				
PROJECT NO JNAME 125801Y / Coral Island	Chamina Cartar		LOCATION 1650 Richmond Avenue	e e			
APPROVED BY	LOGGED BY						
DRAFT	L. Derrending	er	Staten Island, New Yor	rk			
DRILLING CONTRACTOR/ ROUX Associates / J. \			GEOGRAPHIC AREA				
DRILL BIT DIAMETER/TYP	E BOREHOLE DIAME	ETER	DRILLING EQUIPMENT/ME	THOD	SAMPLING N	METHOD	START-FINISH DATE
2-in. / Drive Sampler	3.25-inches		6620 / Geoprobe		2" Macro-(	Core	8/2/06-8/2/06
CASING MAT/DIA.  PVC / 1-inch	SCREEN: TYPE Pre-Pa	cked M	T. <b>PVC</b> TOTAL LE	NGTH 5.0	) A DIA	1-inch	SLOT SIZE 20-Slot
	GROUND SURFACE		ELL CASING TOP & BOT			GRAVE	PACK SIZES
(Feet)						Morie:	#1
Flushmount Wellbox	1" J Plug	Graphic			Blow	PID	
Depth, feet		Log	Visual Descript	ion	Counts per 6"	Values (ppm)	REMARKS
	A Cement Groun		Dark Brown to Black SAND, and	Silt,	T	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	T
	1° PVC Riser		some roots and natural organic moist; soft.		{	}	
$\Rightarrow$	Bentonite		Light Grey fine(-) SAND, some	Silt: Dark	7	}	No samples collected; See MW-202D for PID monitoring
····	<b>₹.</b> ;;		Brown staining in top 3 inches;	moist;	1	}	results.
	#1 Mone Sand	9 1 1	ñm.		_	1	
			Light Brown fine(+) to medium(-	) SAND;	1	{	
_		}	wet; firm.		}	{	{
<u>5</u>			Reddish fine(+) to medium(-) SA	AND: wet:	-	}	5
	Pre-pack		îm.	. 12, 1124	} }	}	
	Screen	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			1	}	
					_}	}	
	<b>=</b> ;::::		Reddish fine SAND; wet; firm.			{	
·····	Bottom Plug	<del> </del>			-	1	
• • • • •		}				}	
10						1	_1
		}				}	}
*****						}	
					}		
• • • • •		}				1	
		{					
					}		} ""
15		}			1		_1:
					}		
• • • • •		}			} }	}	
		{			1 1		
					1	}	
••••							1
20					<b>}</b>		_21
••••					}	1	
••••					1	1	
					{	}	
					{	}	
*****					1	}	
25		}			}	1	_2
_		1			<b>1</b>	{	
••••					} {		
• • • • •		}			{	}	
					1		
· • • • • •		}			1		•··
		}					
25 					1	{	3
<u>~~</u>	<del></del>						



WELL NO.		NORTHING	.al	EASTING Not Measured			
MW-2 PROJECT NO.		Not Measure	<u> </u>	LOCATION			
125801Y / C	oral Island	Shopping Center		1650 Richmond Avenue			
APPROVED BY		LOGGED BY		Otaton Inland Mark Mark			
<b>DRAFT</b> DRILLING COM	JTDACTOD/D	L. Derrendin	ger	Staten Island, New York GEOGRAPHIC AREA			
ROUX ASSOC				SECORAL IIO MALA			
DRILL BIT DIA		BOREHOLE DIAM	IETER	DRILLING EQUIPMENT/METHOD		NG METHOD	START-FINISH DATE
2-in. / Drive	Sampler	3.25-inches		6620 / Geoprobe	2" Mac	cro-Core	8/5/06-8/5/06
CASING MAT/ PVC / 1-inch		SCREEN: TYPE <b>Pre-P</b> :	actori	r. <b>PVC</b> TOTAL LENGTH	50 *	DIA. 1-inch	SLOT SIZE 20-Slot
ELEVATION O	I F: G	ROUND SURFACE	TOP OF WE				L PACK SIZES
(Feet)				<u> </u>		Morie	
Flushm	ount	1" J Plug			Blow	, PID	
eptn,	wodlk /		Graphic	Visual Description	Court		REMARKS
feet		50	Log	,	per 6	(ppm)	
		Cement Gro	,	Brown fine SAND, some Silt; some roo	ts	0.5	
	<b>*</b>		"  o`o`o` o`o`o`	and natural organic matter in top 3 nches; moist; soft;			No samples collected; PID
	::::					M	monitoring only.
	:::::			an fine to medium SAND, trace Silt; noist, soft.			
		••••		was suit.	ĺ	0.5	
					1	G	
• • • • •			L	ight Grey fine(-) SAND, some Silt; wet	at	M	
5_		••••	L	ottom 10 inches; firm.	}	<u> </u>	
		, , , , ,	1		}	0.7	
••••	•••••				}	G	}
	:::::						
			ļ	Reddish fine(+) to medium(-) SAND; we	ort.	0.6	
••••	::::	#1 Morie Sar	101   6	oft.	~~	)   0.0	
	:::::	1° PVC Rise	[			[G]	}
		• • • • • • • • • • • • • • • • • • • •					
<u>10</u> _			·······	Reddish fine SAND; wet; soft.		0.5	1
					1		1
	:::::				}	G	
					}		
	••••				}	0.5	
• • • •	::::	<b>::::</b> :					
						[G]	}
						} }	}
<u>15</u>		Ď <del>;</del> ₹\$			ĺ	0.5	
	$\rightleftarrows$	- Bentonite					
	$\rightleftarrows$				1	뎨	
••••	<b>₹.</b> }⊀	K. X			-		1
		*.*.*- #1 Morie Sar	<u></u>		-	0.6	{
		- +1 Mone Sar					1
		<b>⇒!</b> ::::			)	뎩	1
20		<b>∄</b> ∷∷					}
	∷∷⊨	<b>⊒:</b> :				0.6	}
••••	::::=	<b>⋣</b> ∷∷					}
	∷∷⊨	Pre-peck Screen				M	}
	∷∷≡	T				Ц	<b>\</b>
		∄::::	<u> </u>			0.5	{
		Bottom Plug		anddish Ol AV same City		G	1
• • • •	• • •	outpin riug		Reddish CLAY, some Silt; wet; firm;		$\leq$	{
25						$\vdash$	1
			1				{
••••			}				}
			] }		}	]	
			1				
			(				
			1				
****			1				
30					1		1



WELL NO.	NORTHING		EASTING	TION LOG			
MW-203S	Not Measured		Not Measur	ed			- <del>-</del>
PROJECT NO NAME  125801Y / Coral Island S	Shonning Center		LOCATION 1650 Richmo	ond Avenue			
APPROVED BY	LOGGED BY						
DRAFT	L. Derrending	er	Staten Islan				
DRILLING CONTRACTOR/DR			GEOGRAPHIC	AREA			
Roux Associates / J. Ve DRILL BIT DIAMETER/TYPE	BOREHOLE DIAME	TER	DRILLING EQU	JIPMENT/METHOD	SAMPLING N	METHOD	START-FINISH DATE
2-in. / Drive Sampler	3.25-inches		6620 / Geop		2" Macro-		8/5/06-8/5/06
CASING MAT JOIA.  PVC / 1-inch	SCREEN: TYPE <b>Pre-Pac</b>	dead	т. <b>РVС</b>	TOTAL LENGT: P	0 4 50	. 1-inch	SLOT SIZE 20-Slot
	ROUND SURFACE		ELL CASING	TOTAL LENGTH 5.			PACK SIZES
(Feet)				1		Morie #	
Flushmount Wellbox	1" J Plug		_		Blow	PID	
Pepth, feet	_	Graphic Log	Visual D	escription	Counts	Values	REMARKS
	Cement Grout		Brown fine SAND	some Silt; some roots	per 6"	(ppm)	
	- 1" PVC Riser		and natural organic	c matter in top 3		1	
	Berttonite		nches; moist; soft;	;	1	N	o samples collected; See
	K***			n SAND, trace Silt;	7	IV ITE	W-203D for PID monitoringsults.
	- #1 Morie Sand		moist; soft.				
	<b>≠∷:</b>				1		
				AND, some Silt; wet at			
<u>5</u>		.   1	bottom 10 inches;	firm.			
						}	
	Pre-pack Screen				1		
				medium(-) SAND; wet;	7		
· · · · · ·	Bottom Plug		soft.			1	
****					1		
10_	{				1	1	
****	l	}			}	1	
••••		}					
••••	)	}					
****	)	}				)	
						}	
****	}					}	
<u>15</u>						}	
****						{	
• • • • •							
• • • •							
••••					}	1	
20_		}			}		
						}	
••••	}	-					
••••		1					
****							
		)			}		
••••		}			}		
25							
•••							
••••					1	1	
						1	
		}					
••••							
30	ì	1			1 1	1	



30 30 209 Shafter Street Islandia, New York 11749 Telephone: 631-232-2600 Fax: 631-232-9898

& Management WELL CONSTRUCTION LOG Page 1 of 1 WELL NO. EASTING NORTHING Not Measured MW-204D Not Measured PROJECT NO NAME 1650 Richmond Avenue 125801Y / Coral Island Shopping Center LOGGED BY APPROVED BY Staten Island, New York L. Derrendinger DRAFT DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA Roux Associates / J. Veiss DRILL BIT DIAMETER/TYPE BOREHOLE DIAMETER DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE 8/4/06-8/4/06 2" Macro-Core 3.25-inches 6620 / Geoprobe 2-in, / Drive Sampler CASING MAT./DIA. SCREEN: PVC / 1-inch TYPE Pre-Packed MAT. PVC TOTAL LENGTH 5.0 ft DIA. 1-inch SLOT SIZE 20-Slot GROUND SURFACE TOP OF WELL CASING **TOP & BOTTOM SCREEN GRAVEL PACK SIZES** FI EVATION OF: Morie #1 (Feet) Flushmount 1" J Plug PID Wellbox Blow Depth, Visual Description Counts REMARKS feet Log per 6° (ppm) 1.7 Asphalt paving and gravel base. Black medium to coarse SAND, and fine Gravel, (fill); moist; soft; mostly asphalt-like material in fine Gravel size . . . . .. No samples collected; PID monitoring only. fraction. Light Grey fine(-) SAND, some Silt; Black staining in top 2 inches; wet in bottom 1.2 1.1 . . . . . feet, very firm. . . . . . \_5\_ #1 Morie Sand 1° PVC Riser 1.5 1.1 Reddish fine SAND; wet; soft. ... .... 10 10 1.8 . . . . . #1 Morie Sand 1.9 . . . . **.**. . . . . . 15 15 Reddish fine SAND; wet; firm. 1.3 Pre-pack Screen No recovery from 15 feet to 18 feet (Driller) **Bottom Plug** Reddish CLAY, little Silt; wet, firm; cemented red sand at bottom of section. 20 20 . . . <u>. .</u> . . . . .. 25 25 9 . . . . . •••

30



VELL NO.	NORTHING		EASTING			
MW-204S	Not Measured	<u> </u>	Not Measured LOCATION			
ROJECT NOJNAME 25801Y / Coral Island	Shooning Center		1650 Richmond Avenue			
PPROVED BY	LOGGED BY		1			
RAFT	L. Derrending	<u>er</u>	Staten Island, New York			
RILLING CONTRACTOR/			GEOGRAPHIC AREA	_		
oux Associates / J. V		TED	DRILLING EQUIPMENT/METHOD	SAMPLING	METHOD	START-FINISH DATE
RILL BIT DIAMETER/TYPE in. / Drive Sampler	BOREHOLE DIAME 3.25-inches	IEN	6620 / Geoprobe	2" Macro		8/5/06-8/5/06
ASING MAT./DIA.	SCREEN:		Today, Ccoproso			
VC / 1-inch	TYPE Pre-Pac		. PVC TOTAL LENGTH		A. 1-inch	SLOT SIZE 20-Slot
	GROUND SURFACE	TOP OF WE	LL CASING TOP & BOTTOM S	CREEN		PACK SIZES
eet) Flushmount \	∕1" J Plug				Morie #	<u> </u>
Wellhox \	1 J Flug	Constin		Blow	PID	
pth, set		Graphic Log	Visual Description	Counts per 6"	Values (ppm)	REMARKS
6 5 T	2 Cernent Grout		sphalt paving and gravel base.	Per o	(1144)	
7.77	KZKT	E THAT	Black medium to coarse SAND, and fir	ie i	}	
💢	1" PVC Riser Bentonite	h++++1 0	Gravel, (fill); moist; soft; mostly	)		lo samples collected; See
			sphalt-like material in fine Gravel size raction.	'		fW-204D for PID monitoring esults.
• • •	* * * * * #1 Morie Sand	12 L L L L L L	ight Grey fine(-) SAND, some Silt; Bla	ick	{	
		l s	taining in top 2 inches; wet in bottom			
		h	eet; very firm.	(		
,,,,,				{	]	
- ****						
	Pre-pack	-		}		
	Screen			}		
•••				}		
		F	Reddish fine SAND; wet; soft.			
<u></u>	Bottom Plug		,,			
••						
<u>)                                    </u>				[		
_						
• ••		}			}	
		}			]	
• ••		}		{		
		}		1	}	
		}		1	]	
• •		1		1	{	
<u>5_</u>				}		
				}		
• ••				}		
• •						
• •		}			{ }	
• ••					{	
<u>)                                    </u>						
• •						
• ••				}	)	
				1	} }	
••				{	}	
•••				{	{	
<u>5_</u>		{		1		
-						
• • •				{		
				}		
• ••		]		}		
•		}				
•••						
				1	1 1	



age / U L	<b>-</b>			
WELL NO.	NORTHING	EASTING		
SB-102X	Not Measured	Not Measured		
PROJECT NO NAME		LOCATION		
125801Y / Coral Island S	Shopping Center	1650 Richmond Avenue		
APPROVED BY	LOGGED BY			
DRAFT	J. Sakellis	Staten Island, New York		
DRILLING CONTRACTOR/DI	RILLER	GEOGRAPHIC AREA		
Roux Associates / J. Ve	iss			
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	6620 / Geoprobe	2" Macro-Core	9/8/05-9/8/05
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL	<del>-</del> <del>-</del>	
Not Measured	5.5 (Feet BLS)	Bentonite		

Not Measur	<del></del>	5.5 (Feet BLS)	Bentonite			
Depth,	Graphic Łog	Vis	sual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	HH		se to fine SAND, some Gravel, little Concrete,		(\$\$\mu_1\)	Ţ
	HH		ND, little Gravel, trace Silt, trace Brick, trace	-/	482	Sampled 0.5 to 2 ft. interval
	白頭	Glass, moist (fill)	1544 ON A		G	for VOC analysis.
		Weeds), trace Gravel, mo	, little Silt, trace organic material (Roots, pist (fill)			Complete State of State of
<u>.</u>		•			>2000	Sampled 2.5 to 5 ft. interval for VOC analysis. Strong lodors evident
5	********	Grey, fine SAND, little Sill	t, wet.		879	Odors evident
• • • • •		Brown, medium to fine Sa	and, little Silt, trace Gravel, wet.		0.0	Out of the out
		Brown, SILT, little Gravel,	little fine Sand, moist.	-	25.5	
					13.7	
10_		Brown, SILT, some Grave	al, little fine Sand, moist/wet.	_		
		•			26.3	
		Brown, SILT, little Gravel,	little fine Sand, moist/wet.	-	20.3	
		•				
<u>15</u>		Brown SILT, little Gravel,	little fine Sand majet		8.1	
		BIOWIT GIZT, III. GIZVOI,	inte Gard, most.			
••••					8.4	
	<u> </u>	Brown SILT, little Gravel,	ittile tine Sand, moist.		1	
20_					15.3	
		Brown SILT, little Clay, tra	ce Gravel, trace fine Sand, moist.			
		1			8.4	
		Brown SILT, some Clay, to	race Gravel, trace fine Sand, moist.			
				}	6.7	
25_		Brown SILT. little Gravel.	trace Clay, trace fine Sand, moist.	_		
		, , , , , , , , , , , , , , , , , , , ,	· · · · · · · · · · · · · · · · · · ·		4.6	
		Brown SILT, little Gravel, t	trace fine Sand, moist.	_		
					4.5	
30						



ge	2	of	2	SC	OIL BORING LOG				
ELL N		_		NORTHING	EASTING				
	SB-	102X		Not Measured	Not Measured				
		MAM			LOCATION				
			Island Sho	opping Center	1650 Richmond Avenue				
	VED E	Y		LOGGED BY					
RAFI	Γ			J. Sakellis	Staten Island, New York				
						Blow		PID	
h,	Graphic Vii		Vis	ual Description	Counts	١	/alues	REMARKS	
t Log		Log	(continued)		per 6"		(ppm)		
_		_	000	Brown, coarse to fine SAN	ID, little Gravel, wet		V		Sampled 30 to 32.5 ft.
			00°				V		interval for VOC analysis.
			Y. O. 9			1	I A	4 =	D-461
••			001					1.5	Bottom of boring at 32.5 f



WELL NO. SB-10	03X	NORTHING 160982.1	EASTING 938966.3				
PROJECT NO.	NAME	<del></del>	LOCATION 1650 Richmond Avenue				_
APPROVED BY	<u>oral Island Si</u> '	hopping Center LOGGED BY	1000 Nicilinolia Awerice				
DRAFT		J. Sakellis_	Staten Island, New York			_	
	ITRACTOR/DRI		GEOGRAPHIC AREA				
DRILL BIT DIAM	<b>iates / J. Vei</b> s	BOREHOLE DIAMETER	On property line DRILLING EQUIPMENT/METHOD	SAMPLING	METHOD	START-FINISH DATE	
2-in. / Drive	Sampler	2-inches	6620 / Geoprobe	2" Macro		9/6/05-9/6/05	
Not Measure		DEPTH TO WATER 5 (Feet BLS)	BACKFILL Bentonite				
NOT MEASURE	<u> </u>	7 (Feet DLS)	DC ILOT IILE				
Depth, feet	Graphic Log	Vis	ual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS	
		Brown, coarse to fine SANI Glass, moist. (Fill)	D, some Gravel, little Silt, trace Brick, trace		560	0	_
	A	-				Sampled 0.5 to 2 ft. interval for VOC analysis.	
	HH	Dark brown, medium to fine trace Glass, moist. (Fill)	SAND, some Silt, little Gravel, trace Brick,		202		••
	M				G		•
		Dark howen madium to See	SAND, some grey Silt, trace Gravel, trace		214		
_5		Organic material (Roots), n	noist/wet.				_
_					214		_
		Grey, fine SAND, some Silt	, trace Gravel, wet.		53.6		••
		Brown, SILT, little fine Sand	I, little Gravel, trace Clay, wet.		5.5		
					<b> Y</b>	Sampled 7 5 to 40 5 int	
						Sampled 7.5 to 10 ft. intervention VOC analysis.	<b>#</b>
<u>10</u>		Brown SILT, trace Gravel, to	more fine Sand wet		3.3		_
		Drown Sici, trace Graver, t	ace line Saru, wet.		3.3		
		1			<b>Y</b>		••
****		Brown, SILT, trace fine San	d, trace gravel, trace Clay, wet.		5.1		
15							
<u>13 </u>	++++	Brown SILT, little fine Sand	trace Gravel, trace Clay, moist/wet.		4.3		
	- 1.11314()				Y		
					7		
	<u> </u>	Brown SILT, little Clay, mois	sthuat	{	8.7		
					<b>1</b>		••
		]					
20_						Bottom of boring at 20 ft bis	نے ۔ا
						-	
• • • •							••
••••							••
<u>25</u>							_2
****							
• • • •							••



WELL NO.	NORTHING	EASTING						
SB-104X	160982.5	938935.2						
PROJECT NO NAME		LOCATION						
25801Y / Coral Island Shopping Center		1650 Richmond Avenue						
APPROVED BY	LOGGED BY							
DRAFT	J. Sakellis	Staten Island, New York	Staten Island, New York					
DRILLING CONTRACTOR/DRI	LLER	GEOGRAPHIC AREA						
Roux Associates / J. Veis	S							
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE				
2-in. / Drive Sampler	2-inches	6620 / Geoprobe	2" Macro-Core	9/8/05-9/8/05				
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL.						
Not Measured	5.5 (Feet BLS)	Bentonite						

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PII Valu (ppi	ies REMARKS
	Ath	Dark brown to black, coarse to fine SAND, some Gravel, little Concrete, \dry (fill)	]		
	開	Dark brown to black, coarse to fine SAND, some Gravel, little Silt, trace Concrete, moist (fill)		0.3	Sampled .5 to 2 ft. interval for VOC analysis.
••••		Brown to grey, Fine SAND, some Silt, trace organic material (Roots), moist	1	G	
••••				6.3	
• • • • •				1.	.
5	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Grey, fine SAND, little Silt, trace Gravel, wet.	-		Sampled 4 to 6 ft. interval for
		Gray, into Grays, mas one, state Grayer, wet.			VOC analysis.
				2.0	
		Brown, SILT, some Gravel, little fine Sand, moist/wet.	-		
	$[\uparrow][\downarrow][\downarrow]$	, , , , , , , , , , , , , , , , , , , ,		14.	
				14.	Sampled 7.5 to 10 ft. interval
10_	╀┼┿┼┼┼	Brown, SILT, some Gravel, little fine Sand, wet.	-		for VOC analysis.
	<u> </u>			5.0	.
				"	
	711++1+	Brown, SILT, little Gravel, trace Clay, moistwet.	-		
	<u> </u>			4.3	
45				•	
<u>15                                    </u>	<b>1</b>   <del>1      </del>   <del>1</del>   <del>1</del>   <del>1</del>   <del>1</del>   <del>1</del>   <del>1</del>   <del>1</del>   <del>1   1   1   1   1   1   1   1   1   </del>	Brown SiLT, some Gravel, little crushed stone, trace Clay, moist/wet.	-		-
				<b>y</b>	
••••	<u> </u>			2.6	Bottom of boring at 17.5 ft bls.
	211111111		1		
20					
<u></u>					-
.5					
<u> </u>					
•••					•
•••					
  <u>3</u> 0					



	~~.					
WELL NO.	NORTHING	EASTING		_		
SB-105X	160950.9	938967.6				
PROJECT NO./NAME		LOCATION				
125801Y / Coral Island Sh	nopping Center	1650 Richmond Avenue				
APPROVED BY	LOGGED BY					
DRAFT	J. Sakellis	Staten Island, New York				
DRILLING CONTRACTOR/DRI	LLER	GEOGRAPHIC AREA				
Zebra Environmental / E.	Moraitis	Inside dry cleaners				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE		
2-in. / Drive Sampler	2-inches	5400 / Geoprobe	2" Macro-Core	9/7/05-9/7/05		
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL				
Not Measured	6 (Feet BLS)	Bentonite				

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	00000	Concrete slab		V	
••••	0000				
		Brown, medium to fine SAND, moist		1.3	Sampled 1.5 to 3 ft. interval
		Brown to Grey, SILT, little fine Sand, moist Dark brown to brown, SILT, little Gravel, little fine Sand, trace organic			for VOC analysis.
		material (Roots, Weeds), moist/wet		<b>V</b>	
5	+ + + +	Brown, fine SAND, little Silt, trace organic material (Roots, Weeds),		1.5	
		moist/wet Grey, fine SAND, trace Silt, wet		1.7	Sampled 4.5 to 6 ft. interval for VOC analysis.
	**************************************	Grey, fine SAND, trace Silt, wet	7		ioi voo alayas.
• • • •			_]	3.9	
		Grey to brown, fine SAND, little Silt, wet		14.4	
•••		Brown, SILT, little Gravel, little fine Sand, moist/wet	_		
10	•	BIOWIT, OILT, INCO GRAVER, INCO GRAND, INCOSTRUCT		V	
		Brown, SILT, little Gravel, little fine Sand, moist/wet		2.6	
	<b> </b>    <b> </b>     <b> </b>			2.2	Deltom of bodon at 40 ft life
					Bottom of boring at 12 ft bls
15_					
•••					
20_					
***					
•••					
 5_					
<u>.v_</u>					
30	1				



Page 1	of 1		IL BORING LOG			
WELL NO. SB-	-106	NORTHING Not Measured	EASTING Not Measured			
PROJECT NO	).NAME		LOCATION 1650 Richmond Avenue			
<b>125801Y / C</b> APPROVED B		nopping Center LOGGED BY	1030 Ricigiona Avenue			
DRAFT		J. Sakell <u>is</u>	Staten Island, New York			
	ONTRACTOR/DRI Ociates / J. Veis		GEOGRAPHIC AREA			
DRILL BIT DIA	WETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING I		START-FINISH DATE
<b>2-in. / Drive</b> LAND SURFA		<b>2-inches</b> DEPTH TO WATER	6620 / Geoprobe BACKFILL	2" Macro-	Core	8/31/05-8/31/05
Not Measur		6.5 (Feet BLS)	Bentonite			
				Blow	PID	
epth, feet	Graphic Log	Vis	ual Description	Counts per 6"	Values (ppm)	REMARKS
		Asphalt		per v	0.6	
	HH	Brown, course to fine SANI dry/moist.	D, some Gravel, little silt, trace brick,			Complet 0 E to 2 S :-to
	M					Sampled 0.5 to 2 ft. interval for VOC analysis.
	MA				3	
••••	MT .	<u> </u>				
		Grey to dark grey, fine SAN	ND, some Silt, trace black organic material.			
5	<u>                                   </u>	O O T	Paul - A			Sampled 4 to 6 ft. interval
	-	Grey SILT, little fine sand, I Grey, fine SAND, trace silt,			0.0	VOC analysis. Upper sitt/clay unit begins
		<i>j.</i> ,			1	approximately 5.5 ft. bls.
					<b>!</b> }	
		Brown, fine SAND, trace sil	it, wet.		0.2	
••••						
10					J	
<u></u> -		1			0.4	
					<b>[</b> [	
		Brown, fine SAND, trace sit	lt, wet.		0.5	
••••					1	
	, ,;					
<u>15</u>					0.9	
					0.5	}
					1.2	Lower silt/clay unit begins :
		Brown CLAY, little silt, mois	st/wet.			approximately 18 ft. bls.
20_						
• • • • •						
	1	{		{ }	1	
 DE						
25_						
· · · · ·	}					
••••					1	
30					1 /	



30

209 Shafter Street Islandia, New York 11749 Telephone: 631-232-2600 Fax: 631-232-9898

& Management **SOIL BORING LOG** Page 1 of 1 WELL NO. NORTHING EASTING SB-107 160940.6 938705.7 PROJECT NO NAME LOCATION 1650 Richmond Avenue 125801Y / Coral Island Shopping Center APPROVED BY LOGGED BY DRAFT J. Sakellis Staten Island, New York DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA Roux Associates / J. Veiss DRILL BIT DIAMETER/TYPE BOREHOLE DIAMETER DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE 2-in. / Drive Sampler 2-inches 6620 / Geoprobe 2" Macro-Core 8/31/05-8/31/05 LAND SURFACE ELEVATION DEPTH TO WATER BACKFILL Not Measured 7 (Feet BLS) **Bentonite** Blow PID Depth, Graphic Visual Description Counts per 6" Values REMARKS feet Log (ppm) Asphalt Brown, course to fine SAND, some gravel, trace silt, trace brick, trace 0.1 Sampled .5 to 2 ft. interval for VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals Brown, course to fine SAND, little gravel, little silt, trace brick, trace 0.1 concrete, moist. and Cyanide analyses. 0.2 5\_ 5 Grey to brown SILT, little clay, little fine sand, moist. 0.4 Sampled 4 to 6 ft. interval for VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals Grey to brown, fine SAND, little silt, moist. and Cyanide analyses. Grey, fine SAND, trace sitt, wet. 0.3 Brown, fine SAND, trace silt, wet. ... 10 10 0.7 . . . . . ... . . . . . .... Brown, fine SAND, trace silt, wet. 0.6 . . . . .. - - - - **--**15 15 1.0 20 20 . . . . .. 1/10/07 . . . . . .... . . . . .. ROUX,GDT 25 25 GP. . . . . . . . . . . ...

30



Page 1 of 1	SO	IL BORING LOG	_
WELL NO.	NORTHING	EASTING	
SB-108	Not Measured	Not Measured	
PROJECT NO NAME		LOCATION	
125801Y / Coral Island	1 Shopping Center	1650 Richmond Avenue	
APPROVED BY	LOGGED BY		

DRILLING CONTRACTOR/DRILLER

ROLL ASSOCIATES / J. Veiss

DRILL BIT DIAMETER/TYPE

BOREHOLE DIAMETER

2-in. / Drive Sampler

LAND SURFACE ELEVATION

BOREHOLE DIAMETER

DRILLING EQUIPMENT/METHOD

SAMPLING METHOD

START-FINISH DATE

6620 / Geoprobe

2" Macro-Core

9/19/05-9/19/05

BACKFILL

Bentonite

epth, feet	Graphic Log	Visual Description	Blow Counts per 6°	PID Values (ppm)	REMARKS
		Asphalt Brown, fine SAND, some Silt, little Gravel, trace asphalt, trace Brick; dry (fill)		0.9	Hand excavated to 4ft bis as part of utility clearance Sampled 0.5 to 2 ft. interval
		Black to grey, SILT, little fine Sand, trace organic materials (Weeds, Roots, Grasses); moist		G 1.0	for VOC analysis.  Sampled 2 to 4 ft. interval for
 5		Grey, fine SAND, some Silt, trace Clay, moist			VOC, SVOC, Pesticide, PCB, Herbicides, TAL Metals, Cyanide analysis.
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Brown to grey, fine SAND, some Silt, little Clay, moist/wet		0.7	Sampled 4 to 6 ft. interval fo VOC analysis.
••••		Brown, SILT, some fine Sand, little Clay, moist		1.5	
				1.0	
		Brown, SILT, some fine SAND, little Gravel, trace Clay; wet			
• • •		Brown to grey, crushed rock (Sandstone), some Silt, little fine Sand, trace		0.8	
		Gravel; moist		0.6	
		Brown SILT, little fine Sand, trace Gravel, trace Clay; wet			
				0.7	
		Brown, SILT, little Clay, trace Gravel, trace fine Sand, wet		0.6	
20_		Brown, medium to fine SAND, some Silt, little Gravel, little Clay; wet			
				0.2	
•••		Brown, coarse to fine SAND, little Gravel, trace Silt; wet		0.2	
 <u>5</u>	00				Bottorn of soil boring at 25 fi bls.
					<del></del> -
•••					
 30					



Page	1	of	1		S	OIL	B	OR	INC	3	LO	G

Page 1 or i	301	L DOMINO LOG					
WELL NO.	NORTHING	EASTING					
SB-111	Not Measured	Not Measured					
PROJECT NO NAME		LOCATION					
125801Y / Coral Island Si	hopping Center	1650 Richmond Avenue					
APPROVED BY	LOGGED BY						
DRAFT	J, Sakellis	Staten Island, New York					
DRILLING CONTRACTOR/DR	ILLER	GEOGRAPHIC AREA					
Roux Associates / J. Vei	SS	In front of dry cleaners					
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE			
2-in. / Drive Sampler	2-inches	6620 / Geoprobe	2" Macro-Core	9/16/05-9/16/05			
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL					
Not Measured	6 (Feet BLS)	Bentonite					

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS	
		Asphalt Charles and the second of the second				
	FFFF	Brown to grey, coarse to fine SAND, little Asphalt little Gravel; dry/moist Brown, coarse to fine SAND, little Silt, little Gravel; dry/moist	{	7.8	Sampled .5 to 2 ft. interval	•••
		Brown, coarse to line SAMD, time Silt, time Graver, drymfost	ļ	2.4	for VOC analyses.	
		Brown, coarse to fine SAND, little Silt, little Gravel, trace organic material	1	9	,	•••
	HHH	(Lumber); dry/moist (fill)	1	{ {		
••••	HHH		ĺ	2.8	}	
	ann	Day to Charles St. Cond. book and an about 104/anda	ļ			•••
_		Brown to grey, SILT, little fine Sand, trace organic material (Weeds, Roots); moist/wet				_ !
<u>5</u>		110000,11000000	(	2.3	Sampled 4 to 6 ft. interval	
	1131311311		}		for VOC analyses.	
••••	1711717171	Grey, fine SAND, little Silt; wet	]	IA.		
	111111111	0 0 0 0		1.0		•••
		Grey, SILT, trace Clay; moist Brown, SILT, trace Clay, trace Gravel; moist	{	1.6		
	J	DIOWII, SILI, trace Clay, bace Grave, most				•
				1.8		••
••••		Brown SILT, little Gravel, trace Clay; moist				
10_	7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Daving Oil T Bulle E. a Cound have Compain majorhizat				_1
		Brown, SILT, little fine Sand, trace Gravet; moist/wet				
• • • • • •	[[]]]]]]		l			•••
			ĺ	3.9		
	111111111111111111111111111111111111111		}	} <b>}</b> }		
• • • • •		Brown, SILT, little fine Sand, trace Gravel; moist/wet	ļ	[1]	)	
	1511111111			4.3		
	1111111111		ļ	4.3		•••
15	111111111111		{			_1
		Brown SILT, little fine Sand, trace Gravel; moist/wet	]			
	111111111111		Ì			••
	}} <u></u>		{	3.7		
• • • • •				J.,		•••
		Brown SILT, little fine Sand, trace Gravel; moist/wet	1			
	1111111111		l			
	1111111111			4.1		••
20	[][[][[][][][][][		}			.2
<u>20                                    </u>		Brown, SILT, trace fine Sand, trace Clay, trace Gravel; wet	ļ			-
			!			
	FI-I-1		{	0.8		••
	FL====	Brown, SILT, little fine Sand, little Clay, moist/wet.	-			
••••	[[]-	2,000, 0.21, 1.20 (1.10 0.21, 1.12 2.29), 1.12 2.29	{			••
			1	0.5		
			]			
<u>25</u>	[ <u>-</u>	Brown, SILT, little Clay, little Gravel; moist/wet	1			_2
	[ <del></del>	Diown, Oill, iille Olay, iille Olayel, iilosewet				
	[		}			••
				2.8		
	<u> </u>	Davin Cli T little Consol little medium to fine Cond trace Class west	l			
	1111111111	Brown SILT, little Gravel, little medium to fine Sand, trace Clay; wet				••
	{{}}}			3.1		
	1111111111				Bottom of soil boring at 30 f	
30	144444444		l .		bls.	3



WELL NO.	440	NORTHING	EASTING			
-ROJECT NO	113 /NAME	160731.9	938784.5 LOCATION	<del>.</del>		
125801Y / C	oral Island St	nopping Center	1650 Richmond Avenue			
APPROVED B		LOGGED BY	Otata a labara Nasa Yada			
DRAFT DRILLING CO	NTRACTOR/DRI	J. Sakellis	Staten Island, New York GEOGRAPHIC AREA			
	ronme <u>ntal / E.</u>	Moraitis				
DRILL BIT DIA	METER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING I		START-FINISH DATE
<u>2-in. / Drive</u> AND SURFA	Sampler CE FLEVATION	<b>2-inches</b> DEPTH TO WATER	5400 / Geoprobe BACKFILL	2" Macro-	Core	9/1/05-9/1/05
Not Measur		7 (Feet BLS)	Bentonite			
epth, feet	Graphic Log	Vis	ual Description	Blow Counts per 6*	PID Values (ppm)	REMARKS
	HH	Brown, course to fine SAN	D, some Gravel, little silt, trace brick, moist.		12.2	
	ppp	1			X	Sampled 0-2 ft. interval for
	1111	D-100 -0010 4- 5 0441	D. sama Cerual little silt trace brisk project		0.4	VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals
	ppp	Srown, course to fine SAN	D, some Gravel, little silt, trace brick, moist.		V.4	and Cyanide analyses.
	Pijiji	\	D. 1944 194 194			1
		Brown, course to fine SANI Brown, course to fine SANI	O, intre sirt, moist.  O, some Silt, trace gravel, moist.		2.3	
5	<u> </u>	Tan to brown SILT, little fie	· <u> </u>	<b></b>   ''	<b>y</b> l	
		Brown, fine SAND, some S	ilt, wet.		1.2	
		-			I	Groundwater sample
						collected for VOC analysis.
••••						
<u>10</u>						}
• •	-				1	
				} {		
 4E						
<u>15</u>						
						1
	}				-	
				}	-	
20_						
<del></del>						1
					1	
						}
				1		1
	}					
••••					}	1
<u>25</u>						}
••••	{				1	
• • • •	-					
30_		4		1 1	1	1



**SOIL BORING LOG** 1 of 1 Page NORTHING **161686.1** EASTING 938787.7 WELL NO. **SB-114** PROJECT NO NAME LOCATION 1650 Richmond Avenue 125801Y / Coral Island Shopping Center
APPROVED BY LOGGED BY

DRAFT J. Sakellis Staten Island, New York

DRILLING CONTRACTOR/DRILLER GEOGRAPHIC ÁREA

Zebra Environmental / E. Moraitis
DRILL BIT DIAMETER/TYPE | BOREHOLE DIAMETER DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE 2-in. / Drive Sampler
LAND SURFACE ELEVATION 2-inches DEPTH TO WATER 5400 / Geoprobe 2" Macro-Core 9/1/05-9/1/05 BACKFILL Not Measured 8.5 (Feet BLS) **Bentonite** 

epth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Vaiues (ppm)	REMARKS
	HALL	Brown, coarse to fine SAND, little Gravel, little Silt, trace Brick, dry.	7		
	HHH	·	}	65.0	0
				15.9	Sampled 0 to 2 ft. interval for VOC, SVOC, Pesticide,
•••		Brown, coarse to fine SAND, little Gravel, little Silt, trace Brick, dry/moist.		111	PCB, Herbicide, TAL Metals
	HHH			I Maria	and Cyanide analyses.
	mm			0.4	
	<del>}</del>	Brown, coarse to fine SAND, little Silt, trace Gravel, dry/moist.	1		•
5	*****	Brown, fine SAND, little Silt, dry/moist.	7		
	, ,		1	1.3	
•••	<u> </u>	Brown SILT, little Clay, trace Gravel, moist/wet.	1		
	[ <del>-</del> <u>-</u> - <u>-</u> -			<b>  </b>	
	<u> </u>		1	0.7	
		Brown SILT, trace Clay, trace Gravel, wet.	·		
	[-]-]			V	
	<u> </u>		1	3.3	
<u>o</u>			]	11	Groundwater sample
	<u> </u>	Brown, fine SAND, trace Silt, wet.	1	1	collected for VOC analysis
•••	<del></del>	Brown SILT, trace Clay, trace Gravel, wet.	-	1.0	conscion of too analysis.
		BIOWIT SILT, BACE CIAY, BACE CHAYER, WELL	4		
	}				
• • •			}		,
<del>.</del> .	{ {				
5			1		
<u>-</u>	1				
			1		
	}				
• ••			}	]	
	{ }		1		
			}		
• • •	1				
0	1 1				
				. [	
	}			1	
•-			}	1 1	
• ••	{			1 1	
			}	1	
• ••				] ]	
 5_					
	) )			}	
••					
	1				
					,
• • ••					
90	1 1				



1 of 1 SOIL BORING LOG

rage i or i	001	F DOMING FOO		
WELL NO.	NORTHING	EASTING		
SB-115	160614.4	938789.9		
PROJECT NO NAME		LOCATION		
125801Y / Coral Island Si	hopping Center	1650 Richmond Avenue		
APPROVED BY	LOGGED BY			
DRAFT	J. Sakellis	Staten Island, New York		
DRILLING CONTRACTOR/DRI	LLER	GEOGRAPHIC AREA		
Zebra Environmental / E.	. Moraitis			
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	5400 / Geoprobe	2" Macro-Core	9/1/05-9/1/05
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
Not Measured	6 (Feet BLS)	Bentonite		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	HHH	Brown, course to fine SAND, little gravel, trace organic material, trace brick, trace ceramic tile, trace concrete, dry.		0.9	
· · · · · ·	THE PARTY IN THE P	риск, часе сеганис ше, часе сопсете, сту.		X	Sampled 0-2 ft. interval for
••••	THE PARTY			0.8	VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals
	<u> </u>	Tan to brown, fine SAND, trace silt, dry/moist.	-	V 0.8	and Cyanide analyses.
			1	A	
				0.8	
5		Design for CARID ISSUE of Used	_	<b> Y</b>	_
	{	Brown, fine SAND, little silt, wet.			<u></u>
• • • • •				0.8	
		Brown SILT, little clay, little gravel, wet/moist.	-	X	
	<u> </u>	•		<b>A</b> 0.5	
	[			0.5	
40					
10		Brown SILT, little clay, little gravel, wet/moist.	}	0.3	Groundwater sample
	<u> </u>			( <b>Y</b> )	collected for VOC analysis
	[				
••••					
	}		}	}	
	{ {		}	}	
15	<b> </b>		Ì	}	
<del>-</del>			[	[ ]	
					••
	1		}	}	
	- {		}	{	
	{ [			( (	
	}				••
20_	}				<u> </u>
****	1				
	1			{	
	1				 
	1			} }	
	1			} }	
25_	1			}	
	}				-
	}				
	}				
	}			}	
••••	}				••
	<b> </b>				
30			(		Ĺ <b></b>



Page 1 of 1	SOI	L BORING LOG		
WELL NO.	NORTHING	EASTING		
SB-116	160522.5	938797.7		
PROJECT NO NAME		LOCATION		
125801Y / Coral Island SI	nopping Center	1650 Richmond Avenue		
APPROVED BY	LOGGED BY			
DRAFT	J. Sakellis	Staten Island, New York		
DRILLING CONTRACTOR/DR	LLER	GEOGRAPHIC ÂREA		
Zebra Environmental / E.	Moraitis			
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	5400 / Geoprobe	2" Macro-Core	9/1/05-9/1/05
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
Not Measured	6 (Feet BLS)	Bentonite		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown, course to fine SAND, some Gravel, trace silt, trace plant roots, dry.		0.4	
****		Brown, course to fine SAND, some Gravel, trace sitl, trace plant roots, dry.		0.5	
••••		- <i>y</i> -			
	******	Tan to Brown, fine SAND, little slit, trace clay, moist.	-	0.7	
5				X	
••••		Grey SILT, little clay, trace fine sand, wet.	-	0.8	
••••				<b> X</b>	Sampled 6 to 8 ft. interval fo
		Grey, fine SAND, little silt, wet.		0.8	VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals
••••		Brown, fine SAND, trace silt, wet.	}	Y	and Cyanide analyses.
10				<b>A</b>	0
• • • • •		Desira CII T 1996 agent 1996 agen		0.7	Groundwater sample collected for VOC analysis.
		Brown SILT, little gravel, little medium to fine sand, wet.			
				{ {	
15			(	{	
	}		}	<b> </b>	
• • • •	1		}	} }	
	1		}	} }	
• • • •	1		ŀ		
•••	}		1	[ ]	
20	}				
• • • •					
				}	
<u>25</u>	}			} }	
***				}	
• • • •					
•••	}			} }	
	1				



age 1 WELLNO.	<u>of 1</u>	NORTHING	DIL BORING LOG EASTING			
	-117	160820.2	938960.5			
PROJECT NO 1 <b>25801Y / C</b>		nopping Center	LOCATION 1650 Richmond Avenue			
PPROVED E		LOGGED BY	States laland New Year			
<b>DRAFT</b> DRILLING CO	NTRACTOR/DRI	<b>J. Sakellis</b> LLER	Staten Island, New York GEOGRAPHIC AREA			
Roux Asso	ciates / J. Veis	is	DRILLING EQUIPMENT/METHOD	SAMPLING N	ALTHON	START-FINISH DATE
2-in. / Drive	AMETER/TYPE Sampler	BOREHOLE DIAMETER  2-inches	6620 / Geoprobe	2" Macro-		9/20/05-9/20/05
AND SURFA	CE ELEVATION	DEPTH TO WATER	BACKFILL			
Not Meas <u>u</u>	red	6.5 (Feet BLS)	Bentonite			
epth, feet	Graphic Log	Vis	ual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	1777	Asphalt  Brown coarse to fine SAN	ID, some Gravel, little Silt, (fill); dry			
• • • •	AAA	Disting source to fine order			5.6	
	AAA					Hand excavated to 5ft bis a
	AAA				1	part of utility clearance
	THAT !					
5		Dark grey to grey, fine SA	ND, little Silt, trace Organic Material (i.e.		0.2	
	***** <u>*</u>	weeds, grass, and roots); Grey, fine SAND, little Silt;	moist/wet.	-/i	ļ	
····			some Silt, trace Gravel; wet.	-	0.2	
GRO WATER	LEVEL OF THE	• ]				
9/20/2	2005	Brown SILT, little fine SAN	D and Gravel, trace Clay; moist/wet			
					0.2	
	{}}}}}	1			0.2	
<u>10                                    </u>	111111111	<u> </u>			7	
	}					
	}				)	
					) )	
					{	
					1	
<u>15</u>	1					
					1	
	}				}	
	}					
•••						
•••						
20_					1	
					1	
,					( (	
	}					
25_						
					1	
•••	}					
	}				1	
					]	
	1			1 1	1 [	



age i or i	<b>O</b> O.			
WELL NO.	NORTHING	EASTING		
SB-118	160732.2	938942.1		
PROJECT NO NAME		LOCATION		
125801Y / Coral Island Sh	nopoing Center	1650 Richmond Avenue		
APPROVED BY	LOGGED BY			
DRAFT	J. Sakellis	Staten Island, New York		
DRILLING CONTRACTOR/DRI	LLER	GEOGRAPHIC AREA		
Zebra Environmental / E.	Moraitis			
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	5400 / Geoprobe	2" Macro-Core	9/7/05-9/7/05
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		<del></del>
Not Measured	11.5 (Feet BLS)	Bentonite		

epth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	000	Asphalt Brown, coarse to fine SAND, some Gravel, little Organic material (Roots), trace Glass, dry (fill)		0.6	Sampled 0.5-2 ft. interval for VOC, SVOC, Pesticide,
	500	Brown, coarse to fine SAND, some Gravel, little Organic material (Roots), trace Glass, dry (fill)	<u>.                                    </u>	i l	PCB, Herbicide, TAL Metals and Cyanide analyses.
				0.6	
5_		Brown to grey, medium to fine SAND some Silt, trace Gravel, trace Clay, dry		0.5	
		Brown to Grey, fine SAND, some Silt, dry/moist			
• ••		Brown, SILT, little Clay, trace Gravel, dry/moist	l	1.0	
• ••		Brown, SILT, little Gravel, trace Clay, dry/moist			
<u>)</u>		Brown, SILT, little Gravel, trace Clay, dry/moist		0.7	
r <del>e</del> e		Brown, Sic I, lime Graver, trace Clay, dry/moist		0.6	
- ••					Bottom of boring at 12 ft bls.
 <u>L</u>					
				}	
, <u></u>					
· <b></b>					
• ••					
<u>_</u>					
•					
_					
••					
<b></b>					



WELL NO.		NORTHING	EASTING			
SB-119 PROJECT NO <i>J</i> NA		160650.1	938936.8 LOCATION			
125801Y / Cora		opping Center	1650 Richmond Avenue			
APPROVED BY		LOGGED BY				
DRAFT		J. Sakellis	Staten Island, New York			
DRILLING CONTR			GEOGRAPHIC AREA			
<b>Zebra Environr</b> DRILL BIT DIAMET		Moraitis BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPUNG	METHOD	START-FINISH DATE
2-in. / Drive Sar		2-inches	5400 / Geoprobe	2" Macro-		9/7/05-9/7/05
LAND SURFACE E		DEPTH TO WATER	BACKFILL	_ 112010	2010	wire willed
Not Measured		8 (Feet BLS)	Bentonite			
Pepth, feet	Graphic Log	Visua	al Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Asphalt				
••••	0	Brown, coarse to fine SAND, ( (fill)	some Gravel, little Silt, trace Concrete, dry		2.0	Sampled 2-4 ft. interval for
	. O °.	, ·····/			7.0	VOC, SVOC, Pesticide,
••••	000000000000000000000000000000000000000	Brown to grey, medium to fine	SAND, some Silt, dry/moist		i l	PCB, Herbicide, TAL Metals
••••					<b>A</b> i	and Cyanide analyses.
		1			2.6	
• • • • •		Brown, medium to fine SAND	some Silt, trace Clay, moist			
<u>5</u> _		<del>]</del>		1		
		ŧ			1.9	
		Brown, coarse to fine SAND, I	little Silt, moist		1)	
•••			e fine Sand, trace Clay, moist/wet	-	A	
					2.1	
•••		Brown, fine SAND, little Silt, w	ret	$\dashv$		
***		The state of the s				
		†			1.8	
<u>10</u> _		Brown, SILT, little Gravel, trac	e fine Sand moist/wet	_	I	
•••	<u> </u>	Stown, Ster, Italy Graver, Uac	Come, moise wer	1	A l	
				i li	1.0	
	HIII	<del> </del>		_		Bottom of boring at 12 ft bls
	1					
•••						
***					1	
15				) )		
19_					1	
***	1			}	1	
					1	
***						
					]	
•••						
20_				1		
_						
•••						
	}					
				}		
•••						
	{			}		
•••						
<u>:5</u> _						
•••						
	}					
		1				



ge 1 of 1	SOIL	<b>BORING</b>	LOG
-----------	------	---------------	-----

Page 1 of 1	SOI	L BORING LOG		
WELL NO.	NORTHING	EASTING		
SB-120	160564.9	938945.9		
PROJECT NO NAME		LOCATION		
125801Y / Coral Island Shopping Center		1650 Richmond Avenue		
APPROVED BY	LOGGED BY			
DRAFT	J. Sakellis	Staten Island, New York		
DRILLING CONTRACTOR/DRI	LLER	GEOGRAPHIC ÁREA		
Zebra Environmental / E.	Moraitis			
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	5400 / Geoprobe	2" Macro-Core	9/7/05-9/7/05
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL	<del></del>	
Not Measured	8 (Feet BLS)	Bentonite		

epth, feet	Graphic Log	Visual Description	Blow Counts per 6*	P1D Values (ppm)	REMARKS
		Asphalt  Dark brown to brown, SILT, little medium to fine Sand, trace Concrete, trace Ceramic Tile, dry (fill)		0.9	Sampled 0.5-2 ft. interval for
	ppp	Brown, SILT, little Clay, moist	-	I	VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals
				0.8	and Cyanide analyses.
		Brown, medium to fine SAND, little Silt, trace Gravel, moist/wet	-		
<u>5</u>				1.0	
		Brown, SILT, some Gravel, trace fine Sand, moist/wet	-		
• • • • •				1.2	
• • • • •	<u> </u>	Brown, SILT, some Gravel, trace fine Sand, moist/wet	-		
 10_	}			0.6	
	ŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢ	Brown, SILT, liftle Gravel, little fine Sand, wet	-1		
				0.5	Bottom of boring at 12 ft bis
	1				
15_			{		
•••	}				
•••					
	1		}		
20	{				
•••	}				
	{				
•••			1		
<u>25</u>	}		}		
•••					
•••					



Page 1 of 1	SO	L BORING LOG			
WELL NO. SB-121	NORTHING 160601,3	EASTING 938890.9			
PROJECT NO NAME  125801Y / Coral Island SI	nopping Center	LOCATION 1650 Richmond Avenue			
APPROVED BY  DRAFT	LOGGED BY  J. Sakellis	Staten Island, New York			
DRILLING CONTRACTOR/DRI Roux Associates / J. Veis		GEOGRAPHIC AREA			
DRILL BIT DIAMETER/TYPE  2-in. / Drive Sampler	BOREHOLE DIAMETER  2-Inches	DRILLING EQUIPMENT/METHOD  6620 / Geoprobe	SAMPLING METHOD  2" Macro-Core	START-FINISH DATE 9/20/05-9/20/05	
LAND SURFACE ELEVATION  Not Measured	DEPTH TO WATER  9 (Feet BLS)	BACKFILL Bentonite			

epth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Asphalt  Tan, coarse to fine SAND, some Gravel, trace Brick and Felt Liner Material, (fill); dry.		0.3	Hand excavated to 5ft bis as
		Brown to grey SILT, little fine Sand, trace Organic Material (i.e. wood, twigs, and grass); moist		G <b>0.4</b>	part of utility clearance Sampled 2-4 ft. interval for VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals
 E		Brown to grey SILT, little fine Sand, trace Crushed Rock; moist.  Brown SILT, little fine SAND, trace Gravel; moist	_		and Cyanide analyses.
<u>5</u>		Brown, medium to fine SAND, some Gravel, little Silt; moist.	-		
				0.2	
		Brown, coarse to fine SAND, some gravel, little Silt; moist.			
GROUND GROUND WATER LEV	/EL -*-*-	Brown, fine SAND, some Silt, trace Gravel; wet.		0.2	
9/20/2005	, paramati				
••••					
••••					
 15_					
20_					
25_					
•••					



lage i or i	<b></b>		_	
WELL NO.	NORTHING	EASTING		
SB-122	160835.1	939022.3		
PROJECT NO NAME		LOCATION		
125801Y / Coral Island S	hopping Center	1650 Richmond Avenue		
APPROVED BY	LOGGED BY			
DRAFT	J. Sakellis	Staten Island, New York		
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
Roux Associates / J. Vei	iss			
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	6620 / Geoprobe	2" Macro-Core	9/20/05-9/20/05
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
Not Measured	5 (Feet BLS)	Bentonite		

Pepth, feet	Graphic Log	Visual Description	Blow Counts per 6"	ı	PID Values (ppm)	REMARKS
	苗苗	Aphalt Dark brown, medium to fine SAND, little Silt, little Gravel, (fill); dry.	<u>.                                    </u>			Sampled 0.5-2 ft. interval for VOC, SVOC, Pesticide,
		Dark brown to grey, medium to fine SAND, little Gravel, trace Wood (i.e. lumber), Glass, and Brick, (fill); moist.		G	0.7	PCB, Herbicide, TAL Metals and Cyanide analyses. Hand excavated to 5ft bis as part of utility clearance
		Grey, fine SAND, little Silt; moist/wet.			0.3	
GROUND WATER LEVEL 9/20/2005		Brown, medium to fine SAND, little Silt; wet.		V		
		Brown, coarse to fine SAND, trace Silt; wet.		I	0.2	
••••		Brown SILT, little fine Sand, little Gravel, trace Clay; moist/wet.				
 10_					0.3	
••••						
••••						
 1 <u>5</u> _					1	
					l I	
20					ı	
					ı I	
••••						
25_						
****						
•••						
••••						
30						



Page	1	of	1	SOIL E	BORING LOG

-9				
WELL NO.	NORTHING	EASTING		
SB-123	160814.9	939098.3		
PROJECT NO./NAME		LOCATION		
125801Y / Coral Island Si	hopping Center	1650 Richmond Avenue		
APPROVED BY	LOGGED BY			
DRAFT	J. Sakellis	Staten Island, New York		
DRILLING CONTRACTOR/DRI	LLER	GEOGRAPHIC AREA		
Roux Associates / J. Veis	SS			
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	6620 / Geoprobe	2" Macro-Core	9/20/05-9/20/05
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
Not Measured	6 (Feet BLS)	Bentonite		

Depth, feet		Graphic Log	Visual Description	Blow Counts per 6"		PiD Values (ppm)	REMARKS
			Asphalt	ļ ———	1		
		田田	Brown, medium to fine SAND, some Gravel, trace Silt, (fill); dry.			.05	Hand excavated to 5ft bis as part of utility clearance
		444	Dark brown to grey, medium to fine SAND, little Silt and Gravel, trace Brick and Glass, (fill); moist.	]	G		Sampled 2-4 ft. interval for
••••		鈿	Blick and Glass, (iii), Holst.	}	$\prod$	1.1	VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals and Cyanide analyses.
			Grey, fine SAND, little Silt, trace Organic Material (i.e. grass and roots);	1			
5			moist.			0.4	
	GROUND WATER LEVEL				V	0.5	
'	9/20/2005				H.		
			Brown, fine SAND, little Silt, trace Gravel; wet.		A		
• • • •			Brown SiLT, little Clay, trace Gravel; moist.			0.5	
10_		====				}	_1
				}			
		}					
	,						••
••••		}					
<u>15</u>							_1
••••							
••••		{					
	{	}					····
	ĺ	{					
20	Ì						<u>2</u>
•••	}	{					
··· <b>·</b>	}	}					···
	}	)				' 	
	1		Y		П	l	
25_	{						_23
30_	{	}				1	
• • • • •	}						
•••	}						
30		}					3



**SOIL BORING LOG** Page of 1 WELL NO. NORTHING EASTING SB-124 160824.3 938665.2 PROJECT NO NAME 1650 Richmond Avenue 125801Y / Coral Island Shopping Center APPROVED BY LOGGED BY DRAFT J. Sakellis Staten Island, New York DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA Roux Associates / J. Veiss DRILL BIT DIAMETER/TYPE BOREHOLE DIAMETER DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE 2-in. / Drive Sampler 6620 / Geoprobe 2-inches 9/20/05-9/20/05 2" Macro-Core LAND SURFACE ELEVATION DEPTH TO WATER **RACKELL** Not Measured 7.5 (Feet BLS) **Bentonite** PID Blow Depth, feet Graphic Visual Description Counts Values REMARKS Log per 6\* (ppm) Asphalt Brown to tan, coarse to fine SAND, some Gravel, trace Brick and Concrete, (fill); dry 0.9 Dark brown, medium to fine SAND, little Gravel, trace Silt, Brick, and Organic Material (i.e. roots, weeds, and lumber), (fill); moist. Hand excavated to 5ft bis as part of utility clearance 0.3 Brown to grey SILT, little fine Sand, trace Clay and Organic Material (weeds and grass); moist. 5\_\_ 0.3 5 Grey SILT, little Clay; moist. Grey SILT, some fine Sand; moist/wet. 0.4 GROUND WATER LEVEL Brown, fine SAND, trace Silt; wet. 9/20/2005 0.2 10 10 15 15 . . . . .. . . . . . . . . . . .. 20 20 1/10/07 25 25 <u>P</u> . . . . .. BORING/FEET



Page	1	of	1	SOIL	BORING LOG
------	---	----	---	------	------------

WELL NO.	NORTHING	EASTING		
SB-125	160807.2	938774.2		
PROJECT NO NAME		LOCATION		
125801Y / Coral Island Sh	nopping Center	1650 Richmond Avenue		
APPROVED BY	LOGGED BY			
DRAFT	J. Sakellis	Staten Island, New York		
DRILLING CONTRACTOR/DRI	LLER	GEOGRAPHIC AREA		
Roux Associates / J. Veis	S			
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	6620 / Geoprobe	2" Macro-Core	9/20/05-9/20/05
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
Not Measured	7 (Feet BLS)	Bentonite		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"		PfD Values (ppm)	REMARKS
		Asphalt  Brown to tan, fine SAND, little Silt, trace Gravel; moist.	1		1	
••••					0.9	Hand excavated to 5ft bis as part of utility clearance
		Brown, fine SAND, little Silt, trace Gravel; moist.	1	G		Sampled 2-4 ft. interval for
••••		Dark brown to black, medium to fine SAND, little Silt and Gravel, trace wood (i.e. lumber), (fill); moist.	1		4.2	VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals and Cyanide analyses.
	विविधानित	Grey SILT, little fine Sand, trace Organic Material (i.e. weeds and roots); moist.	1		0.0	
_5	<del>[++++++++++</del>	Grey SILT, little fine Sand and Clay; moist.	1		0.3	
	- 111111111111		Į			
<u>_</u>	[[]]]]]]]]]		1		0.2	
GROUI WATER L	EVEL[ • ] • [ • ] • ] • ]	Brown, fine SAND, little Silt; wet.	{	$\{[[]$		
9/20/20	005		{			
•••			}		0.4	
10			}			
	1 1		}	}		
			}			
••••			{	11		
			{			
	[ [					
15_			}			
	1		}	1 {		
				П		
****			j			
	1	•	)	) }		}
	}					
20_	}			1 1		
	}					
			}			
25_						
	{					
				1		
••••	1					
30	\			$\sqcup$		



OUX ASSOCIATES, INC. Environmental Consulting & Management

Page 1 d	of 1	SO	IL BORING LOG			
WELL NO.		NORTHING Not Measured	EASTING Not Measured			
PROJECT NO./N	VAME	<del></del>	LOCATION			
		opping Center	1650 Richmond Avenue			
approved by <b>Draft</b>		LOGGED BY  L. Derrendinger	Staten Island, New York			
DRILLING CON		LER	GEOGRAPHIC AREA			
ROUX ASSOCI		endinger BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING	METHOD	START-FINISH DATE
/ Hand Auge	r  :	3-inches	/ Hand Auger	3" Hand	Auger	8/8/06-8/8/06
		DEPTH TO WATER	BACKFILL <b>Sand</b>			
Not Measure	<u> </u>	>5 (Feet BLS)	Salu	<del></del>		
Depth, feet	Graphic Log	Vis	ual Description	Blow Counts per 6"	PID Values (ppm)	s REMARKS
		Brown to medium SAND, s	ome Silt, some fine to coarse Gravel, trace	-   PGI V	(pp.i)	T
	1777	pieces of glass and plastic and with strong hydrocarbo	, (fill); wet with sewer odor from 2 to 3 feet,		] {	
		and with Salving Hydrocarbo		ł	{	
••••	ppp				{ }	
	PHH				>9999	
	mm	Light Grey fine(+) to media	m(-) SAND; moist; little to no sewer and/or		G	
		hydrocarbon odor.	m(-) artist, most, mad to no serior and or		M	Collected sample from 3 - 5 feet and analyzed for TCL
5	1.					VOCs.
					<b>i</b> i	
	)				}	
•••						
					}	
	}					
<u>10                                    </u>	}				( )	1
					}	
					}	•••
	{					
					( )	
	}	}			<b>\</b>	1
<u>15</u>	}					
					{ }	
						•••
	{ [				]	
20					{	2
				}	{	
				- {	{	
					} }	
	-				[ ]	
<u>25</u>						.3
					}	}
	}					
	}					
30		L				3



WELL NO.		NORTHING	EASTING Not Measured			
SB-202 PROJECT NO NAM	Æ	Not Measured	LOCATION			
		opping Center	1650 Richmond Avenue			
125801Y / Coral APPROVED BY		LOGGED BY				
DRAFT		L. Derrendinger	Staten Island, New York			
DRILLING CONTRA			GEOGRAPHIC AREA			
Geoprobe / L. D DRILL BIT DIAMET	errending	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING	METERS IN	START-FINISH DATE
/ Hand Auger		3-inches	/ Hand Auger	3" Hand A		8/4/06-8/4/06
LAND SURFACE EI	EVATION	DEPTH TO WATER	BACKFILL	O Hala	mg-	0.200.0.200
Not Measured		>5 (Feet BLS)	Sand			
Depth, feet	Graphic Log	Visu	ial Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	HH	Brown fine to medium SANI	), some Silt, some fine to coarse Gravel,	- <del></del>	T	
••••	FFFF	trace pieces of glass, (fill); r	noist; soft.			
	M					
	FF44					
	m	11.110	() Oalib - 14 - 0	_	4	
	:	Light Grey fine(-) to medium	(-) SANU; moist; soft.		1.3	
					3	Collected sample from 3 - 5
5					1	feet and analyzed for TCL
						VOCs.
				)		
					{	
<u>10</u>						
	1					
	1					
	}					
15						
<u>19</u>	(					
••••	[ .					
****				]		
20						
****						
	] .			}	] ]	
****					} ]	
	{				}	
				1		
<u>25</u>	[					
	]			1	1	
****						
••••	<b> </b>				1	
	1 }				1	



Page 1	of 1	SO	IL BORING LOG			
WELL NO. SB-2	2013	NORTHING Not Measured	EASTING Not Measured			
PROJECT NO.	JNAME		LOCATION 1650 Richmond Avenue			
<b>125801Y / C</b> APPROVED BY	<u>orai island St</u> Y	nopping Center LOGGED BY	1000 I WILLIAM ANGING			
DRAFT		L. Derrendinger	Staten Island, New York			
	NTRACTOR/DRI		GEOGRAPHIC AREA			
DRILL BIT DIA	METER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING		START-FINISH DATE
2-in. / Drive LAND SURFAC	Sampler CE ELEVATION	2-inches DEPTH TO WATER	/ Hand Auger BACKFILL	2" Macro-	Core	8/1/06-8/1/06
Not Measure	ed	>5 (Feet BLS)	Sand			
Depth, feet	Graphic Log	Vis	ual Description	Blow Counts per 6*	PID Values (ppm)	REMARKS
	HH	Brown fine to medium SAN	D, little Silt, some fine to coarse Gravel, trace soft; pockets of light grey sand.			
	AAA	France of States (mil) Holod	and the second of the second o			
	HH					
••••	<del>                                    </del>	Light Grey fine(+) to mediu	m(-) SAND; moist; soft.	_		
				{	3.1	
 E				(		Collected sample from 3 - 5 feet and analyzed for TCL
<u>5</u>				( t		VOCs.
•••						
				1		
<u>10</u>				}		
				}		
	1					
••••				- {		
• • • • •						
				{ }		
<u>15</u> _						
••••					}	
				}		
•••						
20_					}	
<u>.v</u> _					}	in .
••••						
				}		
				} }		
<del></del>				}		
				}		
<u>25</u> _				} }		
****					}	
 25   30						
30				1	1	



WELL NO.	<del></del>	NORTHING	EASTING			
SB-2		Not Measured	Not Measured			
PROJECT NO.		nopping Center	LOCATION 1650 Richmond Avenue			
APPROVED BY	Hai ISIAINI SI	LOGGED BY				
DRAFT		L. Demendinger	Staten Island, New York			
DRILLING CON			GEOGRAPHIC AREA			
ROUX ASSOCI	ates / L. Den	rendinger Borehole Diameter	DRILLING EQUIPMENT/METHOD	SAMPLING	METHOD	START-FINISH DATE
/ Hand Auge		3-inches	/ Hand Auger	3" Hand		8/4/06-8/4/06
LAND SURFAC	E ELEVATION	DEPTH TO WATER	BACKFILL	O RAIN	r angur	<u> </u>
Not Measure	d	>5 (Feet BLS)	Sand		<del></del>	
Depth, feet	Graphic Log	Vi	sual Description	Blow Counts	PID Values	REMARKS
<del></del>			5 0 1 (6)	per 6"	(ppm)	r
	F444	Brown fine to medium SA	me fine Gravel, (fill); moist; soft. AND, little Silt, little fine to coarse Gravel, (fill);			
		moist; soft.		_	} [	•••
		Tan medium SAND, little	fine Gravel, (fill?); moist; soft.			
	-	Light Grev fine(+) to med	lium(-) SAND; moist; soft.		ł [	
*****			( ) = 102,	ļ	1.0	
				1	[G]	
5		l.				Collected sample from 3 - 5 feet and analyzed for TCL
<del></del>				ĺ	ļ	VOCs.
				}		<b></b> .
				1	<b>!</b>	
*****					1 1	•••
						···
	ĺ			ł	{	
						•••
10				ľ		<u>_1</u>
	]				{	
						•••
	}				}	
	1				{	•••
<u>15</u>						<u>_1</u>
	}			}		
	{					
20						<u>2</u>
				1		
						···
<u>25</u>					[   ]	<u>2</u> :
				1		•••
<b>.</b>						
	1	ľ			1 1	



<u>6</u>

ď

209 Shafter Street Islandia, New York 11749 Telephone: 631-232-2600 Fax: 631-232-9898

SOIL BORING LOG 1 Page of WELL NO. NORTHING Not Measured SB-205 Not Measured PROJECT NO NAME 125801Y / Coral Island Shopping Center
APPROVED BY LOGGED BY 1650 Richmond Avenue Staten Island, New York GEOGRAPHIC AREA DRAFT L. Derrendinger DRILLING CONTRACTOR/DRILLER Roux Associates / J. Veiss BOREHOLE DIAMETER DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE DRILL BIT DIAMETER/TYPE 6620 / Geoprobe 8/2/06-8/2/06 2-in. / Drive Sampler 2-inches 2" Macro-Core DEPTH TO WATER LAND SURFACE ELEVATION BACKFILL Not Measured 4.5 (Feet BLS) Sand Blow PID Depth, feet Graphic Visual Description Counts Values REMARKS Loa per 6° (ppm) Brown fine to medium SAND, some Silt, little fine to coarse Gravel, trace Concrete, trace red cemented sand at bottom of section, (fill); moist; soft, top finished with liner and bluestone gravel. Hand excavated to 5ft bis as Light Grey fine to medium (-) SAND; wet in bottom 1.5 feet; soft. part of utility clearance 5 Reddish fine to medium (-) SAND, some fine Gravel, trace light Grey cemented sand at bottom of section; wet; soft; sub-angular Gravel. Reddish fine(-) SAND, and Silt, little Clay, wet, firm; few pockets stained 27.5 Collected sample from 8 - 10 feet and analyzed for TCL Reddish medium(-) SAND, little fine(-) Gravel; wet, soft. 10 10 Reddish fine(-) SAND, and Silt, little Clay, little fine Gravel; wet, firm; angular Gravel. 33.1 Reddish fine(-) SAND, some Silt, little fine Gravel; wet; very firm; Collected sample from 12 sub-angular gravel. 14 feet and analyzed for TCL VOCs. 15 15 20 20 25 25 . . . . . 30 30



Environmental Consulting & Management

209 Shafter Street Islandia, New York 11749 Telephone: 631-232-2600 Fax: 631-232-9898

**SOIL BORING LOG** of 1 Page WELL NO. NORTHING **EASTING** Not Measured SB-206 Not Measured PROJECT NO NAME ATION 1650 Richmond Avenue 125801Y / Coral Island Shopping Center APPROVED BY LOGGED BY DRAFT L. Derrendinger Staten Island, New York DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA Roux Associates / J. Veiss DRILL BIT DIAMETER/TYPE BOREHOLE DIAMETER DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE 2-in. / Drive Sampler 2-inches
LAND SURFACE ELEVATION DEPTH TO WATER 8/1/06-8/1/06 6620 / Geoprobe 2" Macro-Core BACKFILL Not Measured 4.5 (Feet BLS) Sand Blow PID Depth, feet Graphic Visual Description Counts REMARKS Log per 6" (ppm) Brown fine SAND, some small Gravel, trace Silt, little Organic Matter, 13.1 trace Concrete and glass; low moisture content; soft. . . . . .. Light grey fine SAND, trace Silt, trace red cemented sand fragments in bottom of section; wet in bottom 6 inches; firm; stained brown in top six Collected sample from 0 - 2 feet and analyzed for TCL inches. VOCs. 0.3 Collected sample from 3 - 5 \_5 feet and analyzed for TCL VOCs. 5 10 10 . . . . . 15 15 . . . . .. 20 20 1/10/07 . . . . .. ROUX.GDT 25 25 9 BORING/FEET



**SOIL BORING LOG** Page 1 of 1 WELL NO. NORTHING EASTING SB-207 Not Measured Not Measured PROJECT NO NAME 1650 Richmond Avenue 125801Y / Coral Island Shopping Center APPROVED BY LOGGED BY DRAFT L. Derrendinger Staten Island, New York DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA Roux Associates / J. Veiss DRILL BIT DIAMETER/TYPE BOREHOLE DIAMETER DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE 6620 / Geoprobe 2-in. / Drive Sampler 2-inches 8/1/06-8/1/06 2" Macro-Core LAND SURFACE ELEVATION DEPTH TO WATER BACKFILL Not Measured 4 (Feet BLS) Sand PID Blow Depth, feet Graphic Visual Description Counts Values REMARKS Log per 6" (ppm) Brown fine SAND and fine GRAVEL, some Silt, little Organic Matter, 0.2 trace Concrete; moist; soft. Brown reddish fine SAND, some Silt, trace Concrete and asphalt-like gravel; moist; soft; cemented white sand at bottom of section. Collected sample from 0 - 2 feet and analyzed for TCL VOCs. Threads of lumber with strong hydrocarbon-like odor; Little fine Sand. Light Grey fine SAND, trace red cemented sand at bottom of section; wet 0.6 in bottom foot of section; firm. Collected sample from 3 - 5 feet and analyzed for TCL VOCs. 5 \_5 . . . . .. 10 10 15 15 . . . . .. 20 20 ROUX.GDT 25 25 g . . . . .. . . . . <del>.</del> BORING/FEET



age 1 o	f 1		IL BORING LOG			
VELL, NO. <b>SB-20</b>	8	NORTHING Not Measured	EASTING Not Measured			
ROJECT NO./N	AME		LOCATION			
	al Island Sho	DODE DE LOGGED BY	1650 Richmond Avenue			
VPPROVED BY DRAFT		L Derrendinger	Staten Island, New York			
RILLING CONT	RACTOR/DRIL		GEOGRAPHIC AREA			
Roux Associa	ntes / J. Veiss		DRILLING EQUIPMENT/METHOD	SAMPLING M	IETUAN	START-FINISH DATE
DRILL BIT DIAME 2-in. / Drive Sa		BOREHOLE DIAMETER  2-inches	6620 / Geoprobe	2" Macro-C		8/1/06-8/1/06
AND SURFACE	ELEVATION	DEPTH TO WATER	BACKFILL			
Not Measured	l;	3.9 (Feet BLS)	Sand	<del></del>		
epth, feet	Graphic Log	Vis	ual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown fine SAND, some Si	It, little Organic Matter in top 3 inches, trace	7	0.4	
		Concrete and asphalt-like of	gravel; moist; soft.	Y		0-11-4-4-4
		i 				Collected sample from 0 - 2 feet and analyzed for TCL
•••		Tan fine SAND, trace organi firm.	nic fragments (e.g., roots); Black stains; moist;			VOCs.
•••			t in bottom 11 inches; firm; turning reddish in		0.2	
•••		bottom 9 inches.	, , ,			
						Collected sample from 3 - 5 feet and analyzed for TCL
<u>5_</u>	}					VOCs.
	}					
	} }			}		
	] ]			}		
• • • •						
•••	{	· 				
0						
<u>v.</u>						
•••	} }					
•••	} }	ı				
•••						
						ļ.
5						
•••				}		
	) }			}		
	[					
•••						
20_	}					
	}	1				
•••		ı		1		
• • • •					}	
•••	{ {					
<u>25</u>						
					}	
	( )					
***						
	1					



20

. . . . . g ROUX

25

წ 30

209 Shafter Street Islandia, New York 11749 Telephone: 631-232-2600 Fax: 631-232-9898

& Management **SOIL BORING LOG** of 1 Page 1 WELL NO. EASTING **NORTHING** SB-209 Not Measured Not Measured PROJECT NO NAME LOCATION

1650 Richmond Avenue 125801Y / Coral Island Shopping Center
APPROVED BY LOGGED BY DRAFT L. Derrendinger Staten Island, New York DRILLING CONTRACTOR/DRILLER GEOGRAPHIC AREA ROUX Associates / J. Veiss
DRILL BIT DIAMETER/TYPE DRILLING EQUIPMENT/METHOD START-FINISH DATE BOREHOLE DIAMETER SAMPLING METHOD 2-in. / Drive Sampler 2-inches 6620 / Geoprobe 2" Macro-Core 8/1/06-8/1/06 LAND SURFACE ELEVATION DEPTH TO WATER BACKFILL Not Measured 4.1 (Feet BLS) Sand Blow PID Depth, feet Graphic Visual Description Counts per 6" REMARKS Values (ppm) Brown fine SAND and fine GRAVEL, some Sitt, little Organic Matter, trace Concrete, trace Glass; moist; soft.

Brown reddish fine SAND, some Sift, trace Concrete and asphalf-like Collected sample from 0 - 2 feet and analyzed for TCL VOCs. gravel; moist; soft. Dark Grey fine SAND, little Sitt, trace brick or cemented red sand; moist; firm; pockets of black staining. 4.4 . . . . . Light Grey fine (-) SAND, some Silt; firm; wet; some pockets stained Collected sample from 3 - 5 feet and analyzed for TCL 5 tan-yellowish. 10 10 .... .... . . . . . 15 <u>15</u>

20

...

<u>25</u>



age 1 VELL NO.	of 1	NORTHING	DIL BORING LOG			
SB	-210	Not Measured	Not Measured			
ROJECT NO	OJNAME <b>Coral Island Sh</b> e	onning Center	LOCATION 1650 Richmond Avenue			
PPROVED I		LOGGED BY				
RAFT		L Derrendinger	Staten Island, New York GEOGRAPHIC AREA			
	ONTRACTOR/DRILL Ociates / J. Veiss		GEOGRAPHIC AREA			
		BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING		START-FINISH DATE
in. / Drive		2-inches	6620 / GeoprobeBACKFILL	2" Macro	-Core	8/1/06-8/1/06
AND SURFA Not Measu		DEPTH TO WATER 5 (Feet BLS)	Sand			
			-	Blow	PID	
epth, eet	Graphic Log	Vis	ual Description	Counts per 6"	Value: (ppm)	REMARKS
		Brown fine SAND and fine	GRAVEL, some Silt, little Organic Matter,	1	10.8	T
•••		trace Concrete; moist; so	ft.	$A \mid$	<b>Y</b>	0-11
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Dark brown fine (-) SAND Light grey fine SAND, son	and SILT; moist; soft.  ne Silt, trace pieces of red brick or cemented	-		Collected sample from 0 - 2 feet and analyzed for TCL
•••	<u>-</u>	red sand; moist; firm.		ا ار		VOCs.
•••		Dark Grey fine SAND, little	e Sift; moist; firm; wet in core shoe only.		10.6	
					<b>Y</b>	
						Collected sample from 3 - 5 feet and analyzed for TCL
<u>.                                    </u>					1	VOCs.
	{			{ }		
	}			1	}	}
•••	)				}	
	}				}	
					}	
0					}	
<del>-</del>	)			}		
	)					}
• • • •	[ [					
	[			1	{	
5_						
		}			1	
				{ }	1	
•••				{ {		
					}	
<u>o_</u>				}		
				}		
• ••				}		
	1					
				] ]	]	
· ··	{					
<u>5</u>	[					
				{ }		
•••	}			1 1		
•••	1					
 5						
	}					
•••	) )					
	1	l			1	\



Page 1 of 1 SOIL BORING LOG

WELL NO. NORTHING EASTING

SB-211 Not Measured Not Measured

WELL NO. <b>SB-211</b>		NORTHING Not Measured	EASTING Not Measured			
PROJECT NO JNA	ME	opping Center	LOCATION 1650 Richmond Avenue	<del></del>		
APPROVED BY		LOGGED BY	States laborat Nave Valt			
DRAFT DRILLING CONTR	ACTOR/DRIL	L. Derrendinger LER	Staten Island, New York GEOGRAPHIC AREA			
Roux Associat	es / J. Veis	s				
DRILL BIT DIAME 2-in. / Drive Sa		BOREHOLE DIAMETER  2-inches	DRILLING EQUIPMENT/METHOD  6620 / Geoprobe	SAMPLING 2" Macro-		START-FINISH DATE 8/1/06-8/1/06
AND SURFACE	LEVATION	DEPTH TO WATER	BACKFILL	Z Macio-	CUIE	or 1700-or 1700
Not Measured		3.5 (Feet BLS)	Sand			
epth, feet	Graphic Log	Visu	ual Description	Blow Counts per 6°	PND Values (ppm)	REMARKS
· · · · ·		Brown fine SAND, little anguitop 3 inches, trace red cerno bottom 2 inches stained dar	ular Gravel, trace Silt, little Organic Matter in ented sand at bottom of section; moist; soft; rk brown.		0.5	Collected sample from 0 - 2
****			et in bottom 2 inches; firm; top 6 inches			feet and analyzed for TCL
		stained brown.				VOCs.
•••	<u> </u>				0.1	
		Pink reddish medium SAND	); top 2 inches stained tan.		X (	Collected sample from 3 - 5
<u>5</u>						feet and analyzed for TCL VOCs.
					}	
				1	}	}
•••		}		1		
•••		-				
•••						}
0_				}		
<u>-</u>				1		
•••						
•••				1 (		
				1		
•••				}		}
		}			-	
5_						
		}				
•••						
•••						
<u>o_</u>					1	
_						
				}	1	
	-				1	
 -					}	
<u>5</u>	}					
	]					
•••					-	
 25 						
	1					



	-212	NORTHING Not Measured	EASTING Not Measured			
PROJECT NO		nopping Center	LOCATION  1650 Richmond Avenue			
APPROVED E	<u>wa ay isiang sr</u> 3y	LOGGED BY				
DRAFT		L. Derrendinger	Staten Island, New York			
	NTRACTOR/DRI		GEOGRAPHIC AREA			
DRILL BIT DIA	METER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING		START-FINISH DATE
2-in. / Drive	Sampler	2-inches	6620 / Geoprobe	2" Macro	-Core	8/1/06-8/1/06
Not Measu		DEPTH TO WATER 3.7 (Feet BLS)	BACKFILL Sand			
Depth, feet	Graphic Log	Vis	ual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown fine SAND, little and top 3 inches, trace red cen bottom 2 inches stained da	ular Gravel, trace Silt, little Organic Matter in nented sand at bottom of section; moist; soft; ork brown.		0.2	Collected sample from 0 - 2
••••		Tan greenish fine SAND; v stained brown.	vet in bottom 5 inches; firm; top 7 inches			feet and analyzed for TCL VOCs.
		Links Consumedium CAND	the second secon		0.5	Collected sample from 3 - 5
<u>5</u> _	٠.,	cemented sand at bottom of	trace red cemented sand; wet; firm; red of section.			feet and analyzed for TCL VOCs.
• • • • •						
10						
<u>15</u>						
****						
20_						
<u>25                                    </u>						
30						



Page 1 of 1		L BUKING LUG		
WELL NO.	NORTHING	EASTING		
SB-213	Not Measured	Not Measured		
PROJECT NO NAME		LOCATION		
125801Y / Coral Island SI	hopping Center	1650 Richmond Avenue		
APPROVED BY	LOGGED BY			
DRAFT	L. Derrendinger	Staten Island, New York		
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
Roux Associates / J. Veis	ss			
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	6620 / Geoprobe	2" Macro-Core	8/1/06-8/1/06
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
Not Measured	3.8 (Feet BLS)	Sand		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6*	PID Valuo (ppm)	
		Brown fine SAND, trace Silt, little Organic Matter in top 3 inches, trace red cemented sand; moist; soft; bottom 2 inches stained black.		15.2	 Collected sample from 0 - 2
		Tan fine SAND, trace Silt, trace red cemented sand in bottom of section; moist; firm; brown staining in top 2 inches of section.		<b>A</b>	feet and analyzed for TCL
••••		Light Brown medium (-) SAND, trace red cemented sand; wet in bottom		1.8	
		1.2 feet, firm.		X	Collected sample from 3 - 5
5					feet and analyzed for TCL VOCs.
<u>10                                    </u>					-
• • • •					•
					•
 15_					
···-					•
• • • •					
•••					·
20_					
<u>5</u>					_
<b></b>					
· · · ·					
^					



Page 1 of 1	301	IL BURING LUG		
WELL NO.	NORTHING	EASTING	<del></del>	
SB-214	Not Measured	Not Measured		
PROJECT NO NAME		LOCATION		
125801Y / Coral Island Shopping Center		1650 Richmond Avenue		
APPROVED BY	LOGGED BY			
DRAFT	L. Derrendinger	Staten Island, New York		
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
Roux Associates / J. Veis	is .			
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	6620 / Geoprobe	2" Macro-Core	8/1/06-8/1/06
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
Not Measured	3.5 (Feet BLS)	Sand		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PiD Value (pprn)	8 REMARKS
		Brown fine SAND, some Silt, little Organic Matter in top 3 inches, trace	<u> </u>	450	
		red cemented sand; moist; soft.  Light Brown fine SAND, little Silt; trace red cemented sand at bottom of section; moist; soft.			Collected sample from 0 - 2 feet and analyzed for TCL
		Light Grey fine SAND, trace Silt; tan mottling; wet at bottom two inches; firm; strong hydrocarbon-like odor.			VOCs.
		Light Grey fine (-) SAND, trace Silt; wet, firm; changed to reddish color in		61.1	
5_		bottom of section; Little or no hydrocarbon-like odor.		A	Collected sample from 3 - 5 feet and analyzed for TCL VOCs.
					Vocas.
<u>10                                    </u>					
15					
	(				
••••					
20_					
•••					
25_					
•••					
30			1	1	



WELL NO. SB-2	215	NORTHING Not Measured	EASTING Not Measured			
PROJECT NO.	NAME	nopping Center	LOCATION 1650 Richmond Avenue			
APPROVED BY	<u>у ан ISMING SI</u>	LOGGED BY				
DRAFT		L. Derrendinger	Staten Island, New York			
	NTRACTOR/DRI		GEOGRAPHIC AREA			
<b>ROUX ASSOC</b> DRILL BIT DIA	ziates / J. Veis	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING	METHOD	START-FINISH DATE
2-in. / Drive	Sampler	2-inches	6620 / Geoprobe	2" Macro		8/1/06-8/1/06
		DEPTH TO WATER  2.8 (Feet BLS)	BACKFILL			
Not Measun	eq	Z.0 (Feet BLS)	Sand			
epth, feet	Graphic Log		ual Description	Blow Counts per 6*	PID Values (ppm)	REMARKS
		Brown fine SAND, trace S red cemented sand or red	It, little Organic Matter in top 3 inches, trace brick, trace plastic; low moisture content; so	oft.	0.0	Collected sample from 0 -
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Light Grey fine SAND, trace	e Silt; wet in bottom 2 inches; firm.			feet and analyzed for TCL VOCs.
		Light Grey fine (-) SAND, I bottom of section.	ittle Silt, wet; firm; change to reddish color a	<del>-</del> -	0.2	
					Å	Collected sample from 3 -
5		<del> </del>				feet and analyzed for TCL VOCs.
				}		
••••						
10						
••••		1			} !	
					}	
				{ {		
<u>15</u>						
•••					] {	
• • • •	(				1 1	
***						
20_						
<u></u>						
•••						
	}				1	
•••						
					) )	
•••						
25					1	
<u>.v_</u>				1	[ [	
				}	[ ]	
•••					{	
					1	



~age i or i	30	IL BUNING LUG		
WELL NO.	NORTHING	EASTING		
SB-216	Not Measured	Not Measured		
PROJECT NO NAME		LOCATION		
125801Y / Coral Island S	hopping Center	1650 Richmond Avenue		
APPROVED BY	LOGGED BY			
DRAFT	L. Derrendinger	Staten Island, New York		
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
Roux Associates / J. Vei	ss			
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	6620 / Geoprobe	2" Macro-Core	8/1/06-8/1/06
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
Not Measured	4.2 (Feet BLS)	Sand		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Value (ppm)	
••••		Brown fine SAND, trace Silt, little Organic Matter in top 3 inches, trace red cemented sand and asphalt-like gravel in bottom of section; moist; soft;		0.3	Collected sample from 0 - 2
					feet and analyzed for TCL VOCs.
		Tan greenish fine SAND, trace Silt; wet in bottom 8 inches; firm; top 2 inches stained brown.		0.4	
				X	Collected sample from 3 - 5
5					feet and analyzed for TCL VOCs.
•••					
10_					
•••					
15_					
•••					
•••					
•••					
<u>0</u>					
 5 					
				<b>'</b>	
•••					
5					
••					
•••					
• ••					
_					



WELL NO.	NORTHING	EASTING		
SB-217	Not Measured	Not Measured		
PROJECT NO NAME		LOCATION		
125801Y / Corai Island Si	hopping Center	1650 Richmond Avenue		
APPROVED BY	LOGGED BY	-		
DRAFT	L. Derrendinger	Staten Island, New York		
DRILLING CONTRACTOR/DR	ILLER	GEOGRAPHIC AREA		
Roux Associates / J. Vei	BS .			
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	6620 / Geoprobe	2" Macro-Core	8/1/06-8/1/06
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
Not Measured	4.0 (Feet BLS)	Sand		

Depth, faet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown fine SAND, little angular Gravet, trace Sift, little Organic Matter in top 3 Inches, trace red cemented sand and asphalt-like gravel in middle of section; moist; soft;		1.1	Collected sample from 0 - 2 feet and analyzed for TCL
	4 4 6 4 4	Light-Grey greenish fine SAND, trace Silt; wet in bottom 8 inches; firm; top 4 inches stained dark brown.			VOCs.
				0.2	
<u>5</u>		Pink reddish fine SAND; wet; firm.	1	À	Collected sample from 3 - 5 feet and analyzed for TCL VOCs.
••••					
· · · · ·					
10					
<u>15_</u>					
••••					]
• • • •					
20_					
<del></del>					
•••					
25					
30			1 1	- {	



Page 1 or 1	301	L DOMING LOG		
WELL NO.	NORTHING	EASTING		<u></u>
SB-218	Not Measured	Not Measured		
PROJECT NO NAME	<u> </u>	LOCATION		
125801Y / Coral Island SI	hopping Center	1650 Richmond Avenue		
APPROVED BY	LOGGED BY			
DRAFT	L. Derrendinger	Staten Island, New York		
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
Roux Associates / J. Veis	SS			
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	6620 / Geoprobe	2" Macro-Core	8/1/06-8/1/06
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL	<del></del>	
Not Measured	4.1 (Feet BLS)	Sand		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Brown fine SAND, trace Silt, little Organic Matter in top 3 inches, trace red cemented sand at bottom of section; moist, soft.		0.2	
		Light Grey fine SAND, trace Silt; wet at bottom 4 inches; firm; top 4	7	X	Collected sample from 0 - 2
	· · · · · · · · · · · · · ·	inches stained brown.  Reddish fine SAND, trace tan cemented sand at bottom of section; wet;		<b>-</b>	feet and analyzed for TCL VOCs.
••••		fim.			
				0.2	
			- 1	XI	Collected sample from 3 - 5
5					feet and analyzed for TCL VOCs.
••••					
••••					
••••					
10_					
••••					
••••					
<u>15_</u>					
			,		
••••					
			}		
20_					
• • • •					
· · · · ·					
					•
<u>25                                    </u>					
• • • •					
30	1				



age 1	of 1		DIL BORING LOG						
	-219	Not Measured	NORTHING EASTING Not Measured Not Measured						
PROJECT NO	O.NAME		LOCATION 1650 Richmond Avenue						
125801Y / ( VPPROVED I		hopping Center LOGGED BY	1030 Niciliilolid Avellue						
		L. Derrendinger	Staten Island, New York	Staten Island, New York					
	ONTRACTOR/DR		GEOGRAPHIC AREA						
	AMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	DRILLING EQUIPMENT/METHOD SAMPLING METHOD START-FINISH DATE					
2-in. / Drive Sampler LAND SURFACE ELEVATION Not Measured		2-inches	6620 / Geoprobe	2" Macro-Core		8/1/06-8/1/06			
			BACKFILL Sand						
<del>101 ///</del>			<u> </u>						
				Blow	PID				
epth, leet	Graphic Log	Vis	sual Description	Counts per 6"	Value: (ppm)	REMARKS			
	,,,,,,,,,,	Brown fine SAND, trace S	Silt, little Organic Matter in top 3 inches, trace		0.9				
		gravei and red cemented	sand at bottom of section; moist; soft.		X	Collected sample from 0 -			
	<u> </u>	Light Grey fine SAND, tra	ce Silt; wet at bottom 4 inches; firm; top 4			feet and analyzed for TCL			
		inches stained brown.				VOCs.			
	,	Reddish fine SAND trace	tan cemented sand at bottom of section; wet,	$\dashv$	0.4				
		firm.	, well contented solid at bottom of scouldi, well		X	Collected sample from 3 -			
5_					A	feet and analyzed for TCL			
						VOCs.			
•••				ļ					
•••									
10_									
• • • •									
15									
•••									
20_									
•••									
···									
<u>. 5</u>									
•••									
•••									
				1					

## APPENDIX C

Analytical Data

## APPENDIX D

Data Usability Summary Report

- Intentionally Omitted from Draft -

As presented on Page 20, a DUSR for all data is currently being prepared by a third party data validation subcontractor. Once finalized, the DUSR will be included as Appendix D