

RESULTS OF PHASE II SITE INVESTIGATION

Witco Brooklyn Plant
Court Street
Brooklyn, New York

May 1999

Table of Contents

	<u>Page #</u>
EXECUTIVE SUMMARY	vii
1.0 INTRODUCTION	1
1.1 Project Overview.....	1
1.2 Project Objectives	1
2.0 BACKGROUND AND PHYSICAL SETTING	3
2.1 633 Court Street	3
2.2 688-700 Court Street	4
2.3 Existing Environmental Permits.....	7
3.0 PHASE II SITE INVESTIGATION SCOPE OF WORK	8
3.1 Soil Boring Program.....	8
3.2 Groundwater Investigation Program	12
3.3 Data Validation	15
4.0 RESULTS OF THE PHASE II SITE INVESTIGATION	17
4.1 Site Hydrogeology.....	17
4.2 Comparative Soil & Groundwater Criteria	19
4.3 Soil (Fill) Quality	20
4.4 Residual Product	27
4.5 Groundwater Quality.....	30
4.6 Separate-Phased Product.....	46
5.0 CONCEPTUAL SITE MODEL	48
5.1 Distribution of Constituents in Soil.....	48
5.2 Fate and Transport of Constituents	52
5.3 Distribution of Constituents in Groundwater.....	53
5.4 Potential Constituents of Concern.....	56
5.5 Fate and Transport of Constituents	56

RESULTS OF PHASE II SITE INVESTIGATION

Witco Brooklyn Plant
Court Street
Brooklyn, New York

May 1999

Table of Contents (Cont'd.)

	<u>Page #</u>
6.0 CURRENT AND POTENTIAL FUTURE USE.....	58
6.1 Current Use	58
6.2 Potential Future Site Use.....	58
7.0 CONCEPTUAL REMEDIAL STRATEGY.....	59
7.1 Interim Remedial Action Vapor Enhanced Recovery/Product Recovery	59
7.2 Development of Site-Specific, Risk-Based Criteria.....	59
7.3 Fate and Transport Analysis.....	61
7.4 Groundwater Monitoring.....	61
8.0 REFERENCES.....	62

FIGURES

Figure 1	Site Location Map
Figure 1A	Site Plan
Figure 2	Soil Boring and Monitoring Well Location
Figure 3	Hydrogeological Cross-Section
Figure 4	Groundwater (Tidal) Contour Map for April 2, 1999

633 SITE: SOIL

Figure 5	VOC - Sample Results Exceeding the NYSDEC RSCO
Figure 6	TCLP - Sample Results Exceeding the TCLP Extraction Guidance Value (STARS Memo)
Figure 7	Metals - Sample Results Exceeding the NYSDEC RSCO

688 SITE: SOIL

Figure 8	VOC - Sample Results Exceeding the NYSDEC RSCO
Figure 9	SVOC - Sample Results Exceeding the NYSDEC RSCO
Figure 10	Metals - Sample Results Exceeding the NYSDEC RSCO

RESULTS OF PHASE II SITE INVESTIGATION

Witco Brooklyn Plant
Court Street
Brooklyn, New York

May 1999

Table of Contents (Cont'd.)

633 SITE GROUNDWATER: JULY 16, 1998

Figure 11	VOC - Results Exceeding NYSDEC Class GA
Figure 12	SVOC - Results Exceeding NYSDEC Class GA
Figure 13	Metals - Results Exceeding NYSDEC Class GA

633 SITE GROUNDWATER: SEPTEMBER 3, 1998

Figure 14	VOC - Results Exceeding NYSDEC Class GA
Figure 15	SVOC - Results Exceeding NYSDEC Class GA
Figure 16	Metals - Results Exceeding NYSDEC Class GA

633 SITE GROUNDWATER: MARCH 24, 1999

Figure 17	VOC - Exceeding NYSDEC Class GA
Figure 18	SVOC - Results Exceeding NYSDEC Class GA
Figure 19	Metals - Results Exceeding NYSDEC Class GA

688 SITE GROUNDWATER: JULY 16, 1998

Figure 20	VOC - Results Exceeding NYSDEC Class GA
Figure 21	SVOC - Results Exceeding NYSDEC Class GA
Figure 22	Metals - Results Exceeding NYSDEC Class GA

688 SITE GROUNDWATER: SEPTEMBER 3, 1998

Figure 23	VOC - Results Exceeding NYSDEC Class GA
Figure 24	SVOC - Results Exceeding NYSDEC Class GA
Figure 25	Metals - Results Exceeding NYSDEC Class GA

688 SITE GROUNDWATER: MARCH 24, 1999

Figure 26	VOC - Exceeding NYSDEC Class GA
Figure 27	SVOC - Results Exceeding NYSDEC Class GA
Figure 28	Metals - Results Exceeding NYSDEC Class GA
Figure 29	Total Dissolved Solids and Chloride Concentrations for the 633 Site and 688 Site

RESULTS OF PHASE II SITE INVESTIGATION

Witco Brooklyn Plant
Court Street
Brooklyn, New York

May 1999

Table of Contents (Cont'd.)

TABLES

Table 1 NYSDEC Air Permits

633 SITE: SOIL

Table 2	VOC – Soil Analytical Results
Table 3	VOC TCLP – Soil Analytical Results
Table 4	SVOC – Soil Analytical Results
Table 5	SVOC TCLP – Soil Analytical Results
Table 6	Metals – Soil Analytical Results
Table 7	PCBs – Soil Analytical Results

688 SITE SOIL

Table 8	VOC – Soil Analytical Results
Table 9	SVOC – Soil Analytical Results
Table 10	Metals – Soil Analytical Results
Table 11	PCBs – Soil Analytical Results
Table 12	Tar Composition

FIELD PARAMETERS

Table 13	Field Parameters: Roux Associates
Table 14	Field Parameters: Enviro-Sciences, Inc.

633 SITE GROUNDWATER: JULY 16, 1998

Table 15	VOC – July 16, 1998 Groundwater Analytical Results
Table 16	SVOC – July 16, 1998 Groundwater Analytical Results
Table 17	Metal – July 16, 1998 Groundwater Analytical Results

RESULTS OF PHASE II SITE INVESTIGATION

Witco Brooklyn Plant
Court Street
Brooklyn, New York

May 1999

Table of Contents (Cont'd.)

633 SITE GROUNDWATER: SEPTEMBER 3, 1998

Table 18	VOC – September 3, 1998 Groundwater Analytical Results
Table 19	SVOC – September 3, 1998 Groundwater Analytical Results
Table 20	Metal – September 3, 1998 Groundwater Analytical Results

633 SITE GROUNDWATER: MARCH 24, 1999

Table 21	VOC – March 24, 1998 Groundwater Analytical Results
Table 22	SVOC – March 24, 1998 Groundwater Analytical Results
Table 23	Metal – March 24, 1998 Groundwater Analytical Results
Table 24	Total Dissolved Solids and Chloride Groundwater Analytical Results

688 SITE GROUNDWATER: JULY 16, 1998

Table 25	VOC – July 16, 1998 Groundwater Analytical Results
Table 26	SVOC – July 16, 1998 Groundwater Analytical Results
Table 27	Metal – July 16, 1998 Groundwater Analytical Results

688 SITE GROUNDWATER: SEPTEMBER 3, 1998

Table 28	VOC – September 3, 1998 Groundwater Analytical Results
Table 29	SVOC – September 3, 1998 Groundwater Analytical Results
Table 30	Metal – September 3, 1998 Groundwater Analytical Results

688 SITE GROUNDWATER: MARCH 24, 1999

Table 31	Total Dissolved Solids and Chloride Analytical Results
Table 32	VOC – March 24, 1998 Groundwater Analytical Results
Table 33	SVOC – March 24, 1998 Groundwater Analytical Results
Table 34	Metal – March 24, 1998 Groundwater Analytical Results

RESULTS OF PHASE II SITE INVESTIGATION

Witco Brooklyn Plant
Court Street
Brooklyn, New York

May 1999

Table of Contents (Cont'd.)

WATER LEVEL MEASUREMENTS

Table 35	Water Level Measurements
Table 36	Water Level Tidal Measurements

APPENDICES

Appendix A	Sanborn Fire Insurance Maps
Appendix B	Production and Treatment Process Table
Appendix C	Production Area and Associated Processes (Table and Map)
Appendix D	Raw Material Storage Table
Appendix E	AST Inventory Table and AST Location Map
Appendix F	Soil Boring / Monitoring Well Logs
Appendix G	Analytical Data Results

RESULTS OF PHASE II SITE INVESTIGATION

**Witco Brooklyn Plant
Court Street
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May 1999

EXECUTIVE SUMMARY

A Phase II Site Investigation (Site Investigation) was conducted at the Witco Corporation (Witco) Brooklyn Facility from June 17, 1998 through April 2, 1999. The Site Investigation consisted of a comprehensive multi-media investigation to evaluate soil and groundwater quality conditions at the site and develop the data necessary to evaluate the site for entry into the New York State Department of Environmental Conservation (NYSDEC) Voluntary Cleanup Program. The site Investigation scope of work was developed based upon the results of a Phase I Environmental Site Assessment (Phase I ESA) completed by Fluor Daniel GTI in March 1998.

The Witco Brooklyn Facility is situated on two parcels: 633 Court Street and 688-700 Court Street, Brooklyn, New York. The facility is located within the Red Hook Industrial area of Brooklyn. Based upon a review of Sanborn Fire Insurance Maps (Appendix A), the site was formed by backfilling the marsh and waterfront areas of the Gowanus Canal in the late 1800s through the early 1900s. All plant operations currently occur at the Witco Corporation facility located at 688 Court Street. Witco is in the process of ceasing current operational activities at the 688 Site and preparing for the potential sale of the property. The 633 Site is no longer occupied or owned by Witco Corporation. However, Witco is responsible for the existing environmental liability associated with the property. For reporting purposes, each parcel of land associated with the Witco Facility will be handled as its own entity. Future use of the 633 Site and 688 Site will consist of continuing industrial activities. Redevelopment activities are not foreseen at this time.

The 633 Site is approximately 0.5 acres and is located to the northeast of the Court Street and Halleck Street intersection. The entire site is completely developed and covered with two connected buildings and a concrete slab. These buildings were formerly used for plant operations, recently vacated and currently under new ownership.

The 688 Site is approximately five acres in size. The site is immediately bordered to the east by Court Street, Brooklyn Union Gas and Spentonbush Red Star Companies, to the west by Clinton Street and American Import/Export Trucking and to the south by Bryant Street and Hess Oil Company. The site is completely developed and covered with concrete slabs, asphalt, 19 buildings (several of which are interconnected), six tank farms and a wastewater pretreatment system.

From the early 1900s to the 1950s, the sites were used for a variety of industrial activities; consequently, contamination is present throughout the site. Historic occupancy for the 633 Site

included a tar manufacturing company and a manganese bronze factory and machine shop. A lumberyard and boilermaker historically occupied the 688 Site. In the 1950s, Argus Chemical Company (Argus) purchased both properties and, in turn, Witco purchased Argus in the 1960s. Under Argus and Witco ownership, the site produced metallic-organic soaps and salts, barium stearates, phosphites and epoxy plasticizers. Additionally, the 633 Site produced aluminum paste. Currently, Witco's operations include the production of metallic-organic soaps and salts, phosphites and epoxy plasticizers.

The Phase II Investigation included the collection of approximately 117 soil samples. Soil sample analyses included Target Compound List (TCL) volatile organic compounds (VOCs) using USEPA Method 8260, TCL semi-volatile organic compounds (SVOCs) using USEPA Method 8270, Resource Conservation and Recovery Act (RCRA) metals. In addition, the soil samples collected from the 633 Site and a residual tar composite sample were analyzed in accordance with the NYSDEC 1995 ASP protocol for the following parameters: NYSDEC Spill Technology and Remediation Series (STARS) VOCs using the Toxicity Characteristic Leaching Procedure (TCLP) USEPA Methods 1311 and 8260 and NYSDEC STARS SVOCs using the TCLP USEPA Methods 1311 and 8270.

Based upon the results of the Phase II Site Investigation for the 633 Site and 688 Site, the fill material contains fine to coarse sand with varying amounts of silt, brick, concrete, wood, coal, slag and ash. The fill material beneath the majority of the sites contains elevated concentrations of RCRA metals, VOC compounds (primarily benzene, toluene, ethylbenzene, xylene (BTEX) and acetone, and SVOC compounds (primarily selected carcinogenic polycyclic aromatic hydrocarbons (cPAHs) and phenol) which exceed the NYSDEC Recommended Soil Cleanup Objectives (RSCOs). All TCL VOC concentrations were detected below the USEPA Risk-Based Concentrations (RBCs). While two of the eight RCRA metals and five of the cPAHs were detected above the RBCs. These conditions are reflective of the nature of the fill material, the location of the Facility (633 Site and 688 Site) in a heavily industrialized area of Brooklyn, and, in part, the historical operations performed at the sites. Concentrations of toluene, xylene, acetone, and phenol detected at the 688 Site may be partly attributable to Witco's manufacturing activities.

The groundwater investigation included the installation of a total of 17 monitoring wells between the 633 Site and 688 Site. Four groundwater monitoring wells were installed on the 633 Site and 13 wells were installed on the 688 Site. Groundwater samples were collected from several wells on various sampling events (July 16, 1998 and September 3, 1998) and a complete round was collected on March 24, 1999. The groundwater samples were analyzed for VOCs, SVOCs, total dissolved solids (TDS), chloride, and RCRA metals including sodium (filtered and unfiltered). A generic review of the analytical data indicated groundwater samples collected from monitoring wells on all three sampling dates had concentrations exceeding the NYSDEC Class GA Standards for selected VOCs, SVOCs, and metals, including sodium. In addition, the groundwater underlying the site is saline (chloride and TDS concentrations exceed the New York State Standard of 250 mg/L and 1,000 mg/L, respectfully).

It should be noted that separate-phase product was measured in one monitoring well (MW-6) and was collected and analyzed for fingerprint characterization. The separate-phase primarily consisted of phenol and chlorinated aliphatic hydrocarbons.

Based upon the results of the Phase II Site Investigation, the groundwater beneath the majority of the sites contains elevated concentrations of VOCs, SVOCs, and metals, which exceeded the NYSDEC AQWSG Class GA Standards. Constituents of concern present at concentrations in excess of Class GA standards, which are potentially associated with Witco's operations are toluene, total xylenes, acetone, phenol, cadmium, lead, barium. The majority of the detected constituent concentrations exceeding the NYSDEC values were detected at both site-wide and off-site sampling locations. It should be noted that the groundwater table is located entirely within the fill material, which in turn, is underlain by the silt-clay layer. In addition, the groundwater meets the classification criteria for saline waters and is not suited for drinking water purposes.

Based on the information and data collected, a proposed interim remedial approach has been prepared concerning the separate phased product detected in monitoring well MW-6. Additional remedial investigation(s) will be conducted to obtain additional information pertaining to the development of site-specific, risk-based criteria and the fate and transport of the COCs in soil and groundwater. The result of this further assessment will be used to develop a comprehensive remedial approach to the site.

The proposed remedial strategy will be finalized once the Witco Facility is accepted into the NYSDEC Voluntary Cleanup Program.

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1.0 INTRODUCTION

Enviro-Sciences, Inc. (Enviro-Sciences), on behalf of Witco Corporation (Witco), has prepared this Phase II Site Investigation (Site Investigation) Report for submission to the New York State Department of Environmental Conservation (NYSDEC). This report documents the results of the site investigation conducted at the Witco facility, encompassing two parcels: 633 Court Street (633 Site) and 688-700 Court Street (688 Site), which collectively comprised the former Witco Brooklyn Plant, Brooklyn, New York.

1.1 Project Overview

A Phase I Environmental Site Assessment (Phase I ESA) was conducted by Fluor Daniel GTI in March 1998. The Phase II was conducted in two phases. Roux Associates, Inc. (Roux Associates) of Islandia, New York initiated the Phase II Site Investigation field program. The first phase of this program was approximately five months (June 17, 1998 through November 17, 1998). The second phase of the investigation was completed during the period of January 29, 1999 through April 2, 1999 by Enviro-Sciences.

This Site Investigation Report summarizes the data generated during both phases of the Phase II Site Investigation. In consideration of both current and potential future uses of the 633 and 688 Site, a conceptual remedial strategy has been developed and incorporated into this report. It should be noted that the conceptual remedial strategy is in accordance with what is required for entrance into the NYSDEC Voluntary Cleanup Program (VCP).

1.2 Project Objectives

The Phase II Site Investigation was conducted to characterize subsurface conditions and develop the data necessary to evaluate the Witco facility for entry into NYSDEC's VCP. It should be noted that the 688 Site was assigned Spill No. 9803441 by the NYSDEC as a result of a discovery made during the Phase II Site Investigation. The specific objectives of the Site Investigation were to:

- Characterize on-site soil quality
- Characterize groundwater quality at the sites
- Determine the local hydraulic regime impacting the sites
- Evaluate data to develop a conceptual remedial strategy for the sites

To accomplish the objectives, the following Site Investigation field tasks were conducted:

- Soil boring installation and soil sampling
- Monitoring well installation and groundwater sampling
- Water-level measurement collection
- Separate-phase product delineation sampling

The scope of work and results of the above-referenced tasks are summarized in this Site Investigation Report.

2.0 BACKGROUND AND PHYSICAL SETTING

As previously indicated, Fluor Daniel GTI, on behalf of Witco, conducted a Phase I ESA for each of the sites during March 1998. A summary of the relevant background information is provided in this section.

The Witco Brooklyn Facility consists of two parcels: 633 Court Street and 688-700 Court Street, Brooklyn, New York. The facility is located within Red Hook, an industrial area of Brooklyn. Based upon a review Sanborn Fire Insurance Maps (Appendix A), the site was formed by filling the marsh and waterfront areas of the Gowanus Canals in the late 1800s through the early 1900s with fill material. A site location map and a site plan have been provided as Figure 1 and Figure 1a, respectively.

2.1 633 Court Street

2.1.1 Location

The 633 Site is approximately 0.5 acres and is located to the northeast of the Court Street and Halleck Street intersection. As designated by Brooklyn tax maps, it encompasses Block 492, Lot 1. The site is immediately bordered to the south by Halleck Street and Brooklyn Union Gas, to the north by a carting and storage company and to the east by an office and storage building areas. A recreational park (Red Hook Recreational) is located directly across Court Street to the west of the site. Additionally, an oil terminal (Hess Oil Company) is located approximately one block to the south of the site.

The entire site is completely developed and covered with two connected buildings and a concrete slab (dating back to the late 1950s), which varies in thickness from 0.5 feet (ft) to 1.0 ft in thickness. The buildings were formerly used for plant operations, a product testing laboratory, administrative offices, and storage. Prior to the recent sale of the 633 Site, Witco completed an asbestos abatement project, repaired the existing roof and vacated the buildings on this parcel of land. All plant operations now occur only at the 688 Site, which is southwest of the 633 Site.

2.1.2 Site History

In 1904, Barrett Manufacturing Company (Barrett), a tarpaper manufacturing company, occupied the site. Security and Exchange Commission (SEC) archive records indicate that Barrett is a predecessor in interest of Allied Signal, Inc. A review of historical plot plans and Sanborn Fire Insurance Maps indicated that Barrett's site operations included the use of tar tanks, storage and filling tanks, stills, a pitch shed and an oil house. The pitch shed occupied most of the site and contained several tanks and coolers, totaling 1,500 barrels of tar. The property occupied by Barrett included the entire site as well as property, which extended from the site in an easterly direction to the Gowanus Canal between Halleck Street and Sigourney Street. Sanborn maps indicate that Barrett (or Allied Signal) ceased site operations and the Doran Manganese Bronze Company, Inc. Foundry & Machine Shop occupied the site sometime around the late 1940s.

2.1.3 Operations

Argus Chemical Laboratory (Argus) purchased the property in the late 1940s to the early 1950s (subsequently purchased by Witco in the early 1960s). Under Argus and Witco ownership, the plant produced metallic-organic soaps and salts, barium stearates, phosphites and epoxy plasticizers. In the 1950s, aluminum paste was produced in a process on the roof of one of the buildings. This production ceased in the late 1950s to early 1960s and all plant operations were moved to a parcel of land located to the southwest of the 688 Site. The laboratory and offices remained at the 633 Site until approximately 1990 when these functions were moved across to 688 Court Street. The buildings at the site have been closed since that time to all activities other than storage of miscellaneous items (i.e., old production and laboratory equipment, dated administrative files, etc.).

Four underground storage tanks (USTs) were installed in mid 1956 at the site for use in production activities. According to a tank registration form, the UST capacities and contents were as follows:

TANK DESIGNATION	CAPACITY	CONTENTS
T-1	3,000 gallons	No. 6 Fuel Oil
T-2	4,000 gallons	Soybean Oil
T-3	1,500 gallons	No. 4 Fuel Oil
T-4	1,500 gallons	No. 2 Fuel Oil

Witco took these tanks out of service in 1965. On November 25, 1987, Witco notified the NYSDEC that USTs T-3 and T-4 would be pumped, cleaned, and filled with sand. The EDR database report indicates that USTs T-1, T-3, and T-4 were closed before April 1, 1991. An inquiry made to the NYSDEC UST Division reported that USTs T-1, T-3, and T-4 are listed in their database as closed. There was no available information regarding UST T-2, as soybean oil is not regulated.

2.2 **688-700 Court Street**

2.2.1 Location

The 688 Site is approximately five acres and is located to the southwest of the Court Street and Halleck Street intersection, and southwest of the 633 Site. As designated by Brooklyn tax maps, it encompasses Block 624, Lots 1 and Lot 34. The site is bordered immediately to the east by Court Street, Brooklyn Union Gas and Spentonbush Red Star Companies, to the west by Clinton Street and American Import/Export Trucking and to the south by Bryant Street and Hess Oil Company. A recreational park (Red Hook Recreational) is located immediately to the north of the site.

The site contains 19 buildings (several of which are interconnected), five designated tank farms and a wastewater pretreatment system. The entire site is completely developed and covered with buildings and a concrete and asphalt slab (dating back to the 1960s for the process areas and early 1980s for yard areas), which varies in thickness from 0.5 ft to 1.0 ft in thickness. Witco is in the process of ceasing current operational activities and preparing for potential sale of the property.

2.2.2 Site History

In 1904, Milliken Brothers Iron Works occupied the southwestern portion of the 688 Site. In 1939, John F. McKenna, Inc. Lumber Yard, Marine Canvas Supply Corporation and John Menton Boiler Maker occupied the site. The site remained a lumberyard and marine canvas supply business until Argus purchased the property in 1958. Witco purchased Argus, in turn, in the mid-1960s.

2.2.3 Operations

Manufacturing at the site began in the late 1950s. Historic production processes at the site, which include production of metallic-organic soaps and salts, phosphites and epoxy plasticizers, were basically the same as the processes currently ongoing at the 688 facility (Appendix B). Current production processes include the following:

PROCESS	PRODUCTS	LOCATION
Solids Production	PVC Stabilizers; Organometallic Stearates and Soaps	Building 15 and 16
Liquid Production	PVC Stabilizers; Blends of Organometallic compounds, phosphites and additives	Building 7, 11, and 12
Phosphite Production	Triphenyl phosphite and transesterified analogs	Building 7 and its extension
Specialty Solids and Solid Phosphites Production	Tin Stabilizers, Polypropylene additives	Building 19

Solids production involves combining metal oxides or hydroxides with various acids to produce plastic stabilizers. Barium stearate is the current major product; however, some barium laurate, barium benzoate, and barium-10, as well as various metallic stearates, laurates, maleates and benzoates are produced. Reactors are also used to blend calcium stearate and zinc with epoxidized soybean oil.

Liquid production involves combining metal oxides and hydroxides with various acids to produce zinc octoate, calcium zinc oleate, potassium oleate and barium nonyl phenate. Metal oxides that were formerly produced included cadmium and lead compounds; but

those were discontinued approximately four and ten years ago, respectively. Dibutyl tin oxoisomaleate is purchased and used in manufacturing.

Phosphite production involves reacting phosphorous trichloride with phenol to produce triphenyl phosphite. This product is then transesterified with different alcohols.

Specialty solids consist of small production runs of a variety of chemicals including specialty tin solids. During the 1980s, trineophenyl tin oxide (TNO) was manufactured at another Witco facility and sent to the site for purification. Crude TNO was placed into a reactor and mixed with toluene, tetrahydrofuran and hexane as part of the purification process. Purification activities at the site ceased in the early 1990s.

The production areas and processes performed at the site are provided in Appendix C. In addition, the raw materials and products used at the site are provided in Appendix D.

The types of hazardous wastes generated during Witco operations at the site include:

- fatty acid soaps (stearates and laurates) and filter cake containing barium and cadmium (D004, D005, D006, D008)
- spent flammable solvents (D001)
- still bottoms from waste solvent recycle distillation (D001)
- spent phenol/decyl chloride/mineral spirit solvent (D001)
- acidic wastewater (D002)

Facility records from 1989 through 1994 also indicated that the site was also properly disposing of the following wastes off site:

- spent sulfuric acid/phenol sulfuric acid (D002)
- process wastewater containing toluene and hexane (D001)
- lab packs (D001, D002, D003, F005, D004)
- spent phenol/decyl chloride solvent with toluene (F005)
- spent toluene (F005)
- spent activated carbon containing phenol (U188)

Just over 100 aboveground storage tanks (ASTs) are present at the site. ASTs that are currently in use contain fuel oil, raw materials, intermediate products, final products, and wastes. Eight of the tanks were listed as spare tanks. The ASTs range in size from 250 to 20,000 gallons and are constructed of stainless steel, carbon steel, aluminum, or fiber reinforced plastic. The ASTs are situated directly on or above concrete pavement or pads. All ASTs located outside buildings are in areas of secondary containment (e.g., concrete dikes). An inventory and the locations of the ASTs at the site are provided in Appendix E.

Eight USTs were formerly present at the site. According to the Phase I ESA, the UST capacities and contents were as follows:

TANK DESIGNATION	CAPACITY	CONTENTS	FORMER LOCATION
T-7009	7,600 gallons	No. 6 Fuel Oil	Building 19: west
T-5016	4,000 gallons	Xylene	Building 19: west
T-1008	8,700 gallons	Mineral Spirits	Building 19: west
F-201	6,000 gallons	Hexane	Tank Farm #4
F-202	6,000 gallons	Hexane	Tank Farm #4
F-204	6,000 gallons	Isopropanol	Tank Farm #4
F-205	7,500 gallons	Mineral Spirits	Tank Farm #4

USTs T-7009, T-5016, and T-1008 were installed in 1960. Witco ceased use of these USTs in the mid-1980s, and in December 1990, they were closed in-place by emptying, purging, and filling with concrete. USTs F-201 through F-205 were installed in 1970. In May 1993, these USTs located in Tank Farm #4 were removed and replaced with double-walled, carbon-steel tanks equipped with leak detection and overfill protection systems. Currently, these are the only active USTs at the site and the contents of these tanks presently include isopropanol, cumene, and methyl benzoate.

2.3 Existing Environmental Permits

A review of Witco's records indicates that Witco currently maintains the following environmental permits:

- NYSDEC Wastewater Discharge Permit No. 96-P764-1 for the discharge of all water (both pretreated wastewater and stormwater) to the New York City sewer system.
- NYSDEC Air Permits which are summarized in Table 1.
- B&W Boiler Permit No. CA312173H, Cleaver Brooks Boiler Permit No. CA080078H, and Nebraska Boiler Permit No. CA169992M. These Air Pollution Control Permits are associated with air emissions from all the boilers located on site.
- RCRA Hazardous Waste Generator EPA ID No. NY0001411404.

The site is operating under a Spill Prevention Control and Countermeasure (SPCC) Plan that meets the requirements of 40 CFR 112. In addition, the site is part of the Multi-Media Pollution Prevention (M2P2) program implemented at the Witco Facility by the NYSDEC in 1993.

3.0 PHASE II SITE INVESTIGATION SCOPE OF WORK

A detailed summary of the scope of work (SOW) implemented for the Phase II Site Investigation is provided below. The SOW was based on a site-wide approach and not limited to the Areas of Concern (AOCs) identified by Fluor Daniel GTI in the Phase I ESA. The site-wide approach was utilized to allow for the collection of not only AOC-specific data, but also for the collection of additional data to more thoroughly characterize subsurface conditions and to develop a conceptual remedial strategy for the site.

This detailed summary includes both Roux Associates' and Enviro-Sciences' Site Investigations. The Site Investigations consisted of the installation of 78 soil borings and monitoring well pilot boreholes and the collection of 117 soil samples, the installation of 17 groundwater monitoring wells and collection of groundwater samples from these wells. Four groundwater monitoring wells were installed on the 633 Site and 13 wells were installed for the 688 Site. Selected analytical parameters were based on the types of process and/or stored materials in the vicinity of the selected soil boring locations using the Phase I ESA as guidance.

3.1 Soil Boring Program

The first phase of the soil boring program was conducted by Roux Associates from June 17, 1998 through September 1, 1998 and consisted of sampling the fill material underlying the site. The data obtained as a result of the soil investigation has been utilized for the characterization of the site to develop and implement a conceptual remedial strategy. Soil boring locations were installed site-wide, with a bias to the AOCs outlined in the Phase I ESA. Roux Associates attempted to install, at minimum, one soil boring for each AOC. In addition, soil borings were installed in areas not defined as part of an AOC in order to acquire data for the entire site. Actual soil sample locations varied slightly from the proposed sampling plan due to subsurface utility, access difficulties (permanent structure), and/or safety hazards. The soil investigation for the 633 Site consisted of 12 soil borings and monitoring well pilot boreholes (SB-1 through SB-8, MW-1 through MW-3, and MW-11), five of which were installed off site. The 688 Site scope consisted of 58 soil borings and monitoring well pilot boreholes (SB-9 through SB-52, HWSA-1 through HWSA-4, MW-4 through MW-10, MW-12, MW-13, and MW-14) 10 of which were installed off site. All soil boring locations are presented on Figure 2.

Enviro-Sciences' soil boring program was conducted from March 16, 1999 through March 18, 1999. This soil investigation was conducted to further delineate the soil contamination indicated by the previously collected soil samples, and to collect data in on both sites in order to satisfy the site-wide approach. Soil boring locations were based on the results of Roux Associates' soil investigation. This soil investigation consisted of one off-site soil boring (A-01) for the 633 Site and seven soil borings and monitoring well pilot boreholes (A-02 through A-05 and MW-15 through MW-17), three of which were installed off site for the 688 Site.

3.1.1 Soil Boring/Monitoring Well Pilot Borehole Installation

Soil borings were completed using a direct push sampler for SB-1 through SB-52 and A-03 through A-05. A hollow-stem auger drill rig was utilized for A-01, A-02 and monitoring well pilot boreholes MW-1 through MW-17. Soil borings HWSA-1 through HWSA-4, located in the hazardous waste storage area on the 688 Site, were completed utilizing a hand auger. Soil borings were abandoned in place (grouted) upon completion and the generated soil cuttings were containerized in 55-gallon drums for off-site disposal.

At each of these locations, with the exception of HWSA-1 through HWSA-4 (shallow borings), soil samples were collected continuously at two-foot intervals down to the water table. The varying water table depths in ft below grade surface (ft bgs), which were encountered during the drilling activities, are summarized below.

	633 SITE	688 SITE
Roux Associates	3.5' to 6.0' bgs	3.5' to 8.0' bgs
Enviro-Sciences	5.25' bgs	3.5' to 7.5' bgs

Additionally, fourteen of the above soil borings were advanced below the water table to characterize the low permeability silty-clay layer, which represents the former base of the Gowanus Canal that ran through this area prior to filling activities. As mentioned above, these borings were completed using a direct push sampler. Of these fourteen soil borings, three were advanced through a portion of the silt-clay layer to determine the thickness of the silt-clay layer. It should be noted that these borings were double cased at the silt/clay interface to prevent potential contamination of any underling water-bearing zone. The top of the low permeability silt-clay layer, which immediately underlies the fill material, was encountered across the site at various depths ranging from 10.0 ft bgs (MW-4) to 19.25 ft bgs (SB-20). A table summarizing the depths at which the top of the silt-clay layer was encountered can be found in Section 4.1.

Soil samples were collected and field screened for volatile organic compounds (VOCs) using a photoionization detector (PID). Additionally, observations regarding the color, composition, moisture content, and presence of visible contamination were noted in the soil borings and monitoring well logs (Appendix F).

Two soil samples were collected from each soil boring for laboratory analysis, with the exceptions of HWSA-1 through HWSA-4 (shallow borings), where only one soil sample was collected from each boring. Soil samples were not collected for laboratory analysis from monitoring well pilot boreholes MW-1 through MW-9 and MW-12, as these locations were in close proximity to other installed soil borings (Figure 2). In addition, monitoring wells were installed in these boring locations for groundwater characterization. The first sample for laboratory analysis at each location was collected from the zero to two-foot horizon (beginning immediately below the concrete/asphalt slabs). The next deeper sample that exhibited the highest degree of contamination (i.e.,

based upon PID measurements, staining and/or odors) above the water table was also selected for laboratory analysis. If there were no discernible impacts, the two-foot interval above the water table was submitted for analysis. Soil samples were containerized in laboratory-supplied glassware, which were then sealed and labeled. Once sealed and labeled, the sample containers were placed into a sample cooler maintained at a temperature of four degrees Celsius and transported to the analytical laboratories, Severn Trent Laboratories (STL) of Monroe, Connecticut (Roux Associates) and Enviro-Tech, a Division of STL of Edison, New Jersey (Enviro-Sciences) for selected analysis (discussed further in this section). Analytical results pertaining to the soil boring samples are discussed in Section 4.3.

3.1.2 Soil Sample Analytical Parameters

Analytical parameters for the soil samples collected from June 17, 1998 to November 17, 1998 (Roux Associates) and March 16, 1999 to March 18, 1999 (Enviro-Sciences) are as follows:

3.1.2.1 633 Court Street

To characterize soil quality conditions, a total of 20 soil samples (SB-1 through SB-8, A-05 and MW-11) were collected for laboratory analysis at ten locations (two samples per location). The sampling program conformed to the NYSDEC Spill Technology and Remediation Series (STARS) Memo #1 Petroleum Contaminated Soil Guidance Policy (STARS) based on the site's historic operations (tarpaper manufacturing and various petroleum storage tanks and stills).

Soil samples collected were analyzed in accordance with NYSDEC 1995 ASP protocol for the following parameters:

- Target Compound List (TCL) VOCs using USEPA Method 8260
- Target Compound List Semivolatile Organic Compounds (TCL SVOCs) using USEPA Method 8270 for limited samples
- NYSDEC STARS VOCs using the Toxicity Characteristic Leaching Procedure (TCLP) USEPA Method 1311
- NYSDEC STARS SVOCs using the TCLP USEPA Method 1311
- Resource Conservation and Recovery Act (RCRA) metals using USEPA Methods 6010 and 7470

Additionally, soil samples SB-7 and SB-8, collected adjacent to the former hot oil system, were analyzed for polychlorinated biphenyls (PCBs) using USEPA Method 8081. Furthermore, soil samples collected from monitoring well pilot

borehole MW-11 were analyzed for TCL SVOCs using USEPA Method 8270. Quality assurance/quality control (QA/QC) samples including matrix spikes (MS), matrix spike duplicates (MSD), and field duplicates were collected and analyzed for the above parameters.

A summary of the soil sampling results compared with NYSDEC Recommended Soil Cleanup Objectives (RSCOs); USEPA Region III Risk-Based Concentrations (RBCs) for Industrial Facilities, and TCLP Extraction Guidance Value (where applicable) are provided in Tables 2 through 7, and are discussed in Section 4.3.1 of this report.

3.1.2.2 688-700 Court Street

To characterize soil quality conditions, a total of 96 soil samples (SB-9 through SB-44, HWSA1 through HWSA-4, A-01 through A-04 and MW-10, MW-13 through MW-17) were collected for analysis. Two soil samples were collected from each soil boring, with the exceptions of HWSA-1 through HWSA-4 (shallow borings), where only one soil sample per boring was collected (Figure 2).

In addition, eight soil borings (SB-45 through SB-52) were installed to delineate the vertical and horizontal extent of tar residuals encountered from 6 to 12 ft bgs during the installation of off-site monitoring well MW-14. From these borings, only one composite sample of residual product and soil was collected for analysis.

Because the operations at the site were non-petroleum in nature, soil sample analytical suites included the traditional TCL parameters in all borings, to ensure a thorough characterization of site soil. The laboratory analyzed each soil sample, excluding the tar composite sample, in accordance with NYSDEC 1995 ASP protocol for the following parameters:

- TCL VOCs using USEPA Method 8260
- TCL SVOCs using USEPA Method 8270
- RCRA metals using USEPA Methods 6010 and 7470

The residual tar composite sample, was analyzed in accordance with NYSDEC 1995 ASP protocol for the following parameters:

- NYSDEC STARS VOCs using the TCLP (USEPA Method 1311)
- NYSDEC STARS SVOCs using the TCLP (USEPA Method 1311)
- TCL VOCs using USEPA Method 8260
- TCL SVOCs using USEPA Method 8270
- RCRA metals using USEPA Methods 6010 and 7470
- Hydrocarbon fingerprinting

Additionally, soil samples collected adjacent to the former hot oil systems (SB-13, SB-14, SB-18, SB-19, SB-42 and SB-43) were analyzed for PCBs using USEPA Method 8081. QA/QC samples including MS/MSD, and field duplicates were collected and analyzed for the above parameters.

A summary of the soil sampling results in comparison with NYSDEC RSCOs, RBCs, and TCLP Extraction Guidance Value (where applicable) is provided in Tables 8 through 12 and are discussed in Section 4.3.2 of this report.

3.2 Groundwater Investigation Program

Roux Associates' groundwater investigation program consisted of the installation and sampling four groundwater monitoring wells (MW-1 through MW-3 and MW-11) on the 633 Site and ten groundwater monitoring wells (MW-4 through MW-10 and MW-12 through MW-14) on the 688 Site. The groundwater investigation also included a series of water-level measurements to characterize groundwater flow patterns. This work was conducted from July 6, 1998 through October 28, 1998.

To further characterize and allow for a more accurate representation of the groundwater conditions of the facilities, Enviro-Sciences' groundwater investigation program included the installation of three off-site groundwater monitoring wells, MW-15 through MW-17 (associated with the 688 Site), and the collection of synoptic groundwater samples from the newly installed and existing monitoring wells for both sites. Additionally, a series of water-level measurements were collected from March 16, 1999 through April 2, 1999 to evaluate changes in the groundwater flow regime.

3.2.1 Monitoring Well Installation

At the selected locations, a borehole was advanced through the subsurface utilizing hollow stem auger drilling techniques. Split-spoon samples were collected continuously from grade until groundwater was encountered. These samples were field screened with a PID and observations were recorded regarding the color, composition, moisture content, and presence of visible contamination.

The borehole was then advanced deep enough for the ten-foot screen to be installed (total depth ranging from 12 ft to 19 ft bgs). Upon attaining the selected depth, the PVC well materials were lowered into the borehole through the hollow stem auger flights. The PVC well materials included ten ft of two-inch inside diameter (ID), factory milled, 10-slot (0.010 inch) PVC screen, flush threaded with a PVC well plug, and two-inch ID PVC riser sufficient to extend to the ground surface. The targeted screen interval was extended approximately seven ft below and three ft above the static water level observed at the time of installation.

Morie #1 sand (utilized as gravel packing material) was introduced within the annular space starting at the bottom of the borehole and extending to a minimum of six inches above the well screen. The hollow stem auger flights were intermittently retracted from

the borehole during the installation of the gravel pack to prevent collapse of the natural formation into the well. A six-inch thick bentonite seal was placed on top of the sand pack to form a seal. A cement slurry was added into the remainder of the annular space and extended to ground surface.

A steel casing with cover and locking mechanism was set into the cement slurry. The well was completed with a watertight flange cover and well lock. The newly installed wells were developed with a submersible pump until a turbid-free discharge was obtained. The development water containerized in 55-gallon drums for off-site disposal. In addition, a licensed surveyor surveyed each monitoring well for vertical coordinates relative to the National Geodetic Vertical Datum (NGVD). All groundwater monitoring well locations are depicted on Figure 2.

3.2.2 Groundwater Sampling

Roux Associates conducted two groundwater sampling events on July 16, 1998 and September 3, 1998. Enviro-Sciences collected groundwater samples on March 24, 1999 from sixteen of the seventeen groundwater monitoring wells (MW-1 through MW-13 and MW-15 through MW-17). Monitoring well MW-14 was not sampled because the well could not be located. It should be noted that the steel casing with cover and locking mechanism was discovered in close proximity of the installed well. Enviro-Sciences was informed that monitoring well MW-14 was damaged during the closure of a subsurface utility, which ran from the 633 Site to the vicinity of monitoring well MW-14. On May 4, 1999, the well was located and properly abandoned in place in accordance with NYSDEC regulations.

The table below summarizing the sampling dates and the corresponding wells:

DATE	WELLS SAMPLED
July 16, 1998	MW-1 through MW-3 (633 Site) MW-4 through MW-9 (688 Site)
September 3, 1998	MW-11 (633 Site) MW-10, MW-12 through MW-14 (688 Site)
March 24, 1999	MW-1 through MW-3 and MW-11 (688 Site) MW-10, MW-12, MW-13 and MW-15 through MW-17 (688 Site)

Prior to sampling, each monitoring well was inspected to observe and document the security of the well. Each monitoring well was subsequently opened and the static fluid level within the well was measured and inspected for evidence of separate-phase hydrocarbons using an interface probe.

The static groundwater level in each well was measured using an interface probe and/or an electronic water level indicator with an accuracy of 0.01 of a foot. An initial sample

of groundwater was collected from each well and analyzed using field instrumentation for pH, temperature, conductivity, turbidity, salinity and dissolved oxygen. Subsequently, three to five volumes of the saturated well column and annular space were purged from each well using a decontaminated Teflon[®] bailer (Roux Associates) or utilizing a submersible pump (Enviro-Sciences). It should be noted that due to the presence of free product in monitoring well MW-6 on March 24, 1999, a peristaltic pump was utilized for this sampling event. Additionally, the submersible pump and the associated tubing were decontaminated between each well. Following purging procedure, groundwater samples were collected via disposable Teflon[®] bailers (Roux Associates) or submersible pump with the exception of the collection of samples to be analyzed for VOCs (Enviro-Sciences). It should be noted the tubing associated with the submersible pump was decontaminated between each well. The VOCs were collected via disposable Teflon[®] bailers. The bailer was slowly lowered into the monitoring well below the water table, avoiding excess agitation/aeration of the groundwater, and then retracted. Groundwater samples were containerized in laboratory-supplied glassware, which were then sealed and labeled. Once sealed and labeled, the sample containers were placed into a sample cooler maintained at a temperature of four degrees Celsius and transported to the analytical laboratory.

Each groundwater sample collected by Roux Associates was analyzed for VOCs using NYSDEC ASP Method 95-1, SVOCs using NYSDEC ASP Method 95-2, and RCRA metals (total and dissolved) using USEPA Methods 6010 and 7470. Temperature, pH, Eh and specific conductivity were measured in the field during sample collection (Table 13). Chloride was also analyzed for the groundwater samples collected from monitoring wells MW-10 through MW-14 on September 3, 1998. In addition, QA/QC samples including MS/MSDs, field duplicates, and trip blanks were also collected and analyzed for the above parameters.

Each groundwater sample collected by Enviro-Sciences was analyzed for VOCs using NYSDEC ASP Method 95-1, SVOCs using NYSDEC ASP Method 95-2, RCRA metals (total and dissolved) using USEPA Methods 6010 and 7470, chlorides using USEPA Method 325.2, and total dissolved solids using USEPA Method 160.1. Temperature, pH, conductivity and dissolved oxygen were measured in the field during sample collection (Table 14). In addition, QA/QC samples, field duplicates, and trip blanks were also collected and analyzed for the above parameters.

A summary of the groundwater sampling results in comparison with NYSDEC Ambient Groundwater Quality Standard or Guidance (AWQSGs) is provided in Tables 15 through 24 for the 633 Site, and Tables 25 through 33 for the 688 Site, and are discussed in Section 4.5 of this report.

3.2.3 Water-Level Measurements

Prior to groundwater sampling, one synoptic round of groundwater level measurements was collected on July 16, 1998 (Roux Associates) and March 24, 1999 (Enviro-Sciences). The water level of each monitoring well was measured and inspected for evidence of

separate-phase hydrocarbons utilizing an electronic oil-water interface probe. A summary of these water-level measurements is provided in Table 35.

In addition, groundwater level measurements were collected to evaluate whether the Gowanus Canal tidally influences the site. On September 3, 1998, October 13, 1998, October 28, 1998, Roux Associates collected groundwater level measurements during periods of low, intermediate and high tides. Similarly, a series of groundwater level measurements were collected by Enviro-Sciences on April 2, 1999. A summary of these water-level measurements is provided in Table 36.

3.3 Data Validation

Subsequent to Enviro-Sciences' review of Roux Associates lab data packages prior to the commencement of Enviro-Sciences' field investigation, lab data packages associated with the soil investigation were submitted for a Level III Data Evaluation to Trillium Inc. (Trillium) of Downingtown, Pennsylvania. A Level III Data Evaluation includes a review of the sample results, surrogate recoveries, and blanks and internal standards located in the summary reports. All laboratory data packages were reviewed in accordance to the USEPA National Function Guide for Inorganic Data Review, National Function Guide for Organic Data Review, USEPA Region II Standard Operating Procedures, Evaluation of Metals Data for the CLP, and the Evaluation of Organic data for the CLP.

Based on primary review completed by Enviro-Sciences, high method detection limits were observed, which indicated potential uncertainty of usable data. The purpose of Trillium's evaluation was to confirm the validity of the analytical results, which were generated from Roux Associates' soil investigation (first phase) prior to conducting the second phase of the soil investigation completed by Enviro-Sciences.

Based on Trillium's review, selected compounds and samples were either marked as use with caution or qualifiers were placed on the results. The table below summarizes the soil samples that were assigned a rejected qualifier. It should be noted of the compounds listed below bromomethane, chloromethane, and benzoic acid were the only compounds that were widespread.

SAMPLE LOCATION	COMPOUND	REASON
MW-11 (0-2/2-4) MW-14 (0-2/4-6) MW-10 (0-2/2-4) MW-13 (0-2/2-4)	Bromomethane & Chloroethane	Compounds not recovered in the quality control spike analysis
MW-11 (2-4)	Acetone	Lack of confirmation in the field duplicate analysis
SB-27 (0-2/2-4) SB-29 (0-2/2-4) SB-26 (0-2/2-4) SB-34 (0-2/2-4) SB-35 (0-2/2-4) SB-38 (0-2/2-4) SB-30 (0-2/2-4) SB-33 (0-2/2-4) SB-39 (0-2/2-4) SB-37 (0-2)	Benzoic Acid	Analyte was not detected in soil-matrix spike
SB-20 (0-2/2-4) SB-40 (0-2/2-4) SB-12 (0-2/2-4)	2-Butone	Low average relative response factor in initial calibration
SB-13 (2-4) SB-15 (0-2/2-4) SB-14 (0-2)	2-Butanone	Low average relative response factor in initial calibration
SB-24 (2-4)	Non-Detects	Unacceptable system monitoring compound recoveries
SB-14 (2-4)	All aroclors except 1248	Unacceptable recoveries.

Compounds that were marked with caution in various samples and depth include phenanthrene, fluoranthene, pyrene, aroclor, naphthalene, mercury, positive sample results for metals, and TCLP extracts; benzene, ethylbenzene, toluene, xylenes, naphthalene, and 1,2,4-trimethylbenzene. These compounds were marked with caution mostly due to high dilution factors, but also included:

- Low recovery in matrix spike analysis
- TCLPS were re-extracted and re-analyzed due to contamination in tumbler blank
- For Aroclor, the X summaries were incomplete
- Lack of agreement between field duplicate results

Soil samples SB-21 (0-2/2-4), SB-5 (2-4), SB-8 (2-4), and SB-3 (0-2/2-4) were marked with caution for all detected results for VOC scan and MW-13 (0-2) for the SVOC scan. Additionally, the high MDLs were a result of the dilution process because one or more than one analyte(s) exceeded the calibration curve range. Based on the results of Trillium's review, Enviro-Sciences found the lab data to be useable. Enviro-Sciences did not need to resample any location, which were previously sampled by Roux Associates. The analytical data generated from Enviro-Sciences' investigation went through an internal review, but was not validated.

4.0 RESULTS OF THE PHASE II SITE INVESTIGATION

The purpose of this section is to provide a discussion of the Phase II Site Investigation results. First, site-specific hydrogeology is discussed. Following this, the environmental media sampling-results are discussed, including soil and groundwater quality.

Provided below are the results of the Phase II Site Investigation.

4.1 Site Hydrogeology

The site is located in the southwestern portion of Brooklyn, New York, which is a reclaimed water front along the East River in an heavy industrialize area (Figure 1). Fill material was observed across the site from 0 to 10 ft bgs (633 Site) and 0 to 12 ft bgs (688 Site) during the installation of monitoring wells and soil borings. The fill material consisted primarily of fine t-o coarse sand-sized particles with varying amounts of silt and miscellaneous debris (i.e. ash, slag, coal, wood, brick, concrete, etc.). Underlying the fill materials, a silt-clay layer was encountered and in turn underlain continuous by Lake Flushing. The table below summarizes the various depths, which the silt-clay layer was encountered:

Site	Sample Location	Depth (ft bgs)
633 Site	SB-2	10.5
633 Site	A-05	10.5
688 Site	MW-4	10.0
688 Site	MW-5	13.0
688 Site	MW-6	13.0
688 Site	MW-8	14.0
688 Site	MW-10	14.75
688 Site	SB-17	15.25
688 Site	SB-20	19.25
688 Site	SB-27	14.0
688 Site	SB-42	15.5
688 Site	SB-44	11.5
688 Site	A-03	15.5
688 Site	A-04	10.5

As indicated on the soil boring logs (Appendix F), the clayey layer, a layer of low permeability, has lateral continuity across the site. This layer (former base of the Gowanus Canal) is gray in color and has a minimum average thickness of approximately 8.0 ft. as observed in soil borings A-03, A-04, and A-05. The silt-clay layer was encountered at greater depths in the southwest portion of the 633 property and the northern half of the 688 property. Due to its' lateral continuity beneath the site, the silt-clay layer acts as a low permeability barrier between the overlying fill and the underlying water-bearing zone located within the glacial deposits beneath the site. A generalized

hydrogeological cross-section is presented in Figure 3, Figure 3A, and Figure 3B. The gray silt-clay layer in Figures 3A and 3B represents the base of the Gowanus Canal, which formerly ran through this area, prior to filling activities (Appendix A).

Based on the manmade coastline (rip-rap, pile sheeting), well gauging data and the generalized hydrogeological cross-sections; varying depths of the silt-clay layer (former base of the Gowanus Canal) have created a horizontal somewhat radial (north, northwest, west, southwest, south) pathway for groundwater flow as depicted on Figure 4. To the south and west of the site, the coastline is lined with sheet piling. To the east of the site (point of groundwater entry), the coastline is lined with riprap. The water table underlying the site occurs within the fill material. Depth to water beneath the site has ranged from 2.0 ft to 9.0-ft bgs over the course of the investigation. Based on the tidal study, water level measurements (high, low and intermediate tide) on September 3, 1998, October 28, 1998, and April 2, 1999, the site does not appear to be tidally influenced. The water level differences between the range in tide levels averaged 0.02 ft for September 3, 1998, 0.06 ft for October 28, 1998, and for April 2, 1999. Therefore, the groundwater flow direction for the above referenced areas are influenced by groundwater recharge areas and lithological differences as a result of the manmade coast. The observed groundwater elevations in this zone suggest a hydraulic gradient as follows:

DATE	HYDRAULIC GRADIENT: (ft/ft)
7/16/98	0.0013
10/28/98	0.0015
1/29/99	0.0007
3/24/99	0.0015
4/2/99	0.0009

Both Roux Associates (July 16, 1998 through October 28, 1998) and Enviro-Sciences (March 16, 1999 thig April 4, 1999) completed eight rounds of water-level measurements from the existing groundwater monitoring wells. The most comprehensive and current groundwater contour maps (April 4, 1999) are produced on Figure 4 as representation of high, low and intermediate tides. The information in Table 36 is subdivided into tidal episodes.

As stated, Gowanus Canal formerly ran through this area prior to fill activities. Currently, the Canal that surrounds three sides of the site is situated approximately 250 ft to the west, approximately 400 ft to the south and approximately 450 ft to the east of the site. The nature of the groundwater is saline, which is a reflection of the site's proximity to the Gowanus Canal. The groundwater beneath the site is not used as a drinking water supply, or as a source of water for site processes. A comprehensive well search was completed using sources of information from regulatory agencies (NYSDEC, United States Geological Survey, United States Department of the Interior) indicating that there are no public water supply wells in the vicinity of the site and there are no pumping wells on adjacent properties. The absence of groundwater usage in the immediate vicinity of the site was further confirmed by conversations with tenants occupying the adjoining properties. Drinking water at the site, as well as the remainder of Brooklyn, is supplied

by New York City Municipal distribution, which derives water from Upstate New York reservoirs.

4.2 Comparative Soil and Groundwater Criteria

Detected constituent concentrations were compared to the NYSDEC standards or other available guidelines, which include the following:

- **Soil** – Recommended Soil Cleanup Objectives (RSCOs) provided in Technical and Administrative Guidance Memorandum (TAGM) 4046 (NYSDEC, 1994); STARS Memo #1, Petroleum-Contaminated Soil Guidance Policy (NYSDEC, 1992); and the USEPA Region III Risk-Based Concentrations (RBCs) for industrial exposure (USEPA, 1999); and
- **Groundwater** – Ambient Water Quality Standards and Guidance Values (AWQSGs) presented in Technical and Operational Guidance Series (TOGS) 1.1.1 (NYSDEC, 1993).

For soil, the comparative data (RSCOs) listed in the TAGM 4046 was developed by the Technology Section of the NYSDEC. The RSCO for each compound considered in this evaluation is the minimum of the following three values:

- For known (Group A) and probable (Group B) human carcinogens, NYSDEC has adopted the USEPA Region III RBCs for residential soil exposure that correspond to an excess lifetime cancer risk of 10^{-6} . However, for possible (Group C) human carcinogens, NYSDEC adjusts the EPA Region III carcinogenic RBCs to correspond to an excess lifetime cancer risk of 10^{-5} . These levels are based on USEPA-derived cancer slope factors (CSFs) and a time-weighted residential soil ingestion, which considers child and adult exposure over a 30-year period. The resultant intake is then averaged over a standard lifetime of 70 years.
- To evaluate potential noncarcinogenic effects, NYSDEC has adopted USEPA Region III noncarcinogenic RBCs for residential soil exposure. The noncarcinogenic RBCs, which are also derived for potential carcinogens, are based on noncarcinogenic reference doses (RfDs) and a target hazard index (HI) of 1.0 and assume a residential soil ingestion of 200 mg/day and 350 days/year for a 15-kilogram child aged 1 to 6 years, inclusive.
- To evaluate potential leaching of contaminants, NYSDEC has derived environmental concentrations that are protective of groundwater/drinking water quality. The Toxicity Characteristic Leaching Procedure (TCLP) Extraction Guidance Values included in the STARS Memo #1 were used for this evaluation. These values are equivalent to the NYSDEC groundwater quality standards or the NYS Department of Health (NYSDOH) water quality standards, whichever is more stringent.

Because the Witco facility is located in a highly industrialized area, detected site contaminant levels were also compared to the USEPA Region III RBCs for industrial soils. These industrial soil levels are based on the same EPA-derived CSFs/RfDs and excess cancer risks/target HI as

described above for residential exposures but assume an industrial soil ingestion of 50 mg/day, 250 days/year, for 25 years and that 50 percent of total soil ingestion is work-related.

For groundwater, the AWQSGs listed in the TOGS standard were developed to protect New York's fresh and saline waters. The most stringent values developed for groundwater is Class GA, Type H (WS), which protect the health of consumers using the groundwater as a water source, were used as the comparative data.

Witco has used these standards or relevant guidelines as their initial comparative criteria pending entry into the NYSDEC VCP. Once Witco is entered into this program, Witco anticipates working in conjunction with the assigned Project Manager to formulate site-specific risk-based alternative standards and/or guidance values to better reflect the site's locality and/or conditions.

4.3 Soil (Fill) Quality

The major objective of the Phase II Site Investigation was to determine the overall chemical quality of the fill material underlying the site. The parcels of land that encompass the Witco facility and vicinity were reclaimed from the Canal in the late 1800s through the early 1900s with fill material consisting of a fine to coarse sand with varying amounts of silt, slag, ash, coal, wood, concrete, and brick. The black staining, coal-tar, and petroleum chemical odors (depending on soil boring location) observed are indicative of the historical use of the site as a coal tar facility prior to Witco's acquisition of the 633 Site. Based on the nature of the historical operations that have occurred at the 633 Site, VOCs, SVOCs, metals, and PCBs were identified as potential constituents of concern at the site. In view of the nature of the fill material and, in part, historical operations performed at the 688 Site, VOCs, SVOCs, metals, and PCBs were also identified as potential constituents of concern at the site.

The results of the soil quality investigation are discussed in detail in the following subsections.

4.3.1 633 Court Street

The analytical results for VOCs detected in soil fill material are provided in Table 2 (TCL VOCs) and Table 3 (VOCs using the TCLP). The analytical results for total SVOCs and SVOCs using the TCLP detected in soil are provided in Table 4 and Table 5, respectively. Metals and PCBs detected in soil are provided in Table 6 and Table 7, respectively.

In addition, the concentrations of benzene, toluene, xylenes and acetone in fill material are presented on Figure 5. The concentrations of benzene, xylenes, naphthalene and acenaphthene in soil using the TCLP are presented on Figure 6. Finally, the concentrations of arsenic, barium, cadmium and lead in soil are presented on Figure 7. These constituents were selected for presentation due to their occurrence and frequency in soil samples collected at the site. As shown on Figures 12 through 14, each analytical result is color-coded based on a comparison to the NYSDEC RSCOs for each parameter.

4.3.1.1 Volatile Organic Compounds

As part of the Phase II Site Investigation, 20 fill samples were collected from 10 soil borings at the site. These fill samples were analyzed for both TCL VOCs (total VOCs) using USEPA Method 8260 and NYSDEC STARS VOCs using the TCLP (USEPA Methods 1311 and 8260). In addition, four MS/MSDs and three field duplicates were also collected and analyzed for both TCL VOCs and VOCs using the TCLP. Provided below is a summary of the analytical results for total VOCs and TCLP VOCs.

4.3.1.1.1 Total Volatile Organic Compounds

Four of the 34 TCL VOCs were detected above the NYSDEC RSCOs in the fill material at the site. These TCL VOCs consisted of the following:

- acetone
- toluene
- ethylbenzene
- xylenes

The following is a table of the TCL VOCs detected in the fill material exceeding NYSDEC RSCOs:

TCL VOC	Detections Above NYSDEC RSCOs	Range of Concentrations (µg/kg)	NYSDEC RSCOs Guidance Value (µg/kg)
Toluene	1 of 20 samples	3,600 (SB-7; 2 to 4 ft)	1,500
Ethylbenzene	2 of 20 samples	5,600 (SB-7; 2 to 4 ft) - 15,000 (SB-4; 4 to 6 ft)	5,500
Xylene	2 of 20 samples	15,000 (SB-4; 4 to 6 ft) - 28,000 (SB-7; 2-4 ft)	1,200
Acetone	1 of 20 samples	460 (SB-7; 0 to 2 ft)	200

These analytical results indicate that only three out of the 20 fill samples analyzed exceed NYSDEC RSCOs.

No other VOCs were detected in the fill above the NYSDEC RSCOs at the site. All TCL VOCs concentrations were detected below the USEPA Region III RBCs. The USEPA RBCs are guidance values for industrial facilities that were developed to ensure protection of site workers and trespassers that may potentially be exposed to soil. The analytical summary of TCL VOCs detected in fill material is provided in Table 2 and concentrations are shown of Figure 5.

4.3.1.1.2 Toxicity Characteristic Leaching Procedure

All 13 VOCs were detected above NYSDEC STARS Guidance Values using the TCLP. Although the TCLP analysis was originally developed to determine whether or not a material would be classified as a RCRA characteristically hazardous waste; the NYSDEC also utilizes the TCLP analysis to evaluate the potential for soil to impact groundwater quality. As previously indicated, the site is covered with buildings and concrete floors, thereby significantly reducing or eliminating leaching of contaminants from unsaturated zone soils. The following is a summary of the TCLP VOCs detected in the fill material exceeding NYSDEC STARS Guidance Values:

TCLP VOCs	Detections Above NYSDEC STARS Guidance Values	Range of Concentrations (µg/L)	NYSDEC STARS Guidance Values (µg/L)
Benzene	8 of 20 samples	2 (SB-7; 0 to 2 ft) - 48 (SB-7; 2 to 4 ft)	0.7
Toluene	5 of 20 samples	6 (MW-11; 0 to 2 ft) - 240 (SB-7; 2 to 4 ft)	5
Ethylbenzene	5 of 20 samples	11 (SB-3; 2 to 4 ft) - 300 (SB-4; 4 to 6 ft)	5
Xylenes (total)	7 of 20 samples	6 (SB-2; 0 to 2 ft) - 530 (SB-7; 2 to 4 ft)	5
1,2,4-Trimethylbenzene	6 of 20 samples	6 (SB-3; 2 to 4 ft) - 430 (SB-4; 1 4 to 6 ft)	5
1,3,5-Trimethylbenzene	3 of 20 samples	52 (SB-5; 2 to 4 ft) - 130 (SB-7; 2 to 4 ft)	5
Isopropylbenzene	5 of 20 samples	9 (SB-7/SB-8; 2 to 4 ft) - 41 (SB-4; 4 to 6 ft)	5
n-Butylbenzene	6 of 20 samples	8 (SB-7; 2 to 4 ft) - 15 (SB-4; 4 to 6'/SB-8; 2 to 4 ft)	5
n-Propylbenzene	6 of 20 samples	9 (SB-5; 2 to 4 ft) - 53(SB-3; 2 to 4 ft)	5
Naphthalene	15 of 20 samples	22 (SB-2; 0 to 2 ft) - 3,000 (SB-4; 4 to 6 ft)	10
p-Isopropyltoluene	4 of 20 samples	12 (SB-5; 2 to 4 ft) - 58 (SB-4; 4 to 6 ft)	5
sec-Butylbenzene	5 of 20 samples	6 (SB-5; 2 to 4 ft) - 17(SB-3; 2 to 4 ft)	5
tert-Butylbenzene	4 of 20 samples	11 (SB-5; 2 to 4 ft) - 20 (SB-3; 0 to 2 ft/2 to 4 ft)	5

These analytical results indicate that seventeen of the 20 fill samples exceed NYSDEC STARS. All remaining VOC detected using the TCLP were below the NYSDEC STARS Guidance Values. An analytical summary of TCLP VOCs detected in fill material is provided in Table 3. Concentrations of benzene, xylenes, and naphthalene are shown on Figure 6.

4.3.1.2 Semivolatile Organic Compounds

Twenty fill samples were collected from ten soil borings and analyzed for NYSDEC STARS SVOCs using the TCLP (USEPA Methods 1311 and 8270). In addition, two fill samples were collected from monitoring well pilot borehole MW-11 and analyzed for TCL SVOCs (total SVOCs) using USEPA Method 8270. Four MS/MSDs and three field duplicates were also collected and analyzed for both TCL SVOCs and SVOCs using the TCLP. Provided below is a summary of the analytical results for total SVOCs and TCLP SVOCs.

4.3.1.2.1 *Total Semivolatile Organic Compounds*

Eight of the 66 TCL SVOCs were detected above the NYSDEC RSCOs in the two samples collected at monitoring well pilot borehole MW-11. These TCL SVOCs consisted of phenol and the following carcinogenic polycyclic aromatic hydrocarbons (cPAHs):

- benzo(a)anthracene
- benzo(a)pyrene
- benzo(b)fluoranthene
- benzo(k)fluoranthene
- chrysene
- dibenzo(a,h)anthracene
- indeno(1,2,3-cd)pyrene

All seven of the above-listed cPAHs, with the exception of benzo(k)fluoranthene and chrysene, were detected above the USEPA RBCs. An analytical summary of the TCL SVOCs detected in fill material is provided in Table 4.

4.3.1.2.2 *Toxicity Characteristic Leaching Procedure*

Seven of the 15 SVOCs were detected above NYSDEC STARS TCLP Guidance Values. The following is a summary of the SVOCs detected at concentrations exceeding NYSDEC STARS Guidance Values:

TCLP SVOCs	Detections Above NYSDEC STARS Guidance Values	Range of Concentrations (µg/L)	NYSDEC STARS Guidance Values (µg/L)
Naphthalene	12 of 20 samples	11 (SB-5; 0 to 2 ft) - 6,400 (SB-8; 2 to 4 ft)	10
Acenaphthene	10 of 20 samples	21 (SB-1; 0 to 2 ft/SB-3; 2 to 4 ft) - 200 (SB-1; 2 to 4 ft)	20

TCLP SVOCs	Detections Above NYSDEC STARS Guidance Values	Range of Concentrations (µg/L)	NYSDEC STARS Guidance Values (µg/L)
Fluorene	5 of 20 samples	62 (A-05; 0 to 2 ft) - 120 (SB-1; 2 to 4 ft)	50
Phenanthrene	8 of 20 samples	60 (SB-2; 0 to 2 ft) - 240 (A-05; 2 to 4 ft)	50
Benzo(a)anthracene	2 of 20 samples	0.9 (A-05; 0 to 2 ft) - 1.2 (SB-2; 0 to 2 ft)	.002
Pyrene	1 of 20 samples	200 (SB-3; 2 to 4 ft)	50
Chrysene	1 of 20 samples	1.1 (SB-2; 0 to 2 ft)	.002

These analytical results indicate that thirteen of the 20 fill samples analyzed exceed NYSDEC STARS. All remaining SVOC detected using the TCLP were below the NYSDEC STARS Guidance Values. An analytical summary of TCLP SVOCs detected in fill material is provided in Table 5. Concentrations of naphthalene and acenaphthene are shown on Figure 6.

4.3.1.3 Metals

Seven of the eight RCRA metals were detected above the NYSDEC RSCOs in the fill material at the site. These RCRA metals consisted of arsenic, barium, cadmium, chromium, lead, mercury and selenium. Cadmium and arsenic was also detected in the fill material above the USEPA RBCs. No other metals were detected in the fill material above the USEPA RBCs.

Two out of 20 fill samples exceed the NYSDEC RSCOs of 300 mg/kg for barium. Barium was detected at MW-11; 0 to 2 ft at 411 mg/kg and SB-1; 0 to 2 ft at 590 mg/kg. Six out of twenty samples exceed the RSCOs of 7.5 mg/kg for arsenic at concentrations ranging from 8.5 mg/kg (SB-7at; 2 to 4 ft and SB-3; 0 to 2 ft) to 14.6 (SB-7; 0 to 2). One out of twenty samples exceed the RSCOs of 500 mg/kg for lead at concentrations at a concentration of 618 mg/kg (SB-3; 2 to 4 ft). Fourteen out of 20 fill samples exceed 1 mg/kg for cadmium, which is equivalent to the NYSDEC RSCOs.

A summary of results for RCRA metals detected in fill material is provided in Table 6. Table 6 also includes the results for the four MS/MSD and three field duplicates. Concentrations of barium and cadmium, as well as arsenic and lead, are shown on Figure 7.

4.3.1.4 Polychlorinated Biphenyls

One isolated fill material sample contained Arochlor 1248 slightly above the NYSDEC RSCOs (10 mg/kg). Arochlor 1248 was detected in fill sample SB-8 (2 to 4 ft) at 13 mg/kg. The USEPA cleanup level for PCBs is between 25 to 100 mg/kg for a low occupancy area (industrial area) based on the "Megarule" established for PCBs by the USEPA on June 29, 1998. All remaining PCBs detected were below the NYSDEC RSCOs. An analytical summary of polychlorinated biphenyls detected in fill material is provided in Table 7.

4.3.2 688-700 Court Street

The results of the soil quality investigation are discussed in detail in the following subsections. The analytical results for VOCs, SVOCs, metals, and PCBs detected in fill material are provided in Tables 8 through 11, respectively. Also included in Tables 8 through 11 are the results for the eight MS/MSDs and three field duplicates for VOCs, SVOCs, metals and one MS/MSD and one field duplicate for PCBs.

Constituents were selected for map presentation based upon their frequency of detection and concentration in soil samples collected at the site. Concentrations of benzene, toluene, xylenes and acetone in fill material are presented on Figure 8. Concentrations of phenol, 2,4-dichlorophenol, naphthalene and cPAHs in soil are presented on Figure 9. Finally, the concentrations of arsenic, barium, cadmium and lead in soil are presented on Figure 10. As shown on Figures 8 through 10, each analytical result is color-coded based on a comparison to the NYSDEC RSCOs for each parameter.

4.3.2.1 Volatile Organic Compounds

Eight of the 34 TCL VOCs were detected at concentrations exceeding the NYSDEC RSCOs in the fill material at the site. A summary of all TCL VOCs detected in fill material is provided in Table 8. Concentrations of acetone, toluene, xylenes and benzene are shown on Figure 8.

The following is a data summary for the eight TCL VOCs detected in the fill material at concentrations exceeding NYSDEC RSCOs:

TCL VOC	Detections Above NYSDEC RSCOs	Range of Concentrations (µg/kg)	NYSDEC RSCOs Guidance Value (µg/kg)
Acetone	10 of 96 samples	210 (SB-42; 4 to 6 ft) - 450,000 (SB-40; 2 to 4 ft)	200
Benzene	3 of 96 samples	200 (MW-17; 2 to 4 ft) - 5,300 (SB-24; 2 to 4 ft)	60
2-Butanone	2 of 96 samples	470 (SB-27; 2 to 4 ft) - 60 (SB-39; 0 to 2 ft)	300

TCL VOC	Detections Above NYSDEC RSCOs	Range of Concentrations (µg/kg)	NYSDEC RSCOs Guidance Value (µg/kg)
Ethylbenzene	4 of 96 samples	6,600 (SB-28; 2 to 4 ft) - 41,000 (SB-39; 2 to 4 ft)	5,500
Methylene Chloride	6 of 96 samples	410 (HWSA-1; 0 to 0.7 ft) - 11,000 (SB-15; 0 to 2 ft)	100
Toluene	22 of 96 samples	1,600 (A-02; 2 to 4 ft) - 140,000 (SB-35; 2 to 4 ft)	1,500
Trichloroethene	1 of 96 samples	1,100 (HWSA-1; 0 to 0.7 ft)	700
Xylenes	35 of 96 samples	1,400 (SB-37; 0 to 2 ft) - 560,000 (SB-12; 2 to 4 ft)	1,200

These analytical results indicate that 88 of the 96 fill samples analyzed exceed NYSDEC RSCOs. No other VOCs were detected in the fill material exceeding the NYSDEC RSCOs at the site. All TCL VOCs concentrations were below the USEPA Region III RBCs.

4.3.2.2 Semivolatile Organic Compounds

Twenty-one of the 66 TCL SVOCs were detected at concentrations exceeding the NYSDEC RSCOs in the fill material at the site. These TCL SVOCs consisted of 1,2,4-trichlorobenzene, bis(2-Ethylhexyl)phthalate, 1,3-dichlorobenzene, 2,4-dichlorophenol, 2-methylphenol, 4-methylphenol, anthracene, benzo(g,h,i)perylene, dibenzofuran, fluoranthene, naphthalene, phenanthrene, phenol, pyrene and the following seven cPAHs:

- benzo(a)anthracene
- benzo(a)pyrene
- benzo(b)fluoranthene
- benzo(k)fluoranthene
- chrysene
- dibenzo(a,h)anthracene
- indeno(1,2,3-cd)pyrene

Eleven out of 96 fill samples exceed the NYSDEC RSCOs of 13,000 µg/kg for naphthalene. Fifty-seven out of 96 fill samples exceed 30 µg/kg for phenol, which is equivalent to the NYSDEC RSCOs. Three out of 96 fill samples exceed the NYSDEC RSCOs of 400 µg/kg for 2,4-dichlorophenol. Fifty-four out of 96 fill samples exceed NYSDEC RSCOs concentration of 10,000 µg/kg for total cPAHs. From the above listed cPAHs, five out of the 96 samples exceed the RBCs.

A summary of all TCL SVOCs detected in fill material is provided in Table 9. Concentrations of naphthalene, phenol and total cPAHs, as well as 2,4-dichlorophenol, are shown on Figure 9.

4.3.2.3 Metals

Seven of the eight RCRA metals were detected at concentrations exceeding the NYSDEC RSCOs in the fill material at the site. These RCRA metals consisted of arsenic, barium, cadmium, chromium, lead, mercury and selenium. Cadmium and arsenic are the only metals detected in the fill material at concentrations exceeding the USEPA RBCs.

Forty-two out of 96 fill samples exceed the NYSDEC RSCOs of 300 mg/kg for barium. Seventy-three out of 96 fill samples exceed 1 mg/kg for cadmium, which is equivalent to the NYSDEC RSCOs. Forty-one out of 96 fill samples exceed 500 mg/kg (NYSDEC RSCOs for metropolitan or suburban area) for lead. Sixty-five out of 96 fill samples exceed the NYSDEC RSCOs of 7.5 mg/kg for arsenic.

A summary of all RCRA metals detected in fill material is provided in Table 10. Concentrations of barium, cadmium and lead, as well as arsenic, are shown on Figure 10.

4.3.2.4 Polychlorinated Biphenyls

One fill material sample contained Arochlor 1248 slightly above the NYSDEC RSCOs (10 mg/kg). Arochlor 1248 was detected in fill sample SB-13 (2 to 4 ft) at 53 mg/kg. The USEPA cleanup level for PCBs is between 25 to 100 mg/kg for a low occupancy area (industrial area) based on the "Megarule" established for PCBs by the USEPA on June 29, 1998. All remaining PCB concentrations were below the NYSDEC RSCOs. An analytical summary of polychlorinated biphenyls detected in fill material is provided in Table 11.

4.4 Residual Product

4.4.1 633 Court Street

Residual product was not observed at the 633 Site during the Phase II soil boring installation program conducted from July 16, through October 28, 1998 and March 16 through March 18, 1999.

4.4.2 688-700 Court Street

During the installation of soil boring SB-27/MW-12 (Figure 2) on June 17, 1998, product was observed on the water table at approximately 4.5 ft bgs. This clear liquid film with a slight greenish tint was less than 1/8-inch thick. Roux Associates attempted to collect a sample of the liquid; however, insufficient product was present to collect a sample for laboratory analysis. The NYSDEC was notified of the above information and Spill No. 9803441 was assigned for the site. Therefore, this product is classified as residual product or "bound" since it did not manifest and does not flow into a well. There has

been no observation of the separate-phase product in monitoring well MW-12 since August 26, 1998 (installation date).

During the installation of off-site monitoring well MW-14 located immediately to the northeast of the site (Figure 2), a black tar layer was identified in soil from 6 to 12 ft bgs. The location of this off-site monitoring well is in the closed portion of Halleck Street and is not within the Witco Plant property boundary. Provided in Section 4.3.2.1 is a summary of the investigative activities which occurred to delineate and characterize the tar.

During the installation of monitoring well MW-15 (Figure 2), a thin layer of product, dark brown to black in color with a petroleum odor, was encountered on the water table at approximately 5.25 ft. bgs. As with monitoring well MW-12, this product has been classified as a residual product or bound because separate-phase product has not been observed in monitoring well MW-15.

4.4.2.1 Occurrence and Extent of Tar

A total of eight soil borings (SB-45 through SB-52; Figure 2) were installed to the depth of 12 ft bgs in the vicinity of off-site monitoring well MW-14 (southwest of the 633 Site), to delineate and determine the off-site migration the vertical and horizontal extent of tar, which was attributed from Barrett's past operations. The following is a summary of the delineation program:

Boring Location	Boring Depth (ft below grade)	Depth of Tar (ft below grade)
SB-45	12	3.8 to 9.0
SB-46	12	0 to 7.5
SB-47	12	Trace tar from 0 to 4.0
SB-48	12	Trace tar from 0 to 4.0
SB-49	4 (refusal)	2.0 to 4.0
SB-50	12	No tar present
SB-51	12	Trace tar from 0 to 6.0, tar from 7.0 to 8.0
SB-52	12	Trace surficial tar 0 to 2.0, tar from 3.0 to 8.5

From these borings, one composite sample was collected and analyzed for VOCs, SVOCs, and metals. The area in which the tar material was identified is approximately 30 ft by 35 ft. It should be noted that additional tar material may be present in this off-site area; however, due to physical constraints (i.e., fencing, building foundations) and jurisdictional constraints (i.e., street opening permits, access agreements), no additional soil borings were completed in this area.

4.4.2.2 Tar Fingerprinting and Analytical Results

Five of the 34 TCL VOCs were detected in the tar composite sample at concentrations exceeding the NYSDEC RSCOs. The analytical results for all

TCL VOCs detected in the tar composite sample are provided in Table 8. These TCL VOCs consisted of the following:

- toluene
- ethylbenzene
- xylenes
- methylene chloride
- trichloroethene

Twenty of the 66 TCL SVOCs were detected in the tar composite sample exceeding the NYSDEC RSCOs. These TCL SVOCs consisted of 2-methylnaphthalene, 4-methylphenol, acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, dibenzofuran, fluoranthene, fluorene, naphthalene, phenanthrene, phenol, pyrene and the seven cPAHs. A summary of all TCL SVOCs detected in the tar composite sample is provided in Table 9.

Lead was also detected in the tar composite sample at 2,120 mg/kg, which also exceeds the NYSDEC RSCOs. No additional RCRA metals were detected in the tar composite sample exceeding the NYSDEC RSCOs. The analytical results for all RCRA metals detected in the tar composite sample are provided in Table 10.

In addition, the following VOCs and SVOCs were detected in leachate using the TCLP analysis:

- benzene (53 µg/L)
- toluene (60 µg/L)
- ethylbenzene (17 µg/L)
- xylenes (89 µg/L)
- 2,4-dimethylphenol (6,300,000 µg/L)
- 2-methylphenol (7,100,000 µg/L)
- 4-ethylphenol (8,000,000 µg/L)
- acenaphthene (1,400,000 µg/L)
- anthracene (250,000 µg/L)
- fluoranthene (160,000 µg/L)
- fluorene (810,000 µg/L)
- naphthalene (26,000,000 g/L)
- phenanthrene (1,200,000 µg/L)
- phenol (3,000,000 µg/L)
- and pyrene (120,000 µg/L)

All of the above compounds exceed the NYSDEC TCLP guidance levels. An analytical summary of all TCLP VOCs and TCLP SVOCs detected in the tar composite sample is provided in Table 12.

A gas chromatogram of the composite sample was compared with those of gasoline, kerosene, diesel fuel, No. 2 fuel oil, No. 4 fuel oil and No. 6 fuel oil. The fingerprint did not match any of the standards that the laboratory routinely analyzes for. The laboratory injected a coal tar standard from a previous project and the tar composite sample was concluded to be similar, thus indicating the residual product identified is similar to a coal tar material.

Coal tar was not historically used as part of Witco's operations; however, the area to the northeast of the 688 Site was historically occupied by Barrett, a tarpaper manufacturing company. The property formerly occupied by Barrett is located approximately 80 ft to the northeast from the area in which the tar material was observed at the subject site. Sanborn Maps indicate that Barrett began operations prior to 1904 and ceased operations sometime around the mid to late 1940s. Historical plot plans and Sanborn Fire Insurance Maps (Appendix A) indicated that Barrett's operations included the use of tar tanks, storage and filling tanks, stills and a pitch shed and an oil house containing several tanks and coolers totaling 1,500 barrels of tar.

4.5 Groundwater Quality

It is important to note that all of the monitoring wells installed at the 633 and 688 Sites are screened solely within the fill material. Therefore, the groundwater quality data for both the 633 and 688 Sites is in part reflective of the fill material; not the quality of groundwater in the upper glacial deposits below the low permeability silt-clay layer that separates the fill material from this aquifer. Based on analytical results, groundwater underlying the sites is saline and unsuitable for use as a potable water supply. However, since there are no numeric chemical-specific standards or guidelines for evaluation of saline groundwater, site groundwater quality was compared against NYSDEC AWQSGs for Class GA groundwater. Class GA Groundwater Standards were developed to be protective of current and potential drinking water sources. However, the NYSDEC treats individual sites on a case-by-case basis. Therefore, since the site is located in a heavily industrialized area, groundwater underlying the sites is saline, and groundwater in Brooklyn is not used as a drinking water supply, less stringent groundwater standards are appropriate for this Facility.

A detailed discussion of the groundwater quality results is provided in the following subsections.

4.5.1 633 Court Street

Groundwater samples for laboratory analysis were collected from monitoring wells MW-1 through MW-3 on July 16, 1998, from monitoring well MW-11 on September 3, 1998, and from monitoring wells MW-1 through MW-3 and MW-11 on March 24, 1999. The groundwater samples including the one field duplicate and one MS/MSD sample were analyzed for VOCs using NYSDEC ASP Method 95-1, SVOCs using NYSDEC ASP Method 95-2, and RCRA metals (total and dissolved) using USEPA Methods 6010 and 7470. Additionally, the September 3, 1998 sampling event included sodium for the RCRA metal analysis and the March 24, 1999 sampling event included chloride using

Method 325.2, total dissolved solids using method 160, and sodium for the RCRA metal analysis (total and dissolved).

4.5.1.1 July 16, 1998 Groundwater Sampling Event

During the July 16, 1998 sampling round, three groundwater monitoring wells (MW-1, MW-2, and MW-3) were sampled and analyzed for VOCs, SVOCs, and metals (total and dissolved). The groundwater analytical results are presented in Tables 15 through 17 and compounds detected at concentrations exceeding the standards are presented on Figure 11 through Figure 13.

4.5.1.1.1 Volatile Organic Compounds

A total of five of 33 VOCs (total) were detected in groundwater exceeding the NYSDEC AWQSGs for Class GA groundwater. The following is a summary of the VOCs detected in groundwater exceeding NYSDEC AWQSGs:

VOC	Detections Above NYSDEC AWQSGs	Range of Concentrations (µg/L)	NYSDEC AWQSGs (µg/L)
Benzene	3 of 3 samples	7 (MW-3) – 12,000 (MW-2)	1
Toluene	1 of 3 samples	5,200 (MW-2)	5
Ethylbenzene	2 of 3 samples	8 (MW-1) – 1,100 (MW-2)	5
Xylenes	2 of 3 samples	11 (MW-1) – 3,300 (MW-2)	5
Acetone	1 of 3 samples	1,500 (MW-2)	50

All remaining VOC were not detected. These analytical results indicate that three of three groundwater samples collected and analyzed exceed NYSDEC AWQSGs.

A summary of VOCs detected in groundwater is provided in Table 15. The above-referenced VOCs exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 11.

4.5.1.1.2 Semivolatile Organic Compounds

A total of 11 of 64 SVOCs (total) were detected in groundwater exceeding the NYSDEC AWQSGs for Class GA groundwater. The following is a summary of the SVOCs detected in groundwater exceeding NYSDEC AWQSGs:

SVOC	Detections Above NYSDEC AWQSGs	Range of Concentrations (µg/L)	NYSDEC AWQSGs (µg/L)
Phenol	2 of 3 samples	5 (MW-1) - 15,000 (MW-2)	1
Naphthalene	2 of 3 samples	76 (MW-1) - 11,000 (MW-2)	10
4-Methylphenol	1 of 3 samples	4,400 (MW-2)	50

SVOC	Detections Above NYSDEC AWQSGs	Range of Concentrations (µg/L)	NYSDEC AWQSGs (µg/L)
Acenaphthene	2 of 3 samples	78 (MW-1) - 110 (MW-2)	20
Acenaphthylene	1 of 3 samples	100 (MW-2)	20
Dibenzofuran	2 of 3 samples	28 (MW-1) - 97 (MW-2)	5
Fluorene	1 of 3 samples	67 (MW-2)	50
Phenanthrene	1 of 3 samples	52 (MW-2)	50
2,4-Dimethylphenol	2 of 3 samples	5 (MW-1) - 3,600 (MW-2)	1
2-Methylphenol	1 of 3 samples	1,200 (MW-2)	50
Bis(2-chloroethyl)ether	1 of 3 samples	2 (MW-1)	1

These analytical results indicate that two of three groundwater samples collected and analyzed exceed NYSDEC AWQSGs. All remaining SVOC detected were below the NYSDEC AWQSGs. A summary of SVOCs detected in groundwater is provided in Table 16. The above-referenced SVOCs exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 12.

4.5.1.1.3 *Metals*

A total of four (arsenic, cadmium, lead, and mercury) of the 8 RCRA metals (total) were detected in unfiltered groundwater samples at concentrations exceeding the NYSDEC AWQSGs for Class GA groundwater. Barium, chromium, selenium and silver are the RCRA metals that did not exceed NYSDEC AWQSGs.

Two out of three groundwater samples exceed the NYSDEC AWQSG of 25 µg/L for arsenic. One out of three groundwater samples exceed 10 µg/L for cadmium, which is equivalent to the NYSDEC AWQSGs. Three out of three groundwater samples exceed the NYSDEC AWQSGs 25 µg/L for lead.

Each groundwater sample was filtered with a 0.5-micron filter to determine the dissolved metals concentration. The following is a summary of the metals detected in groundwater exceeding the NYSDEC AWQSGs:

Metal (Filtered)	Detections Above NYSDEC AWQSGs	Concentrations (µg/L)	NYSDEC AWQSGs (µg/L)
Arsenic	1 of 3 samples	39.6 (MW-2)	25

All remaining metals (filtered) were detected below the NYSDEC AWQSGs. A summary of all metals detected (filtered and unfiltered) is provided in Table 20 and metals exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 13.

A comparison of the analytical results for the filtered versus the unfiltered samples shows that there is a general decrease in concentration in the filtered samples, which indicates that the metals concentrations in the unfiltered samples reflect, in part, the presence of suspended sediment.

4.5.1.2 September 3, 1998 Groundwater Sampling Event

During the September 16, 1998 sampling round, groundwater monitoring well MW-11 was sampled and analyzed for VOCs, SVOCs, and metals (total and dissolved) including sodium. The groundwater analytical results are presented in Tables 18 through 20 and compounds detected at concentrations exceeding the standards are presented on Figure 14 through Figure 16.

4.5.1.2.1 Volatile Organic Compounds

A total of five of 33 VOCs (total) were detected in the one groundwater sample collected from monitoring well MW-11 exceeding the NYSDEC AWQSGs for Class GA groundwater. The following table summarizes the compounds and associated results.

VOC	CONCENTRATION (µg/L)	NYSDEC AWQSGs (µg/L)
Benzene	100	1
Toluene	87	5
Ethylbenzene	140	5
Xylenes (total)	380	5
1,2-Dichloroethene (total)	5	5

All remaining VOCs detected were below the NYSDEC AWQSGs. A summary of VOCs detected in groundwater is provided in Table 18. The above-referenced VOCs exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 14.

4.5.1.2.2 Semivolatile Organic Compounds

A total of eight of 64 SVOCs (total) were detected in the collected groundwater sample exceeding the NYSDEC AWQSGs for Class GA groundwater. The following is a summary of the SVOCs detected in groundwater exceeding NYSDEC AWQSGs:

SVOC	Concentration (µg/L)	NYSDEC AWQSGs (µg/L)
Phenol	270	1
Naphthalene	3,500	10
2-Methylnaphthalene	430	50
Acenaphthene	150	20
Fluorene	89	50

SVOC	Concentration (µg/L)	NYSDEC AWQSGs (µg/L)
Phenanthrene	110	50
Dibenzofuran	99	5
2,4-Dimethylphenol	23	1

All remaining SVOC detected were below the NYSDEC AWQSGs. A summary of SVOCs detected in groundwater is provided in Table 19. The above-referenced SVOCs exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 15.

4.5.1.2.3 *Metals*

A total of three (cadmium, lead, and mercury) of the 8 RCRA metals (total) were detected in the one unfiltered groundwater sample at concentrations exceeding the NYSDEC AWQSGs for Class GA groundwater. Arsenic, barium, chromium, selenium and silver are the RCRA metals that did not exceed NYSDEC AWQSGs.

Additionally, the groundwater sample collected from monitoring well MW-11 was analyzed for sodium. Total sodium was detected in the sample collected from monitoring well MW-11 at 37,900 µg/L, which exceeds the NYSDEC AWQSGs of 20,000 µg/L.

Each groundwater sample was filtered with a 0.5-micron filter to determine the dissolved metals concentration. The following is a summary of the metals detected in groundwater exceeding the NYSDEC AWQSGs:

Metal (Filtered)	Detections Above NYSDEC AWQSGs	Concentrations (µg/L)	NYSDEC AWQSGs (µg/L)
Sodium	1 of 3 samples	38,900 (MW-11)	20,000

All remaining metals (filtered) were detected below the NYSDEC AWQSGs. A summary of all metals detected (filtered and unfiltered) is provided in Table 20 and metals exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 16.

A comparison of the analytical results for the filtered versus the unfiltered samples shows that there is a general decrease in concentration in the filtered samples, which indicates that the metals concentrations in the unfiltered samples reflect, in part, the presence of suspended sediment. A comparison of the sodium analytical results for the filtered versus the unfiltered samples shows that there is a slight increase in concentrations in

the unfiltered samples, which indicates that the sodium concentration does not reflect, in part, the presence of suspended sediment.

4.5.1.3 March 24, 1999 Groundwater Sampling Event

During the March 24, 1999 sampling round, four groundwater monitoring wells MW-1 through MW-3, and MW-11 were sampled and analyzed for VOCs, SVOCs, metals (total and dissolved) including sodium, TDS, and chloride. The groundwater analytical results are presented in Tables 21 through 23 and compounds detected at concentrations exceeding the standards are presented on Figure 17 through Figure 19.

4.5.1.3.1 Volatile Organic Compounds

A total of eight of 33 VOCs (total) were detected in the groundwater samples exceeding the NYSDEC AWQSGs for Class GA groundwater.

VOC	Detections Above NYSDEC AWQSGs	Range of Concentrations (µg/L)	NYSDEC AWQSGs (µg/L)
Benzene	4 of 4 samples	32 (MW-3) – 4,300 (MW-2)	1
Toluene	4 of 4 samples	10 (MW-1) – 2,000 (MW-2)	5
Ethylbenzene	4 of 4 samples	6 (MW-3) – 640 (MW-2)	5
Xylenes	4 of 4 samples	19 (MW-3) – 1,900 (MW-2)	5
Acetone	2 of 4 samples	140 (MW-3) – 630 (MW-2)	50
2-Butanone	2 of 4 samples	390 (MW-3) – 500 (MW-2)	50
Trichloroethene	1 of 4 samples	10 (MW-11)	5

All remaining VOC detected were below the NYSDEC AWQSGs. These analytical results indicate that four of four groundwater samples collected and analyzed exceed NYSDEC AWQSGs. A summary of VOCs detected in groundwater is provided in Table 21. The above-referenced VOCs exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 17.

4.5.1.3.2 Semivolatile Organic Compounds

A total of 13 of 64 SVOCs (total) were detected in groundwater exceeding the NYSDEC AWQSGs for Class GA groundwater. The following is a summary of the SVOCs detected in groundwater exceeding NYSDEC AWQSGs:

SVOC	Detections Above NYSDEC AWQSGs	Range of Concentrations (µg/L)	NYSDEC AWQSGs (µg/L)
Phenol	4 of 4 samples	140 (MW-3) - 4,900 (MW-2)	1
Naphthalene	4 of 4 samples	240 (MW-3) - 4,800 (MW-2)	10
4-Methylphenol	1 of 4 samples	1,500 (MW-2)	50
Acenaphthene	3 of 4 samples	45 (MW-11) - 89 (MW-1)	20
Benzo(a)anthracene	1 of 4 samples	2 (MW-1)	.002
2-Methylnaphthene	3 of 4 samples	75 (MW-11) - 410 (MW-2)	50
Acenaphthylene	1 of 4 samples	57 (MW-2)	20
Dibenzofuran	3 of 4 samples	28 (MW-11) - 69 (MW-2)	5
2,4-Dinitrophenol	1 of 4 samples	69 (MW-1)	5
Benzo(b)fluoranthene	1 of 4 samples	1 (MW-1)	.002
Chrysene	1 of 4 samples	1 (MW-1)0	.002
2,4-Dimethylphenol	3 of 4 samples	13 (MW-1) - 1,400 (MW-2)	1
2-Methylphenol	4 of 4 samples	6 (MW-1) - 430 (MW-2)	5

All remaining SVOC detected were below the NYSDEC AWQSGs. These analytical results indicate that four of four groundwater samples collected and analyzed exceed NYSDEC AWQSGs.

A summary of SVOCs detected in groundwater is provided in Table 22. The above-referenced SVOCs exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 18.

4.5.1.3.3 *Metals*

A total of four (arsenic, barium, cadmium, and lead) of the 8 RCRA metals (total) were detected in unfiltered groundwater samples at concentrations exceeding the NYSDEC AWQSGs for Class GA groundwater. Chromium, mercury, selenium and silver are the RCRA metals that did not exceed NYSDEC AWQSGs.

Each groundwater sample was filtered with a 0.5-micron filter to determine the dissolved metals concentration. No RCRA metals in the filtered groundwater samples exceeded the NYSDEC AWQSGs.

A summary of all metals detected (filtered and unfiltered) is provided in Table 23 and metals exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 19.

A comparison of the analytical results for the filtered versus the unfiltered samples shows that there is a general decrease in concentration in the

filtered samples, which indicates that the metals concentrations in the unfiltered samples reflect, in part, the presence of suspended sediment.

4.5.1.3.4 *Chloride and Total Dissolved Solids*

According to NYCRR Article 2 - Classifications and Standards of Quality and Purity Part 700, "saline groundwater" is defined as having a chloride concentration and TDS concentration of more than 250 milligrams per liter (mg/L) and 1000 mg/L, respectfully. The following concentrations of chloride were detected in groundwater samples collected at the site on March 24, 1999:

- 395 mg/L (MW-1)
- 760 mg/L (MW-2)
- 300 mg/L (MW-3)
- 27.5 mg/L (MW-11)

A summary of chloride and TDS detected in groundwater is provided in Table 24. The chloride and TDS concentrations exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 29.

4.5.2 688-700 Court Street

Groundwater samples for laboratory analysis were collected from five monitoring wells MW-4 through MW-9 on July 16, 1998, from monitoring wells MW-10 and MW-12 through MW-14 on September 3, 1998, and monitoring wells MW-4 through MW-10, MW-12, MW-13, and MW-15 through MW-17 on March 24, 1999. The groundwater samples were analyzed for VOCs using NYSDEC ASP Method 95-1, SVOCs using NYSDEC ASP Method 95-2, and RCRA metals (total and dissolved) using USEPA Methods 6010 and 7470. Additionally, the September 3, 1998 sampling event included sodium for the RCRA metal analysis and the March 24, 1999 sampling event included chloride using Method 325.2, total dissolved solids using method 160, and sodium for the RCRA metal analysis (total and dissolved).

4.5.2.1 July 16, 1998 Groundwater Sampling Event

During the July 16, 1998 sampling round, five groundwater monitoring wells (MW-4 through MW-9) were sampled and analyzed for VOCs, SVOCs, and metals (total and dissolved). The groundwater analytical results are presented in Tables 25 through 27 and compounds detected at concentrations exceeding the standards are presented on Figure 20 through Figure 22.

4.5.2.1.1 *Volatile Organic Compounds*

A total of six of 33 TCL VOCs were detected in groundwater at concentrations exceeding the NYSDEC AWQSGs for Class GA

groundwater. The following is a data summary for the six TCL VOCs detected in groundwater at concentrations exceeding the NYSDEC AWQSGs:

VOC	Detections Above NYSDEC AWQSGs	Range of Concentrations (µg/L)	NYSDEC AWQSGs (µg/L)
Acetone	5 of 6 samples	180 (MW-9) - 9,300 (MW-8)	50
Benzene	5 of 6 samples	4 (MW-4) - 190 (MW-8)	1
Toluene	5 of 6 samples	20 (MW-9) - 3,600 (MW-7)	5
Ethylbenzene	3 of 6 samples	28 (MW-8) - 960 (MW-7)	5
Xylene	4 of 6 samples	240 (MW-8) - 8,400 (MW-7)	5
1,2-Dichloropropane	2 of 6 samples	17 (MW-9) - 69 (MW-6)	1

These analytical results indicate that five of the six groundwater samples collected and analyzed exceed NYSDEC AWQSGs. A summary of all VOCs detected in groundwater is provided in Table 25. The above-referenced VOCs exceeding the NYSDEC AWQSGs for Class GA groundwater are presented on Figure 20.

4.5.2.1.2 Semivolatile Organic Compounds

A total of nine of 64 TCL SVOCs were detected in groundwater at concentrations exceeding the NYSDEC AWQSGs for Class GA groundwater. The following is a data summary for the nine TCL SVOCs detected in groundwater at concentrations exceeding the NYSDEC AWQSGs:

SVOC	Detection Above NYSDEC AWQSGs	Range of Concentrations (µg/L)	NYSDEC AWQSGs (µg/L)
Phenol	5 of 6 samples	640 (MW-7) - 230,000 (MW-6)	1
Naphthalene	2 of 6 samples	11 (MW-9) - 3,400 (MW-7)	10
4-Methylphenol	1 of 6 samples	120 (MW-7)	50
Acenaphthene	1 of 6 samples	110 (MW-7)	20
Fluorene	1 of 6 samples	71 (MW-7)	50
Phenanthrene	1 of 6 samples	87 (MW-7)	50
2,4-Dichlorophenol	2 of 6 samples	36 (MW-9) - 1,700 (MW-6)	1
2,4-Dimethylphenol	1 of 6 samples	130 (MW-7)	1
Dibenzofuran	1 of 6 samples	68 (MW-7)	50

All remaining SVOC concentrations were below the NYSDEC AWQSGs. These analytical results indicate that four of the six groundwater samples collected and analyzed exceed NYSDEC AWQSGs. A summary of all SVOCs detected in groundwater is provided in Table 26. The above-

referenced SVOCs exceeding the NYSDEC AWQSGs for Class GA groundwater are presented on Figure 21.

4.5.2.1.3 *Metals*

A total of seven (arsenic, barium, cadmium, chromium, lead, mercury, and selenium) of the eight RCRA metals (total) were detected in six of the six groundwater samples collected unfiltered groundwater samples at concentrations exceeding the NYSDEC AWQSGs for Class GA groundwater. Silver was the only RCRA metal that did not exceed NYSDEC AWQSGs.

Three out of six groundwater samples exceed the NYSDEC AWQSGs of 25 µg/L for arsenic. Three out of six groundwater samples exceed the NYSDEC AWQSG of 1,000 µg/L for barium. Three out of six groundwater samples exceed 10 µg/L for cadmium, which is equivalent to the NYSDEC AWQSGs. Two out of six groundwater samples exceed 50 µg/L for chromium, which is equivalent to the NYSDEC AWQSGs. Five out of six groundwater samples exceed 25 µg/L for lead, which is equivalent to the NYSDEC AWQSGs. Three out of six groundwater samples exceed the NYSDEC AWQSGs 2 µg/L for mercury. Finally, three out of six groundwater samples exceed the NYSDEC AWQSGs 10 µg/L for Selenium.

Each groundwater sample was filtered with a 0.5-micron filter to determine the dissolved metals concentration. The following is a summary of the metals detected in groundwater exceeding the NYSDEC AWQSGs:

Metal (Filtered)	Detections Above NYSDEC AWQSGs	Concentrations (µg/L)	NYSDEC AWQSGs (µg/L)
Cadmium	2 of 6 samples	21.0 (MW-9) - 82.7 (MW-6)	5
Selenium	1 of 6 samples	11.1 (MW-6)	10

All remaining metals (filtered) were detected below the NYSDEC AWQSGs. A summary of all metals detected (filtered and unfiltered) is provided in Table 27 and metals exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 22.

A comparison of the analytical results for the filtered versus the unfiltered samples shows that there is a general decrease in concentration in the filtered samples, which indicates that the metals concentrations in the unfiltered samples reflect, in part, the presence of suspended sediment.

A summary of all metals detected in groundwater is provided in Table 27. The above-referenced metals exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 22.

4.5.2.2 September 3, 1998 Groundwater Sampling Event

During the September 3, 1998 sampling round, four groundwater monitoring wells (MW-10, and MW-12 through MW-14) were sampled and analyzed for VOCs, SVOCs, metals (total and dissolved) including sodium, and chloride. The groundwater analytical results are presented in Tables 28 through 30 and compounds detected at concentrations exceeding the standards are presented on Figures 30 through 32.

4.5.2.2.1 Volatile Organic Compounds

A total of five of 33 TCL VOCs were detected in groundwater at concentrations exceeding the NYSDEC AWQSGs for Class GA groundwater. The following is a data summary for the five TCL VOCs detected in groundwater at concentrations exceeding the NYSDEC AWQSGs:

VOC	Detections Above NYSDEC AWQSGs	Range of Concentrations (µg/L)	NYSDEC AWQSGs (µg/L)
Acetone	1 of 4 samples	180 (MW-12)	50
Benzene	1 of 4 samples	61 (MW-14)	1
Toluene	1 of 4 samples	27 (MW-14)	5
Ethylbenzene	2 of 4 samples	21 (MW-12) – 35 (MW-14)	5
Xylene	2 of 4 samples	35 (MW-14) – 94 (MW-12)	5

A summary of all VOCs detected in groundwater is provided in Table 28. The analytical results indicate that two out of four groundwater samples collected exceed the NYSDEC AWQSGs. The above-referenced VOCs exceeding the NYSDEC AWQSGs for Class GA groundwater are presented on Figure 23.

4.5.2.2.2 Semivolatile Organic Compounds

A total of 20 of 64 TCL SVOCs were detected in groundwater at concentrations exceeding the NYSDEC AWQSGs for Class GA groundwater. The following is a data summary for the 22 TCL SVOCs detected in groundwater at concentrations exceeding the NYSDEC AWQSGs:

SVOC	Detection Above NYSDEC AWQSGs	Range of Concentrations (µg/L)	NYSDEC AWQSGs (µg/L)
Phenol	3 of 4 samples	2 (MW-13) – 91,000 (MW-12)	1
Naphthalene	3 of 4 samples	260 (MW-13) – 30,000 (MW-12)	10
4-Methylphenol	2 of 4 samples	180 (MW-12) – 1,200 (MW-14)	50
Acenaphthene	3 of 4 samples	190 (MW-12) – 310 (MW-14)	20
Fluorene	3 of 4 samples	160 (MW-13) – 240 (MW-14)	50
Phenanthrene	3 of 4 samples	220 (MW-13) – 560 (MW-12)	50
Benzo(a)anthracene	1 of 4 samples	5 (MW-13)	.002
Chrysene	1 of 4 samples	4 (MW-13)	.002
Benzo(b)fluoranthene	1 of 4 samples	2 (MW-13)	.002
Benzo(k)fluoranthene	1 of 4 samples	2 (MW-13)	.002
Benzo(a)pyrene	1 of 4 samples	2 (MW-13)	.002
Indeno(1,2,3-cd)pyrene	1 of 4 samples	1 (MW-13)	.002
2-Methylphenol	2 of 4 samples	580 (MW-14)	5
2,4-Dimethylphenol	2 of 4 samples	450 (MW-14)	1
Anthracene	1 of 4 samples	240 (MW-12)	50
Fluoranthene	1 of 4 samples	290 (MW-12)	50
2-Methylnaphthalene	2 of 4 samples	340 (MW-13) – 600 (MW-12)	50
Dibenzofuran	3 of 4 samples	19 (MW-12) – 170 (MW-13)	5
Anthracene	1 of 4 samples	240 (MW-12)	50
Pyrene	3 of 4 samples	21 (MW-14) - 190 (MW-12)	50

All remaining SVOC concentrations were below the NYSDEC AWQSGs. The analytical results indicate that three out of four groundwater samples collected exceed the NYSDEC AWQSGs. A summary of all SVOCs detected in groundwater is provided in Table 29. The above-referenced SVOCs exceeding the NYSDEC AWQSGs for Class GA groundwater are presented on Figure 24.

4.5.2.2.3 Metals

A total of seven (arsenic, barium, cadmium, chromium, lead, mercury, and selenium) of the eight RCRA metals (total) were detected in unfiltered groundwater samples at concentrations exceeding the NYSDEC AWQSGs for Class GA groundwater. Silver was the RCRA metal that did not exceed NYSDEC AWQSGs.

Three out of four groundwater samples exceed the NYSDEC AWQSG of 25 µg/L for arsenic. Four out of four groundwater samples exceed the NYSDEC AWQSG of 1,000 µg/L for barium. Two out of four

groundwater samples exceed 10 µg/L for cadmium, which is equivalent to the NYSDEC AWQSGs. One out of four groundwater samples exceed 50 µg/L for chromium, which is equivalent to the NYSDEC AWQSGs. Three out of four groundwater samples exceed 25 µg/L for lead, which is equivalent to the NYSDEC AWQSGs. Three out of four groundwater samples exceed the NYSDEC AWQSG of 2 µg/L for Mercury. Finally, two out of six groundwater samples exceed the NYSDEC AWQSGs 10 µg/L for Selenium.

The groundwater samples collected from the four monitoring wells (MW-10, MW-12, MW-13, and MW-14) were also analyzed for sodium. Total sodium was detected ranging from 65,900 µg/L in MW-12 to 200,000 µg/L in MW-13, which exceed the NYSDEC AWQSGs of 20,000 µg/L.

Each groundwater sample was filtered with a 0.5-micron filter to determine the dissolved metals concentration. The following is a summary of the metals detected in groundwater exceeding the NYSDEC AWQSGs:

Metal (Filtered)	Detections Above NYSDEC AWQSGs	Range in Concentrations (µg/L)	NYSDEC AWQSGs (µg/L)
Arsenic	1 of 4 samples	42.5 (MW-13)	25
Barium	1 of 4 samples	2,480 (MW-13)	1,000
Sodium	4 of 4 samples	44,500 (MW-14) – 185,000 (MW-13)	20,000

All remaining metals (filtered) were detected below the NYSDEC AWQSGs. A summary of all metals detected (filtered and unfiltered) is provided in Table 30 and metals exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 25.

A comparison of the analytical results for the filtered versus the unfiltered samples shows that there is a general decrease in concentration in the filtered samples, which indicates that the metals concentrations in the unfiltered samples reflect, in part, the presence of suspended sediment. A comparison of the Sodium analytical results for the filtered versus the unfiltered samples shows that there is a general decrease in concentrations in the unfiltered samples, which indicates that the sodium does not reflect, in part, the presence of suspended sediment.

4.5.2.2.4 Chloride

During the September 3, 1998 sampling event, two of the four collected groundwater samples (MW-10; 644 mg/L and MW-13; 1,350 mg/L) exceed to criteria of 250 mg/L set forth in the NYCRR Article 2.

According to NYCRR Article 2 - Classifications and Standards of Quality and Purity Part 700, "saline groundwater" is defined as having a chloride concentration of more than 250 milligrams per liter (mg/L).

4.5.2.3 March 24, 1999 Groundwater Sampling Event

During the March 24, 1999 sampling round, twelve groundwater monitoring wells (MW-4 through MW-10, and MW-12, MW-13, and MW-15 through MW-17) were sampled and analyzed for VOCs, SVOCs, metals (total and dissolved) including sodium, and chloride. The groundwater analytical results are presented in Tables 32 through 34 and compounds detected at concentrations exceeding the standards are presented on Figures 33 through 35.

4.5.2.3.1 Volatile Organic Compounds

A total of five of 33 VOCs (total) were detected in groundwater exceeding the NYSDEC AWQSGs for Class GA groundwater. The following is a data summary for the five TCL VOCs detected in groundwater at concentrations exceeding the NYSDEC AWQSGs:

VOC	Detections Above NYSDEC AWQSGs	Range of Concentrations (µg/L)	NYSDEC AWQSGs (µg/L)
Acetone	5 of 13 samples	110 (MW-10) – 180,000 (MW-7)	50
Benzene	6 of 13 samples	7 (MW-10) – 3,400 (MW-16)	1
Toluene	7 of 13 samples	5 (MW-17) – 6,400 (MW-7)	5
Ethylbenzene	6 of 13 samples	23 (MW-10) – 3,600 (MW-7)	5
Xylene	8 of 13 samples	5 (MW-17) – 10,000 (MW-7)	5

All remaining VOCs detected were below the NYSDEC AWQSGs. The analytical results indicate that eight of the 13 collected groundwater samples exceed the NYSDEC AWQSGs. A summary of VOCs detected in groundwater is provided in Table 32. The above-referenced VOCs exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 26.

4.5.2.3.2 Semivolatile Organic Compounds

A total of 17 of 64 SVOCs (total) were detected in groundwater exceeding the NYSDEC AWQSGs for Class GA groundwater. The following is a summary of the SVOCs detected in groundwater exceeding NYSDEC AWQSGs:

SVOC	Detections Above NYSDEC AWQSGs	Range of Concentrations (µg/L)	NYSDEC AWQSGs (µg/L)
Phenol	11 of 13 samples	5 (MW-13) – 1,300,000 (MW-9)	1
Naphthalene	9 of 13 samples	42 (MW-10) – 5,500 (MW-16)	10
4-Methylphenol	3 of 13 samples	33 (MW-12) – 1,300 (MW-16)	50
Acenaphthene	5 of 13 samples	29 (MW-4) - 190 (MW-16)	20
Acenaphthylene	1 of 13 samples	38 (MW-16)	20
Fluorene	2 of 13 samples	70 (MW-7) - 79 (MW-16)	50
Phenanthrene	3 of 13 samples	59 (MW-12) - 150 (MW-7)	50
2,4-Dimethylphenol	4 of 13 samples	1 (MW-1) - 920 (MW-16)	5
2-Methylphenol	3 of 13 samples	33 (MW-12) - 560 (MW-16)	5
Indeno(1,2,3-cd)pyrene	1 of 13 samples	0.4 (MW-4)	0.002
Benzo(k)fluoranthene	1 of 13 samples	0.3 (MW-4)	0.002
Benzo(a)pyrene	1 of 13 samples	0.6 (MW-4)	0.002
Benzo(a)anthracene	1 of 13 samples	0.8 (MW-4)	0.002
2-Methylnaphthalene	3 of 13 samples	53 (MW-7) – 410 (MW-16)	50
Acenaphthylene	1 of 13 samples	38 (MW-16)	20
Dibenzofuran	4 of 13 samples	120 (MW-16)	5
2,3,4-Trichlorophenol	1 of 13 samples	52 (MW-7)	5

All remaining SVOCs detected were below the NYSDEC AWQSGs. The analytical results indicate that 13 of the 13 collected groundwater samples exceed the NYSDEC AWQSGs. A summary of SVOCs detected in groundwater is provided in Table 33. The above-referenced SVOCs exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 27.

4.5.2.3.3 *Metals*

A total of seven (arsenic, barium, cadmium, chromium, lead, mercury, and selenium) of the 8 RCRA metals (total) were detected in unfiltered groundwater samples at concentrations exceeding the NYSDEC AWQSGs for Class GA groundwater. Silver was the only RCRA metal that did not exceed NYSDEC AWQSGs.

Seven out of 13 groundwater samples exceed the NYSDEC AWQSG of 25 µg/L for arsenic. Six out of 13 groundwater samples exceed the NYSDEC AWQSG of 1,000 µg/L for barium. Three out of 13 groundwater samples exceed 10 µg/L for cadmium, which is equivalent to the NYSDEC AWQSGs. Six out of 13 groundwater samples exceed 50 µg/L for chromium, which is equivalent to the NYSDEC AWQSGs. Eleven out of 13 groundwater samples exceed 25 µg/L for lead, which is

equivalent to the NYSDEC AWQSGs. Six out of 13 groundwater samples exceed the NYSDEC AWQSGs 2 µg/L for mercury. Finally, three out of 13 groundwater samples exceed the NYSDEC AWQSGs 10 µg/L for selenium.

The groundwater samples collected from the 13 monitoring wells (MW-4 through MW-10 and MW-12 through MW-17) were also analyzed for sodium. Total sodium was detected ranging from 13,800 µg/L in MW-15 to 430,000 µg/L in MW-2, which exceed the NYSDEC AWQSGs of 20,000 µg/L.

Each groundwater sample was filtered with a 0.5-micron filter to determine the dissolved metals concentration. The following is a summary of the metals detected in groundwater exceeding the NYSDEC AWQSGs:

Metal (Filtered)	Detections Above NYSDEC AWQSGs	Range of Concentrations (µg/L)	NYSDEC AWQSGs (µg/L)
Barium	2 of 13 samples	1,920 (MW-13) – 18,900 (MW-10)	1,000
Sodium	11 of 13 samples	11,800 (MW-15) – 414,000 (MW-2)	20,000

All remaining metals (filtered) were detected below the NYSDEC AWQSGs. A summary of all metals detected (filtered and unfiltered) is provided in Table 34 and metals exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 28.

A comparison of the analytical results for the filtered versus the unfiltered samples shows that there is a general decrease in concentration in the filtered samples, which indicates that the metals concentrations in the unfiltered samples reflect, in part, the presence of suspended sediment. A comparison of the Sodium analytical results for the filtered versus the unfiltered samples shows that there is a general decrease in concentrations in the unfiltered samples, which indicates that the sodium does not reflect, in part, the presence of suspended sediment.

A summary of metals detected in groundwater is provided in Table 34. The above referenced metals exceeding NYSDEC AWQSGs for Class GA groundwater are presented on Figure 28.

4.5.2.3.4 *Chloride and Total Dissolved Solids*

During the March 24, 1999 sampling event, six of the 13 collected groundwater samples exceed the criteria of 250 mg/L for chloride and

seven of the 14 collected groundwater samples exceed the criteria of 1,000 mg/L for TDS set forth in the NYCRR Article 2. According to NYCRR Article 2 - Classifications and Standards of Quality and Purity Part 700, "saline groundwater" is defined as having a chloride concentration of more than 250 milligrams per liter (mg/L).

A summary of the detected chloride concentrations can be found in Table 31. All detected concentrations for chloride and TDS are presented on Figure 29.

4.6 Separate-Phase Product

4.6.1 633 Court Street

Separate-phase product was not detected for any field event (i.e. groundwater sampling or water-level measurements) associated with this during the Phase II Site Investigation from July 16, 1998 through April 4, 1999.

4.6.2 688-700 Court Street

Separate-phase product was first observed in MW-6 during the January 29, 1999 Site Investigation conducted by Enviro-Sciences. Although product was detected on the interface probe, the actual thickness was unable to be measured due to equipment malfunctions.

During the March 24, 1999 groundwater sampling event, the separate-phase product was detected and measured at a thickness of 0.27 ft. A separate-phase product sample was collected for fingerprint characterization. This sample was collected to provide information relative to the source and constituents of the separate-phase identified in on-site monitoring well MW-6. The collected sample was analyzed for fingerprint characterization by capillary gas chromatography. The results indicated that the sample contained chlorinated hydrocarbons and nonyl-phenol isomers, but this product primarily consists of phenol. The product's profile did not resemble any petroleum product.

4.6.2.1 Separate-Phase Product Fingerprinting and Analytical Results

Five of the 34 TCL VOCs were detected in the separate-phase groundwater sample collected from monitoring well MW-6 at concentrations exceeding the NYSDEC AWQSGs. The analytical results for all TCL VOCs detected in the LNAPL groundwater sample are provided in Table 32. These TCL VOCs consisted of the following:

- benzene
- toluene
- xylenes
- acetone
- 1,2-dichloropropane

Phenol was the only TCL SVOC detected in the LNAPL sample exceeding the NYSDEC AWQSGs. The analytical results for all RCRA metals detected in the LNAPL groundwater sample are provided in Table 34.

Seven of the eight RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, and selenium) were also detected in the LNAPL sample, which exceed the NYSDEC AWQSGs. The analytical results for all RCRA metals detected in the LNAPL groundwater sample are provided in Table 34.

5.0 SUMMARY OF SOIL AND GROUNDWATER CONDITIONS

5.1 Distribution of Constituents in Soil

A review of the analytical results for soil samples collected at the 633 Site and 688 Site indicate that concentrations of VOCs, SVOCs, and metals are present site-wide. The detected VOCs, SVOCs, and metals exceeding the NYSDEC RSCOs, location of the most concentrated areas, and area's historic use are summarized below.

633 Site:

VOCs: Four out of 34 TCL VOCs were detected exceeding the NYSDEC RSCOs on the southern portion and at various depths (0-2 ft bgs and 2-4 ft bgs) at the 633 Site. All VOCs detected were below the USEPA Region III RBCs.

SVOCs: Eight of the 66 TCL SVOCs were detected exceeding the NYSDEC RSCOs in the two samples (0-2 ft bgs and 2-4 ft bgs) collected from MW-11. Five of the detected SVOC compounds (benzo (a) anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indo(1,2,3-cd)pyrene were detected site-wide above the USEPA Region III RBCs at various depths (0-2 ft bgs and 2-4 ft bgs).

Metals: Seven of the eight RCRA metals were detected site-wide exceeding the NYSDEC RSCOs at various depths (0-2 ft bgs and 2-4 ft bgs). Two of the eight RCRA metals, arsenic and cadmium, were detected site-wide above the USEPA Region III RBCs at various depths (0-2 ft bgs and 2-4 ft bgs).

As indicated by the Phase I ESA, Witco's manufacturing operations were conducted at the 633 Site for 12 years (approximately three years under Argus (1947-1950 and approximately 9 years under Witco (1950-1959). A review of the chemical usage by Witco indicates that only cadmium and barium were historically used at the 633 Site in Witco's manufacturing activities. All remaining constituents listed above (VOCs, PAHs, phenol and the metals) are not considered contaminants of concern reflecting Witco's 633 Site operations. The constituents are primarily attributable to historic fill placement at the site and the deposition of contaminants, to the southeast of the site resulting from the historic industrial use of the area surrounding the Witco site. Prior to Witco's occupancy of this parcel, Barrett (a tarpaper manufacturer) occupied the parcel for approximately 43 years (mid-1904 to late 1940s). Barrett's operations included the following: boiler house, coal storage yard, tank room, saturating room, and the main building, with tar wells underneath the floor.

The conclusion that the majority of the tar constituents of concern (COCs) are related to pre-1947 activities is supported by the data presented in the following two sections (Sections 5.1.1 and 5.1.2).

688 Site:

VOCs: Eight out of 34 TCL VOCs were detected at concentrations exceeding the NYSDEC RSCOs at various depths (0-2 ft bgs and 2-4 ft bgs) site-wide, but primarily concentrated in the vicinity of Buildings 7 and 12 and the southeast corner of the 688 Site. All VOCs were detected below the USEPA Region III RBCs.

SVOCs: Twenty-one of the 66 TCL SVOCs were detected at concentrations exceeding the NYSDEC RSCOs at various depths (0-2 ft bgs and 2-4 ft bgs) site-wide. Five of the detected SVOC compounds (benzo (a) anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indo(1,2,3-cd)pyrene were detected site-wide above the USEPA Region III RBCs at various depths (0-2 ft bgs and 2-4 ft bgs).

Metals: Seven of the eight RCRA metals were detected at concentrations exceeding the NYSDEC RSCOs at various depths (0-2 ft bgs and 2-4 ft bgs) site wide. Two of the eight RCRA metals, arsenic and cadmium, were detected site-wide above the USEPA Region III RBCs at various depths (0-2 ft bgs and 2-4 ft bgs).

Of the above listed constituents, toluene, xylene, acetone, phenol, barium, and cadmium concentrations may be partly attributable to Witco's manufacturing activities. Historic manufacturing activities included the purification process where toluene was removed from TNO the manufacturing of Meta-Benzoic Acid for approximately 27 years (1967-1994). The manufacturing of Meta-Benzoic acid was accomplished by the oxidation of xylene and subsequent distillation to purify the compound. However, this process was shut down and moved to an off-site facility in 1994. Additionally, one xylene UST and two mineral spirits USTs were formerly present at the 688 Site; and cadmium, barium and lead were historically used in various on-site processes. Furthermore, acetone was used, in small quantities, at the site as a solvent to remove labels from drums. Witco does not manufacture phenol, but utilizes it in phosphite production. The production process and phenol storage is located in Building 7 and Building 7 extension (Appendix C). Overall, the areas in which constituents were detected correspond with the type of process and/or storage of that material for that area (Appendix C).

The remaining VOCs, SVOCs, phenol and metals detected in soil at the 688 Site are primarily attributable to historic fill placement at the site and the deposition of coal tar related contaminants on the northeastern portion of the site resulting from the historical industrial use of the area surrounding the Witco 688 Site. This conclusion is supported by the data presented in the following two sections (Sections 5.1.1 and 5.1.2).

5.1.1 Historic Fill

The conclusion that the distribution of VOCs, SVOCs, and metals at concentrations exceeding the NYSDEC RSCOs is in part reflective of the nature of the fill material and the location of the 633 and 688 Sites in a heavily industrialized area of Brooklyn, is supported by the following data:

1. Based on the 1886 Sanborn Map (Appendix A) and the information obtained during the Site Investigation, the area on which the Witco Facility is located, formerly the Gowanus Canal, has historically been filled. Installation of soil borings and monitoring wells on site and off site indicate the presence of fill material to an average depth of 12 ft bgs.
2. The metals and PAH concentrations exceeding the NYSDEC RSCOs appear to be more reflective of the nature of the fill material (i.e., wood, coal, slag, and ash) and the location of the site, rather than the historical operations performed at the site. This is indicated by the comparison of concentrations detected in the collected soil samples from off-site soil borings (MW-10, MW-14, MW-15, MW-16, and MW-17) with the concentrations detected in soil samples collected from all on-site soil borings (SB-3 through SB-8 for the 633 Site and SB-9 through SB-44 for the 688 Site). The concentrations of PAHs in the off-site soil borings were typically higher or similar in magnitude to the concentrations detected in on-site soil borings. These off-site soil borings are located to the west and south for the 633 Site and north, south and east for the 688 Site. A representative example of this comparison is provided in the table below:

	Soil Boring	Benzo(a)anthracene	Indeno(1,2,3-cd)pyrene
OFF SITE:	MW-10	18,000	8,900
	MW-14	31,000	14,000
	MW-15	1,300	710
	MW-16	1,900	1,200
	MW-17	490	300
ON SITE:	SB-9	2,900	2,500
	SB-19	5,000	Not Detected
	SB-29	1,100	Not Detected
	SB-39	4,600	2,300

NOTES:

1. Concentrations are in ug/kg.
2. The analytical results reflect the 0'-2' bgs interval.

After reviewing various regulations from different regulatory agencies, the following defines the most comprehensive definition for historic fill material. Historic fill material, defined by The New Jersey Department of Environmental Protection (NJDEP) consists of "...generally large volumes of non-indigenous

material, used to raise the topographic elevation of a site, which were contaminated prior to emplacement and are in no way connected with the operations at the location of emplacement and which include, but are not limited to, construction debris, dredge spoils, incinerator residue, demolition debris, fly ash, and non-hazardous solid waste.” (S1070, Section 35.h1).

3. PAHs are typically found to be associated with imported fill materials. The following table summarizes potential associated compounds for historic fill :

SOURCE	AFFILIATED COMPOUND
Historic Fill ⁽¹⁾	Arsenic, Beryllium, Cadmium, Lead, Zinc, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(a)fluorene, Benzo(k)fluoranthene, Indeno(1,2,3-cd)pyrene, and Dibenzo(a,h)anthracene

Information obtained from:

(1)NJDEP Technical Requirements for Site Remediation

4. Additionally, ambient levels of PAHs and lead have increased as a result of fossil fuel usage. Truck traffic is heavy in the area and numerous industrial facilities are located in the vicinity of the site (including Hess Oil Terminal). Lead is released during the combustion of fossil fuels and is found at elevated levels in soils within areas historically industrialized and/or near to roadways. Additionally, fossil fuels were used in past operations (i.e. boilers, heating, and machinery affiliated with tar manufacturing).

5.1.2 Historic Operations

The conclusion that the distribution of VOCs, SVOCs, and metals at concentrations exceeding the NYSDEC RSCOs is due to the previous operations performed at the site is supported by the following data:

1. Based on historic Sanborn Fire Insurance Maps (Appendix A), Barrett (coal tar paper manufacturer) occupied the entire 633 Site as well as other properties, which extended from the 633 Site in an easterly direction to the Gowanus Canal between Halleck Street and Sigourney Street and north on the corner of Smith Street and Sigourney Street. Barrett was a sizable operation, which manufactured its own coal tar for the final product, coal tar paper). Barrett’s operations included the use of tar tanks, storage and filling tanks, stills, a pitch shed and an oil house (containing several tanks and coolers totaling 1,500 barrels of tar). The property formerly occupied by Barrett is located approximately 80 ft to the east from the area in which the tar material was observed. Sanborn Maps indicate that Barrett began operations prior to 1904 and ceased operations approximately mid to late 1940s.
2. The hydrocarbon fingerprint analysis performed on the residual tar composite sample confirmed that the sample profile resembled that of coal tar. The composite sample was collected southwest (downgradient) of the 633 Site and just northeast of the 688

Site. Additionally, the VOC and SVOC (TCL and TCLP) analysis detected high concentrations BTEX, naphthalenes, cPAHs, and phenol, many of which were the highest reported concentrations for both sites. This confirms that the historic tarpaper manufacturing (past operation) has impacted the area.

3. BTEX, PAHs, naphthalene, cyanide, and phenol compounds are common constituents of coal tar (GRI, 1987), and the site-wide presence of black staining, coal tar like odors, and ash (fly and coke) present in fill material (Appendix F) is indicative of coal tar related impacts. The tar material encountered in soil borings (SB-45 through SB-52) are located off site to the southwest of the 633 and northeast of the 688 Site in the closed portion of Halleck Street, can not be considered to be a result of Witco's operations since there is no evidence that Witco manufactured or used tar in its historical or current operations. This tar material may be connected with the former tarpaper manufacturing operations performed by Barrett that occurred previously at the 633 property. Most likely, during Barrett's operations prior to the canal being filled in, waste products (tar) most likely were disposed of in the canal surrounding the 633 Site and the 688 Site. Consequently, remediation of this tar material is not considered to be Witco's responsibility.
4. Deposition of fly ash, coke ash and coal tar material from past operations may have contributed to concentrations of PAHs and selected metals on site and off site for the 633 and 688 Sites in surface soils. The following table summarizes the possible source of historic deposition and potential associated compounds:

SOURCE	AFFILIATED COMPOUND
Fly Ash ⁽¹⁾	Cyanide, Lead, Zinc, Mercury
Coal Tar ⁽²⁾	Benzene, Toluene, Ethylbenzene, Xylenes, Phenols, PAHs , Naphthalene, Cyanide

Information obtained from:

(2)<http://wahanapozzolanica.com> and www.crepress.com

(3)GRI, 1987

Additionally, the former Bronze Foundry and Machine Shop formerly located on the 633 Parcel may be an additional potential source for the detected metal concentrations.

5.2 Fate and Transport of Constituents

Based on the findings of the various work elements conducted during the Site Investigation, a realistic scenario describing the environmental fate and transport of constituents of concern has been prepared. This scenario, presented below, begins with the initial source of VOCs, SVOCs and metals at the 633 and 688 Site (i.e., the fill material) and describes the potential current and long-term fate and transport of these constituents.

An approximate 12-foot thick layer of fill material immediately underlies the site. Based upon the results of the Site Investigation, the fill material contains fine to coarse sand with varying amounts of silt, brick, concrete, wood, coal, slag and ash. The fill material beneath the entire of

the site contains VOCs, SVOCs, and metals at concentrations exceeding the NYSDEC RSCOs. These conditions are reflective of the nature of the fill material, the location of the Witco Facility in a heavily industrialized area of Brooklyn, and, in part, the historical operations performed at the 633 Site and the 688 Site.

All of the fill material at the 633 Site and 688 Site is covered with buildings or concrete and asphalt slabs. This cover effectively prevents direct human exposure to this fill material, and consequently, no identifiable current direct exposure pathways to the VOCs, SVOCs, and metals in the fill material are complete. However, the potential may exist for indirect exposure to VOCs via inhalation of vapors that have volatilized from subsurface media through building foundations and into indoor air. In addition, if any construction/excavation were to occur in the vicinity of the fill material (e.g. utility work), the potential may exist for direct exposure to fill contaminants in the future.

According to NYCRR Article 2 - Classifications and Standards of Quality and Purity Part 700, "saline groundwater" is defined as having a chloride concentration, TDS concentration, and sodium concentration of more than 250 milligrams per liter (mg/L), 1000 mg/L, and 20,000 ug/L, respectively. The analytical results indicated exceeding results of chloride, TDS, and sodium; therefore, the ground water is not used because it is saline, and so will not pose a risk to human health. The nature of the groundwater underlying the 633 and 688 Sites is a reflection of the 633 Site's and 688 Site's proximity to the Gowanus Canal. This further confirms that groundwater in this area would not be suitable as a drinking water supply, or as a source of water for site processes. A comprehensive well search was completed using sources of information from regulatory agencies (NYSDEC, United States Geological Survey, United States Department of the Interior) indicating that there are no public water supply wells in the vicinity of the site and there are no pumping wells on adjacent properties. The absence of groundwater usage in the immediate vicinity of the site was further confirmed by conversations with tenants occupying the adjoining properties. Drinking water at the site, as well as the remainder of Brooklyn, is supplied by upstate New York reservoirs.

The potential may exist for site contaminants to migrate from the site. Shallow groundwater and surface water from the area drain into the Gowanus Canal, which surrounds the Witco facility on three sides and ultimately flows into Gowanus Bay.

Leaching of fill contaminants into shallow groundwater is not likely to continue, since the 633 Site and 688 Site are completely covered. Moreover, the low permeability silt-clay layer is a barrier between the groundwater in the fill material and the underlying upper glacial deposits, which comprise the water bearing zone beneath the 633 Site and 688 Site. As part of the development of site-specific, risk-based criteria, a more detailed analysis of fate and transport will be conducted to evaluate potential COC migration from onsite to offsite locations.

5.3 Distribution of Constituents in Groundwater

To further characterize groundwater quality underlying the Witco Facility, groundwater samples were collected from monitoring wells on July 16, 1998, September 3, 1998 and March 24, 1999. It should be noted that the groundwater table is located entirely within the fill material, which in

turn, is underlain by the silt-clay layer. A generic review of the analytical data indicates that the groundwater samples collected from monitoring wells on all three sampling dates had constituent concentrations exceeding the NYSDEC Class GA Standards for VOCs, SVOCs, and metals. The compounds detected exceeding the NYSDEC Class GA Standards for the 633 Site and the 688 Site are summarized below:

633 Site:

VOCs: Eight out of 33 TCL VOCs were detected exceeding the NYSDEC AWQSGs site-wide.

SVOCs: Fifteen of the 64 TCL SVOCs were detected exceeding the NYSDEC AWQSGs site-wide.

Metals: Four out of the eight RCRA metals were detected site-wide exceeding the NYSDEC AWQSGs.

688 Site:

VOCs: Five out of 33 TCL VOCs were detected exceeding the NYSDEC AWQSGs site-wide.

SVOCs: Twenty-two of the 64 TCL SVOCs were detected exceeding the NYSDEC AWQSGs site-wide, with highest concentrations located in the vicinity of Building 7, building 7 extension, and Building 12.

Metals: Seven out of the eight RCRA metals were detected site-wide exceeding the NYSDEC AWQSGs.

A comprehensive well search was completed using sources of information from regulatory agencies (NYSDEC, United States Geological Survey, United States Department of the Interior) indicating that there are no public water supply wells in the vicinity of the site and there are no pumping wells on adjacent properties. The absence of groundwater usage in the immediate vicinity of the site was further confirmed by conversations with tenants occupying the adjoining properties. In addition, the groundwater underlying the site is saline. Concentrations of chloride and TDS exceed the New York State Standard of 250 mg/L and 1,000 mg/L, respectfully and sodium concentrations exceeded the NYSDEC Class GA Standard of 20,000 ug/L; therefore, there is no potential for the groundwater underlying the site to be used as a drinking water supply. Drinking water at the site, as well as the remainder of Brooklyn, is supplied by Upstate New York reservoirs. Moreover, the low permeability silt-clay layer will act as a barrier between the groundwater in the fill material and the underlying upper glacial deposits, which comprise the water bearing zone beneath the site.

VOCs, SVOCs and metals concentrations detected above the NYSDEC AWQSGs in the groundwater at the Witco Facility are primarily attributable to historical fill placement, historical industrial use, and historical and operations at the site. Additionally, current operations may be

attributable to the detected onsite concentrations of phenol. This conclusion is supported by the following data:

1. Based on the groundwater data, concentrations were evenly distributed and reflective of the soil sample analytical results. Phenol was the only compound that was detected as discrete plume, located in the vicinity of monitoring well MW-6. Additionally, phenol was detected in the dissolved phase at high concentration in monitoring wells MW-6 (3,400 ug/l) and MW-9 (1,300,000 ug/l).

During the March 24, 1999 sampling event, separate-phase product was measured in monitoring well MW-6 (0.27 ft), collected and analyzed for fingerprint characterization. The separate-phased product primarily consisted of phenol and chlorinated aliphatic hydrocarbons. Currently, Building 7, Building 7 extension, and Building 12 of the 688 Site contains a total of nine aboveground storage tanks containing phenol, and having a capacity range of 600 gallons to 14,000 gallons. The separate-phased product is isolated and limited to the extent of the area of monitoring well MW-6 and has not migrated off site. Based on records, there has not been a spill recorded other than Spill No 9803441 affiliated with Witco's operations. Soil borings (A-03, SB-32, MW-9, and HWSA-1 through HWSA-4) were used to delineate the separate-phased product.

2. The manmade coastline (rip-rap, pile sheeting), and the generalized hydrogeological cross-sections, varying depths of the silt-clay layer (base of the former Gowanus Canal) have created a somewhat radial flow of groundwater as depicted on Figure 4. The compounds listed below were detected in both, the upgradient wells (MW-16 and MW-7) and various site-wide monitoring wells (it should be noted that monitoring well MW-16 is an off-site well and monitoring well MW-7 is located less than 20 feet from eastern property boundary).

VOCs: benzene, toluene, ethylbenzene, xylenes, and acetone

SVOCs: 2-methylnaphthalene, 2-methylphenol, 4-methylphenol, acenaphthene, anthracene, carbozol, dibenzofuran, fluoranthene, fluorene, naphthalene, phenanthrene, phenol, pyrene, 2,4,3-trichlorophenol, 2-4-dimethylphenol, and acenaphthylene

Metals: arsenic, barium, cadmium, chromium, lead, mercury, and selenium

The compounds detected correlate with compounds typically found in historic fill and associated with past operations for the site. The discussion of the historic fill issue and associated compounds, historic operations, and associated compounds were presented in Section 5.1 and above in Section 5.2, Number 1.

3. A comparison of the RCRA metal analytical results for the filtered versus the unfiltered samples shows that there is a general decrease in concentration in the filtered samples, which indicates that the metal concentrations in the unfiltered samples reflect, in part, the presence of suspended sediment.

5.4 Potential Constituents of Concern

Constituents of concern present at concentrations in excess of the RSCOs and Class GA standards, which are potentially associated with Witco's operations, are:

633 Site:

Constituents:

SOIL	GROUNDWATER
Barium	---
Cadmium	Cadmium
Lead	Lead

688 Site:

Constituents:

SOIL	GROUNDWATER
Toluene	Toluene
Xylenes (total)	Xylenes (total)
Acetone	Acetone
Phenol	Phenol
Barium	Barium
Cadmium	Cadmium
Lead	Lead

As discussed in Section 5.1 and Section 5.2, it is Witco's opinion that the RSCOs and Class GA values are not appropriate to determine the potential COCs at the 633 Site and 688 Site. The majority of the detected constituent concentrations exceeding the NYSDEC Cleanup values are a result of past operations, historic fill, and were detected at both site-wide and off-site sampling locations. In addition, the soils on the 633 Site and the 688 Site are covered by buildings or concrete and asphalt slabs. This prevents direct exposure pathways to humans. Also, meets the classification criteria for saline waters, and this does not allow the use of groundwater for drinking water or source water for site processes.

The above listed potential COCs are preliminary. Witco anticipates developing site-specific risk-based criteria in conjunction with the NYSDEC VCP. At that time, a refined list of COCs may be developed to confirm that no further delineation is required and to evaluate what further actions are needed.

5.5 Fate and Transport of Constituents

Based on the findings of the various work elements conducted during the Site Investigation, a realistic scenario describing the environmental fate and transport of constituents of concern has been prepared. This ideal scenario is presented below, beginning with the initial source of VOCs, SVOCs and metals at the 633 and 688 Site (i.e., the fill material), and then describing the current and long-term fate and transport of these constituents.

An approximate 12-foot thick layer of fill material immediately underlies the site. Based upon the results of the Site Investigation, the fill material contains fine to coarse sand with varying amounts of silt, brick, concrete, wood, coal, slag and ash. The fill material beneath the entire of the site contains VOCs, SVOCs, and metals at concentrations exceeding the NYSDEC RSCOs. These conditions are reflective of the nature of the fill material, the location of the Witco Facility in a heavily industrialized area of Brooklyn, and, in part, the historical operations performed at the Witco Facility.

All of the fill material at the 633 Site and 688 Site is covered with buildings, or concrete and asphalt slabs. This cover effectively prevents direct human exposure to this fill material. Therefore, there is no identifiable direct exposure pathway to the VOCs, SVOCs, and metals in the fill material. Consequently, there is no risk to human health because direct exposure to VOCs, SVOCs and metals within the fill material at the site.

According to NYCRR Article 2 - Classifications and Standards of Quality and Purity Part 700, "saline groundwater" is defined as having a chloride concentration, TDS concentration, and sodium concentration of more than 250 milligrams per liter (mg/L), 1000 mg/L, and 20,000 ug/L, respectively. The analytical results indicated exceeding results of chloride, TDS, and sodium; therefore, the ground water is not used because it is saline, and so will not pose a risk to human health. The nature of the groundwater underlying the 633 and 688 Sites is a reflection of the site's proximity to the Gowanus Canal. This further confirms that groundwater in this area would not be suitable as a drinking water supply, or as a source of water for site processes. A comprehensive well search was completed using sources of information from regulatory agencies (NYSDEC, United States Geological Survey, United States Department of the Interior) indicating that there are no public water supply wells in the vicinity of the site and there are no pumping wells on adjacent properties. The absence of groundwater usage in the immediate vicinity of the site was further confirmed by conversations with tenants occupying the adjoining properties. Drinking water at the site, as well as the remainder of Brooklyn, is supplied by upstate New York reservoirs.

The surface water from the area drains into the Gowanus Canal, which ultimately joins the Gowanus Bay. The Gowanus Canal surrounds the Witco facility on three sides. There may be a potential ecological if the contaminated groundwater reaches the Gowanus Bay. As part of the development of site-specific, risk-based criteria, a more detailed analysis of fate and transport may be conducted.

In addition, leaching is not likely to continue, since the 633 Site and 688 Site are covered. Moreover, the low permeability silt-clay layer is a barrier between the ground water in the fill material and the underlying upper glacial deposits, which comprise the water bearing zone beneath the 633 Site and 688 Site.

6.0 CURRENT AND POTENTIAL FUTURE SITE USE

6.1 Current Use

6.1.1 633 Court Street

All plant operations currently occur at the Witco Corporation facility located at 688 Court Street. Witco has recently completed an asbestos abatement project and performed a general cleanout of the buildings located on site. These activities have been performed as a condition of the sale of the property. The 633 property has been sold and will be used by Laish Israeli Food Corporation as a commercial warehouse for kosher food. However, Witco has retained the existing environmental liability associated with the property.

6.1.2 688-700 Court Street

Witco is in the process of ceasing current operational activities at the 688 Site and preparing for the potential sale of the property. As part of this process, aboveground storage tanks slowly have been and continue to be decontaminated and decommissioned. As with the 633 Site, Witco will retain the existing environmental liability when the property is sold.

6.2 Potential Future Site Use: 633 And 688 Site

Future use of the Witco site would consist of continuing industrial activities. Redevelopment activities are not foreseen at this time. The 633 Site, which was sold, is planned for use as a warehousing operation. The 688 Site, which will be sold to a buyer for continued industrial use.

7.0 PROPOSED INTERIM REMEDIAL APPROACH

The scope of work implemented as part of the Phase II Site Investigation was completed to develop the data necessary to evaluate the site for entry into the NYSDEC VCP. Based on the information and data collected, a proposed interim remedial approach has been prepared concerning the separate phased product detected in monitoring well MW-6. Additional remedial investigation(s) will be conducted to obtain additional information pertaining to the development of site-specific risk based criteria and the fate and transport of the COCs in soil and groundwater. The result of this further assessment will be used to develop a comprehensive remedial approach to the site.

7.1 Interim Remedial Action Vapor Enhanced Recovery/Product Recovery

To commence source remedial activities and as an interim remedial action, Witco proposes active remediation of the separate-phase product observed in monitoring well MW-6 via Vacuum Enhanced Recovery (VER). The remediation objective is to remove the separate-phase product and to prevent further migration.

7.1.1 Vacuum Enhanced Recovery System

The separate-phase product will be removed from monitoring well MW-6 by VER. VER is a total fluids extraction method whereby a drop tube is placed into a monitor or recovery well just below the static liquid level. The wellhead is then sealed and the fluids are extracted from the well by suction under high vacuum conditions (approx. 15-25 inches Hg). Sealing the wellhead during the extraction process will decrease the subsurface pressure gradient around the extraction well. This promotes subsurface fluid flow to the recovery well without substantial lowering of the water table.

7.1.2 Recovery System

The conceptual design recovery system consists of a skid-mounted portable, explosion-proof liquid-ring vacuum pump and air/water separator unit (LRU). Recovered material will be transferred to a 55-gallon drum for off-site disposal. This portable unit will be placed in the vicinity of monitoring well MW-6 so it may be connected to the wellhead via flexible hose. The unit will be manually operated on site. Before project initiation, any necessary mechanical and electrical permits will be obtained by the respective contractors.

Cost analysis of groundwater treatment methods and physical space limitations at the site indicate that on-site temporary storage and off-site treatment of groundwater will be most cost effective. An off-site treatment facility will be contracted for the fluid disposal service. The amount of product recovered in the 55-gallon drums will be recorded to track the amount of recovered product for volume and fluid calculations. All remediation equipment will be free standing with no enclosure in order to maximize portability and reduce costs.

7.1.3 Standard Operating Procedures

Recovery Duration:

Recovery from monitoring well MW-6 is anticipated for a period of eight hours per day. Fluids stored in the 55-gallon drums will be properly disposed.

Extraction Well Setup:

Prior to operations all monitor wells in the vicinity of well MW-6 (MW-5, MW-7, MW-9, MW-13, and MW-17) will be gauged with an oil/water interface probe accurate to 0.01 ft. Monitoring well MW-6 is constructed with two-inch diameter casing. A one-inch diameter drop tube will be placed in the well to allow for the recovery of product. The drop tube will be held in place with a flexible reducer coupling. The LRU will be connected to the drop tube using quick connect fittings.

Data Collection:

Following the conclusion of extraction, the quantity of separate-phase product and groundwater recovered will be gauged. Monitoring wells in the vicinity of monitoring well MW-6 will be gauged with an oil/water interface probe accurate to 0.01 ft.

7.1.4 Operating Schedule

The proposed operational schedule is outlined as follows:

Phase	Activities	Frequency
I	Recover fluids from MW-6	once/week for 1 month
II	Separate-Phased Product and liquid level monitoring	one/week for two months
III	Evaluation of removal process	
IV*	Recover fluids from MW-6	once/week for 1 month

*It should be noted that Phase IV will be conducted on an as needed basis.

Recovery operations will be initiated with Phase I when separate-phase product is present at a thickness greater than 0.03 feet in monitoring well MW-6. Subsequent to Phase I, separate-phase product and liquid level monitoring will be conducted for two months (Phase II). Following Phase II, the removal process will be evaluated for system effectiveness. If the removal process was not effective (product present greater than 0.03 ft), Phase I will be implemented during the fourth month, followed by Phase II, until consecutive monitoring indicates that the separate-phase product is less than 0.03 ft in thickness. At this point, the VER system will be terminated. If additional wells show the presence of LNAPL greater than 0.03 ft during the project, they will be added to the recovery program.

This Conceptual Remedial Strategy would be used as the basis for the preparation of a Remedial Action Work Plan that would be prepared and submitted once Witco has been entered in the NYSDEC VCP.

7.2 Development of Site-Specific, Risk-Based Criteria

The standards or relevant guidelines utilized for this Site Investigation are the initial comparative criteria for Witco's entry into the NYSDEC VCP. Once Witco is accepted into this program, Witco anticipates developing site-specific risk-based criteria to refine the COC list to better reflect the site's locality and/or conditions and to evaluate the need for further actions, as appropriate.

As discussed in Section 5.0, RSCOs as defined in TAGM 4046 and Class GA AWQSGs are not considered appropriate to determine the potential COCs at the 633 Site and 688 Site for the following reasons:

- The majority of the detected contaminant concentrations in excess of RSCOs and Class GA AWQSGs are attributable to past operations and/or fill material and are not directly associated with Witco operations. In addition, certain contaminants were detected in both site and upgradient samples, suggesting that these contaminants may not be site-related.
- The RSCOs and AWQSGs are based on direct human exposure. Since both sites are covered by buildings and concrete/asphalt slabs, no direct pathways for human exposure currently exist at the sites and thus, the RSCOs and AWQSGs as presented are not applicable.
- Site groundwater meets the classification criteria for saline waters; therefore, it is not currently and will not be utilized as a source for drinking or process water.
- The lateral, continuous, low permeability, silty-clay layer present acts as a barrier and prevents vertical migration of contamination into the water-bearing zone located in the underlying glacial deposits.

Because the RSCOs and AWQSGs are not applicable nor relevant to the site conditions, site-specific, risk-based criteria should be developed based on indirect exposure pathways as well as the fate and transport of the preliminary COCs in order to (1) refine the COC list, (2) confirm that delineation of the extent of contamination is complete, and (3) evaluate further actions, as appropriate, to address the COCs.

7.3 Fate and Transport Analysis

While the site settings preclude current direct exposure to subsurface site contamination, volatilization of VOCs from subsurface media through building foundations and into indoor air potentially may exist. In order to evaluate the relative significance of this exposure pathway, it is recommended that site-specific criteria be developed based on the fate and transport modeling of subsurface contamination to indoor air. In addition, the potential may exist for shallow groundwater contaminants to migrate from the site.

Fate and transport modeling should be used to determine the extent of offsite migration of site contaminants. Once the site-specific, risk-based criteria are established, Witco plans to evaluate further actions to determine fate and transport of the refined COC list.

7.4 Groundwater Monitoring

Witco proposes to collect an additional synoptic round of groundwater samples for both the 633 and 688 Sites. This will be the second sampling event in which all groundwater monitoring wells will be sampled in the same sampling event and will confirm the analytical results from the March 24, 1999 sampling event. This event will be conducted after the final site-specific, risk-based criteria are established. At that time the sampling parameters will be selected.

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- United States Department of the Interior. 1996. Location of Brooklyn Wells, February 7, 1996.
- United States Environmental Protection Agency. 1998. Region III Risk-Based Concentrations Table.
- United States Geological Survey. Water Resources Data of New York, Volume 2 - Long Island, 1980.
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RESULTS OF PHASE II SITE INVESTIGATION

**Witco Brooklyn Plant
Court Street
Brooklyn, New York**

May 1999

TABLES

(1)
TABLE 1
NYCDEP AIR INSTALLATION PERMITS
BROOKLYN, KINGS COUNTY, NEW YORK

Installation Permit No.	Process/Equipment	Expiration Date
PA194872H	Pneumatic conveying of fatty acid soaps	April 7, 1999
PA194772K	Weighing hopper for fatty acid soaps	April 7, 1999
PA194672N	Drying fatty acid soaps: rotary dryer and granty separator	April 7, 1999
PA194272Y	Storage and batch tanks	April 24, 1999
PA194172R	Production of triphenyl phosphite: reactor #7	April 24, 1999
PA194072J	Vacuum drying: kettle reactor #12	April 24, 1999
PA040082L	Half soap reactor tank	November 21, 2000
PA039982Z	Mfg. of industrial chemicals: drum filling station with crusher	September 17, 2000
PA039882L	Mfg. of industrial chemicals: blending of stearate, silicate, and carbonante	September 17, 2000
PA039782Y	Mfg. of industrial chemicals: blending cone and drum filling station	September 17, 2000
PA039682R	Mfg. of industrial chemicals: blending cone and drum filling station	September 17, 1997*
PA040182Z	Fusion soap reactor tank	November 21, 2000
PA083289Z	Production of triphenyl phosphites	September 25, 1999
PA024090L	Raw material blending cone #2	June 5, 1999
PA024190Z	Mfg. of industrial chemicals: reactor tank and 7 high X8	June 5, 1999
PA039582J	Mfg. of industrial chemicals: tote/tilt bin station	September 17, 2000
PA040282X	Scrubber unit on reactor tank	February 11, 1999
PA195372X	Grinding and blending of fatty acid soaps	April 7, 1999
PA195272Z	Venting of hydrogen chloride gas from reactor	April 7, 1999
PA195172L	Grinding of fatty acid soaps	April 7, 1999
PA195072Y	Mfg. of vinyl stabilizer: process reactor	April 7, 1999

*Renewal to extend permit to September 17, 2000 is pending inspection by the NYDEP Bureau of Air.

(1) Table obtained from Flour Daniel GTI "Phase I Environmental Site Assessment" dated March 1998.

Table 2

WITCO - Brooklyn
633 Court Street
June 1998 through March 1999
Volatile Organic Soil Sample Results

Sample Designation:			SB-4		SB-4		SB-5		SB-5		SB-6		SB-6		SB-7		SB-7		SB-8	
Sample Depth (ft bgs):			0-2		4-6		0-2		2-4		0-2		2-4		0-2		2-4		0-2	
NYSDEC*			USEPA																	
Recommended Soil			Risk-Based																	
Cleanup Objectives			Concentrations																	
Sample Date:			7/1/98		7/1/98		6/30/98		6/30/98		6/30/98		6/30/98		6/30/98		6/30/98		6/30/98	
Parameter (Concentrations in µg/kg)																				
Benzene	60	197,000	6	U	15000	U	6	U	3600	U	5	U	6	U	31	U	13000	U	6	U
Toluene	100,000 1,500 700	408,800,000	6	U	15000	U	6	U	3600	U	5	U	6	U	31	U	3600	J	6	U
Ethylbenzene	30,000 5,500 1000	204,400,000	1	J	15000		6	U	3600	U	5	U	6	U	12	J	5600	J	6	U
Xylenes (total)	100,000 1,200 260	4,088,000,000	3	J	15000		6	U	3600	U	5	U	6	U	44		28000		6	U
1,2-Dichloroethene (total)	300	18,396,000	0.7	J	15000	U	6	U	3600	U	5	U	6	U	31	U	13000	U	6	U
2-Butanone	300	12,264,000,000	3	J	28000	U	11	B	7000	U	3	JB	13	U	62	U	26000	U	2	JB
2-Hexanone	NLE	81,760,000	11	U	28000	U	11	U	7000	U	11	U	13	U	62	U	26000	U	11	U
4-Methyl-2-Pentanone	100	NLE	11	U	28000	U	11	U	7000	U	11	U	13	U	62	U	26000	U	11	U
Acetone	100,000 200 50	204,400,000	11	U	28000	U	60	B	7000	U	11	U	52	B	460	B	26000	U	11	U
Bromoform	NLE	724,000	6	U	15000	U	6	U	3600	U	5	U	6	U	31	U	13000	U	6	U
Chloroform	300	938,000	6	U	15000	U	6	U	3600	U	5	U	6	U	31	U	13000	U	6	U
Methylene Chloride	100	763,000	6	U	15000	U	3	JB	3600	U	2	JB	2	JB	11	JB	13000	U	9	B
Styrene	NLE	408,800,000	6	U	15000	U	6	U	3600	U	5	U	6	U	31	U	13000	U	6	U
Tetrachloroethene	1,400	110,000	0.9	J	15000	U	6	U	3600	U	5		4	J	31	U	13000	U	6	U
Trichloroethene	700	520,000	6	U	15000	U	6	U	3600	U	5	U	6	U	31	U	13000	U	6	U

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

J - Estimated value

X - Matrix spike compound

MSF - Matrix spike

NLE - No level established

MDF - Matrix spike duplicate

ft bgs - Feet below ground surface

B - Analyte present in method blanks and sample

MS - Matrix spike

MSD - Matrix spike duplicate

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 2

WITCO - Brooklyn
633 Court Street
June 1998 through March 1999
Volatile Organic Soil Sample Results

Sample Designation:			SB-1		SB-1		SB-2		FIELD DUP #5		SB-2		SB-2MDF		SB-2MSF		SB-3		SB-3	
Sample Depth (ft bgs):			0-2		2-4		0-2		0-2		2-4		2-4		2-4		0-2		2-4	
			NYSDEC*		USEPA															
			Recommended Soil		Risk-Based															
			Cleanup Objectives		Concentrations															
Sample Date:			6/29/98		6/29/98		7/1/98		7/1/98		7/1/98		7/1/98		7/1/98		7/1/98		7/1/98	
Parameter (Concentrations in µg/kg)																				
Benzene	60	197,000	6	U	6	U	6	U	6	U	6	U	54	X	57	X	6900	U	7100	U
Toluene	1,500	408,800,000	6	U	6	U	6	U	6	U	6	U	52	X	57	X	6900	U	7100	U
Ethylbenzene	5,500	204,400,000	6	U	6	U	0.7	J	0.5	J	6	U	53		58		6900	U	7100	U
Xylenes (total)	1,200	4,088,000,000	6	U	0.8	J	1	J	1	J	6	U	160		170		6900	U	7100	U
1,2-Dichloroethene (total)	300	18,396,000	0.7	J	6	U	6	U	6	U	6	U	100		110		6900	U	7100	U
2-Butanone	300	12,264,000,000	3	JB	1	JB	2	J	2	J	2	J	110		120		13000	U	14000	U
2-Hexanone	NLE	81,760,000	12	U	11	U	11	U	11	U	11	U	95		99		13000	U	14000	U
4-Methyl-2-Pentanone	100	NLE	12	U	11	U	11	U	11	U	11	U	80		84		13000	U	14000	U
Acetone	200	204,400,000	12	U	81	B	4	JB	11	B	4	JB	160	B	150	B	13000	U	14000	U
Bromoform	NLE	724,000	6	U	6	U	6	U	6	U	6	U	66		69		6900	U	7100	U
Chloroform	300	938,000	6	U	6	U	6	U	6	U	6	U	52		56		6900	U	7100	U
Methylene Chloride	100	763,000	8	B	1	JB	0.8	J	6	U	6	U	51		56		6900	U	7100	U
Styrene	NLE	408,800,000	6	U	6	U	6	U	6	U	6	U	52		57		6900	U	7100	U
Tetrachloroethene	1,400	110,000	2	J	2	J	0.6	J	6	U	6	U	58		58		6900	U	7100	U
Trichloroethene	700	520,000	6	U	6	U	6	U	6	U	6	U	53	X	56	X	6900	U	7100	U

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

J - Estimated value

X - Matrix spike compound

MSF - Matrix spike

NLE - No level established

MDF - Matrix spike duplicate

ft bgs - Feet below ground surface

B - Analyte present in method blanks and sample

MS - Matrix spike

MSD - Matrix spike duplicate

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 2

ITCO - Brooklyn
 3 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results

Sample Designation:			SB-8	MW-11	FIELD REP	MW-11	MW-11MS	MW-11MSD	A-05	A-05 MS	A-05 MSD									
Sample Depth (ft bgs):			2-4	0-2	0-2	2-4	0-2	0-2	0-2	0-2	0-2									
NYSDEC* Recommended Soil Cleanup Objectives			USEPA Risk-Based Concentrations																	
Sample Date:			6/30/98	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98	3/18/99	3/18/99	3/18/99									
Parameter (Concentrations in µg/kg)																				
Acetone	60	197,000	7000	U	1	J	7	1	J	69	X	67	X	2.2		54	X	62	X	
Benzene	1,500	408,800,000	7000	U	0.9	J	3	J	0.7	J	62	X	63	X	1.7	J	55	X	66	X
Biphenylbenzene	5,500	204,400,000	7000	U	6	U	0.6	J	6	U	6	U	6	U	4.3	U	49		56	
Chlorobenzenes (total)	1,200	4,088,000,000	7000	U	0.6	J	2	J	0.6	J	6	U	0.5	J	2.5	J	130		160	
1,2-Dichloroethene (total)	300	18,396,000	7000	U	6	U	6	U	6	U	6	U	6	U	5.4	U	48		58	
Butanone	300	12,264,000,000	14000	U	9	J	12	U	6	J	12	U	12	U	5.4	U	38		42	
Hexanone	NLE	81,760,000	14000	U	21		16		15		12	U	15		5.4	U	59		74	
Methyl-2-Pentanone	100	NLE	14000	U	9	J	6	J	5	J	12	U	4	J	5.4	U	52		60	
Methyl Ethyl Ketone	200	204,400,000	14000	U	55		39		12	U	12	U	12	U	5.4	U	37		43	
Monochloroform	NLE	724,000	7000	U	6	U	6	U	6	U	6	U	6	U	4.3	U	53		62	
Polychloroform	300	938,000	7000	U	6	U	0.2	J	0.1	J	6	U	6	U	5.4	U	46		55	
Trichloroethylene	100	763,000	7000	U	3	JB	2	JB	6	U	0.8	JB	0.9	J	1.9	J	39		46	
1,1,1-Trichloroethene	NLE	408,800,000	7000	U	6	U	0.2	J	6	U	6	U	6	U	5.4	U	44		52	
1,1,2-Trichloroethene	1,400	110,000	7000	U	8		32		20		6	U	9		1.1	U	46		54	
1,1,1,2-Tetrachloroethene	700	520,000	7000	U	3	J	6		3	J	56	X	58	X	1.1	U	56	X	63	X

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

J - Estimated value

X - Matrix spike compound

MSF - Matrix spike

NLE - No level established

MDF - Matrix spike duplicate

ft bgs - Feet below ground surface

B - Analyte present in method blanks and sample

MS - Matrix spike

MSD - Matrix spike duplicate

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 2

WITCO - Brooklyn
 633 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results

Sample Designation: Sample Depth (ft bgs):			A-05 4-6	A-05 MS 4-6	A-05 MSD 4-6			
	NYSDEC* Recommended Soil Cleanup Objectives	USEPA Risk-Based Concentrations						
Sample Date:			3/18/99	3/18/99	3/18/99			
Parameter (Concentrations in µg/kg)								
Benzene	60	197,000	1.6		55	X	58	X
Toluene	1,500	408,800,000	1.6	J	58	X	60	X
Ethylbenzene	5,500	204,400,000		U	48	J	52	J
Xylenes (total)	1,200	4,088,000,000		U	140	J	140	J
1,2-Dichloroethene (total)	300	18,396,000		U	48	J	52	J
2-Butanone	300	12,264,000,000	5.9	U	28	J	37	J
2-Hexanone	NLE	81,760,000	5.9	U	50	J	60	J
4-Methyl-2-Pentanone	100	NLE	5.9	U	40	J	50	J
Acetone	200	204,400,000	5.9	U	30	J	36	J
Bromoform	NLE	724,000	4.7	U	45	J	54	J
Chloroform	300	938,000	5.9	U	49	J	55	J
Methylene Chloride	100	763,000	2.5	J	40	J	53	J
Styrene	NLE	408,800,000	5.9	U	43	J	47	J
Tetrachloroethene	1,400	110,000	1.2	U	46	J	50	J
Trichloroethene	700	520,000	1.2	U	58	X	60	X

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

J - Estimated value

X - Matrix spike compound

MSF - Matrix spike

NLE - No level established

MDF - Matrix spike duplicate

ft bgs - Feet below ground surface

B - Analyte present in method blanks and sample

MS - Matrix spike

MSD - Matrix spike duplicate

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 3

ITCO - Brooklyn
 3 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results - TLCP

Sample Designation:		SB-1		SB-1		SB-2		FIELD DUP #5		SB-2		SB-2MS		SB-2MSD		SB-3		SB-3DL		SB-3		SB-3DL		SB-4	
Sample Depth (ft bgs):		0-2		2-4		0-2		0-2		2-4		2-4		2-4		0-2		0-2		2-4		2-4		0-2	
TCLP* Extraction Guidance Value		USEPA Risk-Based Concentrations																							
Sample Date:		6/29/98		6/29/98		7/1/98		7/1/98		7/1/98		7/1/98		7/1/98		7/1/98		7/1/98		7/1/98		7/1/98		7/1/98	
Parameter (Concentrations in µg/L)																									
Benzene	0.7	0.68	U	0.68	U	0.68	U	0.68	U	3	54	50	5	6.8	U	5		6.8	U	0.68	U				
Toluene	5	0.85	U	0.85	U	1		94		46	50	47	1	8.5	U	0.85	U	8.5	U	2	U				
Ethylbenzene	5	1	U	0.6	J	0.7	J	1	J	2	50	45	14	9	JD	11		6	JD	2					
Aromatics (total)	5	3.7	U	2	J	6		6		10	150	130	11	37	U	8		37	U	4					
2,4-Trimethylbenzene	5	1.3	U	4		2		1		4	0.7	J	0.7	J	22	14	D	6	3	JD	9				
3,5-Trimethylbenzene	5	1.3	U	1		1	J	1		2	0.5	J	0.5	J	1	13	U	1	J	13	U	3			
Isopropylbenzene	5	1.2	U	0.4	J	1.2	U	1.2	U	1.2	U	1.2	U	25	16	D	27	13	D	1.2	U				
Butylbenzene	5	1.2	U	0.3	J	0.5	J	1.2	U	1.2	U	1.2	U	13	10	JD	14	7	JD	0.8	J				
Propylbenzene	5	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	49	40	D	53	31	D	1.6	U				
Naphthalene	10	25		300		22		35		120	91	93	930	E	1100	D	660	E	510	D	160				
Isopropyltoluene	5	1.4	U	0.5	J	1.4	U	1.4	U	1.4	U	1.4	U	3	14	U	1	J	14	U	0.5	J			
sec-Butylbenzene	5	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	15	10	JD	17	8	JD	1.3	U				
tert-Butylbenzene	5	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	20	14	JD	20	11	JD	1.4	U				

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

E - Exceeds calibration curve range

X - Matrix spike compound

FMS - Matrix spike

FMD - Matrix spike duplicate

ft bgs - Feet below ground surface

DL - Diluted sample

D - Diluted sample analytical result

RE - Reanalysis

MS - Matrix spike

MSD - Matrix spike duplicate

T - Compound Present in TCLP blank

B - Analyte present in method blanks and sample

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 3

WITCO - Brooklyn
633 Court Street
June 1998 through March 1999
Volatile Organic Soil Sample Results - TLCP

Sample Designation:	SB-4	SB-4DL25	SB-4DL1K	SB-5	SB-5	SB-5DL	SB-6	SB-6	SB-7	SB-7	SB-7DL	SB-8												
Sample Depth (ft bgs):	4-6	4-6	4-6	0-2	2-4	2-4	0-2	2-4	0-2	2-4	2-4	0-2												
TCLP* Extraction Guidance Value																								
Sample Date:	7/1/98	7/1/98	7/1/98	6/30/98	6/30/98	6/30/98	6/30/98	6/30/98	6/30/98	6/30/98	6/30/98	6/30/98												
Parameter (Concentrations in µg/L)																								
Benzene	0.7	42	28	D	680	U	0.68	U	0.68	U	3.4	U	0.68	U	0.68	U	2	48	340	U	0.68	U		
Toluene	5	5	21	U	850	U	0.85	U	0.8	J	4.2	U	0.85	U	0.85	U	1	240	420	U	2	J		
Ethylbenzene	5	300	E	230	D	1000	U	1	U	2	3	JD	1	U	1	U	1	140	500	U	0.8	J		
Xylenes (total)	5	380		280	D	3700	U	3.7	U	9	8	JD	3.7	U	3.7	U	3.7	U	530	1800	U	2	J	
1,2,4-Trimethylbenzene	5	430	E	370	D	1300	U	0.4	J	110	120	D	1.3	U	1.3	U	1	220	220	JD	2			
1,3,5-Trimethylbenzene	5	92		52	D	1300	U	1.3	U	52	51	D	1.3	U	1.3	U	0.5	J	130	660	U	0.9	J	
Isopropylbenzene	5	41		23	JD	1200	U	1.2	U	3	3	JD	1.2	U	1.2	U	1.2	U	9	580	U	1.2	U	
n-Butylbenzene	5	15		10	JD	1200	U	0.8	J	10	11	D	1.2	U	1.2	U	1.2	U	8	610	U	1.2	U	
n-Propylbenzene	5	32		39	U	1600	U	1.6	U	9	8	D	1.6	U	1.6	U	1.6	U	10	780	U	1.6	U	
Naphthalene	10	3000	E	12000	ED	12000	D	27	320	E	1000	D	23		4		38	2100	E	6800	D	380	E	
p-Isopropyltoluene	5	58		32	JD	1400	U	1.4	U	12	11	D	1.4	U	1.4	U	1.4	U	16	710	U	1.4	U	
Sec-Butylbenzene	5	8		32	U	1300	U	0.5	J	6	6	JD	1.3	U	1.3	U	1.3	U	1.3	U	640	U	1.3	U
Tert-Butylbenzene	5	1.4	U	35	U	1400	U	0.5	J	11	6	JD	1.4	U	1.4	U	1.4	U	1.4	U	700	U	1.4	U

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

E - Exceeds calibration curve range

X - Matrix spike compound

FMS - Matrix spike

FMD - Matrix spike duplicate

ft bgs - Feet below ground surface

DL - Diluted sample

D - Diluted sample analytical result

RE - Reanalysis

MS - Matrix spike

MSD - Matrix spike duplicate

T - Compound Present in TCLP blank

B - Analyte present in method blanks and sample

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 3

WITCO - Brooklyn
 33 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results - TLCP

Sample Designation:	SB-8DL	SB-8	SB-8DL	MW-11	FIELD REP	FIELD REP RE	MW-11	MW-11FMD	MW-11FMS	MW-11MS	MW-11MSD
Sample Depth (ft bgs):	0-2	2-4	2-4	0-2	0-2	0-2	2-4	0-2	0-2	0-2	0-2
TCLP* Extraction Guidance Value											
Sample Date:	6/30/98	6/30/98	6/30/98	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98
Parameter (Concentrations in µg/L)											
Benzene	0.7	3.4 U	0.68 U	170 U	12	3	4	8	57 X	58 X	52 X
Toluene	5	4.2 U	0.85 U	210 U	6 T	2 T	2	8 T	57 T	53 T	49
Ethylbenzene	5	5 U	15	250 U	1 U	4 T	1 U	1 U	49 T	53 T	52
Xylenes (total)	5	18 U	30	920 U	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	5	2 JD	120	80 JD	1 T	0.6 JT	0.2 J	0.8 JT	51 T	56 T	54
1,3,5-Trimethylbenzene	5	6.6 U	1.3 U	330 U	1 T	0.6 JT	0.3 J	1 U	52 T	54 T	52
Isopropylbenzene	5	5.8 U	9	290 U	1 U	1 U	1 U	1 U	43 T	54 T	59
n-Butylbenzene	5	6.1 U	15	300 U	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	5	7.8 U	14	390 U	NA	NA	NA	NA	NA	NA	NA
Naphthalene	10	510 D	2300 E	6500 D	4 T	3 T	2 BT	8 T	63 T	59 T	61 BT
n-Isopropyltoluene	5	7.1 U	15	360 U	1 U	1 U	1 U	1 U	55	59	52
sec-Butylbenzene	5	6.4 U	8	320 U	1 U	0.5 J	1 U	1 U	50	53	54 B
tert-Butylbenzene	5	7 U	13	350 U	0.4 J	1 U	1 U	1 U	55	59	52 B

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

E - Exceeds calibration curve range

X - Matrix spike compound

FMS - Matrix spike

FMD - Matrix spike duplicate

ft bgs - Feet below ground surface

DL - Diluted sample

D - Diluted sample analytical result

RE - Reanalysis

MS - Matrix spike

MSD - Matrix spike duplicate

T - Compound Present in TCLP blank

B - Analyte present in method blanks and sample

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 3

WITCO - Brooklyn
 633 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results - TLCP

Sample Designation:		MW-11RE	MW-11RE	A-05	DUP-2	A-05 MS	A-05 MSD	A-05	A-05 MS	A-05 MSD								
Sample Depth (ft bgs):		0-2	2-4	0-2	0-2	0-2	0-2	4-6	4-6	4-6								
TCLP*																		
Extraction Guidance																		
Value																		
Sample Date:		8/25/98	8/25/98	3/18/99	3/18/99	3/18/99	3/18/99	3/18/99	3/18/99	3/18/99								
Parameter (Concentrations in µg/L.)																		
Benzene	0.7	2	13	0.001	U	0.001	U	45	X	48	X	0.001	U	45	X	48	X	
Toluene	5	3	9	0.005	U	0.005	U	51		51		0.005	U	50		50		
Ethylbenzene	5	0.9	J	8	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U	0.004	U
Xylenes (total)	5	NA		NA	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,2,4-Trimethylbenzene	5	2		0.6	J	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	
1,3,5-Trimethylbenzene	5	0.7	J	0.3	J	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	
Isopropylbenzene	5	1	U	1	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	
n-Butylbenzene	5	NA		NA	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
n-Propylbenzene	5	NA		NA	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Naphthalene	10	7	BT	4	BT	0.02	0.0094	0.005	U	0.005	U	0.0029	J	0.005	U	0.005	U	
p-Isopropyltoluene	5	1	U	1	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	
Sec-Butylbenzene	5	1	U	1	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	
Tert-Butylbenzene	5	1	U	1	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

E - Exceeds calibration curve range

X - Matrix spike compound

FMS - Matrix spike

FMD - Matrix spike duplicate

ft bgs - Feet below ground surface

DL - Diluted sample

D - Diluted sample analytical result

RE - Reanalysis

MS - Matrix spike

MSD - Matrix spike duplicate

T - Compound Present in TCLP blank

B - Analyte present in method blanks and sample

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 4

WITCO - Brooklyn
633 Court Street
June 1998 through March 1999
Semi-Volatile Organic Soil Sample Results

Sample Designation:			MW-11	FIELD REP	FIELD REPD	MW-11	MW-11MS	MW-11MSD	MW-11RE							
Sample Depth (ft bgs):			0-2	0-2	0-2	2-4	0-2	0-2	2-4							
NYSDEC* Recommended Soil Cleanup Objectives			USEPA Risk-Based Concentrations													
Sample Date:			8/25/98	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98							
Parameter (Concentrations in µg/kg)																
2-Methylnaphthalene	36,400	40,880,000	210	J	230	J	15000	U	220	J	220	J	260	J	7800	U
Acenaphthene	50,000	120,640,000	220	J	670	J	740	J	460	J	2000	JX	2200	JX	510	J
Acenaphthylene	41,000	NLE	2200	J	4800	J	4700	J	4200	J	1100	J	1600	J	4100	J
Anthracene	50,000	613,200,000	1500	J	5200	J	4200	J	3700	J	550	J	830	J	3600	J
Benzo(a)anthracene	224**	8,000	8600		22000		19000		16000		1800	J	2700	J	15000	
Benzo(a)pyrene	61**	1,000	23000		62000		51000		52000		4300		6300		49000	
Benzo(b)fluoranthene	1,100	8,000	23000		61000		36000		47000		3600		5400		46000	
Benzo(g,h,i)perylene	50,000	NLE	3500		10000		24000		11000		4200		3500		11000	
Benzo(k)fluoranthene	1,100	78,000	6400		24000		17000		23000		2400	J	3100		14000	
Carbazole	NLE	286,000	200	J	460	J	15000	U	430	J	3000	U	3000	U	510	J
Chrysene	400	784,000	12000		28000		28000		26000		3500		4200		24000	
Dibenzo(a,h)anthracene	14**	1,000	2400	J	6900	J	14000	J	7000	J	2400	J	2300	J	7000	J
Dibenzofuran	6,200	8,176,000	210	J	370	J	330	J	240	J	170	J	200	J	230	J
Fluoranthene	50,000	81,760,000	11000		32000		27000		25000		1700	J	2800	J	24000	
Fluorene	50,000	81,760,000	94	J	410	J	460	J	230	J	3000	U	3000	U	7800	U
Indeno(1,2,3-cd)pyrene	3,200	8,000	3800		12000		25000		12000		4000		3700		12000	
N-Nitroso-di-n-propylamine	NLE	1,000	3000	U	7700	U	15000	U	7800	U	3000	X	2900	JX	7800	U
Naphthalene	13,000	40,880,000	1000	J	820	J	860	J	720	J	1000	J	1200	J	740	J
Phenanthrene	50,000	NLE	2800	J	9800	J	8700	J	5700	J	1000	J	1400	J	5700	J
Phenol	30**	1,226,400,000	7900	B	8300	B	7800	JB	12000	B	14000	BX	15000	BX	11000	B
Pyrene	50,000	61,320,000	8100		27000		27000		21000		4000	X	4500	X	20000	

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

E - Exceeds calibration curve range

X - Matrix spike compound

FMS - Matrix spike

FMD - Matrix spike duplicate

ft bgs - Feet below ground surface

* - Bolded numbers exceed the NYSDEC Cleanup level

DL - Diluted sample

D - Diluted sample analytical result

RE - Reanalysis

MS - Matrix spike

MSD - Matrix spike duplicate

T - Compound present in TCLP blank

B - Analyte present in method blanks and sample

NLE - No level established

** - or method detection limit, if higher than standard

Table 5

WITCO - Brooklyn
 133 Court Street
 June 1998 through March 1999
 Semi-Volatile Organic Soil Sample Results - TLCP

Sample Designation:	SB-1	SB-1	SB-2	FIELD DUP #5	SB-2	SB-2MSF	SB-2MDF	SB-3	SB-3	SB-4											
Sample Depth (ft bgs):	0-2	2-4	0-2	0-2	2-4	2-4	2-4	0-2	2-4	0-2											
TCLP* Extraction Guidance Value																					
Sample Date:	6/29/98	6/29/98	7/1/98	7/1/98	7/1/98	7/1/98	7/1/98	7/1/98	7/1/98	7/1/98											
Parameter (Concentrations in µg/L)																					
Acenaphthene	20	21	200	E	38	42	120	200	X	180	X	16	J	21	J	26	J				
Anthracene	50	12	32		17	17	35	J	120	X	120	X	2.9	J	2	J	8.5	J			
Benzo(a)anthracene	0.002	12	U	20	U	1.2	J	1.1	J	47	U	85	X	81	X	47	U	240	U	47	U
Chrysene	0.002	12	U	20	U	1.1	J	0.9	J	47	U	85	X	77	X	47	U	240	U	47	U
Fluoranthene	50	13		27	J	17		17		29	J	100	X	100	X	3.9	J	190	U	8.9	J
Fluorene	50	21		120		28		28		86		170	X	160	X	11	J	220	U	18	J
Naphthalene	10	7	J	220	E	79		100		520		600	X	570	X	520		1900		590	
Phenanthrene	50	50		200	E	60		62		170		250	X	230	X	16	J	11	J	43	
Pyrene	50	7	J	17	J	12		11		19	J	100	X	99	X	2.5	J	200	U	5.8	J

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

E - Exceeds calibration curve range

X - Matrix spike compound

MSF - Matrix spike

MDF - Matrix spike duplicate

ft bgs - Feet below ground surface

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 5

WITCO - Brooklyn
 633 Court Street
 June 1998 through March 1999
 Semi-Volatile Organic Soil Sample Results - TLCP

Sample Designation:	SB-4	SB-5	SB-5	SB-6	SB-6	SB-7	SB-7	SB-8	SB-8	MW-11	
Sample Depth (ft bgs):	4-6	0-2	2-4	0-2	2-4	0-2	2-4	0-2	2-4	0-2	
TCLP* Extraction Guidance Value											
Sample Date:	7/1/98	6/30/98	6/30/98	6/30/98	6/30/98	6/30/98	6/30/98	6/30/98	6/30/98	8/25/98	
Parameter (Concentrations in µg/L)											
Acenaphthene	20	120	J	12	12	11	U	11	U	11	U
Anthracene	50	30	J	4.2	J	5.2	J	0.5	J	10	U
Benzo(a)anthracene	0.002	240	U	12	U	12	U	12	U	12	U
Chrysene	0.002	240	U	12	U	12	U	12	U	300	U
Fluoranthene	50	20	J	8.9	J	7.6	J	1	J	9	U
Fluorene	50	97	J	10	J	9.2	J	11	U	11	U
Naphthalene	10	2400		11	150	1	J	5	J	4.3	J
Phenanthrene	50	130	J	23	23	2	J	10	U	0.4	J
Pyrene	50	11	J	5.8	J	4.9	J	0.8	J	10	U

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

E - Exceeds calibration curve range

X - Matrix spike compound

MSF - Matrix spike

MDF - Matrix spike duplicate

ft bgs - Feet below ground surface

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 5

WITCO - Brooklyn
 633 Court Street
 June 1998 through March 1999
 Semi-Volatile Organic Soil Sample Results - TLCP

Sample Designation:		FIELD REP		MW-11		MW-11MSF		MW-11MDF		A-05		A-05 MS/MSD		A-05		DUP-3		A-05 MS/MSD		FB-2	
Sample Depth (ft bgs):		0-2		2-4		0-2		0-2		0-2		0-2		4-6				4-6			
	TCLP* Extraction Guidance Value																				
Sample Date:		8/25/98		8/25/98		8/25/98		8/25/98		3/18/99		3/18/99		3/18/99		3/18/99		3/18/99		3/18/99	
Parameter (Concentrations in µg/L)																					
Acenaphthene	20	11	U	11	U	61		70		83		40	U	40	U	3.4	J	40	U	40	U
Anthracene	50	0.5	J	0.4	J	65		78		28	J	40	U	40	U	2.4	J	40	U	40	U
Benzo(a)anthracene	0.002	12	U	12	U	66		79		0.9	J	40	U	4	U	4	U	40	U	40	U
Chrysene	0.002	12	U	12	U	68		81		40	U	40	U	40	U	40	U	40	U	40	U
Fluoranthene	50	0.4	J	9	U	65		77		21	J	40	U	40	U	4	J	40	U	40	U
Fluorene	50	11	U	11	U	64		73		62		40	U	40	U	2.7	J	40	U	40	U
Naphthalene	10	2	J	2	J	60		68		240		40	U	40	U	1.2	J	40	U	40	U
Phenanthrene	50	0.6	J	0.3	J	67		79		140		40	U	40	U	12	J	40	U	40	U
Pyrene	50	0.4	J	10	U	64		77		16	J	40	U	40	U	2.6	J	40	U	40	U

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

E - Exceeds calibration curve range

X - Matrix spike compound

MSF - Matrix spike

MDF - Matrix spike duplicate

ft bgs - Feet below ground surface

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 6

WITCO - Brooklyn
633 Court Street
June 1998 through March 1999
Soil Sample Results - Metals

PAI 395-6.8(4)

Sample Designation:				SB-1		SB-1		SB-2		FIELD DUP #5		SB-2		SB-2D		SB-2S		SB-3		SB-3		SB-4	
Sample Depth (ft bgs):				0-2		2-4		0-2		0-2		2-4		2-4		2-4		0-2		2-4		0-2	
NYSDEC* Recommended Soil Cleanup Objectives				USEPA Risk-Based Concentrations																			
Sample Date:				6/26/98		6/29/98		7/1/98		7/1/98		7/1/98		7/1/98		7/1/98		7/1/98		7/1/98		7/1/98	
Parameter (Concentrations in mg/kg)																							
Arsenic	13	7.5	4	12.8	N	5	N	8.7		5.4		5.8		6.2	19.5	8.5	14.4	13.8					
Barium		300	143,080	590		143		113		92.2		39	B	811	630	193	246	226					
Cadmium		1	1,022	18.9	***	0.32	U	36.8	N	38.6	N	0.3	UN	0.3	U	2.1	N	37	N	45	N	108	N
Chromium		10	3,066,000	14.4		9.7		19.9		7.7		8.1		10.1	68.5	11	18.5	17.6					
Lead	63	500	NLE	269	***	108	U	92		72.9		76.1		84	128	311	618	267					
Mercury	18	0.1	NLE	0.6		0.15		0.62	N	0.44	N	0.14	UN	0.14	U	1.1	N	1.5	N	2.1	N	2	N
Selenium	3.9	2	10,220	2.7	N	1.2	BN	2.3	N	1.3	BN	1.4	BN	2.2	5.4	N	1.6	N	2.9	N	2.6	N	
Silver		NLE	10,220	0.27	U	0.32	U	0.3	U	0.28	U	0.3	U	0.3	U	15.4	0.3	U	0.32	U	0.31	U	

mg/kg - Milligrams per kilogram

U - Compound was analyzed for but not detected

N - Spiked sample recovery not within control limits

B - Indicates a value greater than or equal to the instrument detection limit,
but less than the contract required detection limit

X - Matrix spike compound

S - Matrix spike

D - Matrix spike duplicate

ft bls - Feet below land surface

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

NLE - No level established

Table 6

WITCO - Brooklyn
 33 Court Street
 June 1998 through March 1999
 Soil Sample Results - Metals

Sample Designation:		SB-4	SB-5	SB-5	SB-6	SB-6	SB-7	SB-7	SB-8	SB-8	MW-11											
Sample Depth (ft bgs):		4-6	0-2	2-4	0-2	2-4	0-2	2-4	0-2	2-4	0-2											
NYSDEC* Recommended Soil Cleanup Objectives		USEPA Risk-Based Concentrations																				
Sample Date:		7/1/98	6/30/98	6/30/98	6/30/98	6/30/98	6/30/98	6/30/98	6/30/98	6/30/98	8/25/98											
Parameter (Concentrations in mg/kg)																						
Arsenic	7.5	4	5	5	3.9	5.9	N	3.5	N	14.6	8.5	5.5	6.6	6.2								
Barium	300	143,080	80.4	46.6	B	182	B	79.5	12.4	B	61.7	193	100	51.3	B	411						
Cadmium	1	1,022	15	N	0.26	UN	21.9	N	5.8	0.24	U	35.1	N	4.8	N	14.7	N	7.8	N	340		
Chromium	10	3,066,000	7	15.6	10.7	13.8	8.3	16.4	18.3	12.4	10.8	16.3										
Copper	500	NLE	117	73.7	31.9	65.8	17.4	185	345	156	162	178										
Mercury	0.1	NLE	112	N	0.15	N	0.14	UN	0.21	0.087	U	2.1	N	2.4	N	0.84	N	1.1	N	1.2	N	
Selenium	2	10,220	1.3	BN	1.2	BN	1.4	BN	1.1	BN	0.48	UN	3.4	N	2.4	N	1.9	N	2.9	N	1.5	N
Silver	NLE	10,220	0.34	U	0.26	U	0.37	U	0.33	U	0.24	U	0.28	U	0.26	U	0.26	U	0.49	U	0.23	U

mg/kg - Milligrams per kilogram

U - Compound was analyzed for but not detected

N - Spiked sample recovery not within control limits

B - Indicates a value greater than or equal to the instrument detection limit,
 but less than the contract required detection limit

X - Matrix spike compound

S - Matrix spike

D - Matrix spike duplicate

ft bgs - Feet below land surface

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

NLE - No level established

ble 6

TCO - Brooklyn
3 Court Street
re 1998 through March 1999
il Sample Results - Metals

Sample Designation:			FIELD REP		MW-11	MW-11D	MW-11S	A-05	A-05	A-05	A-05S	A-05SD			
Sample Depth (ft bgs):			0-2		2-4	0-2	0-2	0-2	4-6	0-2	0-2	0-2			
NYSDEC* Recommended Soil Cleanup Objectives			USEPA Risk-Based Concentrations												
Sample Date:			8/25/98		8/25/98	8/25/98	8/25/98	3/19/99	3/19/99	3/19/99	3/19/99	3/19/99			
Parameter (Concentrations in mg/kg)															
senic	7.5	4	4.1		6	5.2	13	3.6	3.4	3.6		3.62	X	3.62	X
rium	300	143,080	170		111	271	677	55.2	48.6	55.2		55.19	X	55.19	X
admium	1	1,022	69.8		30	209	222	4.1	0.11	U	4.1	N***	X	4.1	X
romium	10	3,066,000	36.9		24.9	14.9	53.8	11.8	11	11.8		11.76	X	11.76	X
ad	500	NLE	280		220	185	181	45.8	55.1	45.8		45.75	X	45.75	X
ercury	0.1	NLE	4.5	N	1	N	1.6	N	0.16	0.19	0.16	0.15	X	0.15	X
lenium	2	10,220	1.5	N	2.2	N	1.6	2.8	N	1.1	U	1.1	UN	1.05	UX
lver	NLE	10,220	0.19	U	0.19	U	0.22	U	0.36	U	0.36	U	0.36	0.35	UX

mg/kg - Milligrams per kilogram

U - Compound was analyzed for but not detected

N - Spiked sample recovery not within control limits

B - Indicates a value greater than or equal to the instrument detection limit,
but less than the contract required detection limit

X - Matrix spike compound

S - Matrix spike

D - Matrix spike duplicate

ft bls - Feet below land surface

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

NLE - No level established

Table 6

WITCO - Brooklyn
633 Court Street
June 1998 through March 1999
Soil Sample Results - Metals

Sample Designation:		A-05	A-05S	A-05SD
Sample Depth (ft bgs):		4-6	4-6	4-6
	NYSDEC* Recommended Soil Cleanup Objectives	USEPA Risk-Based Concentrations		
Sample Date:		3/19/99	3/19/99	3/19/99
Parameter (Concentrations in mg/kg)				
Arsenic	7.5	4	3.4	3.4 X 3.4 X
Barium	300	143,080	48.6	48.61 X 48.61 X
Cadmium	1	1,022	0.11 JN***	0.11 U 0.11 U
Chromium	10	3,066,000	11	10.95 X 10.95 X
Lead	500	NLE	55.1	55.05 X 55.05 X
Mercury	0.1	NLE	0.19	0.19 X 0.19 X
Selenium	2	10,220	1.1 UN	1.05 U 1.05 U
Silver	NLE	10,220	0.36 U	0.35 U 0.35 U

mg/kg - Milligrams per kilogram

U - Compound was analyzed for but not detected

N - Spiked sample recovery not within control limits

B - Indicates a value greater than or equal to the instrument detection limit,
but less than the contract required detection limit

X - Matrix spike compound

S - Matrix spike

D - Matrix spike duplicate

ft bls - Feet below land surface

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

NLE - No level established

Table 7

WITCO - Brooklyn
633 Court Street
June 1998
Soil Sample Results - PCBs

Sample Designation:		SB-7	SB-7	SB-8	SB-8
Sample Depth (ft bgs):		0-2	2-4	0-2	2-4
NYSDEC*		USEPA			
Recommended Soil		Risk-Based			
Cleanup Objectives		Concentrations			
Sample Date:		6/30/98	6/30/98	6/30/98	6/30/98
Parameter(Concentrations in µg/kg)					
Aroclor-1248	10	3	0.23	0.51	5.5
					13

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

ft bgs - Feet below ground surface

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 8

VITCO - Brooklyn
 188-700 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results

Sample Designation:			HWSA-1		HWSA-2		HWSA-2RE		HWSA-3		HWSA-3RE		HWSA-4		MW-10		MW-10		MW-13	
Sample Depth (ft bgs):			0-0.7		0-1.5		0-1.5		0-1.2		0-1.2		0-0.8		0-2		2-4		0-2	
NYSDEC* Recommended Soil Cleanup Objectives			Risk-Based Risk-Based Concentrations																	
Sample Date:			9/1/98		9/1/98		9/1/98		9/1/98		9/1/98		9/1/98		8/26/98		8/26/98		8/26/98	
Parameter (Concentrations in µg/kg)																				
Benzene	60	197,000	7600	U	680	U	680	U	6	U	6	U	3	J	2	J	0.9	J	0.5	J
Toluene	1,500	408,800,000	16000		390	J	370	J	6	U	6	U	6	U	0.7	J	0.8	J	0.5	J
Ethylbenzene	5,500	204,400,000	22000		130	J	100	J	6	U	6	U	6	U	3	J	1	J	6	U
Xylenes (total)	1,200	408,800,000	370000		990		890		9		12		16		3	J	2	J	6	U
1,1,1-Trichloroethane	800	40,880,000	7600	U	10	J	680	U	6	U	6	U	6	U	6	U	6	U	6	U
1,1,2,2-Tetrachloroethane	600	220,000	7600	U	680	U	680	U	6	U	6	U	16		6	U	6	U	6	U
1,1,2-Trichloroethane	NLE	100,000	7600	U	680	U	680	U	6	U	6	U	6	U	6	U	6	U	6	U
1,2-Dichloroethene (total)	300	18,396,000	7600	U	680	U	680	U	6	U	6	U	6	U	6	U	6	U	6	U
1,2-Dichloropropane	NLE	84,000	7600	U	680	U	680	U	6	U	6	U	6	U	12		12		6	U
2-Butanone	300	12,264,000,000	15000	U	1300	U	1300	U	22		18		44		6	U	6	U	6	U
2-Hexanone	NLE	81,760,000	15000	U	1300	U	1300	U	11	U	11	U	9	J	14		12	U	11	U
4-Methyl-2-Pentanone	NLE	NLE	15000	U	1300	U	1300	U	5	J	6	J	6	J	2	J	12	U	11	U
Acetone	200	204,400,000	15000	U	1300	U	1300	U	27		14		170		86		95		40	
Bromomethane	NLE	2,862,000	15000	U	1300	U	1300	U	11	U	11	U	12	U	12	U	12	U	11	U
Carbon Disulfide	2,700	204,400,000	7600	U	680	U	680	U	6	U	6	U	2	J	0.5	J	0.9	J	0.6	J
Chloroform	300	938,000	7600	U	680	U	680	U	6	U	6	U	6	U	0.5	J	0.3	J	6	U
Chloromethane	NLE	440,000	15000	U	1300	U	1300	U	11	U	11	U	12	U	12	U	12	U	11	U
Methylene Chloride	100	763,000	410	J	680	U	680	U	6	U	6	U	6	U	2	JB	1	J	1	J
Tetrachloroethene	1,400	110,000	76	J	680	U	680	U	6	U	6	U	6	U	9		8		6	U
Trichloroethene	700	520,000	1100	J	120	JB	110	JB	6	U	6	U	6	U	1	J	2	J	6	U

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

J - Estimated value

B - Analyte present in method blanks and sample

RE - Reanalysis

X - Matrix spike Compound

MS - Matrix spike

MSD - Matrix spike duplicate

ft bgs - Feet below ground surface

MDF - Matrix spike duplicate

NLE - No level established

a - Detected but, quantitated amount Below Limit of Quantitation

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NA - Not Analyzed

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 8

WITCO - Brooklyn
 688-700 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results

Sample Designation:			MW-13		MW-13RE		MW-14		MW-14		SB-9		SB-9		SB-10		SB-10		SB-11	
Sample Depth (ft bgs):			2-4		2-4		0-2		4-6		0-2		2-4		0-2		2-4		0-2	
NYSDEC* Recommended Soil Cleanup Objectives			Risk-Based Risk-Based Concentrations																	
Sample Date:			8/26/98		8/26/98		8/25/98		8/25/98		6/29/98		6/29/98		6/29/98		6/29/98		6/19/98	
Parameter (Concentrations in µg/kg)																				
Benzene	60	197,000	0.5	J	0.5	J	6	U	6	U	6	U	6	U	6	U	7	U	6800	U
Toluene	1,500	408,800,000	1	J	0.7	J	6	U	0.2	J	6	U	6	U	6	U	3	J	6800	U
Ethylbenzene	5,500	204,400,000	6	U	6	U	6	U	6	U	6	U	6	U	6	U	7	U	1800	J
Xylenes (total)	1,200	408,800,000	1	J	0.2	J	6	U	1	J	6	U	0.8	J	6	U	7	U	2500	J
1,1,1-Trichloroethane	800	40,880,000	6	U	6	U	6	U	6	U	6	U	6	U	6	U	7	U	6800	U
1,1,2,2-Tetrachloroethane	600	220,000	6	U	6	U	6	U	6	U	6	U	6	U	6	U	7	U	6800	U
1,1,2-Trichloroethane	NLE	100,000	6	U	6	U	6	U	6	U	6	U	6	U	6	U	7	U	6800	U
1,2-Dichloroethene (total)	300	18,396,000	6	U	6	U	6	U	6	U	6	U	6	U	6	U	7	U	6800	U
1,2-Dichloropropane	NLE	84,000	6	U	6	U	6	U	6	U	6	U	6	U	6	U	7	U	6800	U
2-Butanone	300	12,264,000,000	11	U	11	U	11	U	12	U	2	J	4	J	0.9	J	31		13000	U
2-Hexanone	NLE	81,760,000	11	U	11	U	11	U	16		11	U	11	U	12	U	14	U	13000	U
4-Methyl-2-Pentanone	NLE	NLE	11	U	11	U	11	U	3	J	11	U	11	U	12	U	14	U	13000	U
Acetone	200	204,400,000	11	U	11	U	11	U	51		11	U	41	B	12	U	270	B	13000	U
Bromomethane	NLE	2,862,000	11	U	11	U	11	U	12	U	11	U	11	U	12	U	14	U	13000	U
Carbon Disulfide	2,700	204,400,000	0.6	J	6	U	6	U	6	U	6	U	6	U	6	U	5	J	6800	U
Chloroform	300	938,000	0.9	J	0.1	J	6	U	6	U	6	U	6	U	6	U	7	U	6800	U
Chloromethane	NLE	440,000	11	U	11	U	11	U	12	U	11	U	11	U	12	U	14	U	13000	U
Methylene Chloride	100	763,000	1	JB	1	J	2	JB	2	JB	0.7	J	6	U	1	J	7	U	6800	U
Tetrachloroethene	1,400	110,000	0.5	J	0.5	J	0.2	J	6	U	0.3	J	0.3	J	6	U	7	U	6800	U
Trichloroethene	700	520,000	6	U	6	U	6	U	6	U	6	U	6	U	6	U	7	U	6800	U

µg/kg - Micrograms per kilogram

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NA - Not Analyzed

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Table 8

WITCO - Brooklyn
 688-700 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results

Sample Designation:			SB-11		SB-12		SB-12		SB-13		SB-13		SB-14		FIELD DUP #3		SB-14		SB-14MS	
Sample Depth (ft bgs):			2-4		0-2		2-4		0-2		2-4		0-2		0-2		2-4		2-4	
NYSDEC* Recommended Soil Cleanup Objectives			Risk-Based Risk-Based Concentrations																	
Sample Date:			6/19/98		6/23/98		6/23/98		6/24/98		6/24/98		6/24/98		6/24/98		6/24/98		6/24/98	
Parameter (Concentrations in µg/kg)																				
Benzene	60	197,000	6	U	14000	U	14000	U	32	U	16000	U	15000	U	720	U	720	U	6400	X
Toluene	1,500	408,800,000	6	U	48000		10000	J	64		2300	J	1800	J	88	J	720	U	6600	X
Ethylbenzene	5,500	204,400,000	6	U	14000	U	14000	U	92		16000	U	15000	U	720	U	720	U	720	U
Xylenes (total)	1,200	408,800,000	6	U	35000		560000		470		16000		5000	J	200	J	720	U	720	U
1,1,1-Trichloroethane	800	40,880,000	6	U	14000	U	14000	U	32	U	16000	U	15000	U	720	U	720	U	720	U
1,1,2,2-Tetrachloroethane	600	220,000	6	U	14000	U	14000	U	32	U	16000	U	15000	U	720	U	720	U	720	U
1,1,2-Trichloroethane	NLE	100,000	6	U	14000	U	14000	U	32	U	16000	U	15000	U	720	U	720	U	720	U
1,2-Dichloroethene (total)	300	18,396,000	6	U	14000	U	14000	U	32	U	16000	U	15000	U	720	U	720	U	720	U
1,2-Dichloropropane	NLE	84,000	6	U	14000	U	14000	U	32	U	16000	U	15000	U	720	U	720	U	720	U
2-Butanone	300	12,264,000,000	10	J	27000	U	27000	U	68	B	30000	U	28000	U	1400	U	1400	U	1400	U
2-Hexanone	NLE	81,760,000	11	U	27000	U	27000	U	63	U	30000	U	28000	U	1400	U	1400	U	1400	U
4-Methyl-2-Pentanone	NLE	NLE	11	U	27000	U	27000	U	63	U	30000	U	28000	U	1400	U	1400	U	1400	U
Acetone	200	204,400,000	91		27000	U	140000		360		30000	U	28000	U	220	J	1400	U	1400	U
Bromomethane	NLE	2,862,000	11	U	27000	U	27000	U	63	U	30000	U	28000	U	1400	U	1400	U	1400	U
Carbon Disulfide	2,700	204,400,000	0.7	J	14000	U	14000	U	32	U	16000	U	15000	U	720	U	720	U	720	U
Chloroform	300	938,000	6	U	14000	U	14000	U	32	U	16000	U	15000	U	720	U	720	U	720	U
Chloromethane	NLE	440,000	11	U	27000	U	27000	U	63	U	30000	U	28000	U	1400	U	1400	U	1400	U
Methylene Chloride	100	763,000	1	JB	5300	J	14000	U	7	JB	5700	J	5800	J	480	J	720	U	720	U
Tetrachloroethene	1,400	110,000	0.6	J	14000	U	14000	U	32	U	16000	U	15000	U	720	U	720	U	720	U
Trichloroethene	700	520,000	6	U	14000	U	14000	U	32	U	16000	U	15000	U	720	U	720	U	6600	X

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NA - Not Analyzed

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Table 8

WITCO - Brooklyn
 688-700 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results

Sample Designation:			SB-14MSD		SB-15		SB-15		SB-15RE		SB-15RE		SB-16		SB-16		SB-17		SB-17	
Sample Depth (ft bgs):			2-4		0-2		2-4		0-2		2-4		0-2		2-4		0-2		2-4	
NYSDEC* Recommended Soil Cleanup Objectives			Risk-Based Risked-Base Concentrations																	
Sample Date:			6/24/98		6/23/98		6/23/98		6/23/98		6/23/98		6/24/98		6/24/98		6/25/98		6/25/98	
Parameter (Concentrations in µg/kg)																				
Benzene	60	197,000	6700	X	17000	U	15000	U	17000	U	15000	U	7100	U	860	U	6	U	6	U
Toluene	1,500	408,800,000	6800	X	17000	U	15000	U	17000	U	15000	U	7100	U	860	U	6	U	6	U
Ethylbenzene	5,500	204,400,000	720	U	17000	U	15000	U	17000	U	15000	U	7100	U	860	U	6	U	6	U
Xylenes (total)	1,200	408,800,000	720	U	24000		8400	J	22000		11000	J	2700	J	940		0.5	J	0.4	J
1,1,1-Trichloroethane	800	40,880,000	720	U	17000	U	15000	U	17000	U	15000	U	7100	U	860	U	6	U	6	U
1,1,2,2-Tetrachloroethane	600	220,000	720	U	17000	U	15000	U	17000	U	15000	U	7100	U	860	U	6	U	6	U
1,1,2-Trichloroethane	NLE	100,000	720	U	17000	U	15000	U	17000	U	15000	U	7100	U	790	J	6	U	6	U
1,2-Dichloroethene (total)	300	18,396,000	720	U	17000	U	15000	U	17000	U	15000	U	7100	U	860	U	6	U	6	U
1,2-Dichloropropane	NLE	84,000	720	U	17000	U	15000	U	17000	U	15000	U	7100	U	860	U	6	U	6	U
2-Butanone	300	12,264,000,000	1400	U	32000	U	28000	U	32000	U	28000	U	14000	U	1700	U	1	JB	2	JB
2-Hexanone	NLE	81,760,000	1400	U	32000	U	28000	U	32000	U	28000	U	14000	U	1700	U	11	U	11	U
4-Methyl-2-Pentanone	NLE	NLE	1400	U	32000	U	28000	U	32000	U	28000	U	14000	U	1700	U	11	U	11	U
Acetone	200	204,400,000	1400	U	32000	U	28000	U	32000	U	28000	U	14000	U	1700	U	11	U	11	U
Bromomethane	NLE	2,862,000	1400	U	32000	U	28000	U	32000	U	28000	U	14000	U	1700	U	11	U	11	U
Carbon Disulfide	2,700	204,400,000	720	U	17000	U	15000	U	17000	U	15000	U	7100	U	860	U	6	U	6	U
Chloroform	300	938,000	720	U	17000	U	15000	U	17000	U	15000	U	7100	U	860	U	6	U	6	U
Chloromethane	NLE	440,000	1400	U	32000	U	28000	U	32000	U	28000	U	14000	U	1700	U	11	U	11	U
Methylene Chloride	100	763,000	720	U	11000	J	15000	U	17000	U	15000	U	7100	U	530	J	1	JB	1	JB
Tetrachloroethene	1,400	110,000	720	U	17000	U	15000	U	17000	U	15000	U	7100	U	860	U	1	J	0.7	J
Trichloroethene	700	520,000	6800	X	17000	U	15000	U	17000	U	15000	U	7100	U	860	U	6	U	6	U

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Table 8

WITCO - Brooklyn
 688-700 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results

Sample Designation:			SB-18		SB-18		SB-19		SB-19		SB-20		SB-20		SB-20RE		SB-20RE		SB-21	
Sample Depth (ft bgs):			0-2		2-4		0-2		2-4		0-2		2-4		0-2		2-4		0-2	
Sample Date:			6/26/98		6/26/98		6/26/98		6/26/98		6/23/98		6/23/98		6/23/98		6/23/98		6/25/98	
Parameter (Concentrations in µg/kg)																				
	NYSDEC*	Risk-Based																		
	Recommended Soil	Risk-Based																		
	Cleanup Objectives	Risk-Based																		
		Concentrations																		
Benzene	60	197,000	7000	U	700	U	28	U	6	U	14000	U	3600	U	14000	U	3600	U	720	U
Toluene	1,500	408,800,000	16000		700	U	28	U	2	J	14000	U	2700	J	14000	U	2800	J	720	U
Ethylbenzene	5,500	204,400,000	1800	J	700	U	3	J	6	U	14000	U	2900	J	14000	U	2900	J	720	U
Xylenes (total)	1,200	408,800,000	24000		700	U	27	J	2	J	14000	U	49000		3300	J	45000		720	U
1,1,1-Trichloroethane	800	40,880,000	7000	U	700	U	28	U	6	U	14000	U	3600	U	14000	U	3600	U	720	U
1,1,2,2-Tetrachloroethane	600	220,000	7000	U	700	U	28	U	6	U	14000	U	3600	U	14000	U	3600	U	720	U
1,1,2-Trichloroethane	NLE	100,000	7000	U	700	U	28	U	6	U	14000	U	3600	U	14000	U	3600	U	720	U
1,2-Dichloroethene (total)	300	18,396,000	7000	U	700	U	28	U	6	U	14000	U	3600	U	14000	U	3600	U	720	U
1,2-Dichloropropane	NLE	84,000	7000	U	700	U	28	U	6	U	14000	U	3600	U	14000	U	3600	U	720	U
2-Butanone	300	12,264,000,000	14000	U	1300	U	35	JB	14		28000	U	6900	U	28000	U	6900	U	1400	U
2-Hexanone	NLE	81,760,000	14000	U	1300	U	57	U	12	U	28000	U	6900	U	28000	U	6900	U	1400	U
4-Methyl-2-Pentanone	NLE	NLE	14000	U	1300	U	57	U	12	U	28000	U	6900	U	28000	U	6900	U	1400	U
Acetone	200	204,400,000	14000	U	1300	U	300		110	B	12000	J	6900	U	28000	U	6900	U	1400	U
Bromomethane	NLE	2,862,000	14000	U	1300	U	57	U	12	U	28000	U	6900	U	28000	U	6900	U	1400	U
Carbon Disulfide	2,700	204,400,000	7000	U	700	U	28	U	0.6	J	14000	U	3600	U	14000	U	3600	U	720	U
Chloroform	300	938,000	7000	U	700	U	28	U	6	U	14000	U	3600	U	14000	U	3600	U	720	U
Chloromethane	NLE	440,000	14000	U	1300	U	57	U	12	U	28000	U	6900	U	28000	U	6900	U	1400	U
Methylene Chloride	100	763,000	7000	U	700	U	6	JB	1	J	14000	U	3600	U	14000	U	3600	U	720	U
Tetrachloroethene	1,400	110,000	7000	U	700	U	28	U	2	J	14000	U	3600	U	14000	U	3600	U	720	U
Trichloroethene	700	520,000	7000	U	700	U	28	U	6	U	14000	U	3600	U	14000	U	3600	U	720	U

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Table 8

WITCO - Brooklyn
 688-700 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results

Sample Designation:			SB-21	SB-22	SB-23	SB-23	SB-22	SB-24	SB-24	SB-25	FIELD DUP #4										
Sample Depth (ft bgs):			4-6	0-2	0-2	2-4	2-4	0-2	2-4	0-2	0-2										
NYSDEC* Recommended Soil Cleanup Objectives			Risk-Based Risked-Base Concentrations																		
Sample Date:			6/25/98	6/24/98	6/25/98	6/25/98	6/24/98	6/24/98	6/24/98	6/26/98	6/26/98										
Parameter (Concentrations in µg/kg)																					
Benzene	60	197,000	8500	U	13000	U	14000	U	7200	U	15000	U	14000	U	5300	J	-	6700	U	6900	U
Toluene	1,500	408,800,000	8500	U	8700	J	14000	U	7200	U	30000		7800	J	78000		36000		48000		
Ethylbenzene	5,500	204,400,000	8500	U	13000	U	14000	U	7200	U	4600	J	14000	U	4900	J	810	J	980	J	
Xylenes (total)	1,200	408,800,000	8500	U	19000		14000	U	7200	U	38000		14000		76000		12000		14000		
1,1,1-Trichloroethane	800	40,880,000	8500	U	13000	U	14000	U	7200	U	15000	U	14000	U	15000	U	6700	U	6900	U	
1,1,2,2-Tetrachloroethane	600	220,000	8500	U	13000	U	14000	U	7200	U	15000	U	14000	U	15000	U	6700	U	6900	U	
1,1,2-Trichloroethane	NLE	100,000	8500	U	13000	U	14000	U	7200	U	15000	U	14000	U	15000	U	6700	U	6900	U	
1,2-Dichloroethene (total)	300	18,396,000	8500	U	13000	U	14000	U	7200	U	15000	U	14000	U	15000	U	6700	U	6900	U	
1,2-Dichloropropane	NLE	84,000	8500	U	13000	U	14000	U	7200	U	15000	U	14000	U	15000	U	6700	U	6900	U	
2-Butanone	300	12,264,000,000	16000	U	26000	U	27000	U	14000	U	28000	U	27000	U	29000	U	13000	U	13000	U	
2-Hexanone	NLE	81,760,000	16000	U	26000	U	27000	U	14000	U	28000	U	27000	U	29000	U	13000	U	13000	U	
4-Methyl-2-Pentanone	NLE	NLE	16000	U	26000	U	27000	U	14000	U	28000	U	27000	U	29000	U	13000	U	13000	U	
Acetone	200	204,400,000	16000	U	26000	U	27000	U	14000	U	28000	U	27000	U	29000	U	13000	U	13000	U	
Bromomethane	NLE	2,862,000	16000	U	26000	U	27000	U	14000	U	28000	U	27000	U	29000	U	13000	U	13000	U	
Carbon Disulfide	2,700	204,400,000	8500	U	13000	U	14000	U	7200	U	15000	U	14000	U	15000	U	6700	U	6900	U	
Chloroform	300	938,000	8500	U	13000	U	14000	U	7200	U	15000	U	14000	U	15000	U	6700	U	6900	U	
Chloromethane	NLE	440,000	16000	U	26000	U	27000	U	14000	U	28000	U	27000	U	29000	U	13000	U	13000	U	
Methylene Chloride	100	763,000	8500	U	6900	J	14000	U	7200	U	15000	U	14000	U	15000	U	6700	U	6900	U	
Tetrachloroethene	1,400	110,000	8500	U	13000	U	14000	U	7200	U	15000	U	14000	U	15000	U	6700	U	6900	U	
Trichloroethene	700	520,000	8500	U	13000	U	14000	U	7200	U	15000	U	14000	U	15000	U	6700	U	6900	U	

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

J - Estimated value

B - Analyte present in method blanks and sample

RE - Reanalysis

X - Matrix spike compound

MS - Matrix spike

MSD - Matrix spike duplicate

ft bgs - Feet below ground surface

MDF - Matrix spike duplicate

NLE - No level established

a - Detected but, quantitated amount Below Limit of Quantitation

R - Spike/Surrogate failed recovery limits

NA - Not Analyzed

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 8

WITCO - Brooklyn
 688-700 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results

Sample Designation:			SB-25		SB-25MS		SB-25MSD		SB-26		SB-26		SB-27		SB-27		SB-28		SB-28	
Sample Depth (ft bgs):			2-4		2-4		2-4		0-2		2-4		0-2		2-4		0-2		2-4	
NYSDEC* Recommended Soil Cleanup Objectives			Risk-Based Risked-Base Concentrations																	
Sample Date:			6/26/98		6/26/98		6/26/98		6/17/98		6/17/98		6/17/98		6/17/98		6/19/98		6/19/98	
Parameter (Concentrations in µg/kg)																				
Benzene	60	197,000	7000	U	6000	JX	6200	JX	36000	U	14000	U	29	U	710	U	32000	U	20000	U
Toluene	1,500	408,800,000	42000		46000	X	45000	X	36000	U	14000	U	29	U	710	U	32000	U	20000	U
Ethylbenzene	5,500	204,400,000	820	J	970	J	820	J	36000	U	14000	U	29	U	110	J	32000	U	6600	J
Xylenes (total)	1,200	408,800,000	8000		8300		8100		36000	U	14000	U	50		180	J	21000	J	110000	
1,1,1-Trichloroethane	800	40,880,000	7000	U	7000	U	7000	U	36000	U	14000	U	29	U	710	U	32000	U	20000	U
1,1,2,2-Tetrachloroethane	600	220,000	7000	U	7000	U	7000	U	36000	U	14000	U	29	U	710	U	32000	U	20000	U
1,1,2-Trichloroethane	NLE	100,000	7000	U	7000	U	7000	U	36000	U	14000	U	29	U	710	U	32000	U	20000	U
1,2-Dichloroethene (total)	300	18,396,000	7000	U	7000	U	7000	U	36000	U	14000	U	29	U	710	U	32000	U	20000	U
1,2-Dichloropropane	NLE	84,000	7000	U	7000	U	7000	U	36000	U	14000	U	29	U	710	U	32000	U	20000	U
2-Butanone	300	12,264,000,000	13000	U	13000	U	13000	U	70000	U	28000	U	35	J	470	JB	62000	U	38000	U
2-Hexanone	NLE	81,760,000	13000	U	13000	U	13000	U	70000	U	28000	U	57	U	1400	U	62000	U	38000	U
4-Methyl-2-Pentanone	NLE	NLE	13000	U	13000	U	13000	U	70000	U	28000	U	57	U	1400	U	62000	U	38000	U
Acetone	200	204,400,000	13000	U	13000	U	13000	U	23000	J	28000	U	250		1400	U	62000	U	38000	U
Bromomethane	NLE	2,862,000	13000	U	13000	U	13000	U	70000	U	28000	U	57	U	1400	U	62000	U	38000	U
Carbon Disulfide	2,700	204,400,000	7000	U	7000	U	7000	U	36000	U	14000	U	29	U	710	U	32000	U	20000	U
Chloroform	300	938,000	7000	U	7000	U	7000	U	36000	U	14000	U	29	U	710	U	32000	U	20000	U
Chloromethane	NLE	440,000	13000	U	13000	U	13000	U	19000	J	28000	U	57	U	1400	U	62000	U	38000	U
Methylene Chloride	100	763,000	7000	U	7000	U	7000	U	36000	U	14000	U	22	JB	710	U	32000	U	20000	U
Tetrachloroethene	1,400	110,000	7000	U	7000	U	7000	U	36000	U	14000	U	29	U	710	U	32000	U	20000	U
Trichloroethene	700	520,000	7000	U	6100	JX	5800	JX	36000	U	14000	U	29	U	710	U	32000	U	20000	U

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

J - Estimated value

B - Analyte present in method blanks and sample

RE - Reanalysis

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ft bgs - Feet below ground surface

MDF - Matrix spike duplicate

NLE - No level established

a - Detected but, quantitated amount Below Limit of Quantitation

R - Spike/Surrogate failed recovery limits

NA - Not Analyzed

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 8

WITCO - Brooklyn
 688-700 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results

Sample Designation:			SB-29		SB-29		SB-30		SB-30		SB-31		SB-31		SB-32		FIELD DUP		SB-32	
Sample Depth (ft bgs):			0-2		2-4		0-2		2-4		0-2		2-4		0-2		0-2		2-4	
NYSDEC* Recommended Soil Cleanup Objectives			Risk-Based Risk-Based Concentrations																	
Sample Date:			6/17/98		6/17/98		6/18/98		6/18/98		6/19/98		6/19/98		6/22/98		6/22/98		6/22/98	
Parameter (Concentrations in µg/kg)																				
Benzene	60	197,000	5	U	6	U	7200	U	1500	U	7200	U	750	U	6	U	6	U	6	U
Toluene	1,500	408,800,000	5	U	6	U	7200	U	1500	U	7200	U	750	U	6	U	6	U	4	J
Ethylbenzene	5,500	204,400,000	5	U	6	U	2500	J	4100		7200	U	750	U	6	U	0.2	J	6	U
Xylenes (total)	1,200	408,800,000	5	U	6	U	3200	J	380	J	7200	U	750	U	6	U	2	J	6	U
1,1,1-Trichloroethane	800	40,880,000	5	U	6	U	7200	U	1500	U	7200	U	750	U	6	U	6	U	6	U
1,1,2,2-Tetrachloroethane	600	220,000	5	U	6	U	7200	U	1500	U	7200	U	750	U	6	U	6	U	6	U
1,1,2-Trichloroethane	NLE	100,000	5	U	6	U	7200	U	1500	U	7200	U	750	U	6	U	6	U	6	U
1,2-Dichloroethene (total)	300	18,396,000	5	U	6	U	7200	U	1500	U	7200	U	750	U	6	U	6	U	6	U
1,2-Dichloropropane	NLE	84,000	5	U	6	U	7200	U	1500	U	7200	U	750	U	6	U	6	U	6	U
2-Butanone	300	12,264,000,000	1	J	6	J	14000	U	3000	U	14000	U	1400	U	26	B	1	J	17	
2-Hexanone	NLE	81,760,000	11	U	11	U	14000	U	3000	U	14000	U	1400	U	11	U	12	U	12	U
4-Methyl-2-Pentanone	NLE	NLE	11	U	11	U	14000	U	3000	U	14000	U	1400	U	11	U	12	U	12	U
Acetone	200	204,400,000	11	U	71		14000	U	3000	U	14000	U	1400	U	170	B	35		150	
Bromomethane	NLE	2,862,000	11	U	11	U	14000	U	3000	U	14000	U	1400	U	11	U	12	U	12	U
Carbon Disulfide	2,700	204,400,000	2	J	2	J	7200	U	1500	U	7200	U	750	U	3	J	0.5	J	1	J
Chloroform	300	938,000	5	U	6	U	7200	U	1500	U	7200	U	750	U	6	U	6	U	6	U
Chloromethane	NLE	440,000	11	U	11	U	14000	U	3000	U	14000	U	1400	U	11	U	12	U	12	U
Methylene Chloride	100	763,000	5	U	4	JB	7200	U	1500	U	7200	U	750	U	6	U	1	J	6	U
Tetrachloroethene	1,400	110,000	5	U	2	J	7200	U	1500	U	7200	U	750	U	6	U	1	JB	1	JB
Trichloroethene	700	520,000	5	U	6	U	7200	U	1500	U	7200	U	750	U	6	U	6	U	6	U

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

J - Estimated value

B - Analyte present in method blanks and sample

RE - Reanalysis

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ft bgs - Feet below ground surface

MDF - Matrix spike duplicate

NLE - No level established

a - Detected but, quantitated amount Below Limit of Quantitation

R - Spike/Surrogate failed recovery limits

NA - Not Analyzed

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 8

TTCO - Brooklyn
 38-700 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results

Sample Designation:			SB-32MS		SB-32MSD		SB-33		SB-33		SB-34		FIELD DUP-1		SB-34		SB-34MS		SB-34MSD	
Sample Depth (ft bgs):			2-4		2-4		0-2		2-4		0-2		0-2		2-4		2-4		2-4	
NYSDEC* Recommended Soil Cleanup Objectives			Risk-Based Risk-Based Concentrations																	
Sample Date:			6/22/98		6/22/98		6/18/98		6/18/98		6/18/98		6/18/98		6/18/98		6/18/98		6/18/98	
Parameter (Concentrations in µg/kg)																				
benzene	60	197,000	66	X	74	X	690	U	7200	U	5	U	5	U	6500	U	6400	JX	6400	JX
toluene	1,500	408,800,000	68	X	74	X	690	U	6400	J	5	U	2	J	6500	U	7400	X	7400	X
ethylbenzene	5,500	204,400,000	6	U	6	U	120	J	7200	U	5	U	5	U	6500	U	430	J	260	J
xylenes (total)	1,200	408,800,000	6	U	0.8	J	210	J	5700	J	5	U	5	U	3200	J	5200	J	4500	J
1,1,1-Trichloroethane	800	40,880,000	6	U	6	U	690	U	7200	U	5	U	5	U	6500	U	6500	U	6500	U
1,1,2,2-Tetrachloroethane	600	220,000	6	U	6	U	690	U	7200	U	5	U	5	U	6500	U	6500	U	6500	U
1,1,2-Trichloroethane	NLE	100,000	6	U	6	U	690	U	7200	U	5	U	5	U	6500	U	6500	U	6500	U
1,2-Dichloroethene (total)	300	18,396,000	6	U	6	U	690	U	7200	U	5	U	5	U	6500	U	6500	U	6500	U
1,2-Dichloropropane	NLE	84,000	6	U	6	U	690	U	7200	U	5	U	5	U	6500	U	6500	U	6500	U
2-Butanone	300	12,264,000,000	18		13		1300	U	14000	U	2	J	10	U	13000	U	13000	U	13000	U
2-Hexanone	NLE	81,760,000	12	U	12	U	1300	U	14000	U	10	U	10	U	13000	U	13000	U	13000	U
2-Methyl-2-Pentanone	NLE	NLE	12	U	12	U	1300	U	14000	U	10	U	10	U	13000	U	13000	U	13000	U
acetone	200	204,400,000	12	U	12	U	1300	U	14000	U	17		10	U	13000	U	13000	U	13000	U
isobutylmethane	NLE	2,862,000	12	U	12	U	1300	U	14000	U	10	U	10	U	13000	U	13000	U	13000	U
carbon disulfide	2,700	204,400,000	0.9	J	6	U	690	U	7200	U	5	U	5	U	6500	U	6500	U	6500	U
chloroform	300	938,000	6	U	6	U	690	U	7200	U	5	U	5	U	6500	U	6500	U	6500	U
chloromethane	NLE	440,000	12	U	12	U	1300	U	14000	U	10	U	10	U	13000	U	13000	U	13000	U
ethylene chloride	100	763,000	2	J	6	U	690	U	7200	U	5	B	1	J	6500	U	6500	U	6500	U
tetrachloroethene	1,400	110,000	0.8	JB	0.7	JB	690	U	7200	U	1	J	0.6	J	6500	U	6500	U	6500	U
trichloroethene	700	520,000	53	X	62	X	690	U	7200	U	5	U	5	U	6500	U	6100	JX	6200	JX

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MDF - Matrix spike duplicate

NLE - No level established

a - Detected but, quantitated amount Below Limit of Quantitation

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NA - Not Analyzed

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Table 8

WITCO - Brooklyn
 688-700 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results

Sample Designation:			SB-35		SB-35		SB-36		SB-36		SB-37		SB-37		SB-38		SB-38		SB-39	
Sample Depth (ft bgs):			0-2		2-4		0-2		2-4		0-2		2-4		0-2		2-4		0-2	
NYSDEC* Recommended Soil Cleanup Objectives			Risk-Based Risk-Based Concentrations																	
Sample Date:			6/18/98		6/18/98		6/23/98		6/23/98		6/19/98		6/19/98		6/18/98		6/18/98		6/19/98	
Parameter (Concentrations in µg/kg)																				
Benzene	60	197,000	33000	U	35000	U	6	U	6	U	710	U	730	U	1300	U	880		1400	U
Toluene	1,500	408,800,000	100000		140000		6	U	27		420	J	730	U	1900		700	U	1200	J
Ethylbenzene	5,500	204,400,000	2600	J	1300	J	6	U	6	U	260	J	250	J	1300	U	220	J	1600	
Xylenes (total)	1,200	408,800,000	17000	J	13000	J	6	U	1	J	1400		730	U	1300	U	460	J	7600	
1,1,1-Trichloroethane	800	40,880,000	33000	U	35000	U	6	U	6	U	710	U	730	U	1300	U	700	U	1400	U
1,1,2,2-Tetrachloroethane	600	220,000	33000	U	35000	U	6	U	6	U	710	U	730	U	1300	U	700	U	1400	U
1,1,2-Trichloroethane	NLE	100,000	33000	U	35000	U	6	U	6	U	710	U	730	U	1300	U	700	U	1400	U
1,2-Dichloroethene (total)	300	18,396,000	33000	U	35000	U	6	U	6	U	710	U	730	U	1300	U	700	U	1400	U
1,2-Dichloropropane	NLE	84,000	33000	U	35000	U	6	U	6	U	710	U	730	U	1300	U	700	U	1400	U
2-Butanone	300	12,264,000,000	64000	U	67000	U	11	U	5	J	1400	U	1400	U	2600	U	1400	U	660	J
2-Hexanone	NLE	81,760,000	64000	U	67000	U	11	U	12	U	1400	U	1400	U	2600	U	1400	U	2700	U
4-Methyl-2-Pentanone	NLE	NLE	64000	U	67000	U	11	U	12	U	1400	U	1400	U	2600	U	1400	U	2700	U
Acetone	200	204,400,000	64000	U	67000	U	11	U	35		1400	U	1400	U	2600	U	1400	U	360	J
Bromomethane	NLE	2,862,000	64000	U	67000	U	11	U	12	U	1400	U	1400	U	2600	U	1400	U	2700	U
Carbon Disulfide	2,700	204,400,000	33000	U	35000	U	6	U	6	U	710	U	730	U	1300	U	700	U	1400	U
Chloroform	300	938,000	33000	U	35000	U	6	U	6	U	710	U	730	U	1300	U	700	U	1400	U
Chloromethane	NLE	440,000	13000	J	67000	U	11	U	12	U	1400	U	1400	U	2600	U	1400	U	2700	U
Methylene Chloride	100	763,000	33000	U	35000	U	6	U	6	U	710	U	730	U	1300	U	700	U	1400	U
Tetrachloroethene	1,400	110,000	33000	U	35000	U	6	U	3	JB	710	U	730	U	1300	U	700	U	1400	U
Trichloroethene	700	520,000	33000	U	35000	U	6	U	6	U	710	U	730	U	1300	U	700	U	1400	U

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Table 8

WITCO - Brooklyn
 688-700 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results

Sample Designation:			SB-39		SB-40		SB-40		SB-41		SB-41		SB-42		SB-42		SB-43		SB-43	
Sample Depth (ft bgs):			2-4		0-2		2-4		0-2		2-4		0-2		4-6		0-2		2-4	
NYSDEC* Recommended Soil Cleanup Objectives			Risk-Based Risk-Based Concentrations																	
Sample Date:			6/19/98		6/22/98		6/22/98		6/22/98		6/22/98		6/25/98		6/25/98		6/24/98		6/24/98	
Parameter (Concentrations in µg/kg)																				
Benzene	60	197,000	19000	U	7300	U	16000	U	6	U	6	U	5	U	7	U	6	U	6	U
Toluene	1,500	408,800,000	29000		2000	J	12000	J	6	U	6	U	5	U	7	U	6	U	6	U
Ethylbenzene	5,500	204,400,000	41000		7300	U	16000	U	0.9	J	0.8	J	5	U	7	U	6	U	6	U
Xylenes (total)	1,200	408,800,000	300000		1700	J	16000	U	1	J	1	J	0.5	J	0.7	J	6	U	0.5	J
1,1,1-Trichloroethane	800	40,880,000	19000	U	7300	U	16000	U	6	U	6	U	5	U	7	U	6	U	6	U
1,1,2,2-Tetrachloroethane	600	220,000	19000	U	7300	U	16000	U	6	U	6	U	5	U	7	U	6	U	6	U
1,1,2-Trichloroethane	NLE	100,000	19000	U	7300	U	16000	U	6	U	6	U	5	U	7	U	6	U	6	U
1,2-Dichloroethene (total)	300	18,396,000	19000	U	7300	U	16000	U	6	U	6	U	5	U	7	U	6	U	6	U
1,2-Dichloropropane	NLE	84,000	19000	U	7300	U	16000	U	6	U	6	U	5	U	7	U	6	U	6	U
2-Butanone	300	12,264,000,000	36000	U	14000	U	31000	U	12	U	12	U	6	JB	25	B	3	JB	4	J
2-Hexanone	NLE	81,760,000	36000	U	14000	U	31000	U	12	U	12	U	11	U	14	U	11	U	11	U
4-Methyl-2-Pentanone	NLE	NLE	36000	U	14000	U	31000	U	12	U	12	U	11	U	2	J	11	U	11	U
Acetone	200	204,400,000	36000	U	250000		450000		12	U	54	B	11	U	210		29		11	U
Bromomethane	NLE	2,862,000	36000	U	14000	U	5700	J	12	U	12	U	11	U	14	U	11	U	11	U
Carbon Disulfide	2,700	204,400,000	19000	U	7300	U	16000	U	6	U	0.7	J	5	U	1	J	6	U	0.8	J
Chloroform	300	938,000	19000	U	7300	U	16000	U	6	U	6	U	5	U	7	U	6	U	6	U
Chloromethane	NLE	440,000	36000	U	14000	U	31000	U	12	U	12	U	11	U	14	U	11	U	11	U
Methylene Chloride	100	763,000	19000	U	7300	U	16000	U	6	U	6	U	1	JB	2	JB	2	JB	0.9	J
Tetrachloroethene	1,400	110,000	19000	U	7300	U	16000	U	2	J	6	U	0.7	J	1	J	0.7	J	2	J
Trichloroethene	700	520,000	19000	U	7300	U	16000	U	6	U	6	U	5	U	7	U	6	U	6	U

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

J - Estimated value

B - Analyte present in method blanks and sample

RE - Reanalysis

X - Matrix spike compound

MS - Matrix spike

MSD - Matrix spike duplicate

ft bgs - Feet below ground surface

MDF - Matrix spike duplicate

NLE - No level established

a - Detected but, quantitated amount Below Limit of Quantitation

R - Spike/Surrogate failed recovery limits

NA - Not Analyzed

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 8

WITCO - Brooklyn
688-700 Court Street
June 1998 through March 1999
Volatile Organic Soil Sample Results

Sample Designation:			SB-44		SB-44		A-01		A-01		A-01 MS		A-01 MSD		A-02		A-02		A-03	
Sample Depth (ft bgs):			0-2		4-6		0-2		2-4		2-4		2-4		0-2		2-4		0-2	
NYSDEC* Recommended Soil Cleanup Objectives			Risk-Based Risk-Based Concentrations																	
Sample Date:			6/26/98		6/26/98		3/17/99		3/17/99		3/17/99		3/17/99		3/17/99		3/17/99		3/18/99	
Parameter (Concentrations in µg/kg)																				
Benzene	60	197,000	6	U	7	U	110	U	120	U	5300	X	5400	X	1000	U	570	U	2100	U
Toluene	1,500	408,800,000	6	U	7	U	560	U	66	J	5600	X	5700	X	4700		1600	J	3100	J
Ethylbenzene	5,500	204,400,000	0.6	J	7	U	560	U	230	J	6100	J	6200	J	1900		2100	J	83000	U
Xylenes (total)	1,200	408,800,000	3	J	7	U	200	J	2000		19000	J	19000	J	34000		38000		6000	J
1,1,1-Trichloroethane	800	40,880,000	6	U	7	U	560	U	580	U	4900	J	4900	J	5100	U	2600	U	10000	U
1,1,2,2-Tetrachloroethane	600	220,000	6	U	7	U	110	U	120	U	5000	J	5000	J	1000	U	570	U	2100	U
1,1,2-Trichloroethane	NLE	100,000	6	U	7	U	330	U	350	U	5700	J	5800	J	3100	U	1700	U	6200	U
1,2-Dichloroethene (total)	300	18,396,000	6	U	7	U	560	U	580	U	4700	J	4700	J	5100	U	2600	U	10000	U
1,2-Dichloropropane	NLE	84,000	6	U	7	U	110	U	120	U	5400	J	5400	J	1000	U	570	U	2100	U
2-Butanone	300	12,264,000,000	14		15	B	560	U	580	U	4500	J	4800	J	5100	U	2600	U	10000	U
2-Hexanone	NLE	81,760,000	12	U	13	U	560	U	580	U	9000	J	9200	J	5100	U	2600	U	10000	U
4-Methyl-2-Pentanone	NLE	NLE	0.4	J	1	J	560	U	580	U	5100	J	5200	J	5100	U	2600	U	10000	U
Acetone	200	204,400,000	100	B	13	U	560	U	580	U	5000	J	4900	J	5100	U	2600	U	10000	U
Bromomethane	NLE	2,862,000	12	U	13	U	220	U	230	U	5000	J	5100	J	2000	U	1100	U	4100	U
Carbon Disulfide	2,700	204,400,000	1	J	7	U	560	U	580	U	3200	J	3200	J	5100	U	2600	U	10000	U
Chloroform	300	938,000	6	U	7	U	560	U	560	U	5400	J	5400	J	5100	U	2600	U	10000	U
Chloromethane	NLE	440,000	12	U	13	U	220	U	230	U	6000	J	5900	J	2000	U	1100	U	4100	U
Methylene Chloride	100	763,000	6	U	2	JB	330	U	350	U	5000	J	5100	J	3100	U	1700	U	6200	U
Tetrachloroethene	1,400	110,000	0.5	J	0.8	J	110	U	120	U	5300	J	5400	J	1000	U	570	U	2100	U
Trichloroethene	700	520,000	6	U	7	U	110	U	120	U	6000	X	6200	X	1000	U	570	U	2100	U

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

J - Estimated value

B - Analyte present in method blanks and sample

RE - Reanalysis

X - Matrix spike compound

MS - Matrix spike

MSD - Matrix spike duplicate

ft bgs - Feet below ground surface

MDF - Matrix spike duplicate

NLE - No level established

a - Detected but, quantitated amount Below Limit of Quantitation

R - Spike/Surrogate failed recovery limits

NA - Not Analyzed

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 8

WITCO - Brooklyn
688-700 Court Street
June 1998 through March 1999
Volatile Organic Soil Sample Results

Sample Designation:			A-03		A-03 MS		A-03 MSD		A-04		A-04		MW-15		MW-15		MW-16		MW-16	
Sample Depth (ft bgs):			4-6		4-6		4-6		0-2		4-6		0-2		4-6		0-2		4-6	
NYSDEC* Recommended Soil Cleanup Objectives			Risk-Based Risk-Based Concentrations																	
Sample Date:			3/18/99		3/18/99		3/18/99		3/18/99		3/18/99		3/16/99		3/16/99		3/16/99		3/16/99	
Parameter (Concentrations in µg/kg)																				
Benzene	60	197,000	2500	U	2900	X	3100	X	1.4		1.2	U	2		760	U	1.2		1.3	U
Toluene	1,500	408,800,000	12000	U	6000	X	6300	X	1.6	J	5.9	U	2.4	J	3800	U	5.9	U	6.4	U
Ethylbenzene	5,500	204,400,000	12000	U	4100	aR	4300	aR	4.5	U	4.8	U	6.2	U	2100	J	4.7	U	5.1	U
Xylenes (total)	1,200	408,800,000	12000	J	32000	J	32000	J	1.1	J	1.2	U	3.1	J	33000		1.3	J	3.8	J
1,1,1-Trichloroethane	800	40,880,000	12000	U	2300	aR	2400	aR	4.5	U	4.8	U	6.2	U	3800	U	5.9	U	6.4	U
1,1,2,2-Tetrachloroethane	600	220,000	2500	U	2700	R	2500	R	1.1	U	1.2	U	1.2	U	760	U	1.2	U	1.3	U
1,1,2-Trichloroethane	NLE	100,000	7400	U	2600	aR	3000	aR	3.4	U	3.6	U	3.7	U	2300	U	3.5	U	3.8	U
1,2-Dichloroethene (total)	300	18,396,000	12000	U	2200	aR	2300	aR	4.5	U	4.8	U	6.2	U	3800	U	5.9	U	6.4	U
1,2-Dichloropropane	NLE	84,000	2500	U	2800	R	3200	R	1.1	U	1.2	U	1.2	U	760	U	1.2	U	1.3	U
2-Butanone	300	12,264,000,000	12000	U	12000	U	12000	U	4.5	U	4.8	U	6.2	U	3800	U	5.9	U	6.4	U
2-Hexanone	NLE	81,760,000	12000	U	3800	a	2800	a	4.5	U	4.8	U	6.2	U	3800	U	5.9	U	6.4	U
4-Methyl-2-Pentanone	NLE	NLE	12000	U	12000	U	12000	U	4.5	U	4.8	U	6.2	U	3800	U	5.9	U	6.4	U
Acetone	200	204,400,000	12000	U	9700	aR	12000	aR	4.5	U	4.8	U	6.2	U	3800	U	5.9	U	6.4	U
Bromomethane	NLE	2,862,000	5000	U	4500	a	4500	a	5.7	U	5.9	U	6.2	U	1500	U	5.9	U	6.4	U
Carbon Disulfide	2,700	204,400,000	12000	U	4700	a	1600	aR	4.5	U	4.8	U	6.2	U	3800	U	5.9	U	4	J
Chloroform	300	938,000	12000	U	3900	aR	4000	aR	4.5	U	4.8	U	6.2	U	3800	U	5.9	U	6.4	U
Chloromethane	NLE	440,000	5000	U	4100	a	4300	a	5.7	U	5.9	U	6.2	U	1500	U	5.9	U	6.4	U
Methylene Chloride	100	763,000	7400	U	3700	aR	3600	aR	2.1	J	2.2	J	2.6	J	1500	U	3.8		2.9	J
Tetrachloroethene	1,400	110,000	2500	U	2600	aR	2800	R	1.1	U	1.2	U	1.2	U	760	U	1.2	U	1.3	U
Trichloroethene	700	520,000	2500	U	3000	X	3100	X	1.1	U	1.2	U	1.2	U	760	U	1.2	U	1.3	U

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

J - Estimated value

B - Analyte present in method blanks and sample

RE - Reanalysis

X - Matrix spike compound

MS - Matrix spike

MSD - Matrix spike duplicate

ft bgs - Feet below ground surface

MDF - Matrix spike duplicate

NLE - No level established

a - Detected but, quantitated amount Below Limit of Quantitation

R - Spike/Surrogate failed recovery limits

NA - Not Analyzed

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 8

WITCO - Brooklyn
 688-700 Court Street
 June 1998 through March 1999
 Volatile Organic Soil Sample Results

Sample Designation:		MW-17	
Sample Depth (ft bgs):		0-2	
	NYSDEC* Recommended Soil Cleanup Objectives	Risk-Based Risked-Base Concentrations	
Sample Date:		3/17/99	
Parameter (Concentrations in µg/kg)			
Benzene	60	197,000	29
Toluene	1,500	408,800,000	6.6
Ethylbenzene	5,500	204,400,000	4
Xylenes (total)	1,200	408,800,000	3.1
1,1,1-Trichloroethane	800	40,880,000	5
1,1,2,2-Tetrachloroethane	600	220,000	1
1,1,2-Trichloroethane	NLE	100,000	3
1,2-Dichloroethene (total)	300	18,396,000	5
1,2-Dichloropropane	NLE	84,000	1
2-Butanone	300	12,264,000,000	5
2-Hexanone	NLE	81,760,000	5
4-Methyl-2-Pentanone	NLE	NLE	5
Acetone	200	204,400,000	37
Bromomethane	NLE	2,862,000	5
Carbon Disulfide	2,700	204,400,000	5
Chloroform	300	938,000	5
Chloromethane	NLE	440,000	5
Methylene Chloride	100	763,000	1.8
Tetrachloroethene	1,400	110,000	1
Trichloroethene	700	520,000	1

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

J - Estimated value

B - Analyte present in method blanks and sample

RE - Reanalysis

X - Matrix spike compound

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ft bgs - Feet below ground surface

MDF - Matrix spike duplicate

NLE - No level established

a - Detected but, quantitated amount Below Limit of Quantitation

R - Spike/Surrogate failed recovery limits

NA - Not Analyzed

* - Bolded numbers exceed the NYSDEC Cleanup level

20 - Brooklyn
700 Court Street
1998 through March 1999
-Volatile Organic Soil Sample Results

Site Designation:			HWSA-1		HWSA-1RE		HWSA-2		HWSA-3		HWSA-4		MW-10		MW-10		MW-10DL		MW-10RE		MW-13		MW-13		MW-13DL	
Site Depth (ft bgs):			0-0.7		0-0.7		0-1.5		0-1.2		0-0.8		0-2		2-4		0-2		2-4		0-2		2-4		0-2	
Site Date:			NYSDEC*		USEPA																					
Cleanup Objectives			Recommended Soil		Risk-Based																					
Concentrations																										
Site Date:			9/1/98		9/1/98		9/1/98		9/1/98		9/1/98		8/26/98		8/26/98		8/26/98		8/26/98		8/26/98		8/26/98		8/26/98	
Concentrations in µg/kg)																										
-Trichlorobenzene	3,400	204,400,000	20000	U	20000	U	72000	U	730	U	1600	U	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U
Trichlorobenzene	7,900	183,960,000	20000	U	20000	U	72000	U	730	U	1600	U	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U
Trichlorobenzene	1,600	61,320,000	20000	U	20000	U	72000	U	730	U	1600	U	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U
Trichlorobenzene	8,500	238,000	20000	U	20000	U	72000	U	730	U	1600	U	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U
1,2-Dichloropropane)	NLE	NLE	20000	U	20000	U	72000	U	730	U	1600	U	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U
-Trichlorophenol	NLE	520,000	20000	U	20000	U	72000	U	730	U	1600	U	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U
Trichlorophenol	400	6,132,000	20000	U	20000	U	72000	U	730	U	1600	U	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U
Dimethylphenol	NLE	40,880,000	20000	U	20000	U	72000	U	730	U	1600	U	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U
Thylnaphthalene	36,400	40,880,000	1600	J	1400	J	4500	J	110	J	49	J	960	J	690	J	1100	J	630	J	250	J	370	J	240	JD
Thylphenol	100*	102,200,000	20000	U	20000	U	72000	U	56	J	1600	U	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U
Thylphenol	900	102,200,000	20000	U	20000	U	72000	U	360	J	1600	U	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U
rophenol	100*	16,352,000	95000	U	95000	U	350000	U	3600	U	7600	U	37000	U	38000	U	74000	U	38000	U	3800	U	7500	U	7500	U
aphthene	50,000	122,640,000	20000	U	20000	U	72000	U	81	J	1600	U	4000	J	3000	J	3800	J	2700	J	1200	J	2100	J	1000	JD
aphthylene	41,000	NLE	20000	U	20000	U	72000	U	170	J	53	J	1400	J	2500	J	1200	J	2000	J	170	J	260	J	160	JD
racene	50,000	613,200,000	1200	J	1100	J	72000	U	340	J	180	J	16000	10000	14000	J	9500	3700	J	5400	J	3500	JD			
o(a)anthracene	224*	8,000	3400	J	3000	J	72000	U	1000	520	J	18000	10000	16000	10000	9200	12000	7700	D							
o(a)pyrene	61*	1,000	4100	J	3200	J	72000	U	1300	500	J	20000	12000	16000	10000	9200	12000	7700	D							
o(b)fluoranthene	1,100	8,000	3600	J	2800	J	72000	U	1300	950	J	9500	6300	J	9200	J	5800	J	7100	13000	8000	D				
o(g,h,i)perylene	50,000	NLE	2800	J	2500	J	72000	U	1700	1600	U	9600	9700	21000	11000	4800	6600	J	9200	JD						
o(k)fluoranthene	1,100	78,000	3400	J	3100	J	72000	U	910	680	J	12000	6300	J	9700	J	6400	J	6400	10000	6300	JD				
oic acid	NLE	8,176,000,000	95000	U	95000	U	350000	U	3200	J	2400	J	37000	U	38000	U	74000	U	38000	U	36000	U	36000	U		
yl alcohol	NLE	613,200,000	6100	J	5400	J	72000	U	730	U	160	J	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U
-Ethylhexyl)phthalate	50,000	409,000	46000	B	44000	B	330000	B	2200	B	5400	B	5800	JB	6000	JB	15000	U	6000	JB	3000	JB	6000	JB	5900	JD
lbenzylphthalate	50,000	408,800,000	1100	J	990	J	1800	J	730	U	78	J	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U
azole	NLE	286,000	20000	U	20000	U	72000	U	100	J	67	J	1800	J	2400	J	1900	J	2300	J	1400	J	2500	J	1400	JD
sene	400	784,000	3700	J	2900	J	72000	U	1200	600	J	23000	15000	25000	15000	12000	18000	13000	D							
butylphthalate	8,100	NLE	20000	U	610	JB	72000	U	730	U	49	JB	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U
octylphthalate	50,000	40,800,000	11000	J	11000	J	19000	J	160	J	2100	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U	
nzoo(a,h)anthracene	14*	1,000	20000	U	20000	U	72000	U	500	J	1600	U	5900	J	5400	J	11000	J	6000	J	3300	J	4900	J	5600	JD
nzofuran	6,200	8,176,000	20000	U	20000	U	72000	U	60	J	32	J	1400	J	1400	J	1300	J	550	J	860	J	570	JD		
ylphthalate	7,100	1,635,200,000	20000	U	950	JB	970	JB	19	JB	240	J	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U
anthene	50,000	81,760,000	6400	J	5300	J	2300	J	1400	1000	J	44000	30000	40000	26000	23000	29000	18000	D							
ene	50,000	81,760,000	20000	U	20000	U	72000	U	82	J	64	J	3000	J	2100	J	3000	J	1700	J	970	J	1500	J	1000	JD
io(1,2,3-cd)pyrene	3,200	8,000	2400	J	2200	J	72000	U	1400	1600	U	8900	7800	16000	9000	5100	6000	J	7900	D						
lorone	4,400	6,024,000	20000	U	20000	U	72000	U	730	U	1600	U	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U
trosodiphenylamine (1)	NLE	1,168,000	20000	U	20000	U	72000	U	730	U	1600	U	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U
thalene	13,000	40,880,000	20000	U	2000	J	5000	J	120	J	56	J	4800	J	3000	J	4900	J	3100	J	540	J	900	J	570	JD
anthrene	50,000	NLE	5000	J	4500	J	2200	J	1000	600	J	62000	E	36000	54000	35000	17000	22000	14000	D						
ol	30*	1,226,400,000	99000	U	97000	U	19000	J	5700	8400	7600	U	7800	U	15000	U	7800	U	3800	U	7500	U	7500	U		
ne	50,000	61,320,000	6200	J	5100	J	2200	J	1400	1000	J	47000	26000	53000	29000	20000	23000	20000								

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

J - Estimated value

E - Exceeds calibration curve range

B - Analyte present in method blank

DL - Diluted sample

D - Diluted sample analytical result

* - Bolded numbers exceed the NYSDEC Cleanup level

X - Matrix spike compound

MS - Matrix spike

MSD - Matrix spike duplicate

ft bgs - Feet below ground surface

NLE - No level established

* - or method detection limit

RE - Reanalysis

V - Values outside of QC limits

O - Brooklyn
 10 Court Street
 998 through March 1999
 Volatile Organic Soil Sample Results

ie Designation: ie Depth (ft bgs):			MW-13RE 2-4	MW-14 0-2	MW-14 4-6	MW-14DL 4-6	SB-9 0-2	SB-9 2-4	SB-10 0-2	SB-10 2-4	SB-11 0-2	SB-11 2-4	SB-12 0-2											
NYSDEC* Recommended Soil Cleanup Objectives			USEPA Risk-Based Concentrations																					
ie Date:			8/26/98	8/25/98	8/25/98	8/25/98	6/29/98	6/29/98	6/29/98	6/29/98	6/19/98	6/19/98	6/23/98											
eter (Concentrations in µg/kg)																								
Trichlorobenzene	3,400	204,400,000	7500	U	18000	U	7500		19000	U	1500	U	390	U	4200	U	450	U	360	U	400	U	1900	U
chlorobenzene	7,900	183,960,000	7500	U	18000	U	7500		19000	U	1500	U	390	U	4200	U	450	U	360	U	400	U	1900	U
chlorobenzene	1,600	61,320,000	7500	U	18000	U	7500		19000	U	1500	U	390	U	4200	U	450	U	360	U	400	U	1900	U
chlorobenzene	8,500	238,000	7500	U	18000	U	7500		19000	U	1500	U	390	U	4200	U	450	U	360	U	400	U	1900	U
cybis(1-Chloropropane)	NLE	NLE	7500	U	18000	U	7500		19000	U	1500	U	390	U	4200	U	450	U	360	U	400	U	1900	U
Trichlorophenol	NLE	520,000	7500	U	18000	U	7500		19000	U	1500	U	390	U	4200	U	450	U	360	U	400	U	1900	U
chlorophenol	400	6,132,000	7500	U	18000	U	7500		19000	U	1500	U	390	U	4200	U	450	U	360	U	400	U	1900	U
imethylphenol	NLE	40,880,000	7500	U	18000	U	7500		19000	U	1500	U	390	U	4200	U	450	U	360	U	400	U	1900	U
hlynaphthalene	36,400	40,880,000	420	J	2600	J	1300		1400	J	1500	U	390	U	4200	U	450	U	360	U	75	J	250	J
hylphenol	100*	102,200,000	7500	U	18000	U	7500		19000	U	1500	U	390	U	4200	U	450	U	360	U	400	U	1900	U
hylphenol	900	102,200,000	7500	U	18000	U	7500		19000	U	1500	U	390	U	4200	U	450	U	360	U	400	U	1900	U
ophenol	100*	16,352,000	36000	U	87000	U	36000		91000	U	7300	U	1900	U	20000	U	2200	U	1800	U	1900	U	9400	U
iphthene	50,000	122,640,000	1800	J	8000	J	8600		8800	J	310	J	69	J	1500	J	170	J	110	J	180	J	310	J
iphthylene	41,000	NLE	230	J	480	J	980		930	J	160	J	470	J	160	J	460	J	360	U	29	J	1900	U
acene	50,000	613,200,000	5300	J	14000	J	20000		18000	J	900	J	300	J	3900	J	510	J	360	U	240	J	1900	U
s(a)anthracene	224*	8,000	12000		13000	J	31000		27000		2900		720		14000		1300		360	U	440		590	J
s(a)pyrene	61*	1,000	12000		11000	J	41000		32000		3000		910		13000		1700		200	J	390	J	1800	J
s(b)fluoranthene	1,100	8,000	9700		8000	J	36000		22000		2600		700		11000		1500		170	J	320	J	1400	J
s(g,h,i)perylene	50,000	NLE	6700	J	19000		10000		33000		2700		1800		9600		840		93	J	470		930	J
s(k)fluoranthene	1,100	78,000	7700		8900	J	9800		18000	J	1600		280	J	5400		750		360	U	350	J	1900	U
ic acid	NLE	8,176,000,000	36000	U	87000	U	36000		91000	U	7300	U	260	J	20000	U	130	J	1800	U	1900	U	9400	U
l alcohol	NLE	613,200,000	7500	U	18000	U	7500		19000	U	1500	U	390	U	4200	U	450	U	360	U	400	U	1900	U
Ethylhexylphthalate	50,000	409,000	5900	JB	14000	JB	6000		14000	JB	310	JB	63	JB	300	JB	45	JB	360	U	400	U	1900	U
benzylphthalate	50,000	408,800,000	7500	U	18000	U	7500		19000	U	150	J	390	U	4200	U	450	U	360	U	400	U	1900	U
zole	NLE	286,000	2400	J	5400	J	3900		4100	J	450	J	53	J	470	J	240	J	360	U	130	J	1900	U
ene	400	784,000	18000		22000		39000		36000		3300		840		15000		1600		230	J	510		2000	
butylphthalate	8,100	NLE	7500	U	18000	U	270		19000	U	60	JB	12	JB	71	JB	10	JB	360	U	400	U	1900	U
octylphthalate	50,000	40,800,000	7500	U	18000	U	7500		19000	U	1500	U	390	U	4200	U	450	U	360	U	400	U	1900	U
zo(a,h)anthracene	14*	1,000	5000	J	11000	J	7000		16000	J	870	J	260	J	2900	J	370	J	360	U	260	J	1900	U
zofuran	6,200	8,176,000	840	J	4800	J	4000		3800	J	220	J	54	J	350	J	120	J	42	J	100	J	200	J
ylphthalate	7,100	1,635,200,000	7500	U	18000	U	7500		19000	U	43	J	18	J	4200	U	450	U	360	U	400	U	1900	U
anthene	50,000	81,760,000	30000		46000		100000		82000		5600		1100		21000		2400		17	J	960		2000	
ene	50,000	81,760,000	1500	J	5400	J	5600		5100	J	1500	U	390	U	4200	U	450	U	360	U	160	J	1900	U
o(1,2,3-cd)pyrene	3,200	8,000	6200	J	14000	J	12000		27000		2500		1200		8300		820		77	J	440		910	J
orone	4,400	6,024,000	7500	U	18000	U	7500		19000	U	1500	U	390	U	4200	U	450	U	360	U	400	U	1900	U
rosodiphenylamine (1)	NLE	1,168,000	7500	U	18000	U	7500		19000	U	1500	U	390	U	4200	U	450	U	360	U	400	U	1900	U
thalene	13,000	40,880,000	830	J	6500	J	5200		5000	J	130	J	100	J	110	J	240	J	450		150	J	8500	
anthrene	50,000	NLE	22000		67000		110000		83000		4200		920		14000		2200		490		980		3200	
ol	30*	1,226,400,000	7500	U	18000	U	7500		19000	U	74	J	27	J	4200	U	49	J	16	J	400	U	1700	J
ic	50,000	61,320,000	23000		43000		78000		86000		5900		1300		27000		2400		400		1000		2700	

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

J - Estimated value

E - Exceeds calibration curve range

B - Analyte present in method blanks and sample

DL - Diluted sample

D - Diluted sample analytical result

* - Bolded numbers exceed the NYSDEC Cleanup level

X - Matrix spike compound

MS - Matrix spike

MSD - Matrix spike duplicate

ft bgs - Feet below ground surface

NLE - No level established

* - or method detection limit

RE - Reanalysis

V - Values outside of QC limits

CO - Brooklyn
700 Court Street
1998 through March 1999
-Volatile Organic Soil Sample Results

Sample Designation:			SB-12		SB-12RE		SB-13		SB-13		SB-14		FIELD DUP #3		SB-14		SB-14MS		SB-14MSD		SB-15		SB-15		SB-16	
Sample Depth (ft bgs):			2-4		2-4		0-2		2-4		0-2		0-2		2-4		2-4		2-4		0-2		2-4		0-2	
Sample Date:			6/23/98		6/23/98		6/24/98		6/24/98		6/24/98		6/24/98		6/24/98		6/24/98		6/24/98		6/23/98		6/23/98		6/24/98	
meter (Concentrations in µg/kg)																										
-Trichlorobenzene	3,400	204,400,000	3900	U	3900	U	840	U	2800	U	4200	U	8200	U	2100	U	1600	JX	1900	JX	4500	U	1600	U	870	U
ichlorobenzene	7,900	183,960,000	3900	U	3900	U	840	U	2800	U	4200	U	8200	U	2100	U	2100	U	2100	U	4500	U	1600	U	870	U
ichlorobenzene	1,600	61,320,000	3900	U	3900	U	840	U	2800	U	4200	U	8200	U	2100	U	2100	U	2100	U	4500	U	1600	U	870	U
ichlorobenzene	8,500	238,000	3900	U	3900	U	840	U	2800	U	4200	U	8200	U	2100	U	2100	U	2100	U	4500	U	1600	U	870	U
xybis(1-Chloropropane)	NLE	NLE	3900	U	3900	U	840	U	2800	U	4200	U	8200	U	2100	U	1400	JX	1600	JX	4500	U	1600	U	870	U
-Trichlorophenol	NLE	520,000	3900	U	3900	U	840	U	2800	U	4200	U	8200	U	2100	U	2100	U	2100	U	4500	U	1600	U	870	U
ichlorophenol	400	6,132,000	3900	U	3900	U	840	U	2800	U	4200	U	8200	U	2100	U	2100	U	2100	U	4500	U	1600	U	870	U
dimethylphenol	NLE	40,880,000	3900	U	430	J	840	U	2800	U	4200	U	8200	U	2100	U	2100	U	2100	U	4500	U	1600	U	870	U
thynaphthalene	36,400	40,880,000	3500	J	3900	U	2700		6200		22000		30000		1500	J	1500	J	4200		7400		2100		1300	
thylphenol	100*	102,200,000	3900	U	3900	U	840	U	2800	U	4200	U	8200	U	2100	U	2100	U	2100	U	4500	U	1600	U	870	U
thylphenol	900	102,200,000	3900	U	3900	U	840	U	2800	U	4200	U	8200	U	2100	U	2100	U	2100	U	4500	U	1600	U	870	U
rophenol	100*	16,352,000	19000	U	19000	U	4000	U	14000	U	20000	U	40000	U	10000	U	3700	JX	3800	JX	22000	U	7600	U	4200	U
aphthene	50,000	122,640,000	4900		4600		620	J	1400	J	4000	J	1900	J	1400	J	3700	X	5000	X	2900	J	490	J	670	J
aphthylene	41,000	NLE	3900	U	3900	U	840	U	2800	U	660	J	390	J	130	J	190	J	290	J	250	J	1600	U	130	J
racene	50,000	613,200,000	7200		5400		130	J	680	J	5900		2100	J	2100		2500		3200		4200	J	670	J	1100	
o(a)anthracene	224*	8,000	7700		5500		340	J	1400	J	10000		4100	J	4700		5200		6800		6600		1300	J	2900	
o(a)pyrene	61*	1,000	6600		6000		330	J	1100	J	8900		4200	J	4100		4600		6100		6600		1200	J	2700	
o(b)fluoranthene	1,100	8,000	4900		4100		250	J	1100	J	6800		3500	J	2800		3500		4400		6000		1000	J	2500	
o(g,h,i)perylene	50,000	NLE	2700	J	5800		480	J	1800	J	7600		3600	J	3500		3600		2200		5600		1000	J	630	J
o(k)fluoranthene	1,100	78,000	1800	J	1200	J	840	U	2800	U	5300		8200	U	2000	J	1600	J	3600		610	J	1600	U	2100	
oic acid	NLE	8,176,000,000	19000	U	19000	U	4000	U	14000	U	20000	U	40000	U	10000	U	10000	U	10000	U	22000	U	7600	U	4200	U
yl alcohol	NLE	613,200,000	3900	U	3900	U	840	U	2800	U	4200	U	8200	U	2100	U	2100	U	2100	U	4500	U	1600	U	870	U
-Ethylhexyl)phthalate	50,000	409,000	4700	B	3900	U	910		5100		1000	JB	1800	JB	2100	U	2100	U	2100	U	5900	B	2000	B	1400	B
lbenzylphthalate	50,000	408,800,000	600	J	800	J	840	U	550	J	4200	U	8200	U	2100	U	2100	U	2100	U	260	J	1600	U	870	U
azole	NLE	286,000	2400	J	3900	U	840	U	2800	U	1800	J	440	J	740	J	1100	J	790	J	930	J	250	J	160	J
sene	400	784,000	7700		7100		430	J	1600	J	11000		4500	J	4900		5400		7200		7600		1500	J	3300	
butylphthalate	8,100	NLE	3900	U	3900	U	840	U	2800	U	4200	U	8200	U	2100	U	2100	U	2100	U	120	JB	1600	U	870	U
octylphthalate	50,000	40,800,000	3900	U	550	J	840	U	2800	U	4200	U	8200	U	2100	U	2100	U	2100	U	180	J	1600	U	870	U
12o(a,h)anthracene	14*	1,000	1700	J	3900	U	840	U	2800	U	4200	U	8200	U	2100	U	2100	U	2100	U	180	J	1600	U	870	U
12ofuran	6,200	8,176,000	2800	J	3100	J	390	J	430	J	2900	J	820	J	860	J	1300	J	1400	J	4500	U	1600	U	870	U
ylphthalate	7,100	1,635,200,000	3900	U	3900	U	190	J	2800	U	4200	U	8200	U	2100	U	2100	U	2100	U	1200	J	260	J	240	J
anthene	50,000	81,760,000	25000		22000		690	J	3500		24000		9300		10000		11000		14000		16000		2900		5300	
ene	50,000	81,760,000	3900		1500	J	240	J	910	J	2600	J	8200	U	1500	J	2000	J	2700		4500	U	470	J	700	J
io(1,2,3-cd)pyrene	3,200	8,000	2800	J	4800		470	J	1800	J	6700		3000	J	3200		3500		2600		5200		1100	J	700	J
iorone	4,400	6,024,000	3900	U	3900	U	840	U	2800	U	4200	U	8200	U	2100	U	2100	U	2100	U	4500	U	1600	U	870	U
trosodiphenylamine (1)	NLE	1,168,000	3900	U	3900	U	840	U	2800	U	4200	U	8200	U	2100	U	2100	U	2100	U	4500	U	1600	U	870	U
thalene	13,000	40,880,000	14000		11000		1800		15000		14000		18000		1300	J	1400	J	2800		17000		6300		4500	
anthrene	50,000	NLE	29000		28000		580	J	3900		28000		10000		11000		14000		17000		18000		3200		5000	
ol	30*	1,226,400,000	5600		6000		680	J	7900		4200	U	8200	U	2100	U	3700	X	4200	X	4500	U	1600	U	870	U
ie	50,000	61,320,000	12000		15000		570	J	2500	J	21000		9300		10000		13000	X	14000	X	15000		2300		5000	

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

J - Estimated value

E - Exceeds calibration curve range

B - Analyte present in method blanks and sample

DL - Diluted sample

D - Diluted sample analytical result

* - Bolded numbers exceed the NYSDEC Cleanup level

X - Matrix spike compound

MS - Matrix spike

MSD - Matrix spike duplicate

ft bgs - Feet below ground surface

NLE - No level established

* - or method detection limit

RE - Reanalysis

V - Values outside of QC limits

DO - Brooklyn
 00 Court Street
 1998 through March 1999
 Volatile Organic Soil Sample Results

Site Designation:			SB-16	SB-17	SB-17	SB-18	SB-18	SB-18DL	SB-19	SB-19	SB-19DL	SB-20	SB-20	SB-21													
Site Depth (ft bgs):			2-4	0-2	2-4	0-2	2-4	2-4	0-2	2-4	0-2	0-2	2-4	0-2													
NYSDEC* Recommended Soil Cleanup Objectives			USEPA Risk-Based Concentrations																								
Site Date:			6/24/98	6/25/98	6/25/98	6/26/98	6/26/98	6/26/98	6/26/98	6/26/98	6/26/98	6/23/98	6/23/98	6/25/98													
meter (Concentrations in µg/kg)																											
Trichlorobenzene	3,400	204,400,000	410	U	4100	U	780	U	4300	U	1500	U	3700	U	2100	U	4300	U	4300	U	7400	U	3800	U	1700	U	
ichlorobenzene	7,900	183,960,000	410	U	4100	U	780	U	4300	U	1500	U	3700	U	2100	U	4300	U	4300	U	7400	U	3800	U	1700	U	
ichlorobenzene	1,600	61,320,000	410	U	4100	U	780	U	4300	U	1500	U	3700	U	2100	U	4300	U	4300	U	7400	U	3800	U	1700	U	
ichlorobenzene	8,500	238,000	410	U	4100	U	780	U	4300	U	1500	U	3700	U	2100	U	4300	U	4300	U	7400	U	3800	U	1700	U	
xybis(1-Chloropropane)	NLE	NLE	410	U	4100	U	780	U	4300	U	1500	U	3700	U	2100	U	4300	U	4300	U	7400	U	3800	U	1700	U	
Trichlorophenol	NLE	520,000	410	U	4100	U	780	U	4300	U	1500	U	3700	U	2100	J	4300	U	1400	J	7400	U	3800	U	1700	U	
ichlorophenol	400	6,132,000	410	U	4100	U	780	U	4300	U	1500	U	3700	U	2100	U	4300	U	4300	U	7400	U	3800	U	1700	U	
imethylphenol	NLE	40,880,000	410	U	4100	U	780	U	4300	U	1500	U	3700	U	2100	U	4300	U	4300	U	7400	U	3800	U	1700	U	
thlynaphthalene	36,400	40,880,000	240	J	4100	U	66	J	1600	J	1500	U	3700	U	2100	U	4300	U	4300	U	380	J	3800	U	1700	U	
thylphenol	100*	102,200,000	410	U	4100	U	780	U	4300	U	1500	U	3700	U	2100	U	4300	U	4300	U	7400	U	3800	U	1700	U	
thylphenol	900	102,200,000	410	U	4100	U	780	U	4300	U	1500	U	3700	U	2100	U	4300	U	4300	U	7400	U	3800	U	1700	U	
rophenol	100*	16,352,000	2000	U	20000	U	3800	U	21000	U	7200	U	18000	U	10000	U	21000	U	21000	U	36000	U	18000	U	8300	U	
aphthene	50,000	122,640,000	280	J	1200	J	480	J	890	J	590	J	600	J	680	J	2100	J	760	J	4500	J	380	J	580	J	
aphthylene	41,000	NLE	41	J	4100	U	43	J	1300	J	460	J	510	J	680	J	250	J	720	J	7400	U	3800	U	160	J	
acene	50,000	613,200,000	550		2600	J	930		3100	J	1600		1700	J	1600	J	3400	J	1800	J	7500		680	J	1400	J	
o(a)anthracene	224*	8,000	1300		10000		2000		8600		3400		3700		5000		6400		5600		22000		980	J	2900		
o(a)pyrene	61*	1,000	1400		11000		1800		10000		4100		4600		5400		6400		5600		6200		19000		770	J	2700
o(b)fluoranthene	1,100	8,000	1100		9100		1300		8900		3800		3800		5400		5000		5700		13000		610	J	2400		
o(g,h,i)perylene	50,000	NLE	410		9000		1500		10000		3400		3800		4900		4300		5800		18000		2300	J	2300		
o(k)fluoranthene	1,100	78,000	670		5800		1000		3800	J	1500		3700	U	1600	J	590	J	600	J	15000		3800	U	1300	J	
ic acid	NLE	8,176,000,000	2000	U	20000	U	3800	U	21000	U	7200	U	18000	U	10000	U	21000	U	21000	U	36000	U	18000	U	8300	U	
yl alcohol	NLE	613,200,000	410	U	4100	U	780	U	4300	U	1500	U	3700	U	2100	U	4300	U	4300	U	7400	U	3800	U	1700	U	
Ethylhexylphthalate	50,000	409,000	1500	B	4100	U	780	U	25000	B	3100	B	3200	JB	1000	JB	800	JB	1100	JB	7400	U	17000	B	2000	B	
benzylphthalate	50,000	408,800,000	410	U	4100	U	780	U	290	J	1500	U	3700	U	2100	U	4300	U	4300	U	7400	U	3800	U	1700	U	
izole	NLE	286,000	77	J	1800	J	350	J	420	J	180	J	210	J	350	J	1000	J	390	J	7400	U	3800	U	300	J	
ene	400	784,000	1400		11000		2000		9400		3500		3800		5300		6800		6300		22000		980	J	3200		
butylphthalate	8,100	NLE	36	JB	4100	U	780	U	4300	U	1500	U	3700	U	2100	U	4300	U	4300	U	7400	U	3800	U	1700	U	
octylphthalate	50,000	40,800,000	410	U	4100	U	780	U	4300	U	1500	U	3700	U	2100	U	4300	U	4300	U	7400	U	3800	U	1700	U	
izo(a,h)anthracene	14*	1,000	410	U	4100	U	780	U	2600	J	900	J	930	J	1900	J	1200	J	1400	J	1800	J	1400	J	630	J	
izofuran	6,200	8,176,000	100	J	670	J	210	J	740	J	610	J	630	J	350	J	1000	J	400	J	2300	J	280	J	410	J	
ylphthalate	7,100	1,635,200,000	170	J	4100	U	780	U	4300	U	1500	U	3700	U	2100	U	4300	U	4300	U	7400	U	3800	U	1700	U	
anthene	50,000	81,760,000	2700		21000		3800		15000		6600		7600		9100		16000		11000		44000		2400	J	7000		
ene	50,000	81,760,000	250	J	1000	J	420	J	4300	U	44	J	3700	U	2100	U	4300	U	4300	U	1100	J	490	J	1700	U	
o(1,2,3-cd)pyrene	3,200	8,000	470		7900		1400		8700		3200		3300	J	4300		3800	J	4800		15000		2200	J	2000		
orone	4,400	6,024,000	410	U	4100	U	780	U	4300	U	1500	U	3700	U	2100	U	4300	U	4300	U	7400	U	3800	U	1700	U	
rosodiphenylamine (1)	NLE	1,168,000	410	U	4100	U	780	U	4300	U	1500	U	3700	U	2100	U	4300	U	4300	U	7400	U	3800	U	1700	U	
thalene	13,000	40,880,000	230	J	290	J	95	J	11000		730	J	740	J	540	J	420	J	580	J	6700	J	21000		1300	J	
anthrene	50,000	NLE	2200		15000		3400		10000		4200		4500		6400		17000		7500		39000		2800	J	6800		
ol	30*	1,226,400,000	410	U	4100	U	780	U	5000		1800		1600	J	960	J	230	J	930	J	2600	J	3800	U	360	J	
ie	50,000	61,320,000	1900		19000		3900		14000		6700		7400		9200		14000		10000		45000		2400	J	6900		

CO - Brooklyn
 700 Court Street
 1998 through March 1999
 -Volatile Organic Soil Sample Results

Sample Designation:			SB-21		SB-21DL		SB-21DL		SB-22		SB-22	
Sample Depth (ft bgs):			4-6		0-2		4-6		0-2		2-4	
NYSDEC*			USEPA									
Recommended Soil			Risk-Based									
Cleanup Objectives			Concentrations									
Sample Date:			6/25/98		6/25/98		6/25/98		6/24/98		6/24/98	
meter (Concentrations in µg/kg)												
-Trichlorobenzene	3,400	204,400,000	520	U	4300	U	2100	U	4000	U	19000	U
ichlorobenzene	7,900	183,960,000	520	U	4300	U	2100	U	4000	U	19000	U
ichlorobenzene	1,600	61,320,000	520	U	4300	U	2100	U	4000	U	19000	U
ichlorobenzene	8,500	238,000	520	U	4300	U	2100	U	4000	U	19000	U
xybis(1-Chloropropane)	NLE	NLE	520	U	4300	U	2100	U	4000	U	19000	U
-Trichlorophenol	NLE	520,000	520	U	4300	U	2100	U	4000	U	19000	U
ichlorophenol	400	6,132,000	520	U	4300	U	2100	U	4000	U	19000	U
imethylphenol	NLE	40,880,000	520	U	4300	U	2100	U	4000	U	19000	U
thylphenol	36,400	40,880,000	520	U	4300	U	130	J	1000	J	4500	J
thylphenol	100*	102,200,000	520	U	4300	U	2100	U	4000	U	19000	U
rophenol	900	102,200,000	520	U	4300	U	2100	U	4000	U	19000	U
aphthene	100*	16,352,000	2500	U	21000	U	10000	U	20000	U	92000	U
aphthylene	50,000	122,640,000	170	J	620	J	240	J	4000	U	19000	U
racene	41,000	NLE	58	J	180	J	2100	U	4000	U	19000	U
o(a)anthracene	50,000	613,200,000	90	J	1500	J	84	J	4000	U	410	J
o(a)pyrene	224*	8,000	190	J	3200	J	220	J	4000	U	1200	J
o(b)fluoranthene	61*	1,000	260	J	2900	J	250	J	4000	U	19000	U
o(g,h,i)perylene	1,100	8,000	240	J	3000	J	210	J	4000	U	19000	U
o(k)fluoranthene	50,000	NLE	210	J	2300	J	1400	J	4000	U	19000	U
oic acid	1,100	78,000	520	U	4300	U	180	J	4000	U	19000	U
yl alcohol	NLE	8,176,000,000	2500	U	21000	U	10000	U	4700	J	92000	U
-Ethylhexylphthalate	NLE	613,200,000	520	U	4300	U	2100	U	4000	U	19000	U
ibenzylphthalate	50,000	409,000	6200	EB	2000	JB	6200	B	2000	JB	7600	JB
azole	50,000	408,800,000	82	J	4300	U	2100	U	4000	U	19000	U
sene	NLE	286,000	520	U	320	J	2100	U	4000	U	19000	U
butylphthalate	400	784,000	260	J	3600	J	240	J	4000	U	1500	J
-octylphthalate	8,100	NLE	520	U	4300	U	2100	U	4000	U	19000	U
nzo(a,h)anthracene	50,000	40,800,000	520	U	4300	U	2100	U	4000	U	19000	U
nzofuran	14*	1,000	68	J	670	J	1100	J	4000	U	19000	U
ylphthalate	6,200	8,176,000	520	U	460	J	2100	U	4000	U	19000	U
'anthene	7,100	1,635,200,000	130	JB	4300	U	1000	JB	4000	U	19000	U
'ene	50,000	81,760,000	810		8100		510	J	4000	U	2200	J
io(1,2,3-cd)pyrene	50,000	81,760,000	520	U	4300	U	2100	U	4000	U	19000	U
iorone	3,200	8,000	190	J	2000	J	1200	J	4000	U	19000	U
trosodiphenylamine (1)	4,400	6,024,000	520	U	4300	U	2100	U	4000	U	19000	U
thylene	NLE	1,168,000	520	U	4300	U	2100	U	4000	U	19000	U
anthrene	13,000	40,880,000	560		1400	J	610	J	4900		16000	J
ol	50,000	NLE	450	J	7500		450	J	4000	U	1700	J
ae	30*	1,226,400,000	3200		220	J	2100	U	33000		110000	
	50,000	61,320,000	350	J	7800		480	J	4000	U	1500	J

Sample Designation:			SB-23		SB-23		SB-24		SB-24		SB-25		SB-25DL		FIELD DUP #4		FIELD DUP #4DL		SB-25		SB-25DL		SB-25MS	
Sample Depth (ft bgs):			0-2		2-4		0-2		2-4		0-2		0-2		0-2		0-2		2-4		2-4		2-4	
NYSDEC*			USEPA																					
Recommended Soil Cleanup Objectives			Risk-Based Concentrations																					
Sample Date:			6/25/98		6/25/98		6/24/98		6/24/98		6/26/98		6/26/98		6/26/98		6/26/98		6/26/98		6/26/98		6/26/98	
Concentration (Concentrations in µg/kg)																								
-Trichlorobenzene	3,400	204,400,000	3800	U	3700	U	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dichlorobenzene	7,900	183,960,000	3800	U	3700	U	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dichlorobenzene	1,600	61,320,000	3800	U	3700	U	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dichlorobenzene	8,500	238,000	3800	U	3700	U	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	1700	J	210000	U	210000	U
1,2-Dichloropropane	NLE	NLE	3800	U	3700	U	2100	U	410000	U	1400	J	160000	U	1400	J	160000	U	1700	J	210000	U	210000	U
Trichlorophenol	NLE	520,000	3800	U	3700	U	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dichlorophenol	400	6,132,000	3800	U	3700	U	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	NLE	40,880,000	3800	U	3700	U	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dimethylnaphthalene	36,400	40,880,000	1000	J	3700	U	690	J	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	100*	102,200,000	3800	U	3700	U	2100	U	410000	U	550	J	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	900	102,200,000	3800	U	3700	U	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	1300	J	210000	U	210000	U
Dimethylphenol	100*	16,352,000	18000	U	18000	U	10000	U	2000000	U	40000	U	800000	U	40000	U	800000	U	2100	U	210000	U	210000	U
Dimethylphenol	50,000	122,640,000	1300	J	1800	J	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	41,000	NLE	320	J	440	J	2100	U	410000	U	220	J	160000	U	360	J	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	50,000	613,200,000	3000	J	3200	J	28	J	410000	U	580	J	160000	U	460	J	160000	U	220	J	210000	U	210000	U
Dimethylphenol	224*	8,000	8700		6900		2100	U	410000	U	1800	J	160000	U	1400	J	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	61*	1,000	8500		6800		150	J	410000	U	1800	J	160000	U	1600	J	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	1,100	8,000	7000		5600		2100	U	410000	U	1500	J	160000	U	1400	J	160000	U	630	J	210000	U	210000	U
Dimethylphenol	50,000	NLE	6100		6100		1100	J	410000	U	1500	J	160000	U	1400	J	160000	U	430	J	210000	U	210000	U
Dimethylphenol	1,100	78,000	2800	J	3600	J	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	430	J	210000	U	210000	U
Dimethylphenol	NLE	8,176,000,000	18000	U	18000	U	10000	U	2000000	U	40000	U	800000	U	40000	U	800000	U	2100	U	210000	U	210000	U
Dimethylphenol	50,000	613,200,000	3800	U	3700	U	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	50,000	409,000	5700		1700	JB	13000		26000	J	17000	B	20000	JB	22000	B	23000	JB	2100	U	20000	JB	19000	JB
Dimethylphenol	50,000	408,800,000	3800	U	3700	U	1500	J	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	20000	JB	19000	JB
Dimethylphenol	NLE	286,000	710	J	620	J	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	400	784,000	9200		7700		2100	U	410000	U	2200	J	160000	U	1800	J	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	8,100	NLE	3800	U	3700	U	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	50,000	40,800,000	3800	U	3700	U	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	14*	1,000	3800	U	1600	J	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	6,200	8,176,000	600	J	860	J	2100	U	410000	U	300	J	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	7,100	1,635,200,000	3800	U	3700	U	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	50,000	81,760,000	18000		16000		170	J	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	50,000	81,760,000	1800	J	3700	U	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	1300	J	210000	U	210000	U
Dimethylphenol	3,200	8,000	6200		5200		1100	J	410000	U	1300	J	160000	U	1300	J	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	4,400	6,024,000	3800	U	3700	U	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	370	J	210000	U	210000	U
Dimethylphenol	NLE	1,168,000	3800	U	3700	U	2100	U	410000	U	8200	U	160000	U	8200	U	160000	U	2100	U	210000	U	210000	U
Dimethylphenol	13,000	40,880,000	3100	J	2200	J	4600		410000	U	7300	J	9800	J	9200		11000	J	2100	U	210000	U	210000	U
Dimethylphenol	50,000	NLE	13000		14000		2100	U	410000	U	3000	J	160000	U	2100	J	160000	U	3900	J	210000	U	210000	U
Dimethylphenol	30*	1,226,400,000	3800	U	3700	U	2100	U	2400000		650000	E	1300000		650000	E	1200000		760	J	210000	U	210000	U
Dimethylphenol	50,000	61,320,000	16000		15000		170	J	410000	U	3300	J	160000	U	2300	J	160000	U	870	J	210000	U	210000	U

CO - Brooklyn
700 Court Street
1998 through March 1999
-Volatile Organic Soil Sample Results

Sample Designation:			SB-25MSD		SB-26		SB-26		SB-27		SB-27		SB-28		SB-28		SB-29		SB-29		SB-29REF		SB-30		SB-30	
Sample Depth (ft bgs):			2-4		0-2		2-4		0-2		2-4		0-2		2-4		0-2		2-4		0-2		0-2		2-4	
NYSDEC*			USEPA																							
Recommended Soil Cleanup Objectives			Risk-Based Concentrations																							
Sample Date:			6/26/98		6/17/98		6/17/98		6/17/98		6/17/98		6/19/98		6/19/98		6/17/98		6/17/98		6/17/98		6/18/98		6/18/98	
meter (Concentrations in µg/kg)																										
-Trichlorobenzene	3,400	204,400,000	210000	UX	38000	U	19000	U	1600	U	7300	U	3600	U	9600	U	730	U	750	U	730	U	7800	U	20000	U
ichlorobenzene	7,900	183,960,000	210000	U	38000	U	19000	U	1600	U	7300	U	3600	U	9600	U	730	U	750	U	730	U	7800	U	20000	U
ichlorobenzene	1,600	61,320,000	210000	U	38000	U	19000	U	1600	U	7300	U	3600	U	9600	U	730	U	750	U	730	U	7800	U	20000	U
ichlorobenzene	8,500	238,000	210000	UX	38000	U	19000	U	1600	U	7300	U	3600	U	9600	U	730	U	750	U	730	U	7800	U	20000	U
xybis(1-Chloropropane)	NLE	NLE	210000	U	81000	66000	1600	U	7300	U	21000	9600	730	U	750	U	730	U	750	U	730	U	7800	U	20000	U
-Trichlorophenol	NLE	520,000	210000	U	38000	U	19000	U	1600	U	7300	U	4200	1600	J	730	U	750	U	730	U	7800	U	20000	U	
ichlorophenol	400	6,132,000	210000	U	38000	U	19000	U	1600	U	7300	U	3800	1300	J	730	U	750	U	730	U	7800	U	20000	U	
dimethylphenol	NLE	40,880,000	210000	U	38000	U	19000	U	1600	U	7300	U	3600	U	9600	U	730	U	750	U	730	U	7800	U	20000	U
thynaphthalene	36,400	40,880,000	210000	U	38000	U	19000	U	5000	25000	3600	U	9600	U	730	U	750	U	730	U	7800	U	20000	U	20000	U
thylphenol	100*	102,200,000	210000	U	38000	U	19000	U	1600	U	7300	U	3600	U	9600	U	730	U	750	U	730	U	7800	U	20000	U
thylphenol	900	102,200,000	210000	U	38000	U	19000	U	1600	U	7300	U	3600	U	9600	U	730	U	750	U	730	U	7800	U	20000	U
rophenol	100*	16,352,000	210000	U	38000	U	19000	U	1600	U	7300	U	3600	U	9600	U	730	U	750	U	730	U	7800	U	20000	U
aphthene	50,000	122,640,000	1000000	UX	190000	U	91000	U	7600	U	36000	U	17000	U	46000	U	3600	U	3600	U	3600	U	38000	U	98000	U
aphthylene	41,000	NLE	210000	UX	38000	U	19000	U	1500	J	3100	J	180	J	9600	U	220	J	140	J	200	J	2600	J	6400	J
racene	50,000	613,200,000	210000	U	38000	U	19000	U	410	J	7300	U	3600	U	9600	U	120	J	200	J	99	J	800	J	2400	J
o(a)anthracene	224*	8,000	210000	U	38000	U	19000	U	2100	7900	3600	U	9600	U	490	J	470	J	460	J	5900	J	23000	J	23000	J
o(a)pyrene	61*	1,000	210000	U	38000	U	19000	U	7100	3300	J	3600	U	9600	U	1000	1700	970	14000	71000	14000	71000	14000	71000	14000	71000
o(b)fluoranthene	1,100	8,000	210000	U	38000	U	19000	U	10000	1700	J	920	J	600	J	1800	2200	1500	24000	50000	24000	50000	24000	50000	24000	50000
o(g,h,i)perylene	50,000	NLE	210000	U	38000	U	19000	U	1200	J	7400	830	J	430	J	730	U	630	J	730	U	16000	47000	16000	47000	
o(k)fluoranthene	1,100	78,000	210000	U	38000	U	19000	U	5800	4000	J	3600	U	9600	U	1500	1900	2200	18000	45000	18000	45000	18000	45000	18000	45000
oic acid	NLE	8,176,000,000	1000000	U	190000	U	91000	U	7600	U	36000	U	17000	U	46000	U	3600	U	3600	U	3600	U	38000	U	98000	U
yl alcohol	NLE	613,200,000	210000	U	38000	U	19000	U	1600	U	7300	U	3600	U	9600	U	730	U	750	U	730	U	7800	U	20000	U
-Ethylhexyl)phthalate	50,000	409,000	26000	JB	2700	JB	1700	JB	460	JB	7300	U	3600	U	9600	U	180	JB	120	JB	200	JB	7800	U	20000	U
ibenzylphthalate	50,000	408,800,000	210000	U	38000	U	19000	U	1600	U	7300	U	130	J	9600	U	730	U	750	U	730	U	7800	U	20000	U
azole	NLE	286,000	210000	U	38000	U	19000	U	1600	U	7300	U	870	J	3600	U	9600	U	730	U	730	U	7800	U	20000	U
sene	400	784,000	210000	U	38000	U	19000	U	7700	3500	J	1100	J	750	J	1000	1900	1000	20000	72000	20000	72000	20000	72000	20000	72000
butylphthalate	8,100	NLE	210000	U	38000	U	19000	U	1600	U	7300	U	3600	U	9600	U	71	JB	750	U	74	JB	7800	U	20000	U
octylphthalate	50,000	40,800,000	210000	U	38000	U	19000	U	1600	U	7300	U	99	J	9600	U	730	U	750	U	730	U	7800	U	20000	U
azo(a,h)anthracene	14*	1,000	210000	U	38000	U	19000	U	970	J	4600	J	3600	U	9600	U	730	U	750	U	730	U	7800	U	20000	U
azofuran	6,200	8,176,000	210000	U	38000	U	19000	U	970	J	1700	J	230	J	9600	U	120	J	85	J	110	J	3000	J	3400	J
ylphthalate	7,100	1,635,200,000	210000	U	3700	J	19000	U	1600	U	7300	U	260	JB	9600	U	730	U	750	U	730	U	7800	U	20000	U
anthene	50,000	81,760,000	210000	U	2100	J	19000	U	7800	7500	310	J	9600	U	3100	2800	2900	30000	100000	30000	100000	30000	100000	30000	100000	
ene	50,000	81,760,000	210000	U	38000	U	19000	U	1900	3900	J	3600	U	9600	U	180	J	110	J	180	J	3200	J	8400	J	
io(1,2,3-cd)pyrene	3,200	8,000	210000	U	38000	U	19000	U	1100	J	5900	J	750	J	390	J	730	U	640	J	730	U	18000	47000	18000	47000
iorone	4,400	6,024,000	210000	U	38000	U	19000	U	1600	U	7300	U	3600	U	9600	U	730	U	750	U	730	U	7800	U	20000	U
trosodiphenylamine (1)	NLE	1,168,000	210000	U	38000	U	19000	U	1900	7300	U	3600	U	9600	U	730	U	750	U	730	U	7800	U	20000	U	
thalene	13,000	40,880,000	210000	U	38000	U	19000	U	2100	9100	3600	U	9600	U	730	U	750	U	730	U	7800	U	20000	U	20000	U
anthrene	50,000	NLE	210000	U	38000	U	19000	U	9200	14000	2700	J	2000	J	1800	1400	1700	27000	67000	27000	67000	27000	67000	27000	67000	
ol	30*	1,226,400,000	960000	X	180000	63000	4500	42000	8700	29000	2400	330	J	2200	1600	31000	100000	31000	100000	31000	100000	31000	100000	31000	100000	
ae	50,000	61,320,000	210000	UX	1800	J	19000	U	4800	8400	2100	J	1700	J	1400	1800	1400	31000	100000	31000	100000	31000	100000	31000	100000	

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10 - Brooklyn
 00 Court Street
 998 through March 1999
 Volatile Organic Soil Sample Results

Site Designation:		SB-34MS	SB-34MSD	SB-35	SB-35	SB-35RE					
Site Depth (ft bgs):		2-4	2-4	0-2	2-4	0-2					
NYSDEC* Recommended Soil Cleanup Objectives		USEPA Risk-Based Concentrations									
Site Date:		6/18/98	6/18/98	6/18/98	6/18/98	6/18/98					
meter (Concentrations in µg/kg)											
Trichlorobenzene	3,400	204,400,000	1200	X	1500	X	2400		3800	J	2300
ichlorobenzene	7,900	183,960,000	690	U	690	U	1600		5400	J	1600
ichlorobenzene	1,600	61,320,000	690	U	690	U	1400	U	8000	U	1400
ichlorobenzene	8,500	238,000	1200	X	1500	X	1400	U	8000	U	1100
xybis(1-Chloropropane)	NLE	NLE	2800		3800		1400	U	8000	U	1400
Trichlorophenol	NLE	520,000	690	U	690	U	1400	U	8000	U	1400
ichlorophenol	400	6,132,000	690	U	690	U	1400	U	8000	U	1400
imethylphenol	NLE	40,880,000	690	U	690	U	1400	U	8000	U	1400
hynaphthalene	36,400	40,880,000	410	J	590	J	1400	U	3900	J	1400
hylphenol	100*	102,200,000	690	U	690	U	1400	U	8000	U	1400
hylphenol	900	102,200,000	690	U	690	U	1400	U	8000	U	1400
ophenol	100*	16,352,000	4100	X	4300	X	6800	U	39000	U	6800
iphthene	50,000	122,640,000	1600	X	1800	X	1400	U	3600	J	1400
iphthylene	41,000	NLE	690	U	690	U	1400	U	8000	U	1400
acene	50,000	613,200,000	250	J	300	J	2200		5100	J	510
(a)anthracene	224*	8,000	430	J	490	J	870	J	7000	J	800
(a)pyrene	61*	1,000	330	J	390	J	750	J	5400	J	690
(b)fluoranthene	1,100	8,000	290	J	340	J	740	J	3900	J	670
(g,h,i)perylene	50,000	NLE	530	J	580	J	1200	J	7100	J	1100
(k)fluoranthene	1,100	78,000	690	U	690	U	1400	U	8000	U	1400
ic acid	NLE	8,176,000,000	3400	U	3400	U	6800	U	39000	U	6800
/l alcohol	NLE	613,200,000	690	U	690	U	1400	U	8000	U	1400
Ethylhexyl)phthalate	50,000	409,000	370	JB	300	JB	2200	B	21000	B	1800
benzylphthalate	50,000	408,800,000	92	J	110	J	1400	U	8000	U	1400
zole	NLE	286,000	690	U	690	U	1400	U	1400	J	1400
ene	400	784,000	450	J	500	J	970	J	7100	J	880
butylphthalate	8,100	NLE	35	JB	36	JB	130	JB	8000	U	140
octylphthalate	50,000	40,800,000	690	U	690	U	1400	U	8000	U	1400
izo(a,h)anthracene	14*	1,000	310	J	320	J	1400	U	8000	U	650
izofuran	6,200	8,176,000	86	J	100	J	1400	U	2200	J	1400
ylphthalate	7,100	1,635,200,000	690	U	690	U	1400	U	8000	U	870
anthene	50,000	81,760,000	1100		1200		3000		19000		2800
ene	50,000	81,760,000	190	J	230	J	1400	U	3900	J	240
o(1,2,3-cd)pyrene	3,200	8,000	490	J	520	J	1100	J	6600	J	1000
orone	4,400	6,024,000	690	U	690	U	1400	U	8000	U	1400
rosodiphenylamine (1)	NLE	1,168,000	690	U	690	U	1400	U	8000	U	1400
thalene	13,000	40,880,000	410	J	620	J	4900		27000		4500
anthrene	50,000	NLE	1000		1200		220	J	21000		2000
ol	30*	1,226,400,000	3500	X	4200	X	1400	U	8000	U	1400
le	50,000	61,320,000	2600	X	2900	X	1400		18000		1400

O - Brooklyn
 00 Court Street
 998 through March 1999
 Volatile Organic Soil Sample Results

Job Designation:			SB-36		SB-36			SB-37		SB-37			SB-38		SB-38			SB-39		SB-39			SB-40		SB-40			SB-41		
Job Depth (ft bgs):			0-2		2-4			0-2		2-4			0-2		2-4			0-2		2-4			0-2		2-4			0-2		
NYSDEC*			USEPA		Risk-Based			Concentrations																						
Recommended Soil			Cleanup Objectives																											
Job Date:			6/23/98		6/23/98			6/19/98		6/19/98			6/18/98		6/18/98			6/19/98		6/19/98			6/22/98		6/22/98			6/22/98		
Concentrations in µg/kg)																														
Trichlorobenzene	3,400	204,400,000	360	U	68	J	3200	U	1500	U	700	U	1500	U	1800	U	4000	U	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
chlorobenzene	7,900	183,960,000	360	U	56	J	3200	U	1500	U	700	U	1500	U	450	J	1800	U	4000	U	1700	U	16000	U	4400	U	41000	U	41000	U
chlorobenzene	1,600	61,320,000	360	U	23	J	3200	U	1500	U	700	U	1500	U	1800	U	4000	U	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
chlorobenzene	8,500	238,000	360	U	78	J	3200	U	1500	U	700	U	1500	U	1800	U	4000	U	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
xybis(1-Chloropropane)	NLE	NLE	360	U	400	U	3200	U	1500	U	700	U	1500	U	1800	U	4000	U	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
Trichlorophenol	NLE	520,000	360	U	400	U	3200	U	1500	U	700	U	1500	U	1800	U	4000	U	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
chlorophenol	400	6,132,000	360	U	68	J	3200	U	1500	U	700	U	1500	U	550	J	4000	U	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
imethylphenol	NLE	40,880,000	360	U	400	U	3200	U	1500	U	700	U	1500	U	550	J	4000	U	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
hynaphthalene	36,400	40,880,000	360	U	400	U	3200	U	1500	U	700	U	1500	U	1800	U	4000	U	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
hylphenol	100*	102,200,000	360	U	400	U	3200	U	1500	U	700	U	1500	U	1100	J	1000	J	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
hylphenol	900	102,200,000	360	U	400	U	3200	U	1500	U	700	U	1500	U	1800	U	4000	U	120	J	440	J	4400	U	41000	U	41000	U	41000	U
ophenol	100*	16,352,000	1700	U	2000	U	15000	U	7400	U	3400	U	7300	U	9000	U	20000	U	8100	U	79000	U	22000	U	200000	U	200000	U	200000	U
iphthene	50,000	122,640,000	16	J	400	U	1900	J	2000	U	580	J	1600	U	2000	U	3100	J	440	J	16000	U	360	J	49000	U	41000	U	41000	U
iphthylene	41,000	NLE	360	U	98	J	360	J	130	J	150	J	210	J	140	J	250	J	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
acene	50,000	613,200,000	360	U	120	J	4000	U	2500	U	1000	U	2200	U	2900	U	4100	U	230	J	25000	U	4400	U	41000	U	41000	U	41000	U
(a)anthracene	224*	8,000	360	U	360	J	8800	U	5200	U	1600	U	4000	U	2800	U	4600	U	3400	U	37000	U	15000	U	89000	U	89000	U	89000	U
(a)pyrene	61*	1,000	320	J	840	U	8600	U	4700	U	1500	U	4000	U	2800	U	4600	U	3400	U	37000	U	15000	U	89000	U	89000	U	89000	U
(b)fluoranthene	1,100	8,000	330	J	900	U	6300	U	3700	U	1000	U	3100	U	1800	U	4200	U	5200	U	26000	U	9700	U	52000	U	52000	U	52000	U
(g,h,i)perylene	50,000	NLE	280	J	280	J	3400	U	2000	U	660	J	1300	J	2300	U	2900	U	3800	U	37000	U	8600	U	61000	U	61000	U	61000	U
(k)fluoranthene	1,100	78,000	31	J	650	U	6600	U	3600	U	900	U	2300	U	2600	U	160	J	4200	U	21000	U	12000	U	38000	U	38000	U	38000	U
ic acid	NLE	8,176,000,000	1700	U	2000	U	15000	U	7400	U	3400	U	7300	U	7000	J	12000	J	8100	U	79000	U	22000	U	200000	U	200000	U	200000	U
/l alcohol	NLE	613,200,000	360	U	400	U	3200	U	1500	U	700	U	1500	U	1800	U	4000	U	50	J	16000	U	4400	U	41000	U	41000	U	41000	U
Ethylhexyl)phthalate	50,000	409,000	360	U	530	B	6800	B	1800	U	320	JB	860	JB	350	JB	4000	U	1700	U	25000	U	4400	U	41000	U	41000	U	41000	U
benzylphthalate	50,000	408,800,000	360	U	96	J	3200	U	1500	U	700	U	1500	U	1800	U	4000	U	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
zole	NLE	286,000	360	U	47	J	710	J	730	J	350	J	560	J	960	J	1800	J	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
ene	400	784,000	260	J	480	U	11000	U	5800	U	1700	U	4700	U	3000	U	4700	U	4300	U	39000	U	15000	U	89000	U	89000	U	89000	U
utylphthalate	8,100	NLE	360	U	51	JB	5000	B	910	J	700	U	79	JB	1800	U	4000	U	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
ctylphthalate	50,000	40,800,000	360	U	400	U	3200	U	1500	U	700	U	1500	U	1800	U	4000	U	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
zo(a,h)anthracene	14*	1,000	360	U	180	J	3200	U	1200	J	700	U	1500	U	1800	U	4000	U	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
zofuran	6,200	8,176,000	11	J	26	J	900	J	1000	J	290	J	800	J	1200	J	1800	J	530	J	15000	J	190	J	34000	J	34000	J	34000	J
ylphthalate	7,100	1,635,200,000	360	U	400	U	3200	U	1500	U	700	U	1500	U	1800	U	4000	U	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
anthene	50,000	81,760,000	88	J	580	U	15000	U	9400	U	2800	U	7200	U	5400	U	12000	U	4200	U	66000	U	18000	U	150000	U	150000	U	150000	U
ene	50,000	81,760,000	360	U	400	U	2100	J	2000	U	580	J	1800	U	2500	U	2500	J	1700	U	12000	J	4400	U	28000	J	28000	J	28000	J
o(1,2,3-cd)pyrene	3,200	8,000	280	J	290	J	3500	U	2200	U	730	J	1400	J	2300	U	3000	J	3300	U	32000	U	8800	U	56000	U	56000	U	56000	U
orone	4,400	6,024,000	360	U	400	U	3200	U	1500	U	700	U	1500	U	1800	U	4000	U	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
rosodiphenylamine (1)	NLE	1,168,000	360	U	400	U	3200	U	1500	U	700	U	1500	U	1800	U	4000	U	1700	U	16000	U	4400	U	41000	U	41000	U	41000	U
thalene	13,000	40,880,000	14	J	37	J	510	J	610	J	390	J	6600	U	1900	U	2000	J	940	J	90000	U	160	J	26000	J	26000	J	26000	J
nthrene	50,000	NLE	130	J	190	J	12000	U	8500	U	3100	U	8800	U	9600	U	15000	U	5600	U	94000	U	6000	U	240000	U	240000	U	240000	U
l	30*	1,226,400,000	480	U	650	U	3200	U	710	J	590	J	1500	U	1800	U	520	J	400	J	2300	J	1000	J	41000	J	41000	J	41000	J
e	50,000	61,320,000	340	J	400	U	14000	U	8000	U	2400	U	6700	U	6200	U	6500	U	6300	U	100000	U	20000	U	240000	U	240000	U	240000	U

IO - Brooklyn
 00 Court Street
 1998 through March 1999
 Volatile Organic Soil Sample Results

Site Designation:			SB-42		SB-42		SB-43		SB-43		SB-44		SB-44		SB-44DL		A-01		A-01	
Site Depth (ft bgs):			0-2		4-6		0-2		2-4		0-2		4-6		0-2		0-2		2-4	
NYSDEC*			USEPA		Risk-Based															
Recommended Soil			Cleanup Objectives		Concentrations															
Site Date:			6/25/98		6/25/98		6/24/98		6/24/98		6/26/98		6/26/98		6/26/98		3/17/99		3/17/99	
meter (Concentrations in µg/kg)																				
Trichlorobenzene	3,400	204,400,000	1600	U	440	U	3900	U	2200	U	800	U	460	U	4000	U	8000	U	770	U
ichlorobenzene	7,900	183,960,000	1600	U	440	U	3900	U	2200	U	800	U	460	U	4000	U	8000	U	770	U
ichlorobenzene	1,600	61,320,000	1600	U	440	U	3900	U	2200	U	800	U	460	U	4000	U	8000	U	770	U
ichlorobenzene	8,500	238,000	1600	U	440	U	3900	U	2200	U	800	U	460	U	4000	U	8000	U	770	U
xybis(1-Chloropropane)	NLE	NLE	1600	U	440	U	3900	U	2200	U	800	U	460	U	4000	U	8000	U	770	U
Trichlorophenol	NLE	520,000	1600	U	440	U	3900	U	2200	U	800	U	460	U	4000	U	8000	U	770	U
ichlorophenol	400	6,132,000	1600	U	440	U	3900	U	2200	U	800	U	460	U	4000	U	8000	U	770	U
imethylphenol	NLE	40,880,000	1600	U	440	U	3900	U	2200	U	800	U	460	U	4000	U	8000	U	770	U
hlynaphthalene	36,400	40,880,000	190	J	42	J	3900	U	250	J	800	U	460	U	4000	U	8000	U	770	U
hylphenol	100*	102,200,000	1600	U	440	U	3900	U	2200	U	800	U	460	U	4000	U	1600	J	130	J
hylphenol	900	102,200,000	1600	U	440	U	3900	U	2200	U	800	U	460	U	4000	U	8000	U	770	U
ophenol	100*	16,352,000	7600	U	2100	U	19000	U	11000	U	3900	U	2200	U	20000	U	32000	U	3100	U
iphthene	50,000	122,640,000	640	J	72	J	1100	J	750	J	300	J	190	J	300	J	10000	U	25	J
iphthylene	41,000	NLE	70	J	440	U	270	J	200	J	120	J	45	J	120	J	2300	J	770	U
acene	50,000	613,200,000	1200	J	130	J	3200	J	2000	J	840		500		890	J	34000		37	J
(a)anthracene	224*	8,000	2300		270	J	9400		5400		2400		1200		2500	J	70000		90	
(a)pyrene	61*	1,000	2100		220	J	9800		5500		2000		1000		2300	J	61000		76	J
(b)fluoranthene	1,100	8,000	1800		180	J	7800		4500		2600		690		2400	J	67000		86	
(g,h,i)perylene	50,000	NLE	2100		360	J	6200		3200		1800		860		1500	J	33000		45	J
(k)fluoranthene	1,100	78,000	300	J	440	U	2400	J	1600	J	380	J	620		4000	U	27000		39	J
ic acid	NLE	8,176,000,000	7600	U	2100	U	19000	U	11000	U	3900	U	2200	U	20000	U	32000	U	3100	U
/l alcohol	NLE	613,200,000	1600	U	440	U	3900	U	2200	U	800	U	460	U	4000	U	8000	U	770	U
Ethylhexyl)phthalate	50,000	409,000	1600	U	440	U	3900	U	2200	U	640	JB	480	B	610	JB	8000	U	730	J
benzylphthalate	50,000	408,800,000	1600	U	440	U	3900	U	2200	U	800	U	460	U	4000	U	8000	U	770	U
zole	NLE	286,000	550	J	35	J	590	J	570	J	360	J	63	J	370	J	5200	J	770	U
ene	400	784,000	2400		320	J	9700		5800		2500		1300		2900	J	74000		90	J
butylphthalate	8,100	NLE	1600	U	440	U	3900	U	2200	U	16	JB	12	JB	4000	U	8000	U	770	U
octylphthalate	50,000	40,800,000	1600	U	440	U	3900	U	2200	U	800	U	460	U	4000	U	8000	U	770	U
izo(a,h)anthracene	14*	1,000	1600	U	440	U	3900	U	2200	U	730	J	240	J	410	J	8400		77	U
zofuran	6,200	8,176,000	350	J	57	J	560	J	460	J	200	J	43	J	220	J	6800	J	770	U
ylphthalate	7,100	1,635,200,000	1600	U	440	U	3900	U	2200	U	800	U	460	U	4000	U	8000	U	770	U
anthene	50,000	81,760,000	5000		570		16000		8600		4100		1800		5000		140000		230	J
ene	50,000	81,760,000	570	J	85	J	1100	J	730	J	800	U	460	U	4000	U	13000		38	J
o(1,2,3-cd)pyrene	3,200	8,000	1900		330	J	6300		3400		1600		680		1300	J	36000		52	J
orone	4,400	6,024,000	1600	U	440	U	3900	U	2200	U	800	U	71	J	4000	U	8000	U	770	U
rosodiphenylamine (1)	NLE	1,168,000	1600	U	440	U	3900	U	2200	U	800	U	460	U	4000	U	8000	U	770	U
thalene	13,000	40,880,000	350	J	140	J	380	J	340	J	200	J	51	J	210	J	4800	J	180	J
anthrene	50,000	NLE	5100		540		11000		7500		3600		2200		4000		110000		180	J
sl	30*	1,226,400,000	390	J	200	J	3900	U	1200	J	280	J	310	J	220	J	7000	J	970	
ie	50,000	61,320,000	5100		540		18000		9000		4000		2300		4600		120000		200	J

CO - Brooklyn
00 Court Street
1998 through March 1999
-Volatile Organic Soil Sample Results

Site Designation:			A-02		A-02		A-03		A-03		A-04		A-04		A-05 MS		A-05 MSD		A-05 MS		A-05 MSD		TAR COMP	
Site Depth (ft bgs):			0-2		2-4		0-2		4-6		0-2		4-6		0-2		0-2		4-6		4-6			
NYSDEC*			USEPA																					
Recommended Soil Cleanup Objectives			Risk-Based Concentrations																					
Site Date:			3/17/99		3/17/99		3/18/99		3/18/99		3/18/99		3/18/99		3/18/99		3/18/99		3/18/99		3/18/99		9/1/98	
meter (Concentrations in µg/kg)																								
Trichlorobenzene	3,400	204,400,000	18000	U	7800	U	7800	U	4000	U	3800	U	3900	U	NA	NA	NA	NA	NA	NA	NA	NA	5000000	U
Dichlorobenzene	7,900	183,960,000	18000	U	7800	U	7800	U	4000	U	3800	U	3900	U	NA	NA	NA	NA	NA	NA	NA	NA	5000000	U
Dichlorobenzene	1,600	61,320,000	18000	U	7800	U	7800	U	4000	U	3800	U	3900	U	NA	NA	NA	NA	NA	NA	NA	NA	5000000	U
Dichlorobenzene	8,500	238,000	18000	U	7800	U	7800	U	4000	U	3800	U	3900	U	NA	NA	NA	NA	NA	NA	NA	NA	5000000	U
1,2-Dichloropropane	NLE	NLE	18000	U	7800	U	7800	U	4000	U	3800	U	3900	U	340	X	330	X	290	X	280	X	5000000	U
Trichlorophenol	NLE	520,000	18000	U	7800	U	7800	U	4000	U	3800	U	3900	U	NA	NA	NA	NA	NA	NA	NA	NA	5000000	U
Dichlorophenol	400	6,132,000	18000	U	7800	U	7800	U	4000	U	3800	U	3900	U	710	X	720	X	670	X	680	X	5000000	U
Dimethylphenol	NLE	40,880,000	18000	U	7800	U	7800	U	230	J	3800	U	3900	U	NA	NA	NA	NA	NA	NA	NA	NA	5000000	U
Dithylnaphthalene	36,400	40,880,000	430	J	1600	J	10000	U	4000	U	1200	J	1900	J	NA	NA	NA	NA	NA	NA	NA	NA	250000	J
Dithyphenol	100*	102,200,000	18000	U	7800	U	7800	U	4000	U	3800	U	150	J	NA	NA	NA	NA	NA	NA	NA	NA	2700000	J
Dithyphenol	900	102,200,000	18000	U	7800	U	7800	U	4000	U	3800	U	150	J	580	X	580	X	630	X	630	X	5000000	U
Dithyphenol	100*	16,352,000	72000	U	31000	U	31000	U	16000	U	15000	U	16000	U	NA	NA	NA	NA	NA	NA	NA	NA	3500000	J
Dithyphenol	50,000	122,640,000	18000	U	900	J	19000	U	4000	U	5800	U	7500	U	NA	NA	NA	NA	NA	NA	NA	NA	24000000	U
Dithyphenol	41,000	NLE	18000	U	7800	U	1700	J	4000	U	1500	J	2000	J	NA	NA	NA	NA	NA	NA	NA	NA	3900000	J
Dithyphenol	50,000	613,200,000	18000	U	760	J	32000	U	4000	U	12000	U	17000	U	NA	NA	NA	NA	NA	NA	NA	NA	1100000	J
1(a)anthracene	224*	8,000	1800	U	820	J	46000	U	140	J	20000	U	41000	U	NA	NA	NA	NA	NA	NA	NA	NA	4800000	J
1(a)pyrene	61*	1,000	1800	U	730	J	41000	U	400	U	21000	U	40000	U	NA	NA	NA	NA	NA	NA	NA	NA	4200000	J
1(b)fluoranthene	1,100	8,000	1800	U	910	J	47000	U	400	U	25000	U	46000	U	NA	NA	NA	NA	NA	NA	NA	NA	4000000	J
1(g,h,i)perylene	50,000	NLE	1800	U	780	U	21000	U	400	U	16000	U	19000	U	NA	NA	NA	NA	NA	NA	NA	NA	3100000	J
1(k)fluoranthene	1,100	78,000	1800	U	340	J	20000	U	400	U	10000	U	18000	U	NA	NA	NA	NA	NA	NA	NA	NA	2000000	J
Dic acid	NLE	8,176,000,000	72000	U	31000	U	31000	U	16000	U	15000	U	16000	U	NA	NA	NA	NA	NA	NA	NA	NA	3500000	J
1,l alcohol	NLE	613,200,000	18000	U	7800	U	7800	U	4000	U	3800	U	3900	U	NA	NA	NA	NA	NA	NA	NA	NA	24000000	U
Ethylhexyl)phthalate	50,000	409,000	14000	J	2600	J	26000	U	4000	U	3800	U	3900	U	NA	NA	NA	NA	NA	NA	NA	NA	5000000	U
benzylphthalate	50,000	408,800,000	18000	U	7800	U	7800	U	4000	U	3800	U	3900	U	NA	NA	NA	NA	NA	NA	NA	NA	5000000	U
Izole	NLE	286,000	18000	U	7800	U	16000	U	4000	U	3900	U	4600	U	NA	NA	NA	NA	NA	NA	NA	NA	5000000	U
Iene	400	784,000	18000	U	820	J	52000	U	4000	U	23000	U	43000	U	V	V	V	V	V	V	V	V	2500000	J
butylphthalate	8,100	NLE	18000	U	7800	U	7800	U	4000	U	3800	U	3900	U	NA	NA	NA	NA	NA	NA	NA	NA	3800000	J
octylphthalate	50,000	40,800,000	18000	U	7800	U	7800	U	4000	U	3800	U	3900	U	NA	NA	NA	NA	NA	NA	NA	NA	5000000	U
Izo(a,h)anthracene	14*	1,000	1800	U	780	U	5600	U	400	U	3100	U	5900	U	NA	NA	NA	NA	NA	NA	NA	NA	5000000	U
Izofuran	6,200	8,176,000	18000	U	7800	J	14000	U	4000	U	3100	J	4100	U	NA	NA	NA	NA	NA	NA	NA	NA	560000	J
ylphthalate	7,100	1,635,200,000	18000	U	7800	U	7800	U	4000	U	3800	U	3900	U	NA	NA	NA	NA	NA	NA	NA	NA	2900000	J
anthene	50,000	81,760,000	550	J	2800	J	120000	U	110	J	48000	U	71000	U	NA	NA	NA	NA	NA	NA	NA	NA	5000000	U
Iene	50,000	81,760,000	18000	U	640	J	24000	U	4000	U	4600	U	6500	U	NA	NA	NA	NA	NA	NA	NA	NA	13000000	U
o(1,2,3-cd)pyrene	3,200	8,000	1800	U	780	U	22000	U	400	U	15000	U	22000	U	NA	NA	NA	NA	NA	NA	NA	NA	3700000	J
Iorone	4,400	6,024,000	18000	U	7800	U	7800	U	4000	U	3800	U	3900	U	NA	NA	NA	NA	NA	NA	NA	NA	1800000	J
Irosodiphenylamine (1)	NLE	1,168,000	18000	U	7800	U	7800	U	400	U	3800	U	3900	U	NA	NA	NA	NA	NA	NA	NA	NA	5000000	U
Ithalene	13,000	40,880,000	3100	J	5800	J	29000	U	140	J	1800	J	4000	U	V	V	V	V	V	V	V	V	5000000	U
Ianthrene	50,000	NLE	18000	U	3300	J	120000	U	4000	U	42000	U	43000	U	V	V	V	V	V	V	V	V	8200000	U
Ial	30*	1,226,400,000	8800	J	7800	U	32000	U	61000	J	170	J	640	J	280	270	340	330	330	330	330	330	19000000	J
Iic	50,000	61,320,000	600	J	2600	J	96000	U	110	J	44000	U	71000	U	NA	NA	NA	NA	NA	NA	NA	NA	2100000	J

CO - Brooklyn
700 Court Street
1998 through March 1999
i-Volatile Organic Soil Sample Results

Sample Designation:			MW-15		MW-15		MW-16		MW-16		MW-17		MW-17		DUP-1		FB-1	
Sample Depth (ft bgs):			0-2		4-6		0-2		4-6		0-2		2-4		(0-2)		(A-01)	
NYSDEC*			USEPA															
Recommended Soil			Risk-Based															
Cleanup Objectives			Concentrations															
Sample Date:			3/16/99		3/16/99		3/16/99		3/16/99		3/17/99		3/17/99		3/17/99		3/16/99	
meter (Concentrations in µg/kg)																		
oxybis(1-Chloropropane)	NLE	NLE	440	U	52000	U	390	U	410		360	U	370	U	790	U	11	U
Dimethylphenol	NLE	40,880,000	440	U	52000	U	390	U	9.3	J	360	U	370	U	790	U	11	U
ethylnaphthalene	36,400	40,880,000	54	J	3200	J	34	J	11	J	9.1	J	26	J	140	J	11	U
ethylphenol	900	102,200,000	9.8	J	52000	U	12	J	27	J	7.4	J	20	J	790	U	11	U
naphthene	50,000	122,640,000	280	J	5600	J	200	J	160	J	22	J	29	J	250	J	11	U
naphthylene	41,000	122,640,000	100	J	52000	U	110	J	95	J	31	J	37	J	150	J	11	U
racene	50,000	613,200,000	450		4700	J	370	J	190	J	78	J	97	J	330	J	11	U
so(a)anthracene	224*	8,000	1300		9700		1900		850		500		490		840		1.1	U
so(a)pyrene	61*	1,000	1200		7100		2000		830		540		540		870		1.1	U
so(b)fluoranthene	1,100	8,000	1400		8400		2300		910		680		680		1200		1.1	U
so(g,h,i)perylene	50,000	NLE	750		4400	J	1200	J	540		370		390		380	J	1.1	U
so(k)fluoranthene	1,100	78,000	560		4300	J	980		380		270		280		470		1.1	U
1-Ethylhexylphthalate	50,000	409,000	130	J	52000	U	390		410	U	360	U	91	J	290	J	2.2	J
azole	NLE	286,000	180	J	52000	U	110	J	40	J	32	J	24	J	130	J	11	U
sene	400	784,000	1600		7800	J	2200		910		560		600		1000		11	U
nzo(a,h)anthracene	14*	1,000	160		1500	J	270		97		80		85		140		1.1	U
nzofuran	6,200	8,176,000	120	J	1900	J	78	J	26	J	11	J	19	J	86	J	11	U
ranthene	50,000	81,760,000	3300		24000	J	3500		1500		870		970		2000		11	U
rene	50,000	81,760,000	220	J	4900	J	110	J	54	J	23	J	33	J	170	J	11	U
no(1,2,3-cd)pyrene	3,200	8,000	710		4700	J	1200	J	480		350		340		440		1.1	U
thalene	13,000	40,880,000	72	J	19000	J	150	J	67	J	15	J	35	J	560	J	11	U
anthrene	50,000	NLE	2900		25000	J	1800		710		360	J	390		1300		11	U
ol	30*	1,226,400,000	16	J	4900	J	390	U	37	J	360	U	22	J	4200		11	U
ne	50,000	61,320,000	3400		25000	J	3800		1700		850		920		1800		11	U

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

J - Estimated value

E - Exceeds calibration curve range

B - Analyte present in method blanks and sample

DL - Diluted sample

D - Diluted sample analytical result

* - Bolded numbers exceed the NYSDEC Cleanup level

X - Matrix spike compound

MS - Matrix spike

MSD - Matrix spike duplicate

ft bgs - Feet below ground surface

NLE - No level established

* - or method detection limit

RE - Reanalysis

V - Values outside of QC limits

Table 10

ITCO - Brooklyn
 8-700 Court Street
 June 1998 through March 1999
 Soil Sample Results - Metals

Sample Designation:			IIWSA-1	IIWSA-2	IIWSA-3	IIWSA-4	MW-10	MW-10	MW-13	MW-13	MW-14	MW-14
Sample Depth (ft bgs):			0-0.7	0-1.5	0-1.2	0-0.8	0-2	2-4	0-2	2-4	0-2	4-6
NYSDEC* Recommended Soil Cleanup Objectives			USEPA Risk-Based Concentrations									
Sample Date:			9/1/98	9/1/98	9/1/98	9/1/98	8/26/98	8/26/98	8/26/98	8/26/98	8/25/98	8/25/98
Parameter (Concentrations in mg/kg)												
Asenic	7.5	4	6.3	2.6	2.5	5.7	8.2	15.1	8.3	8.9	7.8	4.4
Barium	300	143,080	1300	1420	1140	286	464	187	109	104	193	98.6
Bismuth	1	1,022	489	305	296	110	64.6	***	82.1	***	3.6	***
Bromine	10	3,066,000	22.6	***	1140	***	855	***	59.7	***	119	***
Cadmium	500	NLE	584	4370	3430	292	733	392	295	170	572	181
Chromium	0.1	NLE	1.8	***	0.58	***	0.52	***	0.45	***	1.4	***
Copper	2	10,220	1.1	B	11.4	11	1.3	1.5	N	2.2	N	1.6
Lead	NLE	102,220	0.95	B	3.1	2.3	0.34	B	0.22	U	0.23	U

mg/kg - Milligrams per kilogram

U - Compound was analyzed for but not detected

N - Spiked sample recovery not within control limits

B - Indicates a value greater than or equal to the instrument detection limit,
 but less than the contract required detection limit

S - Matrix spike

D - Matrix spike duplicate

ft bgs - Feet below ground surface

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

NLE - No level established

Table 10

WITCO - Brooklyn
 88-700 Court Street
 June 1998 through March 1999
 Soil Sample Results - Metals

Sample Designation:			SB-9		SB-9		SB-10		SB-10		SB-11		SB-11		SB-12		SB-12		SB-13		SB-13	
Sample Depth (ft bgs):			0-2		2-4		0-2		2-4		0-2		2-4		0-2		2-4		0-2		2-4	
NYSDEC*			USEPA																			
Recommended Soil			Risk-Based																			
Cleanup Objectives			Concentrations																			
Sample Date:			6/29/98		6/29/98		6/29/98		6/29/98		6/19/98		6/19/98		6/23/98		6/23/98		6/24/98		6/24/98	
Parameter (Concentrations in mg/kg)																						
Arsenic	7.5	4	12.1	N	5.6	N	13.9	N	119	N	4.3		8.4		11.7		19.3		34.6		68.8	
Barium	300	143,080	795		77.5		396		1570		45.4	B	69.3		120		145		233		339	
Cadmium	1	1,022	887	***	1.3	B***	351	***	0.38	J***	0.26	UN	0.26	UN	13.3	N	17.8	N	1.5		0.62	B
Chromium	10	3,066,000	27.7		21.3		37.6		35.9		15.2		15.3		7.4		12.6		34.3	***	33.5	***
Lead	500	NLE	780	***	360	***	570	***	10700	***	64.1		193		146		427		349	***	896	***
Mercury	0.1	NLE	0.58		0.12	U	2.1		13.4		0.2	UN	2.7	N	2	N	6.3	N	5.2	N	3.6	N
Selenium	2	10,220	2.1	N	1.1	BN	2.8	N	32.4	N	2.2		1.4		3.2		3.7		1.8		3	
Silver	NLE	102,220	0.41	B	0.27	U	0.35	U	3	B	0.26	U	0.26	U	0.94	B	1	B	0.89	B	0.3	U

mg/kg - Milligrams per kilogram

U - Compound was analyzed for but not detected

N - Spiked sample recovery not within control limits

B - Indicates a value greater than or equal to the instrument detection limit,
 but less than the contract required detection limit

S - Matrix spike

D - Matrix spike duplicate

ft bgs - Feet below ground surface

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

NLE - No level established

Table 10

ITCO - Brooklyn
8-700 Court Street
June 1998 through March 1999
Soil Sample Results - Metals

Sample Designation:			1	SB-14	FIELD DUP #3	SB-14	SB-14D	SB-14S	SB-15	SB-15	SB-16	SB-16	SB-17
Sample Depth (ft bgs):				0-2	0-2	2-4	2-4	2-4	0-2	2-4	0-2	2-4	0-2
			NYSDEC*	USEPA									
			Recommended Soil	Risk-Based									
			Cleanup Objectives	Concentrations									
Sample Date:				6/24/98	6/24/98	6/24/98	6/24/98	6/24/98	6/23/98	6/23/98	6/24/98	6/24/98	6/25/98
Parameter (Concentrations in mg/kg)													
Antimony	7.5	4	12.1	3.9	5.2	7.6	29.8	19.4	7.6	12.1	13.5	5.7	
Barium	300	143,080	190	57.5	97.5	125	719	233	73.7	238	92.4	116	
Bismuth	1	1,022	16.1	0.9	B	0.61	B	0.43	B	2.7	16.6	3.2	29.6
Bromine	10	3,066,000	13.7	***	6.2	***	9.6	***	22.6	***	73.4	31.2	***
Cadmium	500	NLE	340	***	213	***	400	***	710	***	303	523	***
Chromium	0.1	NLE	0.53	N	0.79	N	0.65	N	0.68	1.6	N	1	N
Copper	2	10,220	4.8	1.5	1.4	2.3	7.3	4.5	2.4	2.5	3.5	2	
Lead	NLE	102,220	0.35	B	0.26	U	0.28	U	0.28	U	17	0.41	B
Manganese													
Mercury													
Nickel													
Selenium													
Silver													
Vanadium													
Zinc													

mg/kg - Milligrams per kilogram

U - Compound was analyzed for but not detected

N - Spiked sample recovery not within control limits

B - Indicates a value greater than or equal to the instrument detection limit, but less than the contract required detection limit

S - Matrix spike

D - Matrix spike duplicate

ft bgs - Feet below ground surface

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

NLE - No level established

Table 10

WITCO - Brooklyn
688-700 Court Street
June 1998 through March 1999
Soil Sample Results - Metals

Sample Designation:			1 SB-17		SB-18		SB-18		SB-19		SB-19		SB-20		SB-20		SB-21		SB-21		SB-22	
Sample Depth (ft bgs):			2-4		0-2		2-4		0-2		2-4		0-2		2-4		0-2		4-6		0-2	
			NYSDEC*		USEPA																	
			Recommended Soil		Risk-Based																	
			Cleanup Objectives		Concentrations																	
Sample Date:			6/25/98		6/26/98		6/26/98		6/26/98		6/26/98		6/23/98		6/23/98		6/25/98		6/25/98		6/24/98	
Parameter (Concentrations in mg/kg)																						
Arsenic	7.5	4	5.6		25.5	N	14.8	N	11.5	N	9.6	N	20.5		4.8		8.3	N	17	N	4.7	
Barium	300	143,080	79		324		182		231		194		85.6		65		262		199		1500	
Cadmium	1	1,022	0.26	U	170	***	0.27	J**	1.6	***	0.29	J**	1.7	N	0.99	BN	4.3	***	0.37	J**	689	
Chromium	10	3,066,000	9.9	***	14.4		17.6		18.5		17.3		9.6		17.7		37.4		8.6		15.2	***
Lead	500	NLE	208	***	619	***	476	***	398	***	427	***	249		72		521	***	431	***	102	***
Mercury	0.1	NLE	0.41	N	0.6		0.41		0.67		1.5		1.2	N	0.2	UN	1.4		0.62		0.22	N
Selenium	2	10,220	1.4		3.7	N	3	N	1.8	N	1.6	N	4		2.2		1.6	N	3.1	N	1.4	
Silver	NLE	102,220	0.26	U	0.27	U	0.27	U	0.28	U	0.29	U	0.29	U	0.27	U	0.28	U	0.37	U	0.26	U

mg/kg - Milligrams per kilogram

U - Compound was analyzed for but not detected

N - Spiked sample recovery not within control limits

B - Indicates a value greater than or equal to the instrument detection limit,
but less than the contract required detection limit

S - Matrix spike

D - Matrix spike duplicate

ft bgs - Feet below ground surface

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

NLE - No level established

Table 10

ITCO - Brooklyn
 38-700 Court Street
 June 1998 through March 1999
 Soil Sample Results - Metals

Sample Designation:		1	SB-22	SB-23	SB-23	SB-24	SB-24	SB-25	FIELD DUP #4	SB-25	SB-25D	SB-25S					
Sample Depth (ft bgs):			2-4	0-2	2-4	0-2	2-4	0-2	0-2	2-4	2-4	2-4					
NYSDEC*		USEPA															
Recommended Soil		Risk-Based															
Cleanup Objectives		Concentrations															
Sample Date:		6/24/98	6/25/98	6/25/98	6/24/98	6/24/98	6/26/98	6/26/98	6/26/98	6/26/98	6/26/98	6/26/98					
Parameter (Concentrations in mg/kg)																	
Arsenic	7.5	4	7.1	23.5	12.6	N	12.2	6.6	6.9	N	5.5	N	5.8	N	7.3	20.1	N
Barium	300	143,080	343	481	368		900	3020	734		523		104		94.1	673	
Cadmium	1	1,022	146	142	58.5	***	443	1300	247	***	119	***	27.3	***	36.2	***	26.9
Chromium	10	3,066,000	17.7	***	30.2	***	12.8	15	***	17.4	***	222	363		12.5	11	72.6
Cobalt	500	NLE	607	***	667	***	478	***	776	***	1550	***	2080	***	1870	***	363
Mercury	0.1	NLE	0.47	N	1.2	N	0.91	1.2	N	6.2	N	0.12	U	0.22	0.27	0.27	0.89
Selenium	2	10,220	5.2		4.9		1.8	N	2.4		3.1		5.2	N	7.6	N	5
Silver	NLE	102,220	0.27	U	0.34	B	0.28	U	0.28	U	0.3	U	0.67	B	0.95	B	14.5

mg/kg - Milligrams per kilogram

U - Compound was analyzed for but not detected

N - Spiked sample recovery not within control limits

B - Indicates a value greater than or equal to the instrument detection limit, but less than the contract required detection limit

S - Matrix spike

D - Matrix spike duplicate

ft bgs - Feet below ground surface

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

NLE - No level established

Table 10

WITCO - Brooklyn
 188-700 Court Street
 June 1998 through March 1999
 Soil Sample Results - Metals

Sample Designation:			1 SB-26	SB-26	SB-27	SB-27	SB-28	SB-28	SB-29	SB-29	SB-30	SB-30										
Sample Depth (ft bgs):			0-2	2-4	0-2	2-4	0-2	2-4	0-2	2-4	0-2	2-4										
NYSDEC* Recommended Soil Cleanup Objectives			USEPA Risk-Based Concentrations																			
Sample Date:			6/17/98	6/17/98	6/17/98	6/17/98	6/19/98	6/19/98	6/17/98	6/17/98	6/18/98	6/18/98										
Parameter (Concentrations in mg/kg)																						
Arsenic	7.5	4	11.6	8.3	12.4	8.1	1	B	7.2	7.6	15.8	16.6	19.1									
Barium	300	143,080	184	286	129	84.3	174		490	136	158	410	240									
Cadmium	1	1,022	36	N	67.6	N	320	N	1	BN	39	N	11.1	N	20.6	N	28.3	N	9.6	N		
Chromium	10	3,066,000	31.7		42.6		16.2		15.5		8.7		60.4		31.8		28.4		29.9		21.7	
Lead	500	NLE	482	***	401	***	455	***	203	***	17.4		610		298	***	33200	***	1030	***	***	*
Mercury	0.1	NLE	1.1	N	1.4	N	2.6	N	0.83	N	0.2	UN	0.69	N	1.1	N	0.64	N	2.8	N	2.4	N
Selenium	2	10,220	4.1		3.3		3		4.8		0.69	B	1.7		3.9		0.57		5.9		4.3	
Silver	NLE	102,220	0.32	U	0.28	U	0.31	U	0.3	U	0.24	U	0.31	U	0.28	U	3.2		3.6		0.35	B

mg/kg - Milligrams per kilogram

U - Compound was analyzed for but not detected

N - Spiked sample recovery not within control limits

B - Indicates a value greater than or equal to the instrument detection limit,
but less than the contract required detection limit

S - Matrix spike

D - Matrix spike duplicate

ft bgs - Feet below ground surface

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

NLE - No level established

Table 10

ITCO - Brooklyn
 38-700 Court Street
 June 1998 through March 1999
 Soil Sample Results - Metals

Sample Designation:			1 SB-31	SB-31	SB-32	FIELD DUP	SB-32	SB-32D	SB-32S	SB-33	SB-33	SB-34
Sample Depth (ft bgs):			0-2	2-4	0-2	0-2	2-4	2-4	2-4	0-2	2-4	0-2
			NYSDEC*		USEPA							
			Recommended Soil		Risk-Based							
			Cleanup Objectives		Concentrations							
Sample Date:			6/19/98	6/19/98	6/22/98	6/22/98	6/22/98	6/22/98	6/22/98	6/18/98	6/18/98	6/18/98
Parameter (Concentrations in mg/kg)												
Arsenic	7.5	4	8.4	15.8	8.2	12.2	10.2	7.4	29.3	15.6	10.1	0.69 B
Barium	300	143,080	167	290	730	4700	121	144	773	315	321	9.2 B
Cadmium	1	1,022	19.9	N 7.2	N 37.8	N 22.4	N 1.1	BN 1.3	B 5.1	N 38.1	N 20.9	N 0.95 BN
Chromium	10	3,066,000	12.4	23.2	10.2	15.1	18.2	18.3	79.9	37.8	40.4	3
Cobalt	500	NLE	499	857	406	893	256	226	287	1010	*** 880	*** 6.8 ***
Mercury	0.1	NLE	1.6	N 2.1	N 2	N 0.91	N 1.8	N 1.8	2.4	N 2.5	N 6.7	N 0.11 UN
Selenium	2	10,220	2	4	2.3	3	2.5	2.2	7.5	5.6	3.9	1.5
Silver	NLE	102,220	0.31	B 0.96	B 0.28	U 0.3	U 0.53	B 0.27	U 16.8	0.54	B 0.32	U 0.25 U

mg/kg - Milligrams per kilogram

U - Compound was analyzed for but not detected

N - Spiked sample recovery not within control limits

B - Indicates a value greater than or equal to the instrument detection limit,
 but less than the contract required detection limit

S - Matrix spike

D - Matrix spike duplicate

ft bgs - Feet below ground surface

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

NLE - No level established

Table 10

WITCO - Brooklyn
688-700 Court Street
June 1998 through March 1999
Soil Sample Results - Metals

Sample Designation:		1 FIELD DUP-1		SB-34		SB-34D		SB-34S		SB-35		SB-35		SB-36		SB-36		SB-37	
Sample Depth (ft bgs):		0-2		2-4		2-4		2-4		0-2		2-4		0-2		2-4		0-2	
NYSDEC*		USEPA																	
Recommended Soil		Risk-Based																	
Cleanup Objectives		Concentrations																	
Sample Date:		6/18/98		6/18/98		6/18/98		6/18/98		6/18/98		6/18/98		6/23/98		6/23/98		6/19/98	
Parameter (Concentrations in mg/kg)																			
Arsenic	7.5	4	1.3	B	0.53	B	0.53	U	11.9	6.4	4.1	8.4	16.7	11.2					
Barium	300	143,080	9.3	B	11.2	B	10.2	B	538	73.8	37	45.4	280	498					
Cadmium	1	1,022	0.81	BN	1.3	N	1.1	B	2.2	N	1.3	0.29	UN	6.1	N	30.6	N	19.1	N
Chromium	10	3,066,000	5.2		2.7		4.1		57.4	22.5	13.4	5.4	30.9	17.6					
Lead	500	NLE	6.5	***	14	***	10.8	***	14.3	103	***	30.2	***	94.8	914	768	***		
Mercury	0.1	NLE	0.099	UN	0.12	UN	0.12	U	1.3	N	0.52	N	0.28	N	1.6	N	6.6	N	4.1
Selenium	2	10,220	1.4		1.1	B	1.5		3.8	3.9	2.1	0.52	U	3.9	3.2				
Silver	NLE	102,220	0.26	U	0.26	U	0.26	U	14.1	0.29	U	0.29	U	0.26	U	0.44	B	0.23	U

mg/kg - Milligrams per kilogram

U - Compound was analyzed for but not detected

N - Spiked sample recovery not within control limits

B - Indicates a value greater than or equal to the instrument detection limit,
but less than the contract required detection limit

S - Matrix spike

D - Matrix spike duplicate

ft bgs - Feet below ground surface

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

NLE - No level established

mg/kg -

U -

N -

B -

S -

D -

ft bgs -

* -

*** -

Table 10

WITCO - Brooklyn
 588-700 Court Street
 June 1998 through March 1999
 Soil Sample Results - Metals

Sample Designation:			1 SB-37		SB-38		SB-38		SB-39		SB-39		SB-40		SB-40		SB-41		SB-41		SB-42	
Sample Depth (ft bgs):			2-4		0-2		2-4		0-2		2-4		0-2		2-4		0-2		2-4		0-2	
NYSDEC*			USEPA																			
Recommended Soil			Risk-Based																			
Cleanup Objectives			Concentrations																			
Sample Date:			6/19/98		6/18/98		6/18/98		6/19/98		6/19/98		6/22/98		6/22/98		6/22/98		6/22/98		6/25/98	
Parameter (Concentrations in mg/kg)																						
Arsenic	7.5	4	1.8	B	7.7		15.5		15.2		4.2		15.1		9.6		7.5		5.1		7.6	
Barium	300	143,080	52.6	B	154		199		267		34	B	349		268		251		99.4		114	
Cadmium	1	1,022	1.6	N	4.6	N	4.8	N	16.9	N	0.29	UN	59.9	N	2	N	58	N	1.7	N	0.26	U
Chromium	10	3,066,000	3.8		14.9		27.9		20		11		28.4		16.4		47.6		25.6		20.9	***
Lead	500	NLE	47.6		508	***	797	***	1220	***	69.1	***	812		1290		478		183		248	***
Mercury	0.1	NLE	1.6	N	1.4	N	7	N	0.31	N	0.5	N	4.6	N	3.3	N	4.2	N	0.59	N	0.54	N
Selenium	2	10,220	0.94	B	3.4		4.4		4.1		2.4		5.4		3.3		2.2		1.3	B	2.4	
Silver	NLE	102,220	0.28	U	0.28	U	0.36	B	0.77	B	0.29	U	0.57	B	0.31	U	0.32	U	0.26	U	0.26	U

Milligrams per kilogram

Compound was analyzed for but not detected

Spiked sample recovery not within control limits

Indicates a value greater than or equal to the instrument detection limit,
 but less than the contract required detection limit

Matrix spike

Matrix spike duplicate

Feet below ground surface

Bolded numbers exceed the NYSDEC Cleanup level

Duplicate analysis not within control limit

NLE - No level established

mg/kg -

U -

N -

B -

S -

D -

ft bgs -

* -

*** -

NLE -

Table 10

WITCO - Brooklyn
 588-700 Court Street
 June 1998 through March 1999
 Soil Sample Results - Metals

Sample Designation:			1 SB-42	SB-43	SB-43	SB-44	SB-44	A-01	A-01	A-01 S	A-01 D
Sample Depth (ft bgs):			4-6	0-2	2-4	0-2	4-6	0-2	2-4	2-4	2-4
NYSDEC* Recommended Soil Cleanup Objectives			USEPA Risk-Based Concentrations								
Sample Date:			6/25/98	6/24/98	6/24/98	6/26/98	6/26/98	3/17/99	3/17/99	3/17/99	3/17/99
Parameter (Concentrations in mg/kg)											
Arsenic	7.5	4	7	6	33	25.5	N	23.4	N	14.9	
Barium	300	143,080	79.2	89.9	218	106		151		104	2.6
Cadmium	1	1,022	0.32 U	3.8	23	0.28	J**	1	√**	0.75	61.7
Chromium	10	3,066,000	18.8 ***	6.5 ***	16.4 ***	18.8		25.4		8.2	2.61
Lead	500	NLE	343 ***	321 ***	348 ***	211 ***	653 ***	158		16.2	61.7
Mercury	0.1	NLE	0.53 N	3.9 N	0.57 N	1	2.2	0.29		0.06	2.02
Selenium	2	10,220	2.3	1.2 B	3.1	1.9 N	3.2 N	2.6	N	1.1	10.72
Silver	NLE	102,220	0.32 U	0.28 U	0.44 B	0.28 U	0.53 B	0.39	U	0.37	X
											2.6
											X
											61.7
											X
											2.02
											X
											10.7
											X
											16.1
											X
											0.05
											U
											UX
											1.07
											UX
											0.36
											U

Milligrams per kilogram

Compound was analyzed for but not detected

Spiked sample recovery not within control limits

Indicates a value greater than or equal to the instrument detection limit,
 but less than the contract required detection limit

Matrix spike

Matrix spike duplicate

Feet below ground surface

Bolded numbers exceed the NYSDEC Cleanup level

Duplicate analysis not within control limit

No level established

mg/kg - Mil

U - Cor

N - Spil

B - Indi

but

S - Mat

D - Mat

ft bgs - Fee

* - Bol

*** - Dup

NLE -

Table 10

ITCO - Brooklyn
8-700 Court Street
June 1998 through March 1999
ii) Sample Results - Metals

Sample Designation:			1 A-02		A-02	A-03	A-03	A-03 S	A-03 SD	A-04	A-04	MW-15						
Sample Depth (ft bgs):			0-2		2-4	0-2	4-6	4-6	4-6	0-2	4-6	0-2						
NYSDEC*			USEPA															
Recommended Soil			Risk-Based															
Cleanup Objectives			Concentrations															
Sample Date:			3/17/99		3/17/99	3/18/99	3/18/99	3/18/99	3/18/99	3/18/99	3/18/99	3/16/99						
Parameter (Concentrations in mg/kg)																		
Antimony	7.5	4	7.5	U	4.4	7.9	3.8	3.8	X	3.8	X	7.2	8.9	8.3				
Barium	300	143,080	801		153	1380	55	54.9	X	54.9	X	92.2	140	103				
Bismuth	1	1,022	14	√***	2.7	√***	64.2	√***	0.12	UN	0.12	U	5.5	√***	8.6	√***	32.2	N***
Bromine	10	3,066,000	1440		37.9	13.2	10.2	10.16	X	10.16	X	13	15.4	8.7				
Calcium	500	NLE	5770		818	718	90.5	90.4	X	90.4	X	238	663	328				
Chlorine	0.1	NLE	0.19		51	0.37	0.2	0.19	X	0.19	X	1.5	0.46	0.78				
Copper	2	10,220	10	UN	1.1	UN	1.1	UN	1.13	U	1.13	U	1.1	UN	1.1	UN	1.2	UN
Lead	NLE	102,220	2.3		0.6	0.37	U	0.38	U	0.38	U	0.37	0.38	UN	0.41			B

Milligrams per kilogram

Compound was analyzed for but not detected

Spiked sample recovery not within control limits

Indicates a value greater than or equal to the instrument detection limit,

but less than the contract required detection limit

Matrix spike

Matrix spike duplicate

Feet below ground surface

Numbers exceed the NYSDC Cleanup level

Duplicate analysis not within control limit

No level established

mg/kg - Milligrams per kilogram

U - Compound not detected

N - Spiked sample

B - Indicates a value greater than or equal to the instrument detection limit, but less than the contract required detection limit

S - Matrix spike

D - Matrix spike duplicate

ft bgs - Feet below ground surface

* - Bolded number

*** - Duplicate analysis

NLE - No level established

Table 10

TTCO - Brooklyn
 38-700 Court Street
 June 1998 through March 1999
 Soil Sample Results - Metals

Sample Designation:			1	MW-15	MW-16	MW-16	MW-17	MW-17	DUP-1		
Sample Depth (ft bgs):				4-6	0-2	4-6	0-2	2-4			
NYSDEC*			USEPA								
Recommended Soil			Risk-Based								
Cleanup Objectives			Concentrations								
Sample Date:			3/16/99	3/16/99	3/16/99	3/17/99	3/17/99	3/17/99			
Parameter (Concentrations in mg/kg)											
Arsenic	7.5	4	16.9		4.2	4.9	6.6	3.5	6.2		
Barium	300	143,080	354		35.3	B	40.2	B	132		
Cadmium	1	1,022	3.8	N***	1.1	BN***	0.12	UN	0.74	NB***	BN***
Chromium	10	3,066,000	21.8		10.6	11	27.7	12.6	0.62		BN***
Cobalt	500	NLE	1120		61.9	60.1	397	191	6.3		
Mercury	0.1	NLE	1.6		0.17	0.13	0.65	0.26	51.9		
Selenium	2	10,220	14.2	N***	1.1	UN	1.5	N	1	UN	
Silver	NLE	102,220	0.76	B	0.37	UN	0.39	UN	0.34	UN	N
									0.35	B	U

per kilogram
 was analyzed for but not detected
 recovery not within control limits
 value greater than or equal to the instrument detection limit,
 the contract required detection limit
 duplicate
 ground surface
 values exceed the NYSDEC Cleanup level
 analysis not within control limit
 abolished

mg/kg - Milligram
 U - Compound
 N - Spiked sample
 B - Indicates
 but less than
 S - Matrix spike
 D - Matrix spike
 ft bgs - Feet below
 * - Bolded number
 *** - Duplicate
 NLE - No level

Table 10

WITCO - Brooklyn
688-700 Court Street
June 1998 through March 1999
Soil Sample Results - Metals

Sample Designation:		I		FB-1		TAR COMP	
Sample Depth (ft bgs):							
	NYSDEC* Recommended Soil Cleanup Objectives	USEPA Risk-Based Concentrations					
Sample Date:			3/16/99		9/1/98		
Parameter (Concentrations in mg/kg)							
Arsenic	7.5	4	3.5	U	4.8		
Barium	300	143,080	0.14	U	35	B	
Cadmium	1	1,022	0.5	UN*	0.85	B	
Chromium	10	3,066,000	2.1	U	5.9	***	
Lead	500	NLE	2.1	U	2120		
Mercury	0.1	NLE	0.1	U	0.83	***	
Selenium	2	10,220	4.7	UN*	0.86	B	
Silver	NLE	102,220	1.6	U	0.19	U	

ns per kilogram
nd was analyzed for but not detected
imple recovery not within control limits
a value greater than or equal to the instrument detection limit,
han the contract required detection limit
like
like duplicate
w ground surface
umbers exceed the NYSDEC Cleanup level
analysis not within control limit
established

Table 11

ITCO - Brooklyn
8-700 Court Street
June 1998 through March 1999
Soil Sample Results - PCBs

Sample Designation:			SB-13	SB-13	SB-14	FIELD DUP #3	SB-14	SB-14MS	SB-14MSD	SB-18	SB-18	SB-19	
Sample Depth (ft bgs):			0-2	2-4	0-2	0-2	2-4	2-4	2-4	0-2	2-4	0-2	
NYSDEC*			USEPA										
Recommended Soil			Risk-Based										
Cleanup Objectives			Concentrations										
Sample Date:			6/24/98	6/24/98	6/24/98	6/24/98	6/24/98	6/24/98	6/24/98	6/26/98	6/26/98	6/26/98	
Parameter(Concentrations in µg/kg)													
Color-1248	10	3	3.7	53	2.8	0.095	0.39	0.37	0.2	J	3.7	1.2	0.057

µg/kg - Micrograms per kilogram
U - Compound was analyzed for but not detected
ft bgs - Feet below ground surface
J - Estimated value
X - Matrix spike compound
MS - Matrix spike
MSD - Matrix spike duplicate
* - Bolded numbers exceed the NYSDEC Cleanup level

Table 11

WITCO - Brooklyn
688-700 Court Street
June 1998 through March 1999
Soil Sample Results - PCBs

Sample Designation:			SB-19	SB-42	SB-42	SB-43	SB-43			
Sample Depth (ft bgs):			2-4	0-2	4-6	0-2	2-4			
NYSDEC*			USEPA							
Recommended Soil			Risk-Based							
Cleanup Objectives			Concentrations							
Sample Date:			6/26/98	6/25/98	6/25/98	6/24/98	6/24/98			
Parameter(Concentrations in µg/kg)										
Aroclor-1248	10	3	0.49	0.2	U	0.22	U	0.14	J	0.3

µg/kg - Micrograms per kilogram

U - Compound was analyzed for but not detected

ft bgs - Feet below ground surface

J - Estimated value

X - Matrix spike compound

MS - Matrix spike

MSD - Matrix spike duplicate

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 12

WITCO - Brooklyn
688-700 Court Street
TCLP Analyses

Sample Designation: Sample Date:	TCLP* Extraction Guidance Value	TAR COMP 9/1/98	
Parameter (Concentrations in µg/L)			
Benzene	0.7	53	T
Toluene	5	60	
Ethylbenzene	5	17	
Xylenes (total)	5	89	BT
2,4-Dimethylphenol	NLE	6300000	
2-Methylphenol	NLE	7100000	
4-Methylphenol	NLE	8000000	
Acenaphthene	20	1400000	J
Anthracene	50	250000	J
Fluoranthene	50	160000	J
Fluorene	50	810000	J
Naphthalene	10	26000000	
Phenanthrene	50	1200000	J
Phenol	NLE	3000000	J
Pyrene	50	120000	J

µg/L - Micrograms per liter

T - Compound present in trip blank

J - Estimated value

B - Analyte present in method blanks and sample

NLE - No level established

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 13

WITCO - Brooklyn
Roux Associates Field Parameters
July 1998 through October 1998

Monitoring Well Designation	Date	Eh (mV)	pH	Temperature (degrees C)	Conductivity (μ S)
MW-1	7/16/98	45	7.3	22	780
MW-2	7/16/98	91	7.4	20	1,660
MW-3	7/16/98	88	8.0	19	540
MW-4	7/16/98	105	7.40	21.0	810
MW-5	7/16/98	115	6.40	21.0	>2,000
MW-6	7/16/98	31	5.60	20.0	>2,000
MW-7	7/16/98	75	6.80	22.0	1,810
MW-8	7/16/98	95	6.40	23.0	>2,000
MW-9	7/16/98	61	6.20	21.5	>2,000
MW-11	9/3/98	67	6.3	22.7	624
MW-12	9/3/98	3	6.22	25.7	1,053
MW-13	9/3/98	21	6.17	22.3	>2,000
MW-14	9/3/98	8	6.80	19.4	830

NOTES:

mV - Millivolts
degrees C - Degrees centigrade
 μ S - Microsiemens
mg/L - Milligrams per liter
NS - Not sampled

Table 14

WITCO - Brooklyn
Enviro-Sciences Field Parameters
March 1999

Monitoring Well Designation	Date	Dissolved Oxygen (%)	pH	Temperature (degrees C)	Conductivity (µS)
MW-1	3/24/99	10.20	6.43	13.7	0.70
MW-2	3/24/99	10.19	6.84	13.8	2.06
MW-3	3/24/99	6.90	7.15	13.2	3.05
MW-4	3/24/99	11.13	7.11	12.7	0.36
MW-5	3/24/99	10.62	6.35	11.7	1.18
MW-6 ⁽¹⁾	3/24/99	--	--	--	--
MW-7	3/24/99	10.62	7.35	12.9	1.05
MW-8	3/24/99	11.19	6.56	11.9	1.34
MW-9	3/24/99	11.10	6.85	12.9	2.41
MW-10	3/24/99	3.29	6.67	11.1	1.42
MW-11	3/24/99	10.01	7.29	13.9	0.67
MW-12	3/24/99	1.25	6.45	12.3	1.23
MW-13	3/24/99	3.54	6.41	12.4	3.89
MW-14 ⁽²⁾	3/24/99	--	--	--	--
MW-15	3/24/99	1.14	6.37	13.0	1.67
MW-16	3/24/99	4.18	6.91	12.2	2.52
MW-17	3/24/99	5.00	6.90	13.4	2.09

NOTES:

(1) - Product present in well. Well not sampled.

(2) - Well damaged during March 15, 1999 snow storm. Well not sampled.

degrees C - Degrees centigrade

µS - Microsiemens

mg/L - Milligrams per liter

Table 15

WITCO - Brooklyn
633 Court Street
July 16, 1998
Groundwater Sample Results - Metals

Sample Designation:		MW-1	MW-2	MW-3	TRIP BLANK		
Sample Date:		7/16/98	7/16/98	7/16/98	7/16/98		
NYSDEC*							
Parameter	Ambient Water Quality						
(Concentrations in µg/L)	Standards or Guidelines						
Benzene	1	54		12000	7	J	10 U
Toluene	5	1	J	5200	10	U	10 U
Ethylbenzene	5	8	J	1100	10	U	10 U
Xylenes (total)	5	11		3300	10	U	10 U
Acetone	50	10	U	1500	10	U	10 U

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

NLE - No level established

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 16

WITCO - Brooklyn
633 Court Streer
July 16, 1998
Groundwater Sample Results - Semi-Volatile Organic

Sample Designation:		MW-1	MW-2	MW-3
Sample Date:		7/16/98	7/16/98	7/16/98
NYSDEC*				
Parameter	Ambient Water Quality			
(Concentrations in µg/L.)	Standards or Guidelines			
2,4-Dimethylphenol	1	5 J	3600	10 U
2-Methylnaphthalene	50	27	2600 U	10 U
2-Methylphenol	5	2 J	1200 J	10 U
4-Methylphenol	50	3 J	4400	10 U
Acenaphthene	20	78	110 J	5 J
Acenaphthylene	20	1 J	100 J	10 U
Anthracene	50	10 J	2600 U	0.3 J
Benzoic acid	NLE	23 J	13000 U	52 U
bis(2-Chloroethyl)ether	1	2 J	2600 U	10 U
Carbazole	NLE	94	2600 U	10 U
Dibenzofuran	5	28	97 J	10 U
Fluoranthene	50	7 J	2600 U	10 U
Fluorene	50	29	67 J	10 U
Naphthalene	10	76	11000 B	3 J
Phenanthrene	50	48	52 J	1 J
Phenol	1	5 J	15000	10 U
Pyrene	50	6 J	16 J	10 U

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

NA - Not analyzed

B - Analyte present in method blanks and sample

NLE - No level established

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 17

WITCO - Brooklyn
 633 Court Street
 July 16, 1998
 Groundwater Sample Results - Metals

Sample Designation:		MW-1	MW-1F	MW-2	MW-2F	MW-3	MW-3F
Sample Date:		7/16/98	7/16/98	7/16/98	7/16/98	7/16/98	7/16/98
NYSDEC*							
Parameter	Ambient Water Quality						
(Concentrations in µg/L)	Standards or Guidelines						
Arsenic	25	44.5	17.2	45.2	34.6	22.6	12.7
Barium	1000	538	198	B	515	354	262
Cadmium	10	15.6	N	1.6	BN	5.8	1.8
Chromium	50	17.3	1	U	8.7	B	1
Lead	25	347	12.7	33.7	N	1	UN
Mercury	2	3	0.64	0.2	U	0.2	U
Selenium	10	5.4	2.3	B	2.8	BN	2

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

B - Indicates a value greater than or equal to the instrument detection limit,
 but less than the contract required detection limit.

N - Spiked sample recovery not within control limits

F - Filtered sample

NA - Not analyzed

E - Reported value is estimated due to the presence of interference.

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

Table 18

WITCO - Brooklyn
 633 Court Street
 September 3, 1998
 Groundwater Sample Results - Volatile Organics

Sample Designation:		MW-11	TRIP BLANK	
Sample Date:		9/3/98	9/3/98	
NYSDEC				
Parameter	Ambient Water Quality			
(Concentrations in µg/L)	Standards or Guidelines			
Benzene	1	100	10	U
Toluene	5	87	10	U
Ethylbenzene	5	140	10	U
Xylenes (total)	5	380	10	U
1,2-Dichloroethene (total)	5	5	J	U
2-Butanone	50	11	10	U
4-Methyl-2-Pentanone	50	8	J	U
Acetone	50	20	10	U
Methylene Chloride	5	10	U	J
Trichloroethene	5	1	J	U

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 19

WITCO - Brooklyn
633 Court Street
September 3, 1998
Groundwater Sample Results - Semi-Volatile Organic

Sample Designation:		MW-11	
Sample Date:		9/3/98	
NYSDEC*			
Parameter	Ambient Water Quality		
(Concentrations in µg/L)	Standards or Guidelines		
2,4-Dimethylphenol	1	23	J
2-Methylnaphthalene	50	430	J
2-Methylphenol	5	1000	U
4-Methylphenol	50	13	J
Acenaphthene	20	150	J
Acenaphthylene	20	7	J
Anthracene	50	18	J
Benzoic acid	NLE	NA	
Carbazole	NLE	86	J
Dibenzofuran	5	99	J
Fluoranthene	50	21	J
Fluorene	50	89	J
Naphthalene	10	3500	
Phenanthrene	50	110	J
Phenol	1	270	J
Pyrene	50	13	J

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

NA - Not analyzed

B - Analyte present in method blanks and sample

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 20

WITCO - Brooklyn
633 Court Street
September 3, 1998
Groundwater Sample Results - Metals

Sample Designation:		MW-11		MW-11F	
Sample Date:		9/3/98		9/3/98	
NYSDEC*					
Parameter	Ambient Water Quality				
(Concentrations in µg/L)	Standards or Guidelines				
Arsenic	25	10.4	N	3.5	BN
Barium	1000	562	N	21	BN
Cadmium	10	71	N	1.2	BN
Chromium	50	40.8		1	U
Lead	25	276	N	2.5	BN
Mercury	2	5	***N	0.1	J***N
Selenium	10	3	UN	3	UN
Sodium	20000	37900	E	38900	E

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

B - Indicates a value greater than or equal to the instrument detection limit,
but less than the contract required detection limit.

N - Spiked sample recovery not within control limits

F - Filtered sample

NA - Not analyzed

E - Reported value is estimated due to the presence of interference.

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

Table 21

WITCO - Brooklyn
633 Court Street
March 24, 1999
Groundwater Sample Results - Volatile Organic

Sample Designation:		MW1_399	MW2_399	MW3_399	MW11_399			
Sample Date:		3/24/99	3/24/99	3/24/99	3/24/99			
NYSDEC*								
Parameter	Ambient Water Quality							
(Concentrations in µg/L.)	Standards or Guidelines							
Benzene	1	70	J	4300	32	91 J		
Toluene	5	10	J	2000	24	99 J		
Ethylbenzene	5	43	J	640	6	J	88 J	
Xylenes (total)	5	40	J	1900	19	J	320	
1,2-Dichloroethene (total)	5	100	U	500	U	20	U	12 J
2-Butanone	50	100	U	500	390		200 U	
Acetone	50	100	U	630	140		200 U	
Trichloroethene	5	100	U	500	U	20	U	10 J
TICS		690	J	3500	J	59	J	940 J

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 22

WITCO - Brooklyn
 633 Court Street
 March 24, 1999
 Groundwater Sample Results - Semi-Volatile Organic

Sample Designation:		MW1_399	MW2_399	MW3_399	MW11_399
Sample Date:		3/24/99	3/24/99	3/24/99	3/24/99
NYSDEC*					
Parameter	Ambient Water Quality				
(Concentrations in µg/L.)	Standards or Guidelines				
2,4-Dimethylphenol	1	13	J	1400	48 J 520 U
2-Methylnaphthalene	50	83	J	410 J	7 J 75 J
2-Methylphenol	5	6	J	430 J	12 J 14 J
4-Methylphenol	50	3	J	1500	26 J 33 J
Acenaphthene	20	89	J	69 J	4 J 45 J
Acenaphthylene	20	2	J	57 J	110 U 520 U
Anthracene	50	6	J	1100 U	110 U 520 U
Benzo(a)anthracene	0.002	2	J	1100 U	110 U 520 U
Benzo(b)fluoranthene	0.002	1	J	1100 U	110 U 520 U
Carbazole	NLE	66	J	99 J	4 J 25 J
Chrysene	0.002	1	J	1100 U	110 U 520 U
Dibenzofuran	5	31	J	69 J	1 J 28 J
Fluoranthene	50	8	J	1100 U	110 U 520 U
Fluorene	50	32	J	46 J	1 J 26 J
Naphthalene	10	640		4800	240 1200
Phenanthrene	50	35	J	31 J	110 U 21 J
Phenol	1	56	J	4900	140 630
Pyrene	50	6	J	1100 U	110 U 520 U
2,4-Dinitrophenol	5	69	J	2800 U	270 U 1300 U
TICS		1324	JN	20560	JN 708 JN 23510 JN

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

NA - Not analyzed

B - Analyte present in method blanks and sample

NLE - No level established

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 23

WITCO - Brooklyn
 633 Court Street
 March 24, 1999
 Groundwater Sample Results - Metals

Sample Designation:		MW1_399	MW1_399F	MW2_399	MW2_399F	MW3_399	MW3_399F	MW11	MW11_399F							
Sample Date:		3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99							
NYSDEC*																
Parameter	Ambient Water Quality															
(Concentrations in µg/L)	Standards or Guidelines															
Arsenic	25	17.7	3.9	U	44.9	14.9	16.6	3.6	U	9.6	8.8					
Barium	1000	1450	890		577	408	248	141	B	70.8	B	3.8	B			
Cadmium	10	12.5	0.4	U	0.61	B	0.4	U	0.51	B	0.4	U	53.7	0.4	U	
Chromium	50	32.2	1.1	U	46.6		1.1	U	23.6		1.1	U	10.2		1.1	U
Lead	25	79.2	2.1	U	40.3		2.1	U	24.4		2.1	U	12.5		2.1	U
Mercury	2	0.44	0.1	U	0.31		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Sodium	20,000	122,000	132,000		344,000	401,000	41,800		43,100		37,600		41,400			

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

B - Indicates a value greater than or equal to the instrument detection limit,
 but less than the contract required detection limit.

F - Filtered sample

NA - Not analyzed

E - Reported value is estimated due to the presence of interference.

NLE - No level established

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

Table 24

WITCO - Brooklyn

633 Court Street

March 24, 1999 Groundwater Sampling Event

Groundwater Sample Results - Chloride and Total Dissolved Solids

Sample Designation:		MW1_399	MW2_399	MW3_399	MW11_399
Sample Date:		3/24/99	3/24/99	3/24/99	3/24/99
NYSDEC*					
Parameter	Ambient Water Quality				
(Concentrations in mg/L)	Standards or Guidelines				
CHLORIDE	250	395	760	300	28
TDS	1,000	1,270	2,100	1,350	606

* - Bolded numbers exceed the NYSDEC Cleanup level

TTCO - Brooklyn
 38-700 Court Street
 July 16, 1998
 Groundwater Sample Results - Volatile Organics

µg/L - Micrograms per liter
 U - Compound was analyzed for but not detected
 J - Estimated value
 X - Matrix spike compound
 B - Analyte present in method blanks and sample
 MS - Matrix spike
 MSD - Matrix spike duplicate
 * - Bolded numbers exceed the NYSDEC Cleanup level

$\mu\text{g/L}$ -
 U -
 J -
 X -
 B -
 MS -
 MSD -

Table 25

WITCO - Brooklyn
688-700 Court Street
July 16, 1998
Groundwater Sample Results - Volatile Organics

Sample Designation:		MW-9MSD		TRIP BLANK		
Sample Date:		7/16/98		7/16/98		
NYSDEC*						
Parameter	Ambient Water Quality					
(Concentrations in µg/L)	Standards or Guidelines					
Benzene	1	X	250	X	10	U
Toluene	5	X	230	X	10	U
Ethylbenzene	5	U	50	U	10	U
Xylenes (total)	5	U	50	U	10	U
1,2-Dichloropropane	5	J	17	J	10	U
Acetone	50		180		10	U

Micrograms per liter

Compound was analyzed for but not detected

Estimated value

Matrix spike compound

Analyte present in method blanks and sample

Matrix spike

Matrix spike duplicate

Table 26

WITCO - Brooklyn
 688-700 Court Street
 July 16, 1998
 Groundwater Sample Results - Semi-Volatile Organic

Sample Designation:		MW-4		MW-5		MW-6		FIELD DUP		MW-7		MW-8		MW-9		MW-9MS		MW-9MSD	
Sample Date:		7/16/98		7/16/98		7/16/98		7/16/98		7/16/98		7/16/98		7/16/98		7/16/98		7/16/98	
NYSDEC*																			
Parameter		Ambient Water Quality																	
(Concentrations in µg/L.)		Standards or Guidelines																	
2,2'-oxybis(1-Chloropropane)	NLE	11	U	10000	U	53000	U	52000	U	290	J	21000	U	200	J	210	J	120	J
2,4-Dichlorophenol	1	11	U	10000	U	1700	J	1600	J	2000	U	21000	U	36	J	24	J	27	J
2,4-Dimethylphenol	1	11	U	10000	U	53000	U	52000	U	130	J	21000	U	1100	U	1100	U	1100	U
2-Chlorophenol	50	11	U	10000	U	53000	U	52000	U	2000	U	21000	U	28	J	140	JX	120	JX
4-Methylphenol	50	11	U	10000	U	53000	U	52000	U	120	J	21000	U	24	J	21	J	22	J
Acenaphthene	20	5	J	10000	U	53000	U	52000	U	110	J	21000	U	17	J	75	JX	70	JX
Anthracene	50	0.3	J	10000	U	53000	U	52000	U	17	J	21000	U	1100	U	1100	U	1100	U
Benzoic acid	NLE	54	U	12000	J	34000	J	34000	J	10000		14000	J	750	J	730	J	740	J
Carbazole	NLE	11	U	10000	U	53000	U	52000	U	110	J	21000	U	1100	U	1100	U	1100	U
Dibenzofuran	5	11	U	10000	U	53000	U	52000	U	68	J	21000	U	1100	U	1100	U	1100	U
Fluorene	50	11	U	10000	U	53000	U	52000	U	71	J	21000	U	1100	U	1100	U	1100	U
Naphthalene	10	3	J	10000	U	53000	U	52000	U	3400		21000	U	11	JB	9	JB	10	JB
Phenanthrene	50	1	J	10000	U	53000	U	52000	U	87	J	21000	U	7	J	8	J	9	J
Phenol	1	11	U	63000		230000		240000		640	J	110000		6400		5800	X	5800	X

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

X - Matrix spike compound

NA - Not analyzed

B - Analyte present in method blanks and sample

MS - Matrix spike

MSD - Matrix spike duplicate

RE - Reanalysis

NLE - No level established

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 27

ITCO - Brooklyn
 38-700 Court Street
 July 16, 1998
 Groundwater Sample Results - Metals

Sample Designation:		MW-4	MW-4F	MW-5	MW-5F	MW-6	FIELD DUP	FIELD DUPE	MW-6F	MW-7	MW-7F	MW-8
Sample Date:		7/16/98	7/16/98	7/16/98	7/16/98	7/16/98	7/16/98	7/16/98	7/16/98	7/16/98	7/16/98	7/16/98
NYSDEC*												
Parameter	Ambient Water Quality											
Concentrations in µg/L)	Standards or Guidelines											
Arsenic	25	12.2	2 B	75.8	22.2	22.9	31.8	18.8	12.2	29.9	12.2	14.3
Barium	1000	535	146 B	2620	116 B	2940	3280	427	457	775	148 B	1240
Cadmium	10	14.9	1.7 B	5.6 N	1.8 BN	99	114	71.7	82.7	4.4 BN	1 UN	2.4 BN
Chromium	50	10.8	1 U	70.7	2 B	222	334	7.9 B	11.4	38.9	1.3 B	24.8
Cobalt	25	726 N	1.8 BN	268	8.4	754 N	1910 N	1 UN	1 UN	508	14.9	137
Mercury	2	2.6	0.2 U	0.74	0.2 U	5.3	0.2 U	0.2 U	0.2 U	2.6	0.2 U	0.64
Molybdenum	10	2.2 BN	2 UN	15.6	6.4	13.4 N	13.9 N	14.5 N	11.1 N	12.3	5.7	5.7

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

N - Spiked sample recovery not within control limits

B - Indicates a value greater than or equal to the instrument detection limit, but less than the contract required detection limit

E - Reported value is estimated due to interference

S - Matrix spike

D - Matrix spike duplicate

NA - Not analyzed

F - Filtered sample

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

Table 27

WITCO - Brooklyn
 688-700 Court Street
 July 16, 1998
 Groundwater Sample Results - Metals

Sample Designation:		MW-8F	MW-9	MW-9F	MW-9D	MW-9FD	MW-9FS	MW-9S
Sample Date:		7/16/98	7/16/98	7/16/98	7/16/98	7/16/98	7/16/98	7/16/98
NYSDEC*								
Parameter	Ambient Water Quality							
(Concentrations in µg/L)	Standards or Guidelines							
Arsenic	25	10.9	25.5	24.8	27.3	26.8	67.6	74.4
Barium	1000	386	631	528	632	546	2360	2430
Cadmium	10	1.6 BN	23.4	21	23.6	21.5	26.7	29.2
Chromium	50	1.8 B	2.1 B	1 U	1.8 B	1 U	180	183
Lead	25	4.1	43.7 N	1 UN	42.1	1 U	17.6	84.8 N
Mercury	2	0.2 U	0.31	0.2 U	0.31	0.2 U	1	1.4
Selenium	10	6.3	3.2 BN	4 BN	7.2	3.1 B	15.6	17 N

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

N - Spiked sample recovery not within control limits

B - Indicates a value greater than or equal to the instrument detection limit,
 but less than the contract required detection limit

E - Reported value is estimated due to interference

S - Matrix spike

D - Matrix spike duplicate

NA - Not analyzed

F - Filtered sample

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

Table 28

WITCO - Brooklyn
 688-700 Court Street
 September 3, 1998
 Groundwater Sample Results - Volatile Organics

Sample Designation:		MW-10	MW-12	MW-13	MW-14	FIELD DUP	MW-14MS	MW-14MSD	TRIP BLANK
Sample Date:		9/3/98	9/3/98	9/3/98	9/3/98	9/3/98	9/3/98	9/3/98	9/3/98
NYSDEC*									
Parameter	Ambient Water Quality								
(Concentrations in µg/L)	Standards or Guidelines								
Benzene	1	10 U	50 U	10 U	61	88	320 X	350 X	10 U
Toluene	5	10 U	50 U	10 U	27 J	43 J	270 X	290 X	10 U
Ethylbenzene	5	10 U	21 J	10 U	35 J	48 J	38 J	43 J	10 U
Xylenes (total)	5	10 U	94	10 U	35 J	48 J	37 J	42 J	10 U
1,1-Dichloroethene	5	10 U	50 U	10 U	50 U	10 J	280 X	300 X	10 U
2-Butanone	50	8 J	50 U	10 U	50 U	50 U	50 U	50 U	10 U
Acetone	50	18	180	10 U	50 U	50 U	50 U	50 U	10 U
Styrene	5	10 U	50 U	10 U	50 U	5 J	50 U	50 U	10 U
Trichloroethene	5	10 U	50 U	10 U	50 U	6 J	260 X	280 X	10 U

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

X - Matrix spike compound

B - Analyte present in method blanks and sample

MS - Matrix spike

MSD - Matrix spike duplicate

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 29

WITCO - Brooklyn

688-700 Court Street

September 3, 1998

Groundwater Sample Results - Semi-Volatile Organic

Sample Designation:		MW-10		MW-10RE		MW-12		MW-13		MW-14		FIELD DUP		MW-14MS		MW-14MSD	
Sample Date:		9/3/98		9/3/98		9/3/98		9/3/98		9/3/98		9/3/98		9/3/98		9/3/98	
Parameter (Concentrations in µg/L)		NYSDEC* Ambient Water Quality Standards or Guidelines															
2,2'-oxybis(1-Chloropropane)	NLE	10	U	10	U	260	J	5	J	1000	U	1100	U	1100	U	1100	U
2,4-Dimethylphenol	1	10	U	10	U	22000	U	5	J	440	J	450	J	360	J	420	J
2-Methylnaphthalene	50	10	U	10	U	600	J	340	J	380	J	380	J	360	J	340	J
2-Methylphenol	5	10	U	10	U	22000	U	43	U	580	J	600	J	520	J	600	J
4-Methylphenol	50	10	U	10	U	180	J	3	J	1200		1100		890	J	1100	
Acenaphthene	20	10	U	1	J	190	J	200		310	J	320	J	360	JX	360	JX
Acenaphthylene	20	10	U	10	U	22000	U	8	J	10	J	9	J	9	J	8	J
Anthracene	50	0.6	J	0.5	J	240	J	39	J	49	J	62	J	50	J	46	J
Benzo(a)anthracene	0.002	10	U	10	U	22000	U	5	J	1000	U	17	J	1100	U	1100	U
Benzo(a)pyrene	0.002	10	U	10	U	22000	U	2	J	1000	U	15	J	1100	U	1100	U
Benzo(b)fluoranthene	0.002	10	U	10	U	22000	U	2	J	1000	U	10	J	1100	U	1100	U
Benzo(g,h,i)perylene	5	10	U	10	U	22000	U	1	J	1000	U	6	J	1100	U	1100	U
Benzo(k)fluoranthene	0.002	10	U	10	U	22000	U	2	J	1000	U	15	J	1100	U	1100	U
Carbazole	NLE	0.2	J	10	U	230	J	23	J	520	J	550	J	500	J	510	J
Chrysene	0.002	10	U	10	U	22000	U	4	J	1000	U	16	J	1100	U	1100	U
Dibenzofuran	5	10	U	0.5	J	190	J	170		180	J	180	J	170	J	170	J
Fluoranthene	50	0.5	J	0.5	J	290	J	36	J	40	J	82	J	44	J	38	J
Fluorene	50	1	J	0.9	J	240	J	160		170	J	180	J	160	J	160	J
Indeno(1,2,3-cd)pyrene	0.002	10	U	10	U	22000	U	1	J	1000	U	6	J	1100	U	1100	U
Naphthalene	10	10	U	10	U	30000		260		3900		3900		3800		3400	
Phenanthrene	50	3	J	2	J	560	J	220		240	J	280	J	240	J	230	J
Phenol	1	10	U	10	U	91000		2	J	1100		1200		1100	X	1300	X
Pyrene	50	0.4	J	0.2	J	190	J	29	J	21	J	50	J	76	JX	79	JX

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

X - Matrix spike compound

NA - Not analyzed

B - Analyte present in method blanks and sample

MS - Matrix spike

MSD - Matrix spike duplicate

RE - Reanalysis

NLE - No level established

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 30

JITCO - Brooklyn
 88-700 Court Street
 September 3, 1998
 Groundwater Sample Results - Metals

Sample Designation:		MW-10	MW-10F	MW-12	MW-12F	MW-13	MW-13F	MW-14	MW-14F	FIELD DUP	FIELD DUPE	MW-14D
Sample Date:		9/3/98	9/3/98	9/3/98	9/3/98	9/3/98	9/3/98	9/3/98	9/3/98	9/3/98	9/3/98	9/3/98
Parameter	NYSDEC*											
Concentrations in µg/L	Ambient Water Quality Standards or Guidelines											
Arsenic	25	351 N	9.5 BN	17.8 N	16 N	61.9 N	42.5 N	36.9 N	3 UN	19.2 N	3 UN	40.6
Barium	1000	7910 N	4450 N	1010 N	212 N	3920 N	2480 N	2330 N	42.1 BN	554 N	44.8 BN	2620
Cadmium	10	34.1 N	1 UN	36.2 N	1 UN	2.7 BN	1 UN	1 UN	1.1 BN	12.8 N	2.6 BN	1.3 B
Chromium	50	327	1 U	28	1 U	19.2	1 U	1 U	1 U	38.4	1 U	1 U
Cobalt	25	11200 N	2 UN	1020 N	2 UN	977 N	2 UN	2 UN	2.6 BN	1410 N	2 UN	2 U
Mercury	2	8.2 ***†	0.36 ***†	9.1 ***†	0.1 U**	9.3 ***†	0.36 ***†	1.2 ***†	0.1 U**	5.6 ***†	0.1 U*N	1.6 ***
Selenium	10	60.7 N	3 UN	5.4 N	5.2 N	15.2 N	8.3 N	10 N	3 UN	4.6 BN	3 UN	10.6
Silver	50	16.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Sodium	20000	155000 E	149000 E	65900 E	61400 E	200000 E	185000 E	180000 E	44500 E	44000 E	42900 E	190000

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

N - Spiked sample recovery not within control limits

B - Indicates a value greater than or equal to the instrument detection limit, but less than the contract required detection limit

E - Reported value is estimated due to interference

S - Matrix spike

D - Matrix spike duplicate

NA - Not analyzed

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

N - Spiked sample recovery not within control limits

B - Indicates a value greater than or equal to the instrument detection limit, but less than the contract required detection limit

E - Reported value is estimated due to interference

S - Matrix spike

D - Matrix spike duplicate

NA - Not analyzed

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

Table 30

WITCO - Brooklyn
688-700 Court Street
September 3, 1998
Groundwater Sample Results - Metals

Sample Designation:		MW-14DF	MW-14S	MW-14SF
Sample Date:		9/3/98	9/3/98	9/3/98
NYSDEC*				
Parameter	Ambient Water Quality			
(Concentrations in µg/L)	Standards or Guidelines			
Arsenic	25	3 U	47.6 N	42.9
Barium	1000	40.8 B	2060 N	1820
Cadmium	10	1 B	9 N	5.3
Chromium	50	1 U	188	173
Lead	25	14.6	626 N	22.9
Mercury	2	0.1 U	3.5 N	1
Selenium	10	3 U	12.5 N	11.1
Silver	50	1 U	47.6	48
Sodium	20000	37800	NA	NA

ograms per liter
pound was analyzed for but not detected
ed sample recovery not within control limits
ates a value greater than or equal to the instrument detection limit,
ess than the contract required detection limit
orted value is estimated due to interference
ix spike
ix spike duplicate
analyzed
red sample
led numbers exceed the NYSDEC Cleanup level
licate analysis not within control limit

Table 31

TCO - Brooklyn
 -700 Court Street
 March 24, 1999 Groundwater Sampling Event
 Groundwater Sample Results -Chloride and Total Dissolved Solids

Sample Designation:		MW4_399	MW5_399	MW6_399	MW7_399	MW8_399	MW9_399	MW10_399	MW12_399	MW13_399	MW15_399
Sample Date:		3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99
Parameter	NYSDEC										
	Ambient Water Quality Standards or Guidelines	Risk-Based									
Chloride	250	118	740	1,460	90	42	360	495	115	730	23
Total Dissolved Solids	1,000	682	2,640	3,790	3,070	656	2,200	1,760	669	2,050	524

mg/L - Milligrams per liter
 U - Compound was analyzed for but not detected
 N - Spiked sample recovery not within control limits
 * - Duplicate analysis not within control limit
 B - Indicates a value greater than or equal to the instrument detection limit, but less than the contract required detection limit
 E - Reported value is estimated due to interference
 S - Matrix spike
 D - Matrix spike duplicate
 NA - Not analyzed
 * - Bolded numbers exceed the NYSDEC Cleanup level

mg/L
 U
 N
 *
 B
 E
 S
 D
 NA
 *

Table 31

WITCO - Brooklyn
 688-700 Court Street
 March 24, 1999 Groundwater Sampling Event
 Groundwater Sample Results - Chloride and Total Dissolved Solids

Sample Designation:		MW16_399	MW17_399	FB1_399	FB2_399	DUP1_399
Sample Date:		3/24/99	3/24/99	3/24/99	3/24/99	3/24/99
NYSDEC						
Parameter	Ambient Water Quality					(MW-5)
(Concentrations in mg/L)	Standards or Guidelines					
CHLORIDE	250	47	480	5	U	5
TDS	1,000	467	3,050	10	U	10
						740
						2,590

- Milligrams per liter
 - Compound was analyzed for but not detected
 - Spiked sample recovery not within control limits
 - Duplicate analysis not within control limit
 - Indicates a value greater than or equal to the instrument detection limit, but less than the contract required detection limit
 - Reported value is estimated due to interference
 - Matrix spike
 - Matrix spike duplicate
 - Not analyzed
- Bolded numbers exceed the NYSDEC Cleanup level

FCO - Brooklyn
 700 Court Street
 rch 24, 1999
 undwater Sample Results - Volatile Organic

Sample Designation:		MW4_399	MW5_399	MW6_399	MW7_399	MW8_399	MW9_399	MW10_399	MW12_399	MW13_399	MW15_399										
Sample Date:		3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99										
NYSDEC																					
Ambient Water Quality Risk-Based																					
Concentrations in µg/L)		Standards or Guidelines																			
Benzene	1	10	U	43	J	78	J	20000	U	10	U	180	J	7	J	500	U	10	U	250	U
Toluene	5	1	J	210	J	72	J	6400	J	10	U	220	J	51		500	U	2	J	75	J
Ethylbenzene	5	10	U	40	J	200	U	3600	J	10	U	31	J	23		500	U	10	U	290	
Xylenes (total)	5	2	J	870		61	J	10000	J	10	U	240	J	94		500	U	3	J	3200	
Acetone	50	7	J	360	J	200	U	20000	U	10	U	210	J	6	J	500	U	10	U	250	U
Styrene	50	10	U	7700		1700		180000		9	J	6800		110		500	U	10		250	U
Chloroethene	5	2	J	500	U	200	U	20000	U	10	U	500	U	10	U	500	U	10	U	250	U
Dichloropropane	1	10	U	500	U	70	J	20000	U	10	U	500	U	10	U	500	U	10	U	250	U
ΣS		0	J	280	J	7140	J	49000	J	25	J	3030	J	179	J	0	J	151	J	1530	J

µg/L - Micrograms per liter
 U - Compound was analyzed for but not detected
 J - Estimated value
 NA - Not analyzed
 B - Analyte present in method blanks and sample
 NLE - No level established
 S - Spike Sample
 X - Spike Matrix
 D - Spike Duplicate
 * - Bolded numbers exceed the NYSDEC Cleanup level

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 32

WITCO - Brooklyn

688-700 Court Street

March 24, 1999

Groundwater Sample Results - Volatile Organic

Sample Designation:		MW16_399	MW17_399	FB1_399	FB2_399	TB1_399	DUP1_399	MW-17 S	MW-17 D								
Sample Date:		3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	(MW-5)	3/24/99	3/24/99								
NYSDEC																	
Parameter	Ambient Water Quality																
(Concentrations in µg/L)	Standards or Guidelines																
Benzene	1	3400		82	10	U	10	U	10	U	43	J	160	X	140	X	
Toluene	5	910	J	5	J	10	U	10	U	10	U	230	J	63	X	60	X
Ethylbenzene	5	230	J	1	J	10	U	10	U	10	U	46	J	10	U	10	U
Xylenes (total)	5	720	J	5	J	10	U	10	U	10	U	1100		10	U	10	U
2-Butanone	50	1000	U	10	U	10	U	10	U	10	U	1000	U	10	U	10	U
Acetone	50	1000	U	10	U	10	U	10	U	10	U	8000		10	U	10	U
Trichloroethene	5	1000	U	10	U	10	U	10	U	10	U	1000	U	55	X	54	X
1,2-Dichloropropane	1	1000	U	10	U	10	U	10	U	10	U	1000	U	40	U	10	U
TICS		1640	J	284	J	0	J	0	J	0	J	1800	J				

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

NA - Not analyzed

B - Analyte present in method blanks and sample

NLE - No level established

S - Spike Sample

X - Spike Matrix

D - Spike Duplicate

* - Bolded numbers exceed the NYSDEC Cleanup level

Table 33

ITCO - Brooklyn
 38-700 Court Street
 March 24, 1999
 Groundwater Sample Results - Semi-Volatile Organic

Sample Designation:		MW4_399		MW5_399		MW6_399		MW7_399		MW8_399		MW9_399		MW10_399		MW12_399		MW13_399	
Sample Date:		3/24/99		3/24/99		3/24/99		3/24/99		3/24/99		3/24/99		3/24/99		3/24/99		3/24/99	
Parameter	NYSDEC	Risk-Based																	
Concentrations in µg/L)	Ambient Water Quality Standards or Guidelines																		
2'-oxybis(1-Chloropropane)	NLE	10	U	5300	U	110000	U	2700	U	11	U	260000	U	210	U	73	J	100	U
4-Dimethylphenol	1	1	J	5300	U	110000	U	2700	U	2	J	260000	U	210	U	520	U	100	U
Methylnaphthalene	50	0.2	J	0.2	J	110000	U	53	J	2	J	260000	U	210	U	69	J	38	J
Methylphenol	5	10	U	5300	U	110000	U	39	J	0.9	J	260000	U	210	U	33	J	100	U
Methylphenol	50	10	U	59	J	110000	U	200	J	2	J	260000	U	210	U	520	U	100	U
acenaphthene	20	29		5300	U	110000	U	120	J	14		260000	U	210	U	46	J	30	J
acenaphthylene	20	0.6	J	5300	U	110000	U	2700	U	0.4	J	260000	U	210	U	520	U	100	U
anthracene	50	2	J	5300	U	110000	U	29	J	0.7	J	260000	U	210	U	15	J	6	J
benzo(a)anthracene	0.002	0.8	J	5300	U	110000	U	2700	U	11	U	260000	U	210	U	520	U	100	U
benzo(a)pyrene	0.002	0.6	J	5300	U	110000	U	2700	U	11	U	260000	U	210	U	520	U	100	U
benzo(b)fluoranthene	0.002	0.9	J	5300	U	110000	U	2700	U	11	U	260000	U	210	U	520	U	100	U
benzo(g,h,i)perylene	0.002	0.4	J	5300	U	110000	U	2700	U	11	U	260000	U	210	U	520	U	100	U
benzo(k)fluoranthene	0.002	0.3	J	5300	U	110000	U	2700	U	11	U	260000	U	210	U	520	U	100	U
bis(2-Chloroethyl)ether	1	10	U	5300	U	110000	U	2700	U	11	U	260000	U	210	U	520	U	100	U
carbazole	NLE	0.2	J	5300	U	110000	U	65	J	1	J	260000	U	210	U	520	U	100	U
chrysene	0.002	0.9	J	5300	U	110000	U	2700	U	11	U	260000	U	210	U	35	J	3	J
benzofuran	5	1	J	5300	U	110000	U	60	J	0.6	J	260000	U	210	U	520	U	100	U
fluoranthene	50	6	J	5300	U	110000	U	46	J	1	J	260000	U	210	U	28	J	25	J
fluorene	50	6	J	5300	U	110000	U	70	J	1	J	260000	U	210	U	12	J	11	J
benzo(1,2,3-cd)pyrene	0.002	0.4	J	5300	U	110000	U	2700	U	11	U	260000	U	210	U	33	J	22	J
phthalene	10	0.5	J	58	J	110000	U	1200	J	67		260000	U	210	U	520	U	100	U
phenanthrene	50	5	J	5300	U	110000	U	150	J	4	J	260000	U	210	U	3700		83	J
phenol	1	1	J	19000		490000		3400		39		1300000		210	U	59	J	48	J
phenylene	50	4	J	5300	U	110000	U	30	J	0.8	J	260000	U	210	U	2000		5	J
ethylbenzylphthalate	50	1	J	5300	U	110000	U	2700	U	1	J	260000	U	210	U	9	J	7	J
1,3-Trichlorophenol	1	10	U	5300	U	110000	U	52	J	11	U	260000	U	210	U	520	U	100	U
bis(2-Ethylhexyl)phthalate	50	10	U	5300	U	110000	U	2700	U	1	J	260000	U	210	U	520	U	100	U
CS		80	JN	117700	JN	0		721520	JN			0		21355	JN	4330	JN	8642	JN

µg/L - * - Bolded numbers exceed the NYSDEC Cleanup level

U - Compound was analyzed for but not detected

J - Estimated value

NA - Not analyzed

B - Analyte present in method blanks and sample

NLE - No level established

S - Spike Sample

X - Spike Matrix

D - Spike Duplicate

Table 33

ITCO - Brooklyn
 8-700 Court Street
 March 24, 1999
 Groundwater Sample Results - Semi-Volatile Organic

Sample Designation:		MW15_399		MW16_399		MW17_399		FB1_399		FB2_399		DUP1_399		MW-17 S		MW-17 D	
Sample Date:		3/24/99		3/24/99		3/24/99		3/24/99		3/24/99		(MW-5)		3/24/99		3/24/99	
Parameter	NYSDEC	Ambient Water Quality		Standards or Guidelines													
Concentrations in µg/L)																	
2'-oxybis(1-Chloropropane)	NLE	210	U	1000	U	52	U	11	U	11	U	1000	U	1000	U	1000	U
4-Dimethylphenol	1	210	U	920	J	9	J	11	U	11	U	1000	U	1000	U	1000	U
Methylnaphthalene	50	210	U	410	J	52	U	11	U	11	U	1000	U	1000	U	1000	U
Methylphenol	5	210	U	560	J	3	J	11	U	11	U	1000	U	1000	U	1000	U
Methylphenol	50	210	U	1300	U	52	U	11	U	11	U	1000	U	1000	U	1000	U
Benaphthene	20	2	J	190	J	1	J	11	U	11	U	1000	U	1000	U	1000	U
Benaphthylene	20	210	U	38	J	52	U	11	U	11	U	1000	U	38	X	40	X
Anthracene	50	210	U	1000	U	52	U	11	U	11	U	1000	U	1000	U	1000	U
Benzo(a)anthracene	0.002	210	U	1000	U	52	U	11	U	11	U	1000	U	1000	U	1000	U
Benzo(a)pyrene	0.002	210	U	1000	U	52	U	11	U	11	U	1000	U	1000	U	1000	U
Benzo(b)fluoranthene	0.002	210	U	1000	U	52	U	11	U	11	U	1000	U	1000	U	1000	U
Benzo(g,h,i)perylene	0.002	210	U	1000	U	52	U	11	U	11	U	1000	U	1000	U	1000	U
Benzo(k)fluoranthene	0.002	210	U	1000	U	52	U	11	U	11	U	1000	U	1000	U	1000	U
1,2-(2-Chloroethyl)ether	1	210	U	1000	U	52	U	11	U	11	U	1000	U	1000	U	1000	U
Indazole	NLE	210	U	140	J	1	J	11	U	11	U	1000	U	1000	U	1000	U
Indene	0.002	210	U	1000	U	52	U	11	U	11	U	1000	U	1000	U	1000	U
Benzo(furan)	5	210	U	120	J	52	U	11	U	11	U	1000	U	1000	U	1000	U
Indoranthene	50	210	U	1000	U	52	U	11	U	11	U	1000	U	1000	U	1000	U
Indorene	50	210	U	79	J	52	U	11	U	11	U	1000	U	1000	U	1000	U
Indeno(1,2,3-cd)pyrene	0.002	210	U	1000	U	52	U	11	U	11	U	1000	U	1000	U	1000	U
Phthalene	10	60	J	5500	U	97	U	11	U	11	U	1000	U	1000	U	1000	U
Benanthrene	50	3	J	66	J	52	U	11	U	11	U	1000	U	1000	U	1000	U
Enol	1	56	J	630	J	58	U	11	U	11	U	1000	U	1000	U	1000	U
Indene	50	210	U	1000	U	52	U	11	U	11	U	30000	U	61	X	64	X
1,2-bis(4-chlorophenyl)ethane	50	210	U	1000	U	52	U	11	U	11	U	1000	U	40	X	43	X
1,3-Trichlorophenol	1	210	U	1000	U	52	U	11	U	11	U	1000	U	1000	U	1000	U
(2-Ethylhexyl)phthalate	50	210	U	1000	U	52	U	11	U	11	U	1000	U	1000	U	1000	U
ΣS		13870	JN	3570	JN	1714	JN	0	0	0	0	153100	JN				

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

J - Estimated value

NA - Not analyzed

B - Analyte present in method blanks and sample

NLE - No level established

S - Spike Sample

X - Spike Matrix

D - Spike Duplicate

Table 34

WTCO - Brooklyn
 88-700 Court Street
 March 24, 1999
 Groundwater Sample Results - Metals

Sample Designation:		MW4_399	MW4_399F	MW5_399	MW5_399F	MW6_399	MW6_399F	MW7_399	MW7_399F	MW8_399							
Sample Date:		3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99							
NYSDEC																	
Parameter	Ambient Water Quality	Risk-Based															
Concentrations in µg/L)	Standards or Guidelines																
Arsenic	25	3.6	U	3.6	U	42.5	10.7	127	7.2	14.1	5.2	72.2					
Barium	1000	210		150	B	1780	42.9	B	6040	163	B	244	115	B	784		
Cadmium	10	0.4	U	0.4	U	0.4	U	0.4	U	27.4	0.8	0.4	U	0.4	U	1.4	B
Chromium	50	5	B	1.1	U	66.5	1.1	U	254	2.2	5.4	B	1.1	U	56.2		
Cobalt	25	36.5		2.1	U	381	2.1	U	4230	4.2	15.3		2.1	U	610		
Mercury	2	0.1	U	0.1	U	0.92	0.1	U	11.4	0.1	U	0.16	B	0.12	B	2.4	
Selenium	10	4.5	U	4.5	U	4.5	U	4.5	U	22.3	9						
Silver	NLE	1.1	U	1.1	U	1.1	U	1.1	U	3.3	U	2.2					
Sodium	20,000	49,100		53,500		339,000	366,000	255,000	266,000	430,000	414,000						

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

B - Indicates a value greater than or equal to the instrument detection limit,
 but less than the contract required detection limit.

N - Spiked sample recovery not within control limits

F - Filtered sample

NA - Not analyzed

E - Reported value is estimated due to the presence of interference.

NLE - No level established

S - Spiked Sample

D - Duplicate Spike Sample

X - Spiked Matrix

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

Table 34

VITCO - Brooklyn
 88-700 Court Street
 March 24, 1999
 Groundwater Sample Results - Metals

Sample Designation:		MW8_399F	MW9_399	MW9_399F	MW10_399	MW10_399F	MW12_399	MW12_399F	MW13_399							
Sample Date:		3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99							
NYSDEC																
Parameter	Ambient Water Quality															
Concentrations in µg/L)	Standards or Guidelines															
arsenic	25	16.6		106	11.3		3.9	B	3.6	U	3.6	B	3.6	U	51.4	
barium	1000	125	B	8650	16.1	B	22300		18900		334		93.7	B	2660	
cadmium	10	0.4	U	74.7	0.4	U	1.9	B	0.4	U	3.4	B	0.4	U	0.4	U
chromium	50	1.1	U	356	2.8	B	5.2	B	1.1	U	4.3	B	1.1	U	9.2	B
lead	25	2.1	U	4440	2.1	U	171		2.1	U	199		2.1	U	195	
mercury	2	0.1	U	12.9	0.1	U	26		0.1	U	0.91		0.4	U	0.95	
selenium	10	4.5	U	22.5	4.5	U	4.5	U	4.5	U	4.5	U	4.5	U	4.5	U
silver	NLE	1.1	U	25.2	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
sodium	20,000	44,900		177,000	178,000		204,000		220,000		67,400		72,800		248,000	

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

B - Indicates a value greater than or equal to the instrument detection limit,
 but less than the contract required detection limit.

N - Spiked sample recovery not within control limits

F - Filtered sample

NA - Not analyzed

E - Reported value is estimated due to the presence of interference.

NLE - No level established

S - Spiked Sample

D - Duplicate Spike Sample

X - Spiked Matrix

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

Table 34

WITCO - Brooklyn
 588-700 Court Street
 March 24, 1999
 Groundwater Sample Results - Metals

Sample Designation:		MW13_399F	MW15_399	MW15_399F	MW16_399	MW16_399F	MW17_399	MW17_399F	FB1_399						
Sample Date:		3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99	3/24/99							
NYSDEC															
Parameter	Ambient Water Quality														
(Concentrations in µg/L)	Standards or Guidelines														
Arsenic	25	3.9	B	83.5	7	12.9	3.6	U	200	10.6	3.6	U			
Barium	1000	1920		1780	250	93.4	B	117	B	812	194	B	1.5	U	
Cadmium	10	0.4	U	17.3	0.4	U	2.2	B	0.4	U	2.3	B	0.4	U	
Chromium	50	1.1	U	92.2	1.1	U	41.4		1.1	U	107		1.1	U	
Lead	25	2.1	U	3250	2.1	U	38.9		2.1	U	834		2.1	U	
Mercury	2	0.1	U	24.2	0.1	U	0.15	B	0.1	U	3.3		0.1	U	
Selenium	10	4.5	U	15.8	4.5	U	4.5	U	4.5	U	4.5	U	4.5	U	
Silver	NLE	1.1	U	2.9	B	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Sodium	20,000	276,000		13,800	11,800	24,400	30,900	190,000	198,000		398	B			

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

B - Indicates a value greater than or equal to the instrument detection limit,
 but less than the contract required detection limit.

N - Spiked sample recovery not within control limits

F - Filtered sample

NA - Not analyzed

E - Reported value is estimated due to the presence of interference.

NLE - No level established

S - Spiked Sample

D - Duplicate Spike Sample

X - Spiked Matrix

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

Table 34

WITCO - Brooklyn
 688-700 Court Street
 March 24, 1999
 Groundwater Sample Results - Metals

Sample Designation:		FB1_399		FB2_399		FB2_399		DUPI_399		DUPI_399		MW-17 MS		MW-17 MSD	
Sample Date:								(MW-5)		(MW-5)		3/24/99		3/24/99	
Parameter		NYSDEC													
(Concentrations in µg/L)		Ambient Water Quality													
		Standards or Guidelines													
Arsenic	25	3.6	U	3.6	U	3.6	U	63.1		13.8		51	X	51	X
Barium	1000	1.5	U	1.5	U	1.5	U	1870		11.4		2657	X	2657	X
Cadmium	10	0.4	U	0.4	U	0.4	U	1.6	B	0.4	B	0.37	U	0.37	U
Chromium	50	1.1	U	1.1	U	1.1	U	108		1.1	U	9.2	U	9.2	U
Lead	25	2.1	U	2.1	U	2.1	U	1290		2.1	U	194.57	X	194.57	X
Mercury	2	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.95	X	0.95	X
Selenium	10	4.5	U	4.5	U	4.5	U	5.5		4.5	U	4.53	U	4.53	U
Silver	NLE	1.1	U	1.1	U	1.1	U	1.2	B	1.1	U	1.12	U	1.12	U
Sodium	20,000	352	U	352	U	352	U	318,000		353,000		247.728	X	247,727	X

µg/L - Micrograms per liter

U - Compound was analyzed for but not detected

B - Indicates a value greater than or equal to the instrument detection limit, but less than the contract required detection limit.

N - Spiked sample recovery not within control limits

F - Filtered sample

NA - Not analyzed

E - Reported value is estimated due to the presence of interference.

NLE - No level established

S - Spiked Sample

D - Duplicate Spike Sample

X - Spiked Matrix

* - Bolded numbers exceed the NYSDEC Cleanup level

*** - Duplicate analysis not within control limit

Table 35

WITCO - Brooklyn
Court Street
September 1998 through April 2, 1999
Water-Level Tidal Measurements

Monitoring Well Designation	Risk-Based	Water Level Elevation (ft above msl)				
		7/16/98	10/13/98	1/29/99	3/18/99	3/24/99
MW-1	6.03	5.90	4.93	3.20	3.86	4.78
MW-2	5.89	4.47	3.86	1.80	2.43	2.35
MW-3	5.81	4.44	3.93	1.92	(1)	2.24
MW-4	7.83	5.96	5.17	3.23	2.84	3.57
MW-5	9.78	5.83	4.91	2.26	2.65	2.69
MW-6	8.58	5.91	5.13	(2)	(2)	(2)
MW-7	6.21	5.48	5.01	2.86	2.68	3.21
MW-8	9.05	6.39	5.58	3.19	3.60	3.75
MW-9	6.15	5.21	5.06	2.66	1.83	2.78
MW-10	5.95	NI	4.36	1.74	(3)	2.48
MW-11	5.81	NI	4.21	2.44	1.83	2.80
MW-12	8.94	NI	5.55	3.26	4.39	3.52
MW-13	8.85	NI	4.70	0.93	1.33	1.28
MW-14	5.30	NI	4.22	2.16	(4)	(4)
MW-15	7.796	NI	NI	NI	2.64	2.32
MW-16	6.146	NI	NI	NI	3.99	4.04
MW-17	6.043	NI	NI	NI	2.91	1.90

NOTES:

- ft - feet
- msl - mean sea level
- NM - Not measured
- NI - Not Installed
- (1)- Could not access: Well under damaged fence
- (2)- Product Detected In Well
- (3) - Could not access: under snow and ice
- (4) - Well Abandoned in Place April __, 1999

Table 36

WITCO - Brooklyn

Court Street

September 1998 through April 2, 1999

Water-Level Tidal Measurements

Monitoring Well Designation	Measuring Point Elevation (ft above msl) Risk-Based	Water Level Elevation (ft above msl)				
		9/3/98 (High Tide)	9/3/98 (Low Tide)	10/28/98 (Low Tide)	10/28/98 (Intermediate Tide)	10/28/98 (High Tide)
MW-1	6.03	5.22	5.18	4.92	4.96	5.00
MW-2	5.89	3.90	3.91	3.75	3.78	3.84
MW-3	5.81	3.86	3.95	3.74	3.76	3.79
MW-4	7.83	5.42	5.36	5.01	5.02	5.04
MW-5	9.78	5.29	5.29	4.85	4.87	4.90
MW-6	8.58	5.51	5.51	5.10	5.12	5.13
MW-7	6.21	4.98	4.96	4.86	4.89	4.93
MW-8	9.05	5.82	NM	NM	5.54	5.55
MW-9	6.15	4.98	4.99	4.90	4.93	4.98
MW-10	5.95	4.90	4.89	4.23	4.24	4.27
MW-11	5.81	3.52	3.50	NI	3.98	3.99
MW-12	8.94	5.92	5.91	5.51	5.53	5.54
MW-13	8.85	5.10	5.11	4.54	4.55	4.56
MW-14	5.30	4.27	4.24	4.13	4.16	4.26
Monitoring Well Designation	Measuring Point Elevation (ft above msl)	4/2/99 (Low Tide)	4/2/99 (Intermediate Tide)	4/2/99 (High Tide)		
MW-1	6.03	3.59	3.58	3.57		
MW-2	5.89	2.04	2.13	2.12		
MW-3	5.81	2.01	2.04	2.03		
MW-4	7.83	3.37	3.37	3.37		
MW-5	9.78	2.78	2.80	2.79		
MW-6	8.58	*	*	*		
MW-7	6.21	2.76	3.01	2.98		
MW-8	9.05	3.49	3.55	NM		
MW-9	6.15	2.48	2.49	2.48		
MW-10	5.95	2.33	2.33	2.33		
MW-11	5.81	2.55	2.56	2.55		
MW-12	8.94	3.61	3.59	3.61		
MW-13	8.85	1.30	1.29	1.30		
MW-14	5.30	**	**	**		
MW-15	7.796	2.89	2.91	2.90		
MW-16	6.146	4.00	4.02	4.00		
MW-17	6.043	1.74	1.77	1.77		

NOTES:

ft - feet

msl - mean sea level

NM - Not measured

* - Product Detected In Well

**- Well Abandoned in Place April __, 1999

RESULTS OF PHASE II SITE INVESTIGATION

**Witco Brooklyn Plant
Court Street
Brooklyn, New York**

May 1999

APPENDIX A

Sanborn Fire Insurance Maps

RESULTS OF PHASE II SITE INVESTIGATION

**Witco Brooklyn Plant
Court Street
Brooklyn, New York**

May 1999

APPENDIX B

Production and Treatment Process Table

PRODUCTION AND TREATMENT PROCESSES ⁽¹⁾

BROOKLYN, KINGS COUNTY, NEW YORK

Unit	Process	Major Equipment	Chemicals Used
Liquid Production (Bldg 11, 12, and 7)	Metal oxides and hydroxides are reacted with various acids to produce zinc octoate, calcium zinc oleate, potassium oleate, barium nonyl phenate, and dibutyl tin oxo-iso-maleate (DBTO) Depending on the desired product, the reactors will also be charged with certain raw materials that are not consumed in the reaction. Examples of these include di-iso-octyl phthalate, tripropylene glycol, and di-ethylene glycol/mono butyl ether. Products from the reactors are further processed in either of two blenders.	Reactors 9 and 10 Two Blenders	<u>Acids</u> 2-ethyl hexoic acid (a.k.a. 905) neodecanoic acid oleic acid (a.k.a. tall oil acid) nonylphenol <u>Bases</u> calcium hydroxide zinc oxide potassium hydroxide dibutyl tin oxide barium hydroxide cadmium oxide (past) lead oxide (past) <u>Other ingredients/additives</u> di-iso-octyl phthalate tripropylene glycol odorless mineral spirits diethylene glycol/monobutyl ether (DEG MBE) maleic anhydride iso-octanol
Solids Production in Building No. 16	Barium hydroxide is combined with various acids to produce mainly barium stearate, but also some barium laurate, barium benzoate, and barium A-10 acid. Various acids (Lauric, benzoic, toluic, maleic) are reacted with metal oxides or hydroxides to form various metallic stearates, laurates, maleates, and benzoates. Reaction products from these reactors are further processed in any of four blenders. The fusion reactors are also sometimes used to blend calcium stearate and zinc stearate in expoxitized soybean oil.	One precipitation reactor Two fusion reactors Four blenders	<u>Acids</u> stearic acid benzoic acid lauric acid A-10 acid toluic acid maleic acid <u>Bases</u> zinc oxide dibutyl tin oxide magnesium hydroxide barium hydroxide titanium dioxide cadmium oxide (past) lead oxide (past) <u>Other ingredients/additives</u> calcium stearate zinc stearate expoxidized soybean oil

⁽¹⁾ Table obtained from Flour Daniel GTI "Phase I Environmental Site Assessment" dated March 1998.

**PRODUCTION AND TREATMENT PROCESSES
PHASE I ENVIRONMENTAL SITE ASSESSMENT
BROOKLYN, KINGS COUNTY, NEW YORK**

Unit	Process	Major Equipment	Chemicals Used
Phosphite Production in Building 7 and Building No. 7 Extension	The main process within Phosphite Production is the reacting of phosphorus trichloride with phenol in Reactors 6, 7 and 12. This produces triphenyl phosphite which is reacted with alcohols in the presence of a potassium carbonate catalyst in the transesterification reactor (#8). Several different chloride compounds are wastes from a filtration step in the processing. Reactor #12 is also used for two other products: • Tri-nonyl phenyl phosphate is produced from phosphorus trichloride and nonyl phenol. Epoxidized soybean oil is also added to this product. No waste is produced during this reaction. • 2,4-di-t-butyl phenyl phosphite is produced from phosphorus trichloride and 2,4-di-t-butyl phenol in the presence of a catalyst (DMF). The catalyst is filtered out and disposed.	Reactors 6, 7, and 12 Transesterification Reactor	<u>Reactor Feeds</u> phosphorus trichloride phenol nonyl phenol 2,4 di t butyl phenol decyl alcohol 2 ethyl hexyl alcohol iso octyl alcohol di-propyleneglycol (DPG) <u>Other ingredients, additives, or catalysts</u> proprietary ingredients epoxidized soybean oil <u>Wastes</u> decyl chloride 2 ethyl hexyl chloride iso octyl chloride dichloropropane potassium carbonate catalyst DMF catalyst off-spec phenol
Semi-works Unit in Building No. 19	The Semi-works Unit is currently used for small production runs of Mark 2112, Mark 2255, and LR868 (DBM). Past production has included TNO (1970-1987), Seenox 412-S (1988-1990), and OBBO (a single run in 1993).		<u>Mark 2112</u> <u>Mark 2255</u> methanol mercapto propionic acid (MPA) DBTO. Methanol/MPA mixture (95/95) recovered by distillation. Residuals from distillation process are drummed and disposed as hazardous waste. <u>LR868 (DBM)</u> <u>TNO:</u> Crude TNO product THF-hexane toluene Byproducts: Wastewater and toluene that were disposed offsite

**PRODUCTION AND TREATMENT PROCESSES
PHASE I ENVIRONMENTAL SITE ASSESSMENT
BROOKLYN, KINGS COUNTY, NEW YORK**

Unit	Process	Major Equipment	Chemicals Used
Semi-works Unit in Building No. 19 (continued)			<u>Seenox 412-S</u> lauryl mercaptan isopropanol 20% NaOH acrylic acid sulfuric acid sodium sulfate mono PE PTSA hypophosphorous acid Off-spec isopropanol is drummed for disposal; sodium sulfate and some water is sent to sewer trench/pit for further processing and disposal. <u>OBBO</u> nonyl phenol barium monohydrate carbon dioxide
Processes at 633 Court Street	Historic processes at the 633 Court Street property were reported to be largely the same as the current processes. Once exception was aluminum paste, which was produced for about 8 years and then discontinued. This process was not moved across to the Clinton-Court Street facilities when the rest of the production operations were relocated in the early 1960s.	Aluminum Paste: 500 gallon mixer located on the roof of 633 Court Street	Aluminum Paste: pigment-grade aluminum particles di-octyl phthlate (DOP)

RESULTS OF PHASE II SITE INVESTIGATION

**Witco Brooklyn Plant
Court Street
Brooklyn, New York**

May 1999

APPENDIX C

Production Area and Associated Processes

RESULTS OF PHASE II SITE INVESTIGATION

**Witco Brooklyn Plant
Court Street
Brooklyn, New York**

May 1999

APPENDIX D

Raw Material Storage Table

RAW MATERIALS
WITCO POLYMER CHEMICALS GROUP

CORRECT NAMES

BROOKLYN PLANT

CORRECT NAME	DETAIL	FORM	OLD NAME	OTHER NAMES
12-15 ALCOHOL	4521	L	NEODOL 25	LIAL 125, ALC LIN PRIMARY C12-15, NEODOL 25
12-18 ALCOHOL	4492	L	ALC SYN LIN C12-18	ALFOL 1218, DCBA ALFOL-12-18, ALFOL 1218 DCBA ALCOHOL
12-OH STEARIC ACID	0575	S	12 NY ST ACID	12 NY ST ACID, 12-HYDROXY STEARIC ACID, ACID-12-HYDROXY STEARIC
2-EH ACID	1599	L	905	2-ETHYLHEXANOIC ACID, 2-ETHYLHEXOIC ACID, ACID-2-ETHYLHEXOIC 2-ETHYLHEXANOIC ACID (PM 996)
2-ETHYLHEXANOL	4598	L	2-ETHYL HEXANOL	2 ETH HEX, 2-ETHYLHEXYL ALCOHOL
2,4 DTBP	4699	L	2,4-DI-TERT-BUTYLPHENOL	2,4-DI-TERT-BUTYLPHENOL, PHENOL-2,4 DITERT BUTYL, 2,4 T DIBUTYL PHENOL
4.4 ESTER	8077	L		DRAPEX 4.4 ESTER, OCTYL TALLATE, 2-ETHYLHEXYL TALLATE OCTYL TALLATE ESTER
6010 EPOXY RESIN	6733	L	ARALDITE 6010 RES EPOX	ARALDITE GY 6010, EPON RESIN 828, EPON 828, EPON 828 EPOXY RESIN BISPHENOL A/EPICHLOROHYDRIN BASED EPOXY RESIN
A- 16 WAX	6250	S		A-C 316, A-C(R) 316, A-C OXIDIZED POLYETHYLENE 316
A-C 629 WAX	6221	S		
A-C 629A WAX	6244	S	AC 629A PE WAX	AC 629A PE WAX, POLYETHYLENE #629A, POLYETHYLENE AC-629A, PE WAX
ACETIC ACID	1585	L	ACID ACETIC GLACIAL	ACID ACETIC GLACIAL, GLACIAL ACETIC ACID
ACETOPHENONE	6575	L	ACETOPHENONE	ACETOPHENONE
ACRYLIC ACID	1506	L		ACID, ACRYLIC GLACIAL
AGERITE SUPERLITE	5850	L	AGERITE SUPERLITE	AGERITE, AGERITE SUP
ALCANIZER 2	5697	S		ALCANIZER II
ALCANIZER 4	5686	S		ALCANIZER IV
ALKANOX 240	3038	S		ALKANOX 240 POWDER, MARK 2112
AO-30	5751	S	TOPANOL CA	TOPANOL CA, MIXXIM AO-30, TOPANOL, TOPANOL CA-SF
ATC P-552	6728	S	ATO P-555	METABLEN P-552, ACRYLIC PROCESSING AID (FORMER CODE 6712)
67 MT	6721	L		ACRYLOID B-67 MT, PARALOID B-67 MT

RAW MATERIALS
WITCO POLYMER CHEMICALS GROUP

CORRECT NAMES

BROOKLYN PLANT

CORRECT NAME	DETAIL	FORM	OLD NAME	OTHER NAMES
Ba MONOHYDRATE	3527	S	BA MONO	BA MONO, BARIUM HYDROXIDE MONOHYDRATE, $\text{Ba}(\text{OH})_2 \cdot \text{H}_2\text{O}$, BARIUM HYDROXIDE
Ba STEARATE 7018	3596	S		MARK EBA-7018, BARIUM ESTEARATE-7018, MEXICO Ba STEARATE 7018
Ba STEARATE 9018	3652	S		MARK EBA-9018, BARIUM ESTEARATE-9018, MEXICO Ba STEARATE 9018
BENZOIC ACID	1741	S	BENZOIC ACID	BENZOIC ACID, ACID-BENZOIC TEACH FLAKE
BHT FREE FLOW	5724	S	IONOL FF	IONOL FF, BHT, IONOL, CAO-3 BLEND 29
BHT POWDER	5725	S	IONOL F	IONOL F, IONOL, BHT, CAO-3 FINE GRIND
BISPHENOL A	4681	S		BisPhA, BPA157, 4,4'-ISOPROPYLIDENEDIPHENOL, BPA, POLY-BIS
CB-10 ACID	0647	L	PG CB-10 FATTY ACID	EMERY 658 CAPRYLIC-CAPRIC ACID
Ca CARBONATE	3515	S	ATOMITE	ATOMITE, ONYACARB, CaCO_3 , CALCIUM CARBONATE, ONYACARB 3
Ca HYDROXIDE	3531	S		CALCIUM HYDROXIDE, $\text{Ca}(\text{OH})_2$, HYDRATED LIME, Ca HYDROXIDE USP, CODEX HYDRATED LIME, SUPERFINE SNOWFLAKE, FOOD CODEX HYDRATED LIME
Ca STEARATE	4377	S	CALCIUM STEARATE	CALCIUM STEARATE REGULAR
Ca STEARATE KOSHER	4378	S		CALCIUM STEARATE KOSHER
Ca STEARATE LD	4388	S		Ca STEARATE EXTRA DENSE G LD
CaAcAc		S		CALCIUM ACETYLACETONATE, Ca bis(2,4-PENTANEDIONATO-O,O')
CAUSTIC SODA	3660	L		SODIUM HYDROXIDE, NaOH, ET-50, CAUSTIC SODA DIAPHRAM CELL, 50% NaOH SOLUTION
CHIMASSORB 944 LD	4219	S	CHIMASSORB	CHIMASSORB, CHIMASSORB 944L, LIGHT ABSORBER-CHIMASSORB, CHIMASSORB 944 FL (PELLET FORM)
CO2 LIQUID	5617	L	CO2	CO2, CARBON DIOXIDE
CUMENE	0343	L	CUMENE	ISOPROPYLBENZENE
CYANOX 1790	6332	S	CYANOX 1790	CYANOX 1790
DBT	5759	S	DBTO	DIBUTYLTIN OXIDE, FASCAT 4201, EURECAT 9555

RAW MATERIALS
WITCO POLYMER CHEMICALS GROUP

CORRECT NAMES

BROOKLYN-PLANT

CORRECT NAME	DETAIL	FORM	OLD NAME	OTHER NAMES
DEG MBE	5756	L	BUTYL CARBITOL	BUTYL DIOXITOL, DIETHYLENE GLYCOL MONOBUTYL ETHER, EKTOSOLVE DB, EASTMAN DB SOLVENT
DEQUEST 2000	5891	L		
DIETHANOLAMINE	3350	L		
DIMP	5511	L		DIISOMONYL PHTHALATE
DIOCTYL TIN OXIDE	5721	S	DIOCTYL TIN OXIDE	DOTO
DIOP	5512	L	DIOP	DIISOOCTYL PHTHALATE, DOP(sic)
DIPROPYLENE GLYCOL	4671	L	DIPROPYLENE GLYCOL	
DLTDP	5901	S		DILAURYL THIODIPROPIONATE
DMF	3315	L	DIMETHYLFORMAMIDE	DI METHYL FORMAMIDE, N,N-DIMETHYLFORMAMIDE
DPG MBE	4556	L		DIPROPYLENE GLYCOL MONOBUTYL ETHER, DIPROPYLENE GLYCOL n BUTYL ETHER DIPROPYLENE GLYCOL BUTOXY ETHER, ARCOSOLV DPNB
DRAPEX 10.4	8033	L		EPOXIDIZED LINSEED OIL, 10.4, ELO
DRAPEX 4.4	8018	L		4.4, OCTYL EPOXY TALLATE
DRAPEX 6.8	8020	L		ESO, SOYA, EPOXIDIZED SOYBEAN OIL, 6.8.
DSTOP	5905	S		DISTEARYL THIODIPROPIONATE
DSTOP-M	5914	S	DSTOP	DSTOP NATURAL, DSTOP EXXON GRADE
EBS WAX	2471	S	ACRAWAX C	ACRAWAX C POWDER, ETHYLENE BISSTEARAMIDE
EGDS	4624	S		ETHYLENE GLYCOL DISTEARATE, EGDS PURE, TEGIN EGS
EHCOL CC-9	4344	L		MARKSTAT AL-12
EP221	5764	L		ERL-4221, EPOXY RESIN
EPOXIDE 7	0401	L	EPOXIDE 7	EPOXIDE 7, P&G EPOXIDE 7, ARALDITE DY 027
FILTER AID	3225	S	SUPER CEL	DIATOMACEOUS EARTH, KENITE 700, FILTER AID STANDARD
	4297	L		GLYCOL DIMERCAPTOACETATE, ETHYLENE GLYCOL BISTHIOGLYCOLATE
GEON 110x902 PVC	5691	S		PVC-GEON 110x902, GEON 110x192 PVC (sic)

RAW MATERIALS
WITCO POLYMER CHEMICALS GROUP

CORRECT NAMES

BROOKLYN PLANT

CORRECT NAME	DETAIL	FORM	OLD NAME	OTHER NAMES
GLYCERINE	4532	L		GLYCEROL, GLYCERINE USP, 99.7% USP KEMSTRENE, NON KOSHER GLYCERINE
GLYCERINE, KOSHER	4530	L	GLYCERINE	KOSHER GLYCERINE, GLYCEROL, EMERY 917 GLYCERINE 99.7% USP KOSHER
GMO	1815	L	GMO	GLYCERYL MONO OLEATE
GMS	5540	S		GLYCERYL MONO STEARATE
HUBERSORB 600	3795	S	HUBERSORB 600	HUBERSORB
HYPOPHOSPHORUS ACID 50%	1674	L		HYPOPHOSPHORUS ACID, H3PO2
I-162	4908	S	I-162	MARK I-162, Zn PTBBA/B, Zn p TERT BU BENZOIC ACID
ISOG	5509	L		ISOOCTYL THIOGLYCOLATE, ISOOCTYL MERCAPTOACETATE
IRGANOX 1076	4586	S		
IRGANOX 3114	5681	S	GOODRITE 3114	PRODOX 3114
ISODECANOL	4597	L	ISODECYL	ISODECYL, ISODECYL ALCOHOL
ISOWOX 132	6362	L		
ISOOCTANOL	4596	L	ISOOCTYL ALCOHOL	ISOOCTYL ALCOHOL, ALCOHOL-ISOOCTYL, ISOOCTYL, EXXAL 8(ISOOCTYL), ISO OCTYL
ISOPAR M	6764	L		ISOPAR M EXXON, ISOPARAFFIN SOLVENT, ISOPAR M NAPHTHA, ISOPAR M SOLVENT
ISOPROPANOL	4599	L	ISOPROPYL ALCOHOL	2-PROPANOL, IPA, ISOPROPANOL 99
K HYDROXIDE	3553	S	POTASS HYDROXIDE	POTASSIUM HYDROXIDE, KOH, CAUSTIC POTASH, CAUSTIC POTASH FLAKE CAUSTIC POTASH-STANDARD FLAKE
K OLEATE	3797	S		POTASSIUM OLEATE, POTASSIUM OLEATE 80%, F-80
KEMAMINE AS990/2	6555	S		KEMAMINE AS-990/2 ZINC PD
KEMESTER 2000	1737	L	KEMESTER 2000	GLYCERYL MONOOLEATE, GMO
KEMGARD 911C	5742	S		
L ACID	0692	S	LAURIC AC	LAURIC AC, LAURIC ACID FLAKES, ACID-LAURIC 90%
LAURYL ALCOHOL	4490	L	ALFOL 12	DODECANOL, ALFOL 12

RAW MATERIALS
WITCO POLYMER CHEMICALS GROUP

CORRECT NAMES

BROOKLYN PLANT

CORRECT NAME	DETAIL	FORM	OLD NAME	OTHER NAMES
LAURYL MERCAPTAN	5703	L	LAURYL MERCAPTAN	N-DODECYL MERCAPTAN, DODECYL MERCAPTAN
LD 2106	4392	L		LUBRIZOL LD 2106
LZ-2116	6180	L	LV-2116	LV-2116, LUBRIZOL LV-2116, ADDITIVE-LUBRIZOL LV2116, PLASTISTAB 2116
m-TOLUIC ACID	4978	S	META MBA	MTA, MBA, METHYLBENZOIC ACID, META TOLUIC ACID, 3-METHYLBENZOIC ACID
MAGCHEM 30	3636	S		MAGNESIUM OXIDE
MAGNESITE	5634	S		MAG OXIDE, MAGOX, MAGOX 98-HR, MgO, MAGNESIUM OXIDE
MALEIC ANHYDRIDE	1597	S	MALEIC ANHYDRIDE	MALEIC ANHYDRIDE
MANNITOL	5433	S		MANNITOL, MSP
MARK A	4006	L		FORMEZ UL-1, DIBUTYLTIN DILAURYL MERCAPTIDE
MARKSTAT AL-26	4748	L		(MANUFACTURED FROM MARK 5104 BY CPS CHEMICAL)
METHANOL	4541	L	METHANOL	METHYL ALCOHOL, CH ₃ OH
METHYL BENZOATE	6576	L	BENZOATE	BENZOATE, CH ₃ BENZOATE, MeBz
MONO PE	4538	S	MONO PENTAERYTHRITOL	MONO PENTAERYTHRITOL
MPA	1502	L	MERCAPTO PROPIONIC ACID	MERCAPTOPROPIONIC ACID, 3-MERCAPTO PROPANOIC ACID, MERCAPTOPROPIONIC ACID-DISTILLED
Na METHOXIDE	6574	S	SOD. METHOXIDE	SOD. METHOXIDE, NaOCH ₃ , SODIUM METHOXIDE, SODIUM METHYLATE NARIUM METHYLAT Krist.
Na SULFATE	3717	S	SODIUM SULFATE	SODIUM SULFATE, SODIUM SULFATE-ANHYDROUS, Na ₂ SO ₄
NaP-60	3794	L	SODIUM PERCHLORATE SOLUTION	NaClO ₄ .H ₂ O, SODIUM PERCHLORATE 60%, SODIUM PERCHLORATE
NAUGAWHITE	5834	L		NAUGAWHITE LIQUID
NEODECANOIC ACID	1622	L		NEO DEC TECH
NEODOL 23-1	4616	L		C12-C13 LINEAR PRIMARY ALCOHOL ETHOXYLATE
NEODOL 25-7	4517	L	NEODOL 25-7	ALC-LIN 11-15+7 MOL EO, ALCOHOLS ETHOXYLATED
NEODOL 91-2.5	4498	L	NEODOL 91-2.5	"ALCOHOL, LINEAR C9 11+2.5" (sic), NEODOL 91-2.5 ETHOXYLATE

RAW MATERIALS
WITCO POLYMER CHEMICALS GROUP

CORRECT NAMES

BROOKLYN PLANT

CORRECT NAME	DETAIL	FORM	OLD NAME	OTHER NAMES
NEUSTRENE 059	0601	S		NEUSTRENE 059 FLAKE
NEUSTRENE 060	0510	S		NEUSTRENE 060 FLAKE
MONYLPHENOL	4685	L	MONYL PHENOL	MONYL PHENOL, PNP, para-MONYLPHENOL
NP-100	4409	L	WITCONOL NP-100	EMCOL J-9.5, EMCOL T-60, MARKSTAT AL-14, MONYLPHENOL+9.5 MOL EO. WITCANOL NP-100
OCTYL MERCAPTAN	3487	L	OCTYL MERCAPTAN	N-OCTYL MERCAPTAN
OLEIC ACID	0528	L	OLEIC ACID RED OIL (EMERY)	OLEIC ACID RED OIL (EMERY), OLEIC ACID NF LOW TITER, INDUSTRENE 105
OLEIC ACID FG	0536	L	OLEIC ACID FG	OLEIC ACID FG-100, OLEIC ACID MERCULES FG-100, PANOLYN 100 FGX, OLEIC ACID FG KOSHER, ACID-OLEIC-FOOD GRADE
OLEYL ALCOHOL	4266	L	OCEMOL	OCEMOL, OCEMOL 7075, SURFACTANT-OCEMOL 7075, OCEMOL 70/75
OMS	0349	L	OMS	ODORLESS MINERAL SPIRITS, MINERAL SPIRITS, MINERAL SPIRITS-RULE 66 MINERAL SPIRITS 145 EC, MINERAL SPIRITS 7.5(T4), VARSOL 18 SOLVENT, MINTROL, MOBILSOL, KENSOL 33, STODDARD SOLVENT.
OXY 200 PVC RESIN	6714	S	OXY 200 PVC	OXY 200 PVC, OXY 200, POLYVINYL CHLORIDE
PALATINOL 711P	5582	L		711 PHTHALATE
PC13	3624	L	PC13	PHOSPHORUS TRICHLORIDE, PHOSPHORUS TRICHLORIDE TECHNICAL
PE-200	4542	S	PE	PE, PENTAERYTHRITOL-200 MESH, PENTAERYTHRITOL
PERICLASE E-10	3629	S	PERICLASE	MAGNESIUM PERICLASE, (NOT SAME AS MAGNESITE) MAGNESIUM OXIDE E10 GRADE
PG-HMS	5539	S		PROPYLENE GLYCOL MONOSTEARATE
PHENOL	4549	S	PHENOL	PHENOL USP 98%, PHENOL-USP 98PC
PHOSPHORIC ACID	1685	L		PHOSPHORIC ACID 85%, TECH PHOSPHORIC ACID
PHOSPHOROUS ACID	1744	S	PHOSPHOROUS ACID	ORTHO PHOSPHOROUS ACID, ACID-PHOSPHOROUS, H3PO3, PHOSPHOROUS ACID FLAKE
POTASH DG	3741	S	POTASH	POTASSIUM CARBONATE D.G., POTASSIUM CARBONATE COARSE CALCINED, K2CO3
PROCESS OIL	0212	L	ESCOFLEX	ESCOFLEX, ESCOFLEX 150, TELURA 407, TABFLEX 150, KENSOL

RAW MATERIALS
WILCO POLYMER CHEMICALS GROUP

CORRECT NAMES

BROOKLYN PLANT

CORRECT NAME	DETAIL	FORM	OLD NAME	OTHER NAMES
PROCESS OIL	0212			53, NAPHTHENIC OIL
PTSA	4424	S	PARA-TOLU-SULF-ACID	P-TOLUENE SULFONIC ACID
RHODIASTAB 50	6494	S	RHODIASTAB 50	ADDITIVE-RHODIASTAB 50
RHODIASTAB 83	7036	S	RHODIASTAB 83	ADDITIVE-RHODIASTAB 83
S-159	0327	L	HI FLASH NAPHTHA	HI FLASH NAPHTHA, SOLVENTS-SUPER HI FLASH, HI-SOL 10
SANTONOX	5705	S	SANTONOX	
SANTOVAR A	5713	S	SANTOVAR A	SANTOVAR TANG
SANTOWHITE	5678	S	SANTOWHITE+ POWDER	SANTOWHITE POWDER
SEENOX 412C	5695	S		SEENOX, SEENOX 412-S, (USE DETAIL 5912 FOR RESALE)
SODA ASH	3528	S	SODA ASH-DENSE	Na CARBONATE, SODIUM CARBONATE, Na2CO3, CODE 010
SORBITOL	4508	S	SORBITOL	D-SORBITOL, HYDEX 100, D-GLUCITOL, CRYSTALLINE SORBITOL
STEARIC ACID 4518	0545	S	STEARIC ACID SINGLE PRESS	STEARIC ACID SINGLE PRESS, INDUSTRENE 4518, ACID-STEARIC SINGLE
STEARIC ACID 7018	0533	S	GROCO 57	GROCO 57, INDUSTRENE 7018, GROCO, ACID-HYDROG TALLOW FATTY
STEARIC ACID 8718	0544	S	STEARIC ACID KOSHER	STEARIC ACID KOSHER, INDUSTRENE 8718 FG KOSHER, ACID-STEARIC ED DER OH
STEARIC ACID 9018	0572	S	INDUSTRINE	INDUSTRINE, INDUSTRENE 9018 BEADS, STEARIC ACID 90%.
SULFURIC ACID 98%	1583	L	SULF ACID 98%	SULF ACID 98%, CONC. H2SO4, ACID-SULFURIC 98%
SUNOLITE 160	2442	S		PARAFFIN WAX
TALL OIL FA	0651	L	TALL OIL	OULU 102, TOFA, TOFA-4.8% MAX ROS & UNSAP, FA-2 TALL OIL FATTY ACID
TDPA	1746	S		THIODIPROPIONIC ACID
TEP	5768	L	TRIETHYL PHOSPHATE	TRIETHYL PHOSPHATE, PHOSPHATE-TRI-ETHYL
THEIC	5844	S		Tris-(2-HYDROXYETHYL) ISOCYANURATE
TI	5643	L		TETRAHYDROFURANE, TETRAHYDROFURAN, DIETHYLENE OXIDE
TIO DIOXIDE	3679	S		TITANIUM DIOXIDE, TiO2, TI-PURE, R101

RAW MATERIALS
WITCO POLYMER CHEMICALS GROUP

CORRECT NAMES

BROOKLYN PLANT

CORRECT NAME	DETAIL	FORM	OLD NAME	OTHER NAMES
TINUVIN P	5709	S	TINUVIX P	TINUVIN
TIPA	3331	L	TRI ISOPROPYLAMINE	TRI ISOPROPANOLAMINE, TRIISOPROPANOLAMINE 99
TNP	4565	S	TRIMETHYLOL PROPANE	TRIMETHYLOL PROPANE
TPG	6640	L	S-165	TRIPROPYLENE GLYCOL, T.P.G., S-165 TPG, TPG S-165
TPM GLYCOL ETHER	4553	L	DOWANOL TPM	TRIPROPYLENE GLYCOL METHYL ETHER, TPM, CALSOLV TPM
TRIDECANOL	4613	L	TRIDECYL ALCOHOL	TRIDECYL ALCOHOL, TRI-DECYL
TRIETHYLAMINE	3340	L		TEA
TRISODIUM PHOSPHATE	3619	S	TRI SODIUM PHOSPHATE CRYSTAL	TRI SODIUM PHOSPHATE CRYSTAL, TSP, TRIBASIC SODIUM PHOSPHATE
UV-14	6596	S	SYNTASE 800	SYNTASE 800, CYASORB UV-531, MARK 1413, LOWILITE 22
UV-15	6224	S	SYNTASE 100	SYNTASE 100, UVINOL 400, RHODIALUX D, LOWILITE 24
WESTON 619G	3473	S	WESTON 619	WESTON 619 GROUND
WINGSTAY L	5702	S		WINGSTAY L FLAKE
WINGSTAY L-HLS	5702	S		WINGSTAY L-HLS FLAKE
WITCANOL O	0805	L		GLYCERYL MONO,DI,TRI OLEATE
WITCONOL 14	5688	L	EMCOL 14	WITCANOL 14T, MARKSTAT AL-1, MARKLEAR AFL-24
ZEOLITE A	3541	S	ZEOLITE A	EZA ZEOLITE A, SODIUM ALUMINO SILICATE HYDRATE, AZEOLITE A(sic), ZEOLITE A HYDRATED
Zn CHLORIDE	3612	S	ZINC CHLORIDE	ZnCl ₂ , ZINC CHLORIDE, ANHYDROUS ZINC CHLORIDE, ZINC CHLORIDE TECH
Zn OXIDE	3511	S	Zn OXIDE	ZINC OXIDE, ZnO
Zn STEARATE #42	4463	S	Zn STEARATE #42 PPT	Zn STEARATE 42
Zn STEARATE FLAKE	4457	S		ZINC STEARATE ED-HS, (FORMERLY Zn STEARATE 7018), Zn OCTADECANOATE AND Zn HEXADECANOATE
Zn STEARATE PASTILLES	4462	S		
Zn STEARATE POWDER	4460	S		ZINC STEARATE REGULAR, (FORMERLY Zn STEARATE 7018), LUBRAZINC W, Zn OCTADECANOATE AND Zn HEXADECANOATE

RESULTS OF PHASE II SITE INVESTIGATION

**Witco Brooklyn Plant
Court Street
Brooklyn, New York**

May 1999

APPENDIX E

AST Inventory Table and AST Location Map

**STORAGE TANK INVENTORY AT THE BROOKLYN PLANT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
BROOKLYN, KINGS COUNTY, NEW YORK**

Product	Location	Vessel	Year Built	Tank Type	End Type	Diameter (inches)	Length (inches)	Nominal Capacity (gal)	End Volume (gal)	Constr. Mat'l
200 GLS Reactor	B-11	R-8206		V	D	40	48	200	15	
Phosphites Filter Feed Tank [New Filter Tank]	B-11	T-4059	1996	V	C	108	122	5000		SS
1500 Gals Mix Tank	B-12	R-1003		V	C	76	74	1500		
4000 Gals Mix Tank	B-12	R-1005		V	C	108	110	4000	178	
Reactor #9	B-12	R-1007		V	D	90	66	2200		
#9 Soap Kettle	B-12	T-1013		V	D	48	36	300	15	
EQ-II-15	B-12	T-1019	1959	V	C	76	170	3300	63	SS
OPP	B-12	T-1020	1959	V	C	76	170	3300	63	SS
Zn	B-12	T-1021	1959	V	C	76	170	3300	63	SS
3a Octoate	B-12	T-1022	1959	V	C	76	170	3300	63	SS
CB-4-36	B-12	T-1023	1959	V	C	76	170	3300	63	SS
Zn Oct Sol	B-12	T-1024	1959	V	C	76	170	3300	63	SS
DBB	B-12	T-1026	1965	V	C	76	170	3300	63	SS
R-868-25	B-12	T-1027	1965	V	C	76	170	3300	63	SS
Z-2116	B-12	T-1031	1986	V	C	77	188	3300	69	SS
3CO	B-12	T-1032	1986	V	C	77	188	3300	69	SS
AARK 570	B-12*	T-1033	1986	V	C	115	144	6500	142	SS
AARK 517	B-12*	T-1034	1986	V	C	115	144	6500	142	SS
Vaste Water	B-12*	T-208	1982	V	F	120	152	8090		Furan
Vaste Water	B-12*	T-7017		F	D	138	216	13000		

**STORAGE TANK INVENTORY AT THE BROOKLYN PLANT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
BROOKLYN, KINGS COUNTY, NEW YORK**

Product	Location	Vessel	Year Built	Tank Type	End Type	Diameter (inches)	Length (inches)	Nominal Capacity (gal)	End Volume (gal)	Constr. Mat'l
Solvent Receiver	B-19	F-103	1969	V	D	66	78	1000	66	SS
Caustic Tank	B-19	F-105B	1987	V	F	48	60	470	0	SS
Solvent Wash	B-19	F-109	1969	V	D	36	48	200	11	SS
Solvent Cleaning	B-19	F-110	1969	V	D	90	108	3000	167	SS
Flaker Scale Tank	B-19	F-113	1994	H	D	42	144	700		SS
Refrigerated Water	B-19	F-207	1969	V	F	84	84	2000		CS
Storage Tank Waste Water	B-19	T-4056	1990	V	F	120	240	11700	0	CS
#8 Phosphite Reactor	B-7	R-103		V	D	125	120	7000	711	
Filter Feed Tank (Old #8)	B-7	R-4004		V	D	96	121	4000	206	
#10 Reactor	B-7	R-6004		V	D	96	122	4000	206	
#8 Phenol Receiver	B-7	T-103	1982	V	D	83	83	2000	133	SS
#12 Reactor	B-7 ext.	R-104A		V	D	78	84	2000		
Reactor #6 TPP	B-7 ext.	R-4002		V	D	78	84	2000		
Reactor #7 TPP	B-7 ext.	R-4003		V	D	78	84	2000		
Phenol #7 Receiver	B-7 Ext.	T-4013		V	D	66	60	1000	122	G/L
MARK 517	B-7 Ext.	T-4031		V	D	126	216	11000	465	
MARK 570 RUNDOWN	B-7 Ext.	T-4032		V	D	126	216	11000	465	
Phenol 12. Receiver	B-7 Ext.	T-4041		V	D	66	69	1000	122	G/L
Phenol Weight Tank	B-7 Ext.	T-4047	1988	V	C	70	96	1500	67	SS
PC13 Batch Tank	B-7 Ext.	T-4048	1988	V	D	48	72	600	26	SS

**STORAGE TANK INVENTORY AT THE BROOKLYN PLANT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
BROOKLYN, KINGS COUNTY, NEW YORK**

Product	Location	Vessel	Year Built	Tank Type	End Type	Diameter (inches)	Length (inches)	Nominal Capacity (gal)	End Volume (gal)	Constr. Mat'l
Process Oil	TF-2	T-1005	1960	V	F	96	188	5000		Alum
Tridecanol	TF-2	T-1006		V	F	96	188	5000		
DEG MBE	TF-2	T-1007		V	F	96	188	5000		
OMS	TF-2	T-1036	1990	H	D	96	241	8000		CS
Spare Tank [2-Ethyl Hexanoic Acid]	TF-2	T-1040	1993	V	D	96	192	6000		SS
D.P.G	TF-2	T-1041		V	F	84	216	5200		SS
Spare Tank	TF-2	T-4043	1987	V	F	120	240	12000		Furan
#6 Fuel Oil	TF-2	T-7015	1990	H	D	96	241	8000		CS
Tank on Wheels Waste H2O	TF-3	T-1015		V	C	72	84	1000	55	
Phenol Bottoms	TF-3	T-4006		H	D	101	130	5000	0	G/L
Sulfuric Acid Unit	TF-3	T-4035		V	D	60	78	1000	51	
HCl Storage Tank #6	TF-3	T-4043B		V	F	120	240	12000	0	
HCl Storage Tank #5	TF-3	T-4044B	1995	V	F	120	240	12000		FRP
HCl Storage Tank #3	TF-3	T-4052	1989	V	F	120	170	8000		Furan
HCl Storage Tank #2	TF-3	T-4053	1990	V	F	120	163	8000		Furan
2,4 TDB Phenol [2.4 DTB Phenol]	TF-3	T-6007	1959	H	D	101	130	5000		G/L
After Condenser Jet H2O	TF-3	T-7011	1987	V	D	66	66	1000	67	CS
et Condensate Storage	TF-3	T-8701	1988	V	F	96	132	4000		Furan
Neutralizer HCl	TF-3	T-8702	1988	V	F	96	156	4800		Furan

**STORAGE TANK INVENTORY AT THE BROOKLYN PLANT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
BROOKLYN, KINGS COUNTY, NEW YORK**

Product	Location	Vessel	Year Built	Tank Type	End Type	Diameter (inches)	Length (inches)	Nominal Capacity (gal)	End Volume (gal)	Constr. Mat'l
Chemical Storage #2	B-13*	T-6026	1968	V	D	132	180	12000	529	Alum
BAM	B-13*	T-6027	1982	V	D	129	180	10400	281	SS
Non-toxic blender	B-16	A-102		H	F				206	
750 GLS Non-Toxic Reactor	B-16	D-101A		V	D	60	60	750	50	
Cone #1	B-16	R-3001		V	C			150		
Cone #2	B-16	R-3002		V	C			150		
Precipitation Reactor	B-16	R-3003		V	C	76	96	1900		
Half Soap Reactor	B-16	R-3008		V	C	43	48	300		
Stearic Melter	B-16	R-3009		V	C	43	48	300		
#5 Reactor	B-16	R-3016		V	D	66	65	1100		
150 Cu.Ft. Blender	B-16	R-3017						150		
Disolvent Tank	B-16	R-3019		V	D	88	96	2500	159	
SS Hopper Scale	B-16	T-3001	1960	V	C	96	24	1500		SS
400 Gal Fatty Acid Scale	B-16	T-3006B		V	D	48	60	400	25	SS
Reactor	B-19	D-101		V	D	50	72	1000	50	
Reactor	B-19	D-102		V	D	96	110	3500	205	
Crystallization Reactor	B-19	D-103		V	D	72	68	1250		
Monel Reactor	B-19	D-104		V	D	41	29	150		
Solvent Cleaning	B-19	D-105		V	D	108	110	4000	178	
Receiver	B-19	F-101	1969	V	D	35	48	200	10	G/L

**STORAGE TANK INVENTORY AT THE BROOKLYN PLANT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
BROOKLYN, KINGS COUNTY, NEW YORK**

Product	Location	Vessel	Year Built	Tank Type	End Type	Diameter (inches)	Length (inches)	Nominal Capacity (gal)	End Volume (gal)	Constr. Mat'l
PC13 Batch Tank	B-7 Ext.	T-4054C	1992	V	D	36	54	250		SS
Phenol	B-7 Ext.	T-6016		V	F	138	216	14000		
Equalization Tank	Parking Lot	T-7019		F	D	126	378	20000		
2 Ethyl Hexanol	TF-1	T-1038		V	F	120	216	10000		Alum
Stearic Acid 7018	TF-1	T-3004		V	F	188	188	15000		SS
Spare Tank	TF-1	T-3005	1960	V	F	96	168	5000		SS
Drapex 6.8	TF-1	T-3007		V	F	138	240	15500		SS
Isooctanol	TF-1	T-4017		V	F	96	159	5000		
BANPH	TF-1	T-4018		V	F	114	139	5400		
Drapex 4.4	TF-1	T-4030		V	D	132	180	12000	529	Alum
Stearic Acid 9018	TF-1	T-6017		V	F	138	216	14000		
Nonylphenol	TF-1	T-6018		V	F	138	216	14000		
Tall Oil	TF-1	T-6019		V	F	138	216	14000		
Drapex 6.8 - Taft	TF-1	T-6020		V	F	138	216	14000		
Drapex 6.8 - Taft	TF-1	T-6021		V	F	138	177	13000		
Isodecanol	TF-1	T-6022		V	F	138	216	14000		
12-15 Alcohol	TF-1	T-6023		V	F	138	216	14000		
2-EH Acid	TF-2	T-1002	1960	V	F	96	188	5000		SS
Process Oil	TF-2	T-1004	1960	V	F	96	188	5000		Alum

**STORAGE TANK INVENTORY AT THE BROOKLYN PLANT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
BROOKLYN, KINGS COUNTY, NEW YORK**

Product	Location	Vessel	Year Built	Tank Type	End Type	Diameter (inches)	Length (inches)	Nominal Capacity (gal)	End Volume (gal)	Constr. Mat'l
MARK 4716	B-12*	T-7018		C	D	126	188	9500	378	
Liquid CO2	B-12*									
Liquid Waste	B-13	R-1002		V	C	78	70	1500	110	
Sewer Decanter	B-13	T-4027		V	C	94	96	3000	100	SS
Waste Water	B-13	T-4044	1987	V	F	120	240	12000		Furan
Waste Blend Tank #1	B-13	T-5000	1967	V	D	78	70	1500	110	SS
Spare Tank [Waste Water]	B-13	T-5008	1959	V	D	77	70	1500	108	SS
Treated Water	B-13	T-7018B	1994	C	D	126	188	9500	378	CS
Waste Treatment	B-13	T-7020		V	F	124	96	5000		
Waste Treatment	B-13	T-7021		V	F	124	96	5000		
Waste Blend Tank II	B-13*	R-6002		V	D	96	93	3500		
Chemical Storage #3	B-13*	T-1028	1983	V	C	115	145	6500	282	SS
Chemical Storage #4	B-13*	T-1029	1983	V	C	115	145	6500	282	SS
MARK 4795R	B-13*	T-1037		V	F	138	216	13000		SS
MARK 4781A	B-13*	T-1039		V	F	138	158	10000		SS
Spare Tank	B-13*	T-1042A	1995	V	D	72	384	6700	87	SS
Spare Tank	B-13*	T-1042B	1995	V	D	72	384	6700	87	SS
MARKSTAT AL-26 [spare tank]	B-13*	T-1042C	1995	V	D	72	384	6700	87	SS
Spare Tank	B-13*	T-1042D	1995	V	D	72	384	6700	87	SS
MARK 4782A	B-13*	T-6025	1968	V	D	132	180	12000	529	Alum

**STORAGE TANK INVENTORY AT THE BROOKLYN PLANT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
BROOKLYN, KINGS COUNTY, NEW YORK**

Product	Location	Vessel	Year Built	Tank Type	End Type	Diameter (inches)	Length (inches)	Nominal Capacity (gal)	End Volume (gal)	Constr. Mat'l
I.P.A.	TF-4	F-201	1993	H	D	72	228	4000		CS
I.P.A.	TF-4	F-202	1993	H	D	72	228	4000		CS
Cumene	TF-4	F-203	1993	H	D	72	228	4000		CS
Methyl Benzoate	TF-4	F-204	1993	H	D	72	228	4000		CS
Storage Tank	TF-4	F-205	1993	H	D	72	228	4000		CS
Chemical Waste [Mark DBM residues]	TF-4	F-208	1983	V	C	141	145	6500	282	SS
Chemical Waste [Mark 2112 residues]	TF-4	F-209	1985	V	C	114	144	6500	124	SS
Recovery Weight Tank	TF-4	T-4001		V	C	78	120	2500	55	SS
Sulfuric Acid Storage Tank	TF-4	T-4060	1995	H	D	96	186			CS
Waste Water from 19	TF-5	B-0879		V	D	144	144	10600	823	
MARK 366	TF-5	T-202	1982	V	FB-CT	144	216	15000		SS
MARK TPP	TF-5	T-203	1982	V	FB-CT	144	216	15000		SS
MARK 366	TF-5	T-204	1982	V	FB-CT	144	216	15000		SS
MARK 1178	TF-5	T-205A	1982	V	FB-CT	144	216	15000		SS
MARK TPP (EXXON)	TF-5	T-205B	1982	V	FB-CT	144	216	15000		SS
MARK 1178B	TF-5	T-205C	1982	V	FB-CT	144	216	15000		SS
Phenol Bottom from #8	TF-5	T-206	1982	V	CT-CB	129	180	10400	271	SS
MARK TPP	TF-5	T-207	1982	V	CT-CB	129	180	10400	271	SS
PC13 Storage	TF-5	T-213	1982	H	D	113	211	10000		CS
Decyl Chloride Storage	TF-5	T-4034		H	D	100	128	5000		G/L

**STORAGE TANK INVENTORY AT THE BROOKLYN PLANT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
BROOKLYN, KINGS COUNTY, NEW YORK**

Product	Location	Vessel	Year Built	Tank Type	End Type	Diameter (inches)	Length (inches)	Nominal Capacity (gal)	End Volume (gal)	Constr. Mat'l
Sulfuric Waste Tank	TF-5	T-4049	1989	H	D	102	126	5000		G/L
20% Caustic Solution	TF-5	T-4050	1989	V	F	144	204	14000		CS
Inoperative Tank	TF-5	T-4055		H	D	102	174	6000		
Chemical Waste	TF-5	T-5015		H	D	72	156	3000		
Chemical Waste	TF-5	T-6001		H	D	105	177	7700		
Bulk Decanter Storage	TF-5	T-7005	1985	V	C	115	144	6500	124	SS
Waste Water from B-19	TF-5	T-7014			V	F	126	204	10000	
HCl Storage #4		T-208B	1995	V	F	120	152	8090		FRP
HCl Storage Tank #1		T-4042	1981	V	F	120	152	8000		Furan
#2 Oil for CDO		T-7012		H	D					

NOTES

Type: V = Vertical
H = Horizontal

End: D = Domed
F = Flat
C = Conical
FB-CT = Flat bottom, conical top
CT-CB = Conical top, conical bottom

Location:

B = Building
TF = Tank Farm

B-12* = Area between Buildings 12 and 13

Construction Material:

SS = Stainless steel
CS = Carbon steel
Alum = Aluminum
FRP = fiberglass-reinforced plastic
G/L = glass-lined

RESULTS OF PHASE II SITE INVESTIGATION

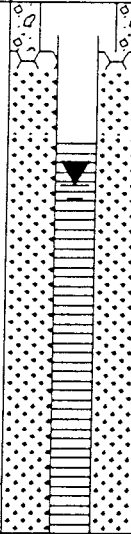
**Witco Brooklyn Plant
Court Street
Brooklyn, New York**

May 1999

APPENDIX F

Soil Boring/Monitoring Well Logs

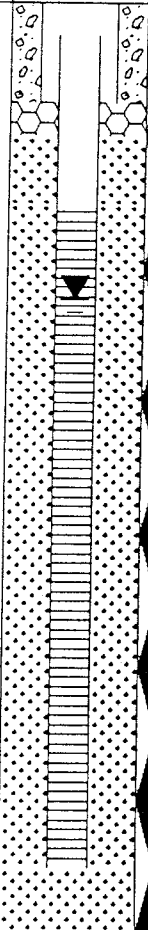
Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Well No. MW-1			
Date Started: 7/8/98		Completed: 7/8/98		Measuring Point Elevation: 8.67		Total Depth: 8.0 ft	
Logged By: Eric Kramer		Checked By: J.Makowski		Water Level During Drilling: 4.0 ft		Post-Development: 2.8 ft	
Drilling Co: Aquifer Drilling & Test		Driller: A. Gembara		Casing: 2-inch PVC		Drill Bit Diameter: 8.25-in	
Drilling Method: Hollow-Stem Auger				Perforation: 10-Slot		 from 2 ft to 8 ft	
Drilling Equipment: Mobile Drill B-61				Pack: Morie #2 Sand		 from 1 ft to 8 ft	
Sampler: 2-inch Split Spoon				Seal: Bentonite Chips		 from .5 ft to 1 ft	
				Concrete		 from 0 ft to .5 ft	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sampler	Blows per 6"	PID (ppm)	REMARKS	
	Black medium SAND, moderate Slag and Ash (fill); dry.	 FILL			6	56.8	Black staining and odor. Black staining and odor. Black staining and odor. Bottom of borehole 8 feet below grade.	
								7
								7
								11
								13
								15
								4
								6
								1
								1
5	Brown medium SAND, moderate Slag and Ash (fill); moist to wet.				2	14.8		
	Brown medium to fine SAND, trace Slag (fill); wet.				3			
					4	12.6		
					4			
					3			
					4			
	Gray CLAY; moist.	CL						
10								
15								
20								

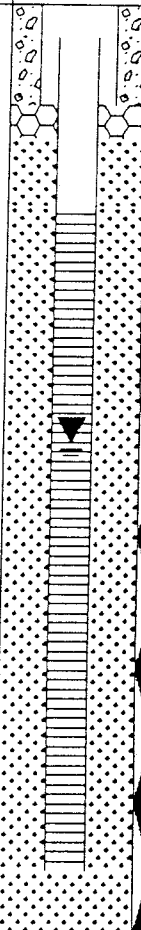
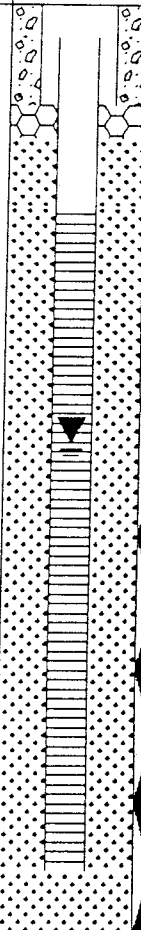
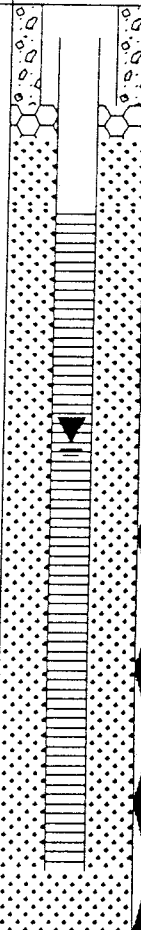
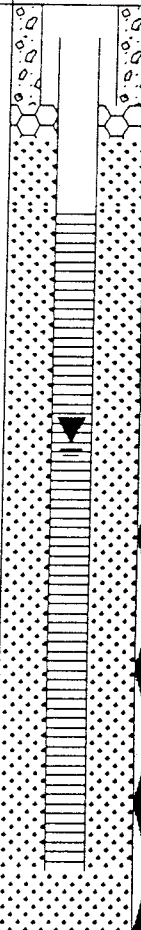
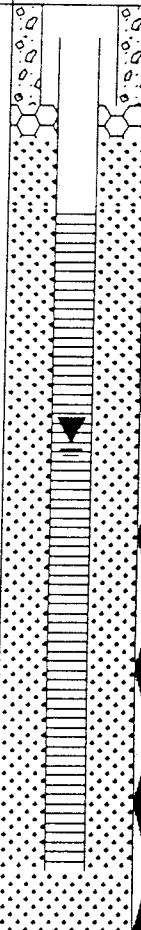
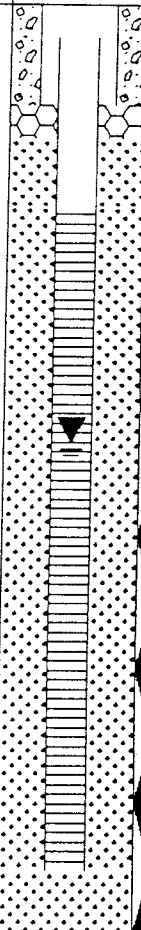
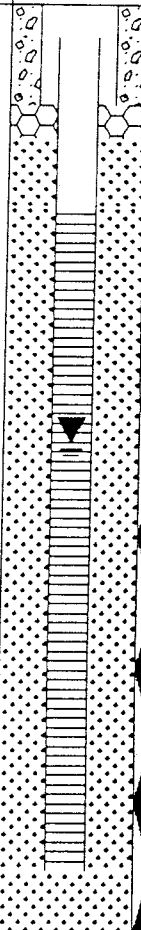
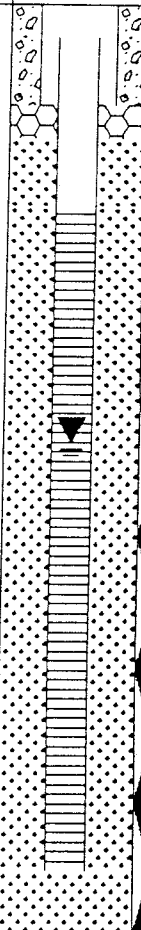
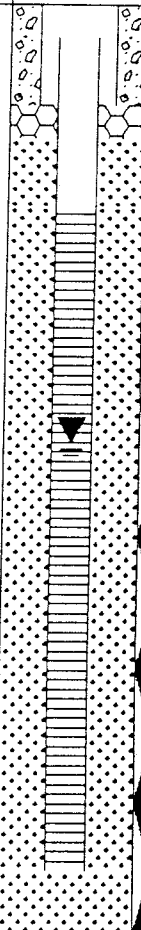
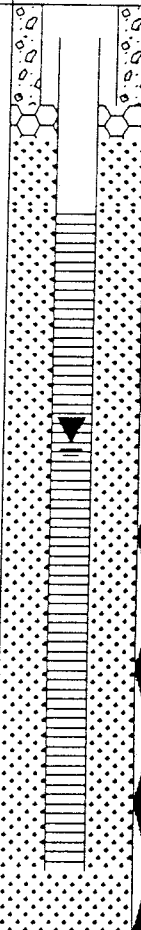
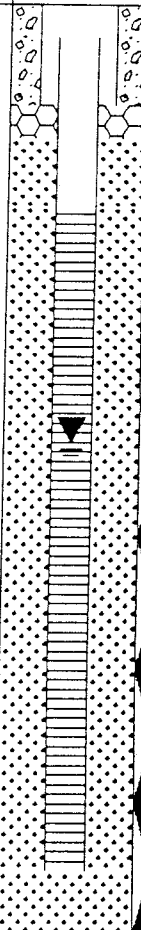
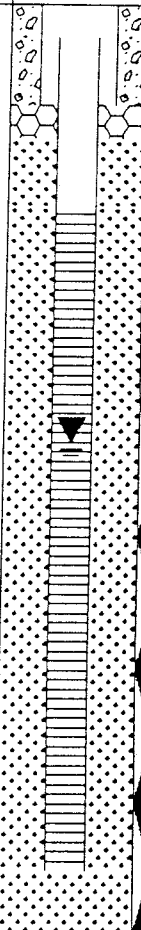
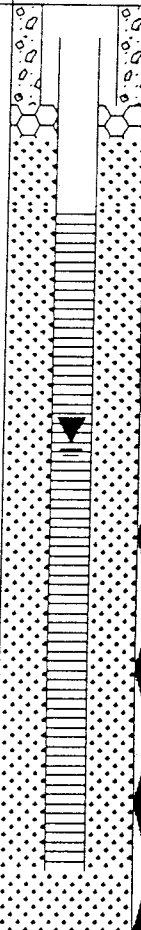
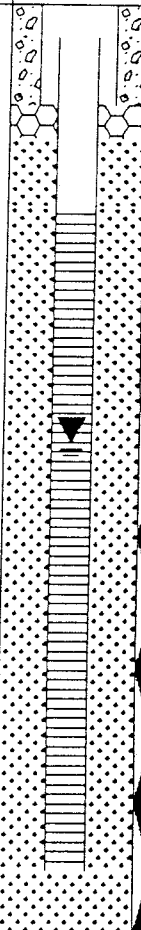
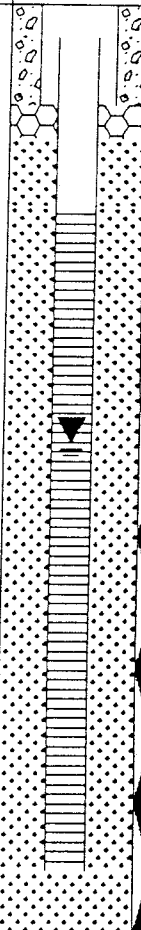
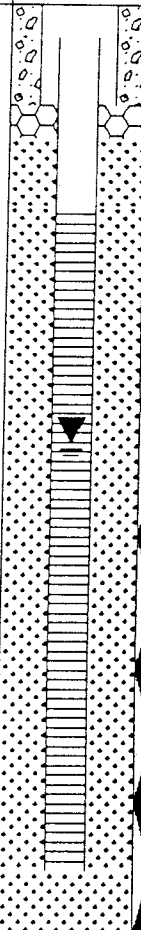
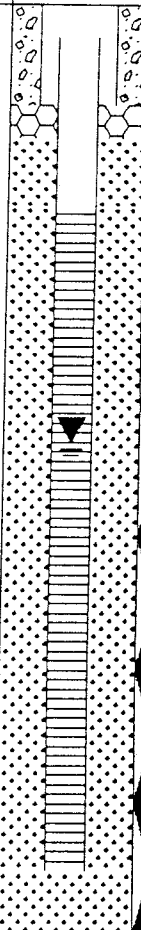
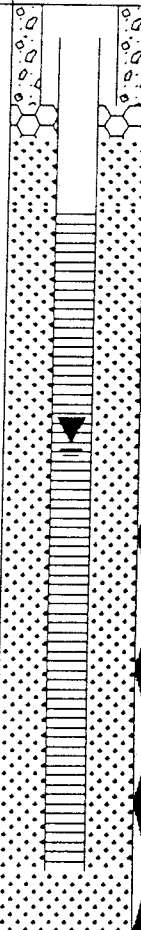
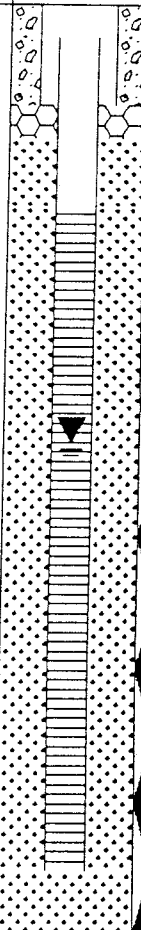
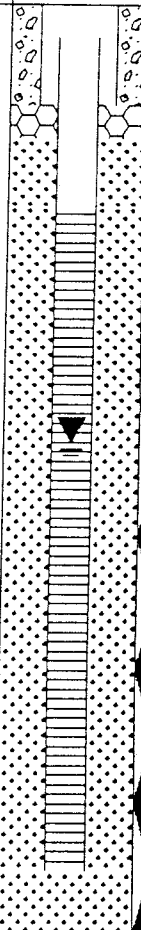
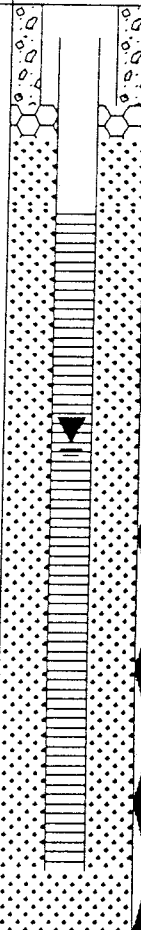
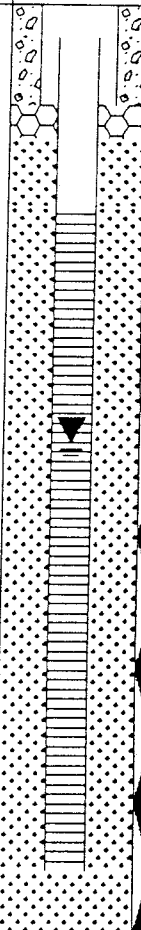
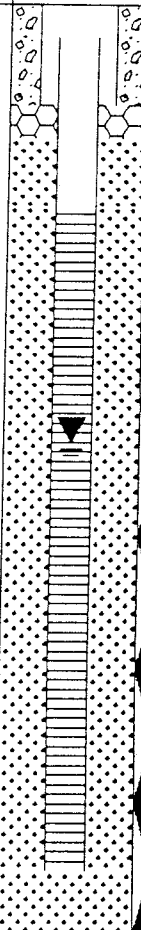
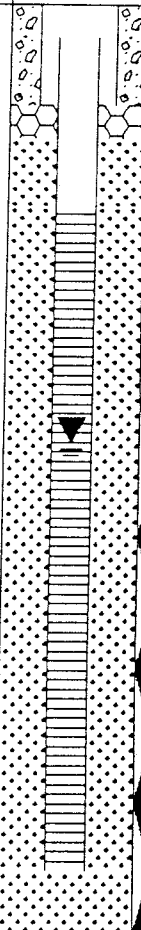
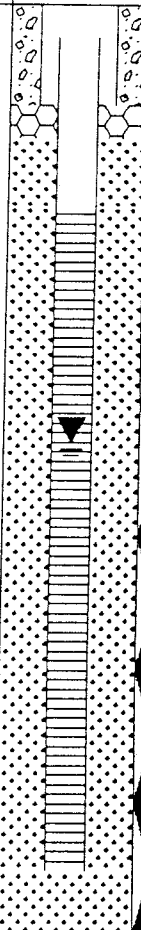
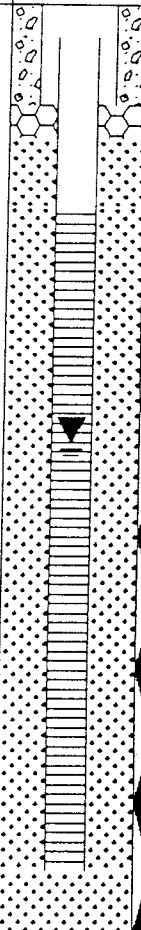
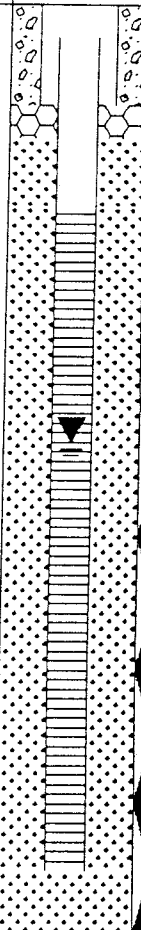
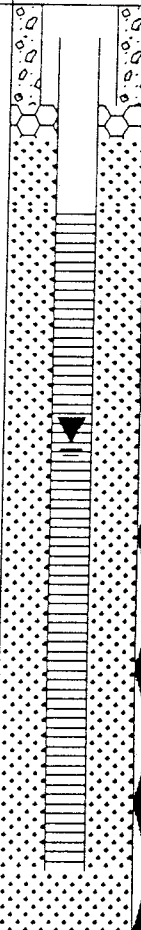
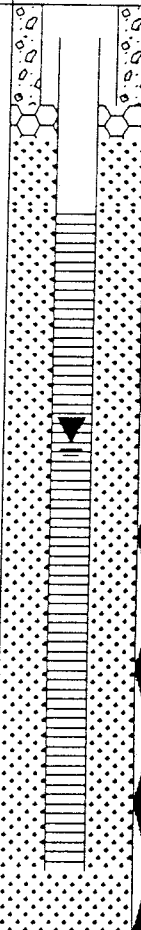
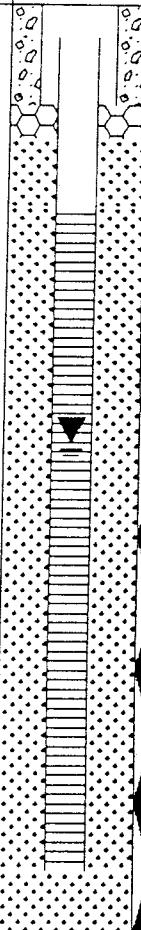
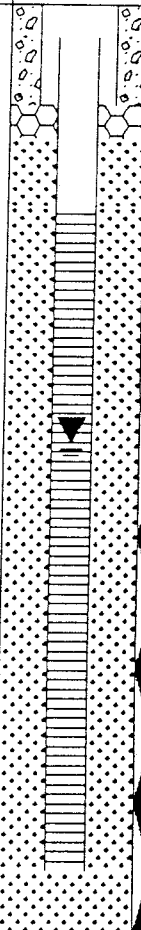
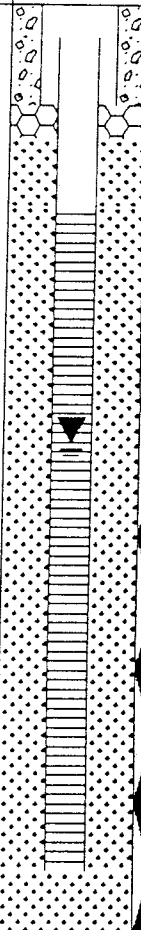
Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Well No. MW-3			
Date Started: 7/8/98		Completed: 7/8/98		Measuring Point Elevation: 8.45		Total Depth: 14.0 ft	
Logged By: Eric Kramer		Checked By: J.Makowski		Water Level During Drilling: 4.0 ft		Post-Development: 4.0 ft	
Drilling Co: Aquifer Drilling & Test Driller: A. Gembara				Casing: 2-inch PVC Drill Bit Diameter: 8.25-in			
Drilling Method: Hollow-Stem Auger				Perforation: 10-Slot  from 2 ft to 14 ft			
Drilling Equipment: Mobile Drill B-61				Pack: Morie #2 Sand  from 1 ft to 14 ft			
Sampler: 2-inch Split Spoon				Seal: Bentonite Chips  from .5 ft to 1 ft			
				Concrete  from 0 ft to .5 ft			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sampler	Blows per 6"	PID (ppm)	REMARKS
	No Recovery.	 FILL			3		
					4		
					4		
					4		
	Brown medium Sand and Slag (fill); moist.				3	4.2	
					3		
					3		
					3		
	Brown fine Sand and Silt (fill); wet.				2	3.8	
					1		
					1		
					1		
	Brown fine Sand and Silt (fill); wet.				2	4.2	Trace black staining.
					2		
					2		
					2		
	Brown fine Sand and Silt (fill); wet.				4	3.2	Trace black staining.
					4		
					4		
					4		
	Brown fine Sand and Silt, trace Slag and Ash (fill); wet.				2	2.7	Trace black staining.
					2		
					2		
					3		
	Brown to Gray fine Sand and Silt (fill); wet.				3	3.6	
					4		
					4		
					5		
							Bottom of borehole 14 feet below grade.
15							
20							

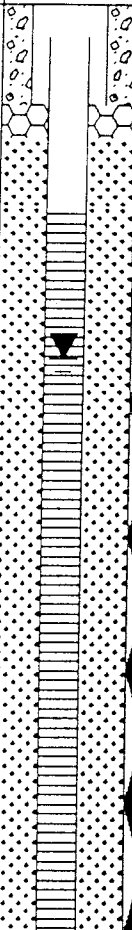
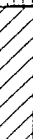
Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Well No. MW-4	
Date Started: 7/6/98	Completed: 7/6/98	Measuring Point Elevation: 10.44 ft	Total Depth: 14.0 ft
Logged By: Eric Kramer	Checked By: J. Makowski	Water Level During Drilling: 5.0 ft	Post-Development: 4.5 ft
Drilling Co: Aquifer Drilling & Test	Driller: A. Gembara	Casing: 2-inch PVC	Drill Bit Diameter: 8.25-in
Drilling Method: Hollow-Stem Auger		Perforation: 10-Slot	 from 3 ft to 13 ft
Drilling Equipment: Mobile Drill B-61		Pack: Morie #2 Sand	 from 2 ft to 14 ft
Sampler: 2-inch Split Spoon		Seal: Bentonite Chips	 from 1.5 ft to 2 ft
		Concrete	 from 0 ft to 1.5 ft

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Brown fine SAND, moderate Slag (fill); dry.	FILL			4	4.0	Black staining.
1					4		
2					4		
3	Brown fine Sand and Silt, trace Slag (fill); moist.				3	1.2	Trace black staining.
4					3		
5					4		
6	Brown fine SAND, moderate Slag (fill); moist to wet.				4	1.0	Black staining.
7					5		
8					5		
9	Black Ash and Slag, moderate Sand (fill); wet.				4	0.8	Black staining.
10					4		
11	Black to Gray SILT, moderate Sand, trace Slag (fill); wet.				2	1.8	
12					2		
13	Gray to brown Silty CLAY; wet.	CL			2	1.1	
14					2		
15	Gray to Brown Silty CLAY; wet.				3	1.4	
16					3		
17					3		
18					3		
19					4		
20							Bottom of borehole 14 feet below grade.

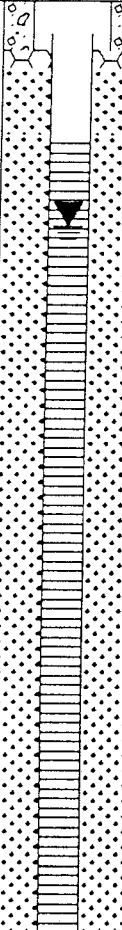
Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Well No. MW-5			
Date Started: 7/7/98		Completed: 7/7/98		Measuring Point Elevation: 12.42		Total Depth: 14.0 ft	
Logged By: Eric Kramer		Checked By: J.Makowski		Water Level During Drilling: 6.0 ft		Post-Development: 6.6 ft	
Drilling Co: Aquifer Drilling & Test Driller: A. Gembara				Casing: 2-inch PVC		Drill Bit Diameter: 8.25-in	
Drilling Method: Hollow Stem Auger				Perforation: 10-Slot		 from 3 ft to 13 ft	
Drilling Equipment: Mobile Drill B-61				Pack: Morie #2 Sand		 from 2 ft to 14 ft	
Sampler: 2-inch Split Spoon				Seal: Bentonite Chips		 from 1.5 ft to 2 ft	
				Concrete		 from 0 ft to 1.5 ft	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sampler	Blows per 6"	PID (ppm)	REMARKS
5	Brown fine SAND, trace Slag (fill); dry.	FILL			4	19.8	Black staining and trace odor.
					5		
					5		
					3		
					4		
					5		
					5		
					4		
					5		
					6		
					8		
					5		
10	Brown fine SAND, trace Slag (fill); dry.	FILL			4	5.6	Black staining and trace odor.
					5		
					5		
					5		
					4		
					5		
					5		
					4		
					5		
					5		
					4		
					5		
15	Brown fine SAND (fill); moist to wet.	FILL			5	4.8	Black staining and slight odor.
					6		
					8		
					8		
					5		
					5		
					4		
					5		
					5		
					4		
					5		
					5		
20	Brown fine SAND, trace Slag (fill); wet.	FILL			4	142	Heavy black staining and strong odor.
					4		
					4		
					3		
					4		
					4		
					3		
					4		
					4		
					3		
					4		
					4		
25	No Recovery.	FILL			3	12.8	
					4		
					4		
					4		
					4		
					3		
					4		
					4		
					3		
					4		
					4		
					3		
30	Gray Slag and Ash (fill); wet.	FILL			4	12.8	
					4		
					4		
					4		
					4		
					3		
					4		
					4		
					3		
					4		
					4		
					3		
35	Gray Slag and Ash (fill); wet.	FILL			3	12.8	
					4		
					4		
					4		
					4		
					3		
					4		
					4		
					3		
					4		
					4		
					3		
40	Gray CLAY; moist.	CL			5		
45							
50							
55							
60							
65							
70							
75							
80							
85							
90							
95							
100							
105							
110							
115							
120							
125							
130							
135							
140							
145							
150							
155							
160							

Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Well No. MW-6			
Date Started: 7/7/98		Completed: 7/7/98		Measuring Point Elevation: 11.24 ft		Total Depth: 16.0 ft	
Logged By: Eric Kramer		Checked By: J.Makowski		Water Level During Drilling: 6.0 ft		Post-Development: 5.3 ft	
Drilling Co: Aquifer Drilling & Test Driller: A. Gembara				Casing: 2-inch PVC		Drill Bit Diameter: 8.25-in	
Drilling Method: Hollow-Stem Auger				Perforation: 10-Slot		 from 3 ft to 14 ft	
Drilling Equipment: Mobile Drill B-61				Pack: Morie #2 Sand		 from 2 ft to 16 ft	
Sampler: 2-inch Split Spoon				Seal: Bentonite Chips		 from 1.5 ft to 2 ft	
				Concrete		 from 0 ft to 1.5 ft	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium SAND (fill); dry.				4	4.4	Trace black staining.
					4		
					4		
					4		
					2		
					2		
					3		
					3		
					2		
					2		
5	Brown medium SAND, trace Slag (fill); dry.				2	61.8	Heavy black staining and odor.
		2					
		2					
		3					
		3					
		2					
		2					
		3					
		4					
		4					
	Brown to Black medium SAND, trace Slag (fill); moist to wet.				2	472	Very strong odor. Brown oily product present.
		2					
		2					
		3					
		4					
		3					
		4					
		4					
		6					
		6					
	Black to Gray Slag and Ash (fill); wet.				3	606	Strong odor. Brown oily product present.
		4					
		4					
		4					
		6					
		2					
		2					
		2					
		2					
		2					
10	Black Ash and Slag (fill); wet.				2	178	Strong odor. Black oily product present.
		2					
		2					
		2					
		2					
		2					
		2					
		2					
		2					
		2					
	No Recovery.				2		
		2					
		2					
		1					
		2					
		4					
		4					
		5					
		4					
		4					
	Gray Ash and Slag (fill); wet.				4	5.2	
		4					
		5					
		5					
		4					
		3					
		3					
		4					
		5					
		5					
15	Gray CLAY, trace Gray Ash and Slag; wet.				3	6.8	
					3		
					4		
					5		
					5		
							Bottom of borehole 16 feet below grade.
20							

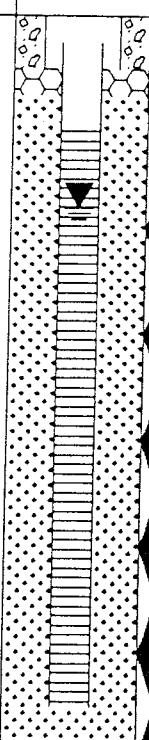
Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Well No. MW-7			
Date Started: 7/7/98		Completed: 7/7/98		Measuring Point Elevation: 8.88		Total Depth: 14.0 ft	
Logged By: Eric Kramer		Checked By: J.Makowski		Water Level During Drilling: 4.0 ft		Post-Development: 3.4 ft	
Drilling Co: Aquifer Drilling & Test Driller: A. Gembara				Casing: 2-inch PVC		Drill Bit Diameter: 8.25-in	
Drilling Method: Hollow-Stem Auger				Perforation: 10-Slot		 from 2 ft to 14 ft	
Drilling Equipment: Mobile Drill B-61				Pack: Morie #2 Sand		 from 1 ft to 14 ft	
Sampler: 2-inch Split Spoon				Seal: Bentonite Chips		 from .5 ft to 1.0 ft	
				Concrete		 from 0 ft to .5 ft	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sampler	Blows per 6"	PID (ppm)	REMARKS			
	Black fine Sand and Silt, trace Slag (fill); dry.	 FILL			3	8.9	Odor.			
					4					
					4					
					5					
	No Recovery.									
	Black to Brown Silty SAND (fill); wet.						2	85.6	Heavy black staining and strong odor.	
					3					
					3					
					4					
	Black fine Sand and Silt (fill); wet.						3	8.6	Black staining and odor.	
					3					
					3					
					5					
	Brown to Black fine Sand and Silt, trace Slag (fill); wet.			2	7.7	Black staining and odor.				
		2								
		2								
		4								
	Brown to Gray fine Sand and Silt, trace Slag (fill); wet.			3	6.5	Black staining and trace odor.				
		4								
		4								
		4								
	Brown to Gray fine Sand and Silt, trace Slag (fill); wet.			4	5.8	Black staining and trace odor.				
		4								
		5								
		8								
							Bottom of borehole 14 feet below grade.			
15										
20										

Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Well No. MW-8			
Date Started: 7/7/98		Completed: 7/7/98		Measuring Point Elevation: 11.68		Total Depth: 16.0 ft	
Logged By: Eric Kramer		Checked By: J.Makowski		Water Level During Drilling: 6.0 ft		Post-Development: 5.3 ft	
Drilling Co: Aquifer Drilling & Test Driller: A. Gembara				Casing: 2-inch PVC		Drill Bit Diameter: 8.25-in	
Drilling Method: Hollow-Stem Auger				Perforation: 10-Slot		from 3 ft to 14 ft	
Drilling Equipment: Mobile Drill B-61				Pack: Morie #2 Sand		from 2 ft to 16 ft	
Sampler: 2-inch Split Spoon				Seal: Bentonite Chips		from 1.5 ft to 2 ft	
				Concrete		from 0 ft to 1.5 ft	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium SAND (fill); dry.	FILL			2	1251	Black staining and strong odor.
					2		
					3		
					5		
	Brown medium SAND, trace Slag (fill); dry.				2	1254	Black staining and strong odor.
					2		
					3		
					4		
5	Brown fine SAND, trace Slag (fill); moist to wet.				3	198	Black staining and odor.
					3		
				4			
				3			
	Brown fine SAND, moderate Slag (fill); wet.			6	269	Black staining and moderate odor.	
				6			
				5			
				3			
	Black to Gray Slag and Ash, little medium Sand (fill); wet.			4	177	Black staining and odor.	
				4			
				6			
				7			
10	Brown to Black Slag and Ash (fill); wet.			3	28.6	Odor.	
				4			
				4			
				6			
	Brown to Black Slag and Ash (fill); wet.			4	11.8	Odor.	
				4			
				4			
				6			
15	Gray CLAY; moist.	CL		2	10.6		
				2			
				3			
				4			
20							Bottom of borehole 16 feet below grade.

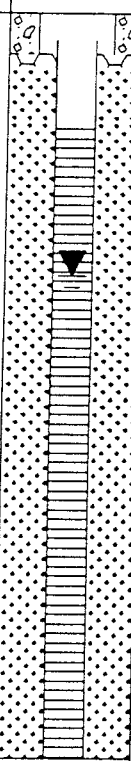
Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Well No. MW-9	
Date Started: 7/6/98	Completed: 7/6/98	Measuring Point Elevation: 8.82 ft	Total Depth: 14.0 ft
Logged By: Eric Kramer	Checked By: J.Makowski	Water Level During Drilling: 3.0 ft	Post-Development: 3.6 ft
Drilling Co: Aquifer Drilling & Test	Driller: A. Gembara	Casing: 2-inch PVC	Drill Bit Diameter: 8.25-in
Drilling Method: Hollow-Stem Auger		Perforation: 10-Slot	 from 2 ft to 13 ft
Drilling Equipment: Mobile Drill B-61		Pack: Morie #2 Sand	 from 1.5 ft to 14 ft
Sampler: 2-inch Split Spoon		Seal: Bentonite Chips	 from 1.0 ft to 1.5 ft
		Concrete	 from 0 ft to 1.0 ft

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium to fine SAND, trace Slag (fill); dry.	FILL			2	4.8	
					3		
					3		
					5		
	No Recovery.				4		
					5		
					5		
					4		
	Brown medium to fine SAND (fill); wet.				4	4.4	Trace black staining.
5					10		
					4		
					4		
	Gray Ash, Slag and Wood, moderate medium Sand and Pebbles (fill); wet.				3	3.5	Trace odor.
					4		
					5		
					5		
	Gray Ash and Slag (fill); wet.					3.5	
	No Recovery.				4		
10					7		
					7		
					11		
	Gray Silt, Sand, Slag and Ash, trace Wood material (fill); wet.				4	4.2	
					4		
					5		
					4		
15							Bottom of borehole 14 feet below grade.
20							
25							

Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Well No. MW-10			
Date Started: 8/26/98		Completed: 8/26/98		Measuring Point Elevation: 8.59		Total Depth: 16.0 ft	
Logged By: Eric Kramer		Checked By: J.Makowski		Water Level During Drilling: 5.0 ft		Post-Development: 3.7 ft	
Drilling Co: Aquifer Drilling & Test		Driller: Tony Martin		Casing: 2-inch PVC		Drill Bit Diameter: 8.25-in	
Drilling Method: Hollow-Stem Auger				Perforation: 10-Slot		from 3 ft to 15 ft	
Drilling Equipment: CME-LC 60 Rig				Pack: Morie #2 Sand		from 1.5 ft to 16 ft	
Sampler: Post-Hole Digger/2" SS				Seal: Bentonite Chips		from 1.0 ft to 1.5 ft	
				Concrete		from 0 ft to 1.0 ft	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Brown medium SAND, moderate Gravel (fill); dry.	FILL				2.1	Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
2	Brown to Black Slag and Ash, moderate Brown medium Sand (fill); dry.					0.0	Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
3	Brown to Black Slag and Ash (fill); wet.				2	0.0	
4	Gray Slag and Ash (fill); wet.				3	0.0	
5	Gray Slag and Ash (fill); wet.				1	0.0	
6	Gray Slag and Ash (fill); wet.				1	0.0	
7	Gray Slag and Ash (fill); wet.				2	0.0	
8	Gray Slag and Ash (fill); wet.				3	0.0	
9	Gray Slag and Ash (fill); wet.				2	0.0	
10	Gray Slag and Ash (fill); wet.				2	0.0	
11	Gray Slag and Ash (fill); wet.				1	0.0	
12	Gray Slag and Ash (fill); wet.				3	0.0	
13	Gray Slag and Ash (fill); wet.				2	0.0	
14	Gray Slag and Ash (fill); wet.				1	0.0	
15	Gray Clayey SILT; moist.	ML			2	5.2	
16					1		Bottom of borehole 16 feet below grade.
17					2		
18					2		
19					2		
20							
21							
22							
23							
24							
25							

Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Well No. MW-11			
Date Started: 8/25/98		Completed: 8/25/98		Measuring Point Elevation: 8.44		Total Depth: 14.0 ft	
Logged By: Eric Kramer		Checked By: J. Makowski		Water Level During Drilling: 4.0 ft		Post-Development: 4.9 ft	
Drilling Co: Aquifer Drilling & Test		Driller: Tony Martin		Casing: 2-inch PVC		Drill Bit Diameter: 8.25-in	
Drilling Method: Hollow-Stem Auger				Perforation: 10-Slot		from 2 ft to 14 ft	
Drilling Equipment: CME-LC 60 Rig				Pack: Morie #2 Sand		from 1 ft to 14 ft	
Sampler: Post-Hole Digger/2" SS				Seal: Bentonite Chips		from .5 ft to 1 ft	
				Concrete		from 0 ft to .5 ft	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Black medium SAND (fill); dry.	FILL			3 2 1 1 3 1 2 1	8.8	Slight odor. Sample from 0-2 feet collected for TCLP VOA, TCLP BNs, TCL VOA, TCL BNA and RCRA metals analysis.
2	Black medium SAND, moderate Slag (fill); dry.					7.5	Slight odor. Sample from 2-4 feet collected for TCLP VOA, TCLP BNs, TCL VOA, TCL BNA and RCRA metals analysis.
4	Black medium SAND, moderate Slag (fill); wet.					3.8	Slight staining and odor.
6	Tan to Pink fine SAND, trace Slag (fill); wet.					268	Heavy odor and black staining.
8	No sample collected.						No spilt spoons collected down to 14 feet below grade.
10	No sample collected.						
12	No sample collected.						
14	No sample collected.						Bottom of borehole 14 feet below grade.
16							
18							
20							
22							
24							
26							
28							
30							

Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Well No. MW-12			
Date Started: 8/26/98		Completed: 8/26/98		Measuring Point Elevation: 11.58		Total Depth: 14.0 ft	
Logged By: Eric Kramer		Checked By: J.Makowski		Water Level During Drilling: 4.0 ft		Post-Development: 5.7 ft	
Drilling Co: Aquifer Drilling & Test		Driller: Tony Martin		Casing: 2-inch PVC		Drill Bit Diameter: 8.25-in	
Drilling Method: Hollow-Stem Auger				Perforation: 10-Slot		 from 2 ft to 14 ft	
Drilling Equipment: CME-LC 60 Rig				Pack: Morie #2 Sand		 from 1 ft to 14 ft	
Sampler: Post-Hole Digger/2" SS				Seal: Bentonite Chips		 from .5 ft to 1 ft	
				Concrete		 from 0 ft to .5 ft	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium SAND, trace Slag (fill); dry.					45.8	Slight odor.
	Gray fine Sand and Slag (fill); dry.						
5	Brown medium Sand and Slag (fill); wet.				5	21.9	Slight odor.
	Gray Ash and Slag (fill); wet.				4	49.7	Slight odor.
	Gray Ash and Slag (fill); wet.				3		
	Gray Ash and Slag, moderate Brown medium Sand (fill); wet.				4	72.8	Slight odor.
10	Gray fine Silt and Slag (fill); wet.				3	24.3	
		3					
		3					
		2					
		4	17.1	Moderate odor.			
		3					
		2					
		2					
15							Bottom of borehole 14 feet below grade.
20							
25							

Project: **WITCO CORPORATION
BROOKLYN, NEW YORK**

Log of Well No. **MW-13**

Date Started: **8/26/98**

Completed: **8/26/98**

Logged By: **Eric Kramer**

Checked By: **J. Makowski**

Drilling Co: **Aquifer Drilling & Test**

Driller: **Tony Martin**

Drilling Method: **Hollow-Stem Auger**

Drilling Equipment: **CME-LC 60 Rig**

Sampler: **Post-Hole Digger/2" SS**

Measuring Point Elevation: **12.50**

Total Depth: **19.0 ft**

Water Level During Drilling: **9.0 ft**

Post-Development: **7.4 ft**

Casing: **2-inch PVC**

Drill Bit Diameter: **8.25-in**

Perforation: **10-Slot**

Pack: **Morie #2 Sand**

Seal: **Bentonite Chips**

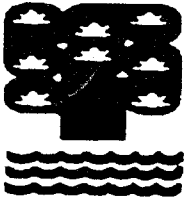
Concrete

from **6 ft** to **19 ft**
from **3 ft** to **19 ft**
from **2 ft** to **3 ft**
from **0 ft** to **2 ft**

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Black medium SAND, moderate Slag (fill); dry.	FILL				3.9	Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
5	Brown to Black medium SAND, moderate Slag (fill); dry.					3.6	Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Brown to Black Sand and Slag (fill); dry.				9	2.6	
	Brown medium SAND, moderate Slag (fill); dry to moist.				12		
					8		
					7		
					9	3.4	
					9		
					7		
					8		
10	Brown to Red fine SAND, trace Silt (fill); wet.				5	2.1	
					6		
					7		
					8		
	Black Sand and Slag (fill); wet.				4	2.8	Slight odor.
					12		
					11		
					6		
	Gray Ash and Slag (fill); wet.				2	3.4	
					1		
					1		
					1		
15	Black Ash and Slag, trace medium Sand (fill); wet.				3	1.9	
					4		
					6		
					4		
	Gray Ash and Slag (fill); wet.				2	30.6	Heavy sheen and odor.
					2		
					1		
					1		
20							Bottom of borehole 19 feet below grade.
25							

Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Well No. MW-14			
Date Started: 8/25/98		Completed: 8/25/98		Measuring Point Elevation: 7.92		Total Depth: 14.0 ft	
Logged By: Eric Kramer		Checked By: J.Makowski		Water Level During Drilling: 4.0 ft		Post-Development: 3.7 ft	
Drilling Co: Aquifer Drilling & Test		Driller: Tony Martin		Casing: 2-inch PVC		Drill Bit Diameter: 8.25-in	
Drilling Method: Hollow-Stem Auger				Perforation: 10-Slot		 from 2 ft to 14 ft	
Drilling Equipment: CME-LC 60 Rig				Pack: Morie #2 Sand		 from 1 ft to 14 ft	
Sampler: Post-Hole Digger/2" SS				Seal: Bentonite Chips		 from .5 ft to 1 ft	
				Concrete		 from 0 ft to .5 ft	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sampler	Blows per 6"	PID (ppm)	REMARKS	
	Brown medium SAND, moderate Gravel (fill); dry.					5.8	Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.	
	Brown fine Sand and Silt (fill); moist.					4.1	Slight odor.	
	Brown medium SAND, trace Slag (fill); moist.					2.2	Sample from 4-6 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.	
5	Black TAR (fill); dry.				4 8 5 5	24.3	Tar material present from 6 to 12 feet below grade. Tar material is a solid core.	
	Black TAR (fill); dry.				5 6 7 7	17.6		
10	Black TAR (fill); dry.				5 4 3 3	30.1		
	Gray fine SAND, moderate Silt (fill); wet.				2 2 3 2	2.5		
15								Bottom of borehole 14 feet below grade.
20								
25								



Log of Monitoring Well: MW-15

Client: Witco

Project: Witco/Brklyn/K84203

Site Location: 688-700 Court Street

Casing Diameter: 2 Inches

Screen Type/Range: 10-Slot PVC 2.0' to 8.0' bgs

Flush/Stick-up: Flush

Packing Type: #0 Sand

Grout Type: Portland Cement

WELL CONSTRUCTION AND LITHOLOGY					
Depth	Construction	Symbol	Description	USC Blow count OVA PPM	Remarks
0			Ground Surface		
			Topsoil		
1			FILL MATERIAL: silty SAND Br. c-f S, s.\$, t. f G	4	Sample Collected MW-15/0-2
				3	
				7	
2				6	Well Equilibrate: 3.82 2" residual product: Petroleum Odor
3			NO RECOVERY	5	
				3	
4				3	Sample Collected MW-15/4-6 Petroleum Odor 5.25' - Groundwater Encountered
5			FILL MATERIAL: silty clayey SAND Dk Br. c-m S, s.\$, s.C, t. f G	2	
				3	
6				3	
				86.2	
				7	
7					
8					
9					
10					
11					
12					
13					
14					
15					

Logged By: L. Heerschap

Drilled By: Horizon Drilling

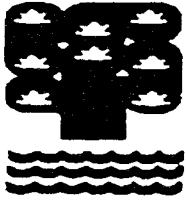
Drilling Method: Hollow Stem Auger

Date: 3/16/99

Permit Number: NA

Depth to Water: 5.25 feet bgs

ENVIRO-SCIENCES, INC.
111 HOWARD BLVD., STE 108
MOUNT ARLINGTON, NJ 07856
(973) 398-8183



Log of Monitoring Well: MW-17

Client: Witco

Project: Witco/Brklyn/K84203

Site Location: 688-700 Court Street

Casing Diameter: 2 Inches

Screen Type/Range: 10-Slot PVC 2.0' to 10.0' bgs

Flush/Stick-up: Flush

Packing Type: #0 Sand

Grout Type: Portland Cement

WELL CONSTRUCTION AND LITHOLOGY					
Depth	Construction	Symbol	Description	USC Blow count OVA PPM	Remarks
0			Ground Surface		
			Driveway Gravel		
1			FILL MATERIAL: SAND Br. m-f S, I.S. t.G	45 35 16	Sample Collected MW-17/0-2
2				17	
3			FILL MATERIAL: SAND Br. m-f S, I.S. t.G (brick fragments)	32 16 16	
4				19	4.25' - Groundwater Encountered
5				7	
6				6	
7				4	
8			FILL MATERIAL: silty SAND Soil Cuttings. Br. to Dk Br.	5	
9					
10					
11					
12			CLAY Soil Cuttings: Gr C, s.S		
13			End of Borehole		
14					
15					

Logged By: L. Heerschap

Drilled By: Horizon Drilling

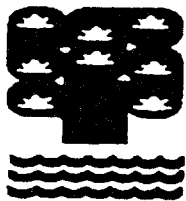
Drilling Method: Hollow Stem Auger

Date: 3/17/99

Permit Number: NA

Depth to Water: 4.25 feet bgs

ENVIRO-SCIENCES, INC.
111 HOWARD BLVD., STE 108
MOUNT ARLINGTON, NJ 07856
(973) 398-8183



Log of Monitoring Well: MW-16

Client: Witco

Project: Witco/Brklyn/K84203

Site Location: 688-700 Court Street

Casing Diameter: 2 Inches

Screen Type/Range: 10-Slot PVC 2.0' to 10.0' bgs

Flush/Stick-up: Flush

Packing Type: #0 Sand

Grout Type: Portland Cement

WELL CONSTRUCTION AND LITHOLOGY					
Depth	Construction	Symbol	Description	USC Blow count OVA PPM	Remarks
0			Ground Surface		
1			Concrete	45	
2			FILL MATERIAL: SAND Lt Br - O. f-m S, I.\$	35 3.2	Sample Collected MW-16/0-2
3				16	
4			FILL MATERIAL: silty SAND Lt Br. f-m S, I.\$, s.C	17	
5				32	Sample Collected MW-16/2-4
6				16 2.6	
7				16	
8			FILL MATERIAL: silty SAND Soil Cuttings: varying shades of brown	19	
9				7	4.25' - Groundwater Encountered
10				6 0.0	
11				4	
12				5	
13					
14					
15					
			End of Borehole		

Logged By: L. Heerschap

Drilled By: Horizon Drilling

Drilling Method: Hollow Stem Auger

Date: 3/16/99

Permit Number: NA

Depth to Water: 4.25 feet bgs

ENVIRO-SCIENCES, INC.
111 HOWARD BLVD., STE 108
MOUNT ARLINGTON, NJ 07856
(973) 398-8183

Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-1	
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 6/29/98	Date Completed: 6/29/98
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch	Total Depth: 8.0 ft
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft	
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore	
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 4.0 feet	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown to Black medium to fine SAND (fill); dry.	FILL			2.6	Black staining. Sample from 0-2 feet collected for STARS TCLP VOA, STARS TCLP BN, TCL VOA, and RCRA metals analysis.
	Brown to Black medium to fine SAND, trace Slag (fill); moist to wet.				2.9	Trace black staining. Sample from 2-4 feet collected for STARS TCLP VOA, STARS TCLP BN, TCL VOA and RCRA metals analysis.
	Brown fine Sand and Silt (fill); wet.				1.7	Water table at 4.0 feet below grade.
	Brown fine Sand and Silt (fill); wet.				1.7	
	Bottom of borehole 8 feet below grade.					
10						
15						
20						

Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-2	
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 7/1/98	Date Completed: 7/1/98
Drilling Co: Roux Associates	Drill Bit Diameter: 2-inch	Total Depth: 12.0 ft	
Driller: Pete Barczak	Backfill Material: Soil Cuttings from 0.5 ft to 12 ft		
Drilling Method: Geoprobe	Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig	Depth to Water at Time of Drilling: 3.8 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Brown medium SAND, trace Slag and Gravel (fill); dry.	FILL			6.8	Trace odor. Sample from 0-2 feet collected for STARS TCLP VOA, STARS TCLP BN, TCL VOA and RCRA metals analysis.
2	Brown to Black medium to fine SAND (fill); moist to wet.				7.9	Sample from 2-4 feet collected for STARS TCLP VOA, STARS TCLP BN, TCL VOA and RCRA metals analysis.
3	Black fine Sand and Silt, trace Gravel (fill); wet.				0.0	Water table at 3.8 feet below grade. Trace odor.
4	Brown fine Sand and Silt (fill); wet.				1.1	Trace odor.
5	Black fine Sand and Silt, trace Gravel (fill); wet.				0.7	
6	Black fine Sand and Silt (fill); wet.				0.0	
7	Black to Gray Silty CLAY; wet.	CL				
12						Bottom of borehole 12 feet below grade.

Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-3	
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 7/1/98	Date Completed: 7/1/98
Drilling Co: Roux Associates	Drill Bit Diameter: 2-inch	Total Depth: 6.0 ft	
Driller: Pete Barczak	Backfill Material: Soil Cuttings from 0.5 ft to 6.0 ft		
Drilling Method: Geoprobe	Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig	Depth to Water at Time of Drilling: 4.0 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Brown to Black medium SAND, moderate Slag (fill); dry.	FILL			486	Black staining and odor. Sample from 0-2 feet collected for STARS TCLP VOA, STARS TCLP BN, TCL VOA and RCRA metals analysis.
2	Brown to Black medium SAND, moderate Slag (fill); moist to wet.				335	Black staining and odor. Sample from 2-4 feet collected for STARS TCLP VOA, STARS TCLP BN, TCL VOA and RCRA metals analysis.
4	Gray medium Sand, Slag and Ash (fill); wet.				> 2000	Trace black staining and odor. Water table at 4.0 feet below grade.
6						Bottom of borehole 6 feet below grade.
10						
15						
20						

Project: WITCO CORPORATION BROOKLYN, NEW YORK			Log of Soil Boring No. SB-4		
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 7/1/98	Date Completed: 7/1/98
Drilling Co: Roux Associates			Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft
Driller: Pete Barczak			Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft		
Drilling Method: Geoprobe			Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig			Depth to Water at Time of Drilling: 6.0 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown Sand and Slag (fill); dry.	FILL			8.4	Black staining and odor. Sample from 0-2 feet collected for STARS TCLP VOA, STARS TCLP BN, TCL VOA and RCRA metals analysis.
	Brown to Black medium Sand and Slag (fill); moist.				237	Black staining and strong odor.
5	Gray to Black medium Sand and Slag (fill); moist to wet.				542	Black staining and strong petroleum odor. Sample from 4-6 feet collected for STARS TCLP VOA, STARS TCLP BN, TCL VOA and RCRA metals analysis.
	Gray to Black medium Sand and Slag (fill); wet.				58.5	Water table at 6.0 feet below grade. Black staining and strong petroleum odor.
						Bottom of borehole 8 feet below grade.
10						
15						
20						

Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-5			
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/30/98	Date Completed: 6/30/98
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft	
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft			
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 4.0 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Brown to Gray medium SAND, trace Slag (fill); moist.	FILL			30.6	Trace black staining and strong odor. Sample from 0-2 feet collected for STARS TCLP VOA, STARS TCLP BN, TCL VOA and RCRA metals analysis.
2	Brown to Gray medium SAND, trace Slag (fill); moist to wet.				554	Trace black staining and strong odor. Sample from 2-4 feet collected for STARS TCLP VOA, STARS TCLP BN, TCL VOA and RCRA metals analysis.
4	Brown medium to fine SAND (fill); wet.				575	Trace black staining and odor. Water table at 4.0 feet below grade.
6	Brown to Gray medium to fine SAND (fill); wet.				235	Odor.
8						Bottom of borehole 8 feet below grade.
10						
15						
20						

Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-6			
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/30/98	Date Completed: 6/30/98
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft	
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft			
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 3.9 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Red to Brown medium SAND, trace Slag (fill); moist.	FILL			0.0	Slight odor. Sample from 0-2 feet collected for STARS TCLP VOA, STARS TCLP BN, TCL VOA and RCRA metals analysis.
2	Brown to Gray medium SAND, trace Slag (fill); moist to wet.				0.0	Trace odor. Sample from 2-4 feet collected for STARS TCLP VOA, STARS TCLP BN, TCL VOA and RCRA metals analysis.
4	Gray fine SAND, moderate Silt (fill); wet.				0.0	Water table at 3.9 feet below grade.
6	Gray to Brown fine SAND, moderate Silt (fill); wet.				0.0	
8						Bottom of borehole 8 feet below grade.
10						
15						
20						

Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-7	
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 6/30/98	Date Completed: 6/30/98
Drilling Co: Roux Associates	Drill Bit Diameter: 2-inch	Total Depth: 8.0 ft	
Driller: Pete Barczak	Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft		
Drilling Method: Geoprobe	Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig	Depth to Water at Time of Drilling: 4.8 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium Sand and Slag (fill); moist.	FILL			5.7	Black staining and strong odor. Sample from 0-2 feet collected for STARS TCLP VOA, STARS TCLP BN, TCL VOA, PCB and RCRA metals analysis.
	Brown medium Sand and Slag (fill); moist.				215	Black staining and strong odor. Sample from 2-4 feet collected for STARS TCLP VOA, STARS TCLP BN, TCL VOA, PCB and RCRA metals analysis.
5	Black fine SAND, trace Silt (fill); wet.				1527	Strong odor. Water table at 4.8 feet below grade.
	Black fine SAND, trace Silt (fill); wet.				1353	Strong odor.
						Bottom of borehole 8 feet below grade.
10						
15						
20						

Project: WITCO CORPORATION BROOKLYN, NEW YORK			Log of Soil Boring No. SB-8		
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/30/98	Date Completed: 6/30/98
Drilling Co: Roux Associates			Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft
Driller: Pete Barczak			Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft		
Drilling Method: Geoprobe			Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig			Depth to Water at Time of Drilling: 3.6 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium Sand and Slag (fill); dry to moist.	FILL	◆	◆	8.6	Black staining and odor. Sample from 0-2 feet collected for STARS TCLP VOA, STARS TCLP BN, TCL VOA, PCB and RCRA metals analysis.
	Brown medium Sand and Slag (fill); moist to wet.				385	Black staining and odor. Sample from 2-4 feet collected for STARS TCLP VOA, STARS TCLP BN, TCL VOA, PCB and RCRA metals analysis.
5	Brown to Black medium to fine SAND, moderate Slag (fill); wet.				295	Water table at 3.6 feet below grade. Black staining and odor.
	Brown to Black medium to fine SAND, trace Slag (fill); wet.				286	Black staining and odor.
10						Bottom of borehole 8 feet below grade.
15						
20						

Project: **02225Y**
Roux Associates
Page 1 of 1

Project: WITCO CORPORATION BROOKLYN, NEW YORK			Log of Soil Boring No. SB-9		
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/29/98	Date Completed: 6/29/98
Drilling Co: Roux Associates			Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft
Driller: Pete Barczak			Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft		
Drilling Method: Geoprobe			Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig			Depth to Water at Time of Drilling: 7.9 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium to fine SAND, trace Slag (fill); dry.	FILL			2.1	Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis. Black staining. Water table at 7.9 feet below grade. Bottom of borehole 8 feet below grade.
	Brown medium to fine SAND, trace Slag (fill); dry.				3.8	
	Brown fine SAND, trace Slag (fill); moist.				2.6	
	Brown to Gray fine SAND, moderate Slag and Ash (fill); moist to wet.				1.1	
5						
10						
15						
20						

Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-10			
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/29/98	Date Completed: 6/29/98
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft	
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft			
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 7.8 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Brown medium SAND, trace Slag (fill); dry.	FILL			10.9	Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis. Water table at 7.8 feet below grade. Bottom of borehole 8 feet below grade.
1	Brown medium SAND, trace Slag (fill); dry.				9.6	
2	Brown medium SAND, moderate Slag and Ash (fill); moist.				6.8	
3	Gray Ash and Slag (fill); moist to wet.				4.9	
4						
5						
6						
7						
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18						
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Project: WITCO CORPORATION BROOKLYN, NEW YORK			Log of Soil Boring No. SB-11		
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/19/98	Date Completed: 6/19/98
Drilling Co: Roux Associates			Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft
Driller: Pete Barczak			Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft		
Drilling Method: Geoprobe			Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig			Depth to Water at Time of Drilling: 6.5 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
-	Tan to Brown medium SAND (fill); dry.	FILL			1469	Slight odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
-	Brown medium SAND (fill); dry.				31.9	Slight odor and trace black staining. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
5-	Brown to Black fine SAND, trace to moderate Slag (fill); moist.				20.8	Black staining.
-	Gray to Black fine Sand and Slag (fill); wet.				22.7	Slight black staining and odor. Water table at 6.5 feet below grade.
10-						Bottom of borehole 8 feet below grade.
15-						
20-						

Project: WITCO CORPORATION BROOKLYN, NEW YORK			Log of Soil Boring No. SB-12		
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/23/98	Date Completed: 6/23/98
Drilling Co: Roux Associates			Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft
Driller: Pete Barczak			Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft		
Drilling Method: Geoprobe			Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig			Depth to Water at Time of Drilling: 4.3 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
—	Brown to Black medium Sand and Slag (fill); dry.	FILL	▲	◆	1301	Black staining and odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
—	Brown to Black medium Sand and Slag, some Wood material (fill); moist to wet.				1367	Odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
—	Brown to Black medium Sand and Slag, some Organic material (fill); wet.				1247	Water table at 4.3 feet below grade.
5	Brown to Black medium Sand and Slag, some Wood material (fill); wet.				1218	Black staining and odor.
10						Bottom of borehole 8 feet below grade.
15						
20						

Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-13			
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 6/24/98		Date Completed: 6/24/98	
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft	
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft			
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 7.0 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium to fine SAND, trace Slag (fill); dry.	FILL			180	Trace staining and odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA, PCB and RCRA metals analysis.
	SLAG, some Brown medium Sand (fill); moist.				984	Slight odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA, PCB and RCRA metals analysis.
5	SLAG, some Gray fine Sand (fill); moist.				688	Black staining and odor.
	SLAG, some Gray fine Sand (fill); moist to wet.				957	Trace black staining and odor.
10						Water table at 7.0 feet below grade. Bottom of borehole 8 feet below grade.
15						
20						

Project: 02225Y	Roux Associates	Page 1 of 1
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Project: WITCO CORPORATION BROOKLYN, NEW YORK			Log of Soil Boring No. SB-14		
Logged By: Eric Kramer		Checked By: J. Makowski		Date Started: 6/24/98	Date Completed: 6/24/98
Drilling Co: Roux Associates			Drill Bit Diameter: 2-inch	Total Depth: 8.0 ft	
Driller: Pete Barczak			Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft		
Drilling Method: Geoprobe			Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig			Depth to Water at Time of Drilling: 4.8 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium to fine SAND, trace Slag (fill); dry.	FILL	◆	◆	922	Trace black staining and trace odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA, PCB and RCRA metals analysis.
	Brown medium to fine SAND, moderate Slag (fill); dry.				93.5	Slight black staining and odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA, PCB and RCRA metals analysis.
5	Brown medium to fine SAND, moderate Slag (fill); wet.				1193	Black staining and odor. Water table at 4.8 feet below grade.
	Brown medium to fine SAND, trace Silt, moderate Slag (fill); wet.				1799	Odor.
10						Bottom of borehole 8 feet below grade.
15						
20						

Project: 02225Y	Roux Associates	Page 1 of 1
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-15			
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 6/23/98		Date Completed: 6/23/98	
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft	
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 8 ft			
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 4.5 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Brown to Black medium Sand and Slag (fill); dry.	FILL			940	Trace staining and slight odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
2	Gray fine Sand and Silt (fill); moist to wet.				580	Trace staining and slight odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
4	Gray fine Sand and Silt, trace Slag (fill); wet.				240	Trace odor. Water table at 4.5 feet below grade.
6	Gray fine Sand and Silt, trace Slag (fill); wet.				71.8	Trace odor.
8						Bottom of borehole 8 feet below grade.
10						
15						
20						

Project: WITCO CORPORATION BROOKLYN, NEW YORK			Log of Soil Boring No. SB-16		
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/24/98	Date Completed: 6/24/98
Drilling Co: Roux Associates			Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft
Driller: Pete Barczak			Backfill Material: Soil Cuttings from 0.5 ft to 8 ft		
Drilling Method: Geoprobe			Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig			Depth to Water at Time of Drilling: 5.3 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium SAND, moderate Slag (fill); dry.	FILL			275	Trace black staining and odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Brown medium SAND, moderate Slag (fill); moist.				218	Slight odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
5	Gray to Black fine SAND, moderate Silt, trace Slag (fill); moist to wet.				54.2	Odor.
	Gray to Black fine Sand and Slag (fill); wet.				193	Water table at 5.3 feet below grade. Black staining and slight odor.
10						Bottom of borehole 8 feet below grade.
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-17	
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 6/25/98	Date Completed: 6/25/98
Drilling Co: Roux Associates	Drill Bit Diameter: 2-inch	Total Depth: 16.0 ft	
Driller: Pete Barczak	Backfill Material: Soil Cuttings from 0.5 ft to 16 ft		
Drilling Method: Geoprobe	Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig	Depth to Water at Time of Drilling: 4.3 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Brown medium to fine SAND (fill); dry.	FILL			2.3	Trace black staining and odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
2	Brown medium to fine SAND, trace Slag (fill); moist.				4.4	Trace black staining and trace odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
4	Brown fine SAND (fill); wet.				2.4	Trace black staining and odor. Water table at 4.3 feet below grade.
6	Brown to Gray fine SAND (fill); wet.				2.5	Black staining and trace odor.
8	Gray fine Sand and Silt (fill); wet.				1.1	Trace black staining and trace odor.
10	Gray fine Sand and Silt (fill); wet.				1.3	Trace odor.
12	Gray fine Sand and Silt (fill); wet.				.8	Black staining and trace odor.
14	Gray fine Sand and Silt (fill); wet.				.8	Black staining.
15	Gray Silty CLAY; moist.	CL				
16						Bottom of borehole 16 feet below grade.

Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-18			
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 6/26/98		Date Completed: 6/26/98	
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft	
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft			
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 6.1 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Brown medium SAND, moderate Slag (fill); dry.	FILL	[Diamond Pattern]	[Diamond Pattern]	1618	Trace staining and odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA, PCB and RCRA metals analysis.
2	Brown medium SAND, moderate Slag (fill); moist.				324	Black staining and odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA, PCB and RCRA metals analysis.
4	Gray Ash and Slag (fill); wet.				94.3	Black staining.
6	Gray Ash and Slag (fill); wet.				76.7	Black staining and slight odor. Water table at 6.1 feet below grade.
8						Bottom of borehole 8 feet below grade.
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-19			
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 6/26/98		Date Completed: 6/26/98	
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft	
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft			
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 6.0 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Brown medium to fine SAND (fill); dry.	FILL			35.8	Black staining and trace odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA, PCB and RCRA metals analysis.
2	Brown to Black medium SAND (fill); dry.				122	Trace black staining and odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA, PCB and RCRA metals analysis.
4	Brown medium Sand, Slag and Ash (fill); moist to wet.				11.2	Trace staining and odor.
6	Gray Ash and Slag (fill); wet.				7.0	Water table at 6.0 feet below grade. Trace staining and odor. Bottom of borehole 8 feet below grade.
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-20	
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 6/23/98	Date Completed: 6/23/98
Drilling Co: Roux Associates	Drill Bit Diameter: 2-inch	Total Depth: 20.0 ft	
Driller: Pete Barczak	Backfill Material: Soil Cuttings from 0.5 ft to 20 ft		
Drilling Method: Geoprobe	Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig	Depth to Water at Time of Drilling: 6.2 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Brown to Black medium to fine SAND, moderate Slag (fill); dry to moist.	FILL			848	Strong odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
2	Black medium to fine SAND, moderate Slag (fill); moist.				1348	Strong odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
4	Black fine to medium SAND, moderate Slag (fill); moist.				863	Strong odor.
6	Black fine to medium SAND, moderate Slag (fill); wet.				863	Strong odor. Water table at 6.2 feet below grade.
8	Black fine Sand and Silt, moderate Slag (fill); wet.				773	Black staining and odor.
10	Black fine Sand, Silt and Slag (fill); wet.				43.2	Odor.
12	Black fine Sand and Slag (fill); wet.				74.8	Black staining and odor.
14	Black Sand and Slag (fill); wet.				29.3	Black staining.
16	Black Sand and Silt (fill); wet.				15.6	Black staining and slight odor.
18	Black to Gray Sand and Silt (fill); wet.				8.2	Slight black staining and odor.
20	Gray CLAY; moist.	CL				Bottom of borehole 20 feet below grade.

Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-21			
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/25/98	Date Completed: 6/25/98
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft	
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft			
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 6.1 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown fine SAND, moderate Slag (fill); dry.	FILL	▲	▲	809	Black staining and odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Brown fine SAND, moderate Slag (fill); moist.				22.3	Black staining.
	Gray Ash and Slag (fill); moist.				750	Odor. Sample from 4-6 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Gray Ash and Slag (fill); wet.				1501	Odor. Water table at 6.1 feet below grade.
						Bottom of borehole 8 feet below grade.
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Project: 02225Y	Roux Associates	Page 1 of 1
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Project: WITCO CORPORATION BROOKLYN, NEW YORK			Log of Soil Boring No. SB-22		
Logged By: Eric Kramer		Checked By: J. Makowski		Date Started: 6/24/98	Date Completed: 6/24/98
Drilling Co: Roux Associates			Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft
Driller: Pete Barczak			Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft		
Drilling Method: Geoprobe			Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig			Depth to Water at Time of Drilling: 5.0 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler Blows per 6"	PID (ppm)	REMARKS
	Brown medium SAND (fill); dry.	FILL	◆	1960	Slight odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Brown medium SAND, trace Slag (fill); moist.			> 2000	Odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
5	Brown fine SAND, moderate Slag (fill); moist to wet.			1682	Black staining and odor. Water table at 5.0 feet below grade.
	Brown to Black fine Sand, some Silt (fill); wet.			1147	Black staining and odor.
10					Bottom of borehole 8 feet below grade.
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Project: **02225Y**

Roux Associates

Page 1 of 1

Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-23				
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/25/98	Date Completed: 6/25/98	
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 6.0 ft		
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 6.0 ft				
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore				
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: Not Encountered				
Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium to fine SAND, trace Slag (fill); dry.	FILL			722	Black staining and odor. Sample from 0-2 collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Brown medium to fine SAND, trace to moderate Slag (fill); dry.				673	Black staining and odor. Sample from 2-4 collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Brown medium to fine SAND, trace to moderate Slag (fill); dry.				631	Black staining and odor.
5						Bottom of borehole 6 feet below grade.
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Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Soil Boring No. SB-24			
Logged By: Eric Kramer		Checked By: J. Makowski		Date Started: 6/24/98		Date Completed: 6/24/98	
Drilling Co: Roux Associates				Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft	
Driller: Pete Barczak				Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft			
Drilling Method: Geoprobe				Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig				Depth to Water at Time of Drilling: 4.2 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown fine SAND, trace Slag (fill); dry.	FILL	◆	◆	1711	Black staining and odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Brown fine SAND (fill); moist to wet.				1834	Black staining and strong odor. Oil like brown substance present. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
5	Brown to Gray fine SAND, moderate Slag (fill); wet.				693	Black staining and odor. Water table at 4.2 feet below grade.
	Gray fine Sand and Silt, moderate Slag (fill); wet.				223	Trace staining and odor.
10						Bottom of borehole 8 feet below grade.
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Project: 02225Y	Roux Associates	Page 1 of 1
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-25			
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/26/98	Date Completed: 6/26/98
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft	
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft			
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 5.3 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Brown medium SAND (fill); dry.	FILL	[Pattern]	[Pattern]	666	Black staining and odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
2	Brown to Black medium to fine SAND (fill); moist.				862	Black staining and odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
4	Brown to Black medium to fine SAND, trace to moderate Slag and Ash (fill); wet.				629	Black staining and odor.
5.3	Brown to Black medium to fine Sand, Ash and Slag (fill); wet.				623	Trace staining and odor.
8.0						Bottom of borehole 8 feet below grade.

Project: 02225Y	Roux Associates	Page 1 of 1
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-26				
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/17/98	Date Completed: 6/17/98	
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 4.0 ft		
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 4 ft				
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore				
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 3.8 feet				
Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Gray fine SAND (fill); moist.				721	Trace staining and trace odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Gray fine SAND (fill); moist to wet.				621	Trace staining and trace odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
5						Water table at 3.8 feet below grade. Bottom of borehole 4 feet below grade.
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Project: 02225Y		Roux Associates			Page 1 of 1	

Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Soil Boring No. SB-27			
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/17/98		Date Completed: 6/17/98	
Drilling Co: Roux Associates				Drill Bit Diameter: 2-inch		Total Depth: 16.0 ft	
Driller: Pete Barczak				Backfill Material: Soil Cuttings from 0.5 ft to 16 ft			
Drilling Method: Geoprobe				Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig				Depth to Water at Time of Drilling: 4.5 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown to Black medium SAND, trace Silt (fill); moist.	FILL	◆		56.7	Petroleum/creosol odor. Sample from 0-2 ft collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Brown to Black medium SAND, trace Wood material, trace Pebbles (fill); moist.				250	Petroleum/creosol odor. Sample from 2-4 ft collected for TCL VOA, TCL BNA and RCRA metals analysis.
5	Brown fine SAND, trace Slag (fill); moist to wet.				227	Trace black staining and creosol odor. Water table at 4.5 feet below grade.
	Brown to Black fine Sand and Slag (fill); wet.				121	Black staining and creosol odor.
	Black fine Sand and Slag (fill); wet.				148	Black staining and creosol odor.
10	Black fine Sand and Slag (fill); wet.				16.1	Black staining.
	Black fine Sand and Slag (fill); wet.		44.9	Sweet odor.		
15	Dark Gray CLAY, little Silt; moist.	CL		12.7		
						Bottom of borehole 16 feet below grade.
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Project: 02225Y	Roux Associates	Page 1 of 1
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Project: WITCO CORPORATION BROOKLYN, NEW YORK			Log of Soil Boring No. SB-28		
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/19/98	Date Completed: 6/19/98
Drilling Co: Roux Associates			Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft
Driller: Pete Barczak			Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft		
Drilling Method: Geoprobe			Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig			Depth to Water at Time of Drilling: 3.6 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Tan medium to coarse SAND (fill); dry.	FILL	◆	◆	1416	Slight black staining. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Brown to Black medium SAND, trace Slag (fill); moist to wet.				353	Trace odor and black staining. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
5	Gray to Black fine SAND, trace Silt, trace to moderate Slag (fill); wet.				1605	Water table at 3.6 feet below grade. Black staining and odor.
	Gray to Black fine SAND, trace Silt, trace to moderate Slag (fill); wet.				352	Black staining and odor.
10						Bottom of borehole 8 feet below grade.
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Project: 02225Y	Roux Associates	Page 1 of 1
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-29			
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 6/17/98		Date Completed: 6/17/98	
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 6.0 ft	
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 6 ft			
Drilling Method: Geoprobe		Sampler: 4 foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 4.5 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler Blows per 6"	PID (ppm)	REMARKS	
0	Brown to Gray fine SAND (fill); moist.	FILL	8.3	8.3	Trace staining. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.	
2	Brown to Black fine Sand and Slag (fill); moist to wet.				2.8	Trace staining. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
3	Brown to Black fine Sand and Slag (fill); wet.				3.5	Water table at 4.5 feet below grade.
4.5					Bottom of borehole 6 feet below grade.	
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Project: 02225Y	Roux Associates	Page 1 of 1
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Project: WITCO CORPORATION BROOKLYN, NEW YORK			Log of Soil Boring No. SB-30		
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/18/98	Date Completed: 6/18/98
Drilling Co: Roux Associates			Drill Bit Diameter: 2-inch		Total Depth: 4.0 ft
Driller: Pete Barczak			Backfill Material: Soil Cuttings from 0.5 ft to 4 ft		
Drilling Method: Geoprobe			Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig			Depth to Water at Time of Drilling: 3.0 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown fine SAND, trace Slag (fill); dry to moist.	FILL	[Symbol]	[Symbol]	164	Trace odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Brown to Gray fine SAND, trace Slag (fill); moist to wet.				63	Moderate odor and black staining. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis. Water table at 3.0 feet below grade. Bottom of borehole 4 feet below grade.
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Project: 02225Y	Roux Associates	Page 1 of 1
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-31			
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/19/98	Date Completed: 6/19/98
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft	
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft			
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 3.5 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler Blows per 6"	PID (ppm)	REMARKS
0	Brown medium to fine SAND, trace Slag (fill); dry to moist.	FILL	53.8	Slight odor.	
1	Brown medium to fine SAND, trace Slag (fill); moist to wet.		11.1	Slight odor.	
2	Gray fine SAND, trace Silt (fill); wet.		22.0	Trace odor and black staining.	
3	Gray fine SAND, trace Silt (fill); wet.		16.1	Trace odor and black staining.	
4					Bottom of borehole 8 feet below grade.
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-32			
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/22/98	Date Completed: 6/22/98
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft	
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft			
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 7.0 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Brown medium to fine SAND, trace Slag (fill); dry.	FILL			15.7	Trace black staining and slight odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
2	Brown to Black medium to fine SAND, trace Slag (fill); moist.				134	Trace black staining and trace odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
3	No Recovery.					
4	No Recovery.					
5						
6						
7						Water table at 7.0 feet below grade.
8						Bottom of borehole 8 feet below grade.
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-33				
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/18/98	Date Completed: 6/18/98	
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 4.0 ft		
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 4.0 ft				
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore				
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 3.9 feet				
Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium to fine SAND, trace Slag (fill); dry.				59.5	Trace odor and trace black staining. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Brown to Black medium SAND, trace Slag (fill); moist to wet.				895	Trace odor and trace black staining. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis. Water table at 3.9 feet below grade. Bottom of borehole 4 feet below grade.
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Project: 02225Y		Roux Associates			Page 1 of 1	

Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-34			
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/18/98	Date Completed: 6/18/98
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 4.0 ft	
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 4 ft			
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 4.0 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler Blows per 6"	PID (ppm)	REMARKS
0	Brown medium SAND (fill); dry.	FILL	0.0	0.0	Slight odor.
2	Brown medium SAND (fill); moist to wet.				Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
4			481		Odor and trace black staining. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
5					Water table at 4.0 feet below grade. Bottom of borehole 4 feet below grade.
10					
15					
20					

Project: WITCO CORPORATION BROOKLYN, NEW YORK			Log of Soil Boring No. SB-35		
Logged By: Eric Kramer		Checked By: J. Makowski		Date Started: 6/18/98	Date Completed: 6/18/98
Drilling Co: Roux Associates			Drill Bit Diameter: 2-inch		Total Depth: 4.0 ft
Driller: Pete Barczak			Backfill Material: Soil Cuttings from 0.5 ft to 4 ft		
Drilling Method: Geoprobe			Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig			Depth to Water at Time of Drilling: 3.8 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Gray fine Sand and Slag, Red brick pieces (fill); moist.	FILL	▲	▲	1115	Strong odor and black staining. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Grey fine Sand and Slag (fill); moist to wet.				> 2000	Strong odor and black staining. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
5						Water table at 3.8 feet below grade. Bottom of borehole 4 feet below grade.
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Project: **02225Y**

Roux Associates

Page 1 of 1

Project: WITCO CORPORATION BROOKLYN, NEW YORK			Log of Soil Boring No. SB-36		
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/23/98	Date Completed: 6/23/98
Drilling Co: Roux Associates			Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft
Driller: Pete Barczak			Backfill Material: Soil Cuttings from 0.5 ft to 8 ft		
Drilling Method: Geoprobe			Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig			Depth to Water at Time of Drilling: 7.8 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Tan medium to fine SAND (fill); dry.	FILL			0.3	Trace odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
2	Brown to Black medium to fine SAND, trace Slag (fill); moist.				12.3	Trace odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
4	Black medium to fine SAND, trace Slag (fill); moist.				129	
6	Black medium to fine SAND, trace Slag (fill); wet.				129	
7.8						Water table at 7.8 feet below grade. Bottom of borehole 8 feet below grade.
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10						
15						
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-37			
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/19/98	Date Completed: 6/19/98
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft	
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft			
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 3.8 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Black to Brown fine to medium SAND, trace Slag (fill); dry to moist.	FILL	[Pattern]	[Pattern]	487	Creosol odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
2	Black fine to medium SAND, trace Slag (fill); moist to wet.				19.7	Creosol odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
4	Black fine SAND, trace Silt (fill); wet.				11.4	Water table at 3.8 feet below grade. Creosol odor.
6	Black fine Sand and Silt (fill); wet.				14.6	Creosol odor.
8						Bottom of borehole 8 feet below grade.
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15						
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Project: 02225Y	Roux Associates	Page 1 of 1
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Project: WITCO CORPORATION BROOKLYN, NEW YORK			Log of Soil Boring No. SB-38		
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/18/98	Date Completed: 6/18/98
Drilling Co: Roux Associates			Drill Bit Diameter: 2-inch		Total Depth: 4.0 ft
Driller: Pete Barczak			Backfill Material: Soil Cuttings from 0.5 ft to 4 ft		
Drilling Method: Geoprobe			Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig			Depth to Water at Time of Drilling: 3.9 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Gray to Brown medium to fine SAND, trace Slag (fill); moist.	FILL	◆	◆	293	Trace odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Gray to Brown medium to fine SAND, trace to moderate Slag (fill); moist to wet.				301	Odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
5						Water table at 3.9 feet below grade. Bottom of borehole 4 feet below grade.
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Project: 02225Y	Roux Associates	Page 1 of 1
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Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Soil Boring No. SB-39			
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/19/98		Date Completed: 6/19/98	
Drilling Co: Roux Associates				Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft	
Driller: Pete Barczak				Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft			
Drilling Method: Geoprobe				Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig				Depth to Water at Time of Drilling: 3.8 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown to Black fine SAND, trace Slag (fill); moist.	FILL	▲	▲	1596	Black staining and chemical/sewage odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Black fine SAND, trace Slag (fill); moist to wet.				241	Black staining and chemical/sewage odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
5	Black fine Sand and Silt (fill); wet.				74.6	Water table at 3.8 feet below grade. Petroleum odor.
	Black fine Sand and Silt (fill); wet.				81.4	Odor.
10						Bottom of borehole 8 feet below grade.
15						
20						

Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Soil Boring No. SB-40			
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/22/98		Date Completed: 6/22/98	
Drilling Co: Roux Associates				Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft	
Driller: Pete Barczak				Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft			
Drilling Method: Geoprobe				Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig				Depth to Water at Time of Drilling: 3.8 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium to fine SAND, trace Slag (fill); dry.	FILL	▲	▲	1788	Strong odor and trace black staining. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Brown medium to fine SAND, trace Slag (fill); moist to wet.				1954	Trace black staining and odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
5	Brown to Black fine SAND, trace Slag (fill); wet.				330	Water table at 3.8 feet below grade. Black staining and odor.
	Light Brown fine SAND (fill); wet.				92.6	Slight odor.
10						Bottom of borehole 8 feet below grade.
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Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Soil Boring No. SB-41			
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/22/98		Date Completed: 6/22/98	
Drilling Co: Roux Associates				Drill Bit Diameter: 2-inch		Total Depth: 5.0 ft	
Driller: Pete Barczak				Backfill Material: Soil Cuttings from 0.5 ft to 5.0 ft			
Drilling Method: Geoprobe				Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig				Depth to Water at Time of Drilling: 3.9 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
5	Brown medium to fine SAND (fill); dry to moist.	FILL	▲	▲	5.1	Black staining and slight odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Brown to Black fine SAND, trace Slag (fill); moist to wet.				0.6	Black staining and slight odor. Sample from 2-4 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Black fine Sand and Silt, trace to moderate Slag (fill); wet.					Water table at 3.9 feet below grade. Black staining and odor.
10						Bottom of borehole 5 feet below grade.
15						
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Project: 02225Y	Roux Associates	Page 1 of 1
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-42	
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 6/25/98	Date Completed: 6/25/98
Drilling Co: Roux Associates	Drill Bit Diameter: 2-inch	Total Depth: 16.0 ft	
Driller: Pete Barczak	Backfill Material: Soil Cuttings from 0.5 ft to 16 ft		
Drilling Method: Geoprobe	Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig	Depth to Water at Time of Drilling: 9.0 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler Blows per 6"	PID (ppm)	REMARKS
	Brown medium to fine SAND, trace Slag (fill); dry.	FILL	▲	2.2	Trace black staining. Sample from 0-2 feet collected for TCL VOA, TCL BNA, PCB and RCRA metals analysis.
	Brown medium SAND, trace Slag (fill); dry.		▲	2.3	Black staining.
	Brown fine SAND, trace Slag (fill); moist.		▲	3.1	Black staining and trace odor. Sample from 4-6 feet collected for TCL VOA, TCL BNA, PCB and RCRA metals analysis.
5	Brown to Black fine SAND, moderate Slag (fill); moist.		▲	1.8	Black staining and trace odor.
	Gray medium Sand and Slag (fill); moist to wet.		▲	1.7	Black staining and trace odor. Water table at 9.0 feet below grade.
10	Gray medium Sand and Slag, some Wood material (fill); wet.		▲	2.8	Black staining.
	Gray medium to fine Sand and Slag (fill); wet.		▲	2.3	Black staining and trace odor.
	Gray medium to fine Sand and Slag (fill); wet.		▲	1.9	Black staining.
15	Gray Silty CLAY; wet.	CL	▲		Bottom of borehole 16 feet below grade.
20					

Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Soil Boring No. SB-43			
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 6/24/98		Date Completed: 6/24/98	
Drilling Co: Roux Associates				Drill Bit Diameter: 2-inch		Total Depth: 8.0 ft	
Driller: Pete Barczak				Backfill Material: Soil Cuttings from 0.5 ft to 8.0 ft			
Drilling Method: Geoprobe				Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig				Depth to Water at Time of Drilling: 6.2 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium to fine SAND, trace Slag (fill); dry.	FILL	▲	◆	17.9	Sample from 0-2 feet collected for TCL VOA, TCL BNA, PCB and RCRA metals analysis.
	Brown medium to fine SAND, moderate Slag (fill); dry.				4.8	Trace black staining. Sample from 2-4 feet collected for TCL VOA, TCL BNA, PCB and RCRA metals analysis.
5	Brown medium to fine SAND, trace to moderate Slag (fill); moist.				1.9	Trace odor.
	Brown to Gray fine SAND, moderate Silt, moderate Slag (fill); wet.				0.0	Black staining. Water table at 6.2 feet below grade.
10						Bottom of borehole 8 feet below grade.
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Project: WITCO CORPORATION BROOKLYN, NEW YORK			Log of Soil Boring No. SB-45		
Logged By: Eric Kramer		Checked By: J. Makowski		Date Started: 9/1/98	Date Completed: 9/1/98
Drilling Co: Roux Associates			Drill Bit Diameter: 2-inch		Total Depth: 12.0 ft
Driller: Pete Barczak			Backfill Material: Soil Cuttings from 0 ft to 12 ft		
Drilling Method: Geoprobe			Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig			Depth to Water at Time of Drilling: 4.0 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium SAND, trace Slag (fill); dry.	FILL	▲		5.5	Water table at 4 feet below grade. Tar material present from 3.8 to 9 feet below grade. Tar material is soild.
	Brown medium SAND (fill); dry.		▲		6.5	
	Black Tar and medium Sand (fill); moist.		▲		23.5	
5	Black TAR (fill); dry.		▲		38.1	
			▲			
10	Gray fine SAND, trace Silt (fill); wet.		▲		14.7	
15						
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25						Bottom of borehole 12 feet below grade.

Project: 02225Y	Roux Associates	Page 1 of 1
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-46	
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 9/1/98	Date Completed: 9/1/98
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch	Total Depth: 12.0 ft
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0 ft to 12 ft	
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore	
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 5.0 feet	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium SAND, trace Tar and Slag (fill); dry.	FILL	◆		1.3	Slight odor. Tar material present from 0 to 7.5 feet below grade. Tar material is solid.
	Brown medium SAND, moderate Tar and Slag (fill); dry.				12.7	Slight odor.
5	Brown to Gray fine Sand (fill); wet. Black TAR (fill); dry.				46.6	Slight odor.
	Black TAR (fill); dry.				79.3	Water table at 5 feet below grade.
	Gray fine Sand and Silt (fill); wet.				22.6	Slight odor.
10	Gray fine Sand and Silt (fill); wet.				9.9	Slight odor.
						Bottom of borehole 12 feet below grade.
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Project: 02225Y	Roux Associates	Page 1 of 1
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-44			
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 6/26/98		Date Completed: 6/26/98	
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 12.0 ft	
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0.5 ft to 12 ft			
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 5.8 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium SAND, trace Slag (fill); dry.	FILL			6.5	Odor. Sample from 0-2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Brown medium SAND, trace Slag (fill); moist.				2.8	Black staining and trace odor.
5	Gray Ash and Slag, some Brown medium Sand (fill); moist to wet.				3.5	Black staining and odor. Sample from 4-6 feet collected for TCL VOA, TCL BNA and RCRA metals analysis.
	Gray Ash and Slag, some Brown medium Sand, trace wood material (fill); wet.				1.1	Water table at 5.8 feet below grade. Black staining and trace odor.
	Gray Ash and Slag (fill); wet.				0.8	Black staining and trace odor.
10	Gray Ash and Slag (fill); wet.				1.6	Black staining and trace odor.
	Gray Silty CLAY; moist.	CL				
15						Bottom of borehole 12 feet below grade.
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Project: WITCO CORPORATION BROOKLYN, NEW YORK			Log of Soil Boring No. SB-47		
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 9/1/98	Date Completed: 9/1/98
Drilling Co: Roux Associates			Drill Bit Diameter: 2-inch		Total Depth: 12.0 ft
Driller: Pete Barczak			Backfill Material: Soil Cuttings from 0 ft to 12 ft		
Drilling Method: Geoprobe			Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig			Depth to Water at Time of Drilling: 5.0 feet		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Brown medium SAND, trace Tar and Slag (fill); dry.	FILL			5.8	Slight odor. Some tar material present from 0 to 4 feet below grade. Tar material is solid.
1	Brown medium SAND, moderate Tar and Slag (fill); dry.				4.7	Slight odor.
2	Gray fine Sand and Silt, trace Wood material (fill); wet.				4.3	Slight odor.
3	No Recovery.					Water table at 5 feet below grade.
4	Gray fine SAND, trace Silt (fill); wet.				3.8	Slight odor.
5	Gray fine SAND, trace Silt (fill); wet.				3.6	Slight odor.
6						Bottom of borehole 12 feet below grade.
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Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Soil Boring No. SB-48			
Logged By: Eric Kramer		Checked By: J.Makowski		Date Started: 9/1/98		Date Completed: 9/1/98	
Drilling Co: Roux Associates				Drill Bit Diameter: 2-inch		Total Depth: 12.0 ft	
Driller: Pete Barczak				Backfill Material: Soil Cuttings from 0 ft to 12 ft			
Drilling Method: Geoprobe				Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig				Depth to Water at Time of Drilling: 5.0 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium SAND, trace Tar (fill); dry.	FILL			7.8	Some tar material present from 0 to 4 feet below grade. Tar material is solid. Odor.
	Brown medium SAND, moderate Tar (fill); dry.				4.5	
	Brown medium to fine SAND (fill); wet.				6.1	
5	Black COAL (fill); dry.					
	Black COAL (fill); dry.				40.1	
	Brown to Gray fine SAND (fill); wet.				5.9	Water table at 5 feet below grade.
	Gray fine Sand and Silt (fill); wet.				4.3	Slight odor.
10						
						Bottom of borehole 12 feet below grade.
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Project: WITCO CORPORATION BROOKLYN, NEW YORK			Log of Soil Boring No. SB-49		
Logged By: Eric Kramer		Checked By: J. Makowski		Date Started: 9/1/98	Date Completed: 9/1/98
Drilling Co: Roux Associates			Drill Bit Diameter: 2-inch		Total Depth: 4.0 ft
Driller: Pete Barczak			Backfill Material: Soil Cuttings from 0 ft to 4 ft		
Drilling Method: Geoprobe			Sampler: 4-foot Macrocore		
Drilling Equipment: Geoprobe Truck Rig			Depth to Water at Time of Drilling: Not Encountered		

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown to Red medium SAND (fill); dry.	FILL	▲		3.8	Slight odor.
	Black TAR, moderate Coal and medium Sand (fill); dry.	▲	▲		39.5	Slight odor. Tar material present from 2 to 4 feet below grade. Tar material is solid.
5						Bottom of borehole 4 feet below grade due to refusal.
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Project: 02225Y	Roux Associates	Page 1 of 1
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-50			
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 9/1/98		Date Completed: 9/1/98	
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch		Total Depth: 12.0 ft	
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0 ft to 12 ft			
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore			
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 4.5 feet			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium SAND (fill); dry.	FILL	◆		4.8	
	Black COAL, trace Brown medium Sand (fill); dry.				4.6	Odor.
	Brown fine SAND, moderate Silt (fill); wet.				2.8	Creosol odor. Water table at 4.5 feet below grade.
5	Gray fine Sand and Silt (fill); wet.				6.8	Creosol odor and black staining.
	Gray fine Sand and Silt, trace Coal (fill); wet.				42.6	Black staining.
10	Gray fine Sand and Silt (fill); wet.				49.9	
	Black Coal and Slag (fill); wet.					
						Bottom of borehole 12 feet below grade.
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-51	
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 9/1/98	Date Completed: 9/1/98
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch	Total Depth: 12.0 ft
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0 ft to 12 ft	
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore	
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 4.5 feet	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium SAND trace Tar (fill); dry.	FILL			3.5	Trace tar material present from 0 to 6 feet below grade. Tar material is solid.
	Brown medium SAND trace Tar (fill); dry.				2.7	
5	Brown to Gray medium to fine SAND, trace Tar (fill); wet.				0.8	Slight odor. Water table at 4.5 feet below grade.
	Brown to Gray medium to fine SAND (fill); wet.				68.1	Tar material present from 7 to 8 feet below grade. Tar material is solid.
	Black TAR (fill); dry.				6.3	Black staining and slight odor.
10	Gray fine SAND, moderate Silt (fill); wet.				5.9	Black staining and slight odor.
						Bottom of borehole 12 feet below grade.
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. SB-52	
Logged By: Eric Kramer	Checked By: J.Makowski	Date Started: 9/1/98	Date Completed: 9/1/98
Drilling Co: Roux Associates		Drill Bit Diameter: 2-inch	Total Depth: 12.0 ft
Driller: Pete Barczak		Backfill Material: Soil Cuttings from 0 ft to 12 ft	
Drilling Method: Geoprobe		Sampler: 4-foot Macrocore	
Drilling Equipment: Geoprobe Truck Rig		Depth to Water at Time of Drilling: 4.5 feet	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown medium SAND, trace Tar (fill); dry.	FILL			3.6	Trace tar material present from 0 to 2 feet below grade.
	Brown medium SAND (fill); dry.				11.6	
	Black TAR (fill); dry.					Tar material present from 3 to 8.5 feet below grade. Tar material is solid.
5	Black TAR (fill); dry.				48.9	Water table at 4:5 feet below grade.
	Gray fine SAND, moderate Silt (fill); wet.				21.7	Black staining.
10	Gray fine Sand and Silt (fill); wet.				10.6	Trace staining.
						Bottom of borehole 12 feet below grade.
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Project: WITCO CORPORATION BROOKLYN, NEW YORK				Log of Soil Boring No. HWSA-1			
Logged By: Jeff Makowski		Checked By: E. Kramer		Date Started: 9/1/98		Date Completed: 9/1/98	
Drilling Co: Aquifer Drilling & Test				Drill Bit Diameter: 3-inch		Total Depth: 0.7 ft	
Driller: Osmond				Backfill Material: Soil Cuttings/Concrete from 0.0 ft to 0.7 ft			
Drilling Method: Hand Auger				Sampler: 3-inch Hand Auger			
Drilling Equipment: Hand Auger				Depth to Water at Time of Drilling: Not Encountered			

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Black medium Sand and Gravel (fill); moist.	FILL			184	Concrete core 8 inches thick. Sweet odor. Sample from 0-8 inches collected for TCL VOA, TCL BNA and RCRA metals analysis. Bottom of borehole 8 inches below concrete core.
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Project: **02225Y**

Roux Associates

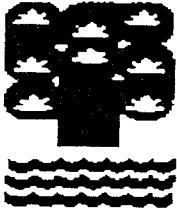
Page 1 of 1

Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. HWSA-3				
Logged By: Jeff Makowski		Checked By: E. Kramer		Date Started: 9/1/98	Date Completed: 9/1/98	
Drilling Co: Aquifer Drilling & Test		Drill Bit Diameter: 3-inch		Total Depth: 1.2 ft		
Driller: Osmond		Backfill Material: Soil Cuttings/Concrete from 0.0 ft to 1.2 ft				
Drilling Method: Hand Auger		Sampler: 3-inch Hand Auger				
Drilling Equipment: Hand Auger		Depth to Water at Time of Drilling: Not Encountered				
Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
0	Black fine to medium SAND, little Gravel, trace red Brick (fill); moist.	 FILL			11.9	Concrete core 5 inches thick. Trace sweet odor. Sample from 0-1.2 feet collected for TCL VOA, TCL BNA and RCRA metals analysis. Bottom of borehole 1.2 feet below concrete core.
5						
10						
15						
20						
25						

Project: 02225Y	Roux Associates	Page 1 of 1
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Project: WITCO CORPORATION BROOKLYN, NEW YORK		Log of Soil Boring No. HWSA-4				
Logged By: Jeff Makowski		Checked By: E. Kramer		Date Started: 9/1/98	Date Completed: 9/1/98	
Drilling Co: Aquifer Drilling & Test		Drill Bit Diameter: 3-inch		Total Depth: 0.8 ft		
Driller: Osmond		Backfill Material: Soil Cuttings/Concrete from 0.0 ft to 0.8 ft				
Drilling Method: Hand Auger		Sampler: 3-inch Hand Auger				
Drilling Equipment: Hand Auger		Depth to Water at Time of Drilling: Not Encountered				
Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sampler	Blows per 6"	PID (ppm)	REMARKS
	Brown Silt and Slag (fill); moist.	 FILL			21.6	Concrete core 7 inches thick. Black staining and sweet odor. Sample from 0-10 inches collected for TCL VOA, TCL BNA and RCRA metals analysis. Bottom of borehole 10 inches below concrete core.
5						
10						
15						
20						
25						

Project: 02225Y	Roux Associates	Page 1 of 1
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Boring Number: A-01

Client: Witco Corporation

Project: BRKLYN/K84203

Site Location: Court Street, Brooklyn, NY

Boring Depth: 8' bgs

Depth	Symbol	Description	USC	Blow count	OVA PPM	Remarks
0		Ground Surface				
1			17			
2			20	36		Sample Collected
3			24			A-01/0-2
4			32			
5			15			
6			26	17		Sample Collected
7			12			A-01/2-4
8			7			
		FILL MATERIAL: silty SAND Br f-m S. s. S	15			
			18			
			24			
			22			
			11			
			18			6.75' - Groundwater Encountered
			23			
			6			
		End of Borehole				
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						

Logged by: L. Heerschap

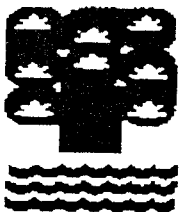
Page: 1 of 1

Drilled by: Horizon Drilling

Drilling Method: Hollow Stem Auger

Date: 3/17/99

ENVIRO-SCIENCES, INC.
111 HOWARD BLVD., STE 108
MOUNT ARLINGTON, NJ 07856
(973) 398-8183



Boring Number: A-02

Client: Witco Corporation

Project: BRKLYN/K84203

Site Location: Court Street, Brooklyn, NY

Boring Depth: 8' bgs

Depth	Symbol	Description	USC	Blow count	OVA PPM	Remarks
0		Ground Surface				
1		3" Coke Ash		20		
2				34	6.7	Sample Collected A-02/0-2
3				15		
4				17		
5				7		
6				7	123	Slight Chemical Odor Sample Collected A-02/2-4
7				6		
8				7		
9				3		
10				3	17	
11				2		
12				3		
13				6		
14				5		
15				6		
16				2		
17				6		
18				5		
19				6		
20				2		7.5' - Groundwater Encountered
21						
		End of Borehole				

Logged by: Logged by:

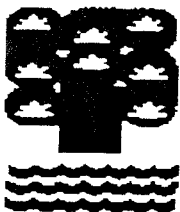
Page: Page:

Drilled by: Drilled by:

Drilling Method: Drilling Method:

Date: Date:

ENVIRO-SCIENCES, INC.
111 HOWARD BLVD., STE 108
MOUNT ARLINGTON, NJ 07856
(973) 398-8183



Boring Number: A-03

Client: Witco Corporation

Project: BRKLYN/K84203

Site Location: Court Street, Brooklyn, NY

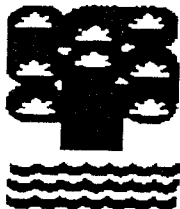
Boring Depth: 20' bgs

Depth	Symbol	Description	USC	Blow count	OVA PPM	Remarks
0		Ground Surface				
1					36.0	
2						Sample Collected A-03/0-2
3					17.0	
4		FILL MATERIAL: silty SAND Br f-m S, s S				4" of Fragmented Brick Sample Collected A-03/4-6
5						
6						
7						6.25' - Groundwater Encountered Vinyl Like Odor
8						
9						Vinyl Odor
10		FILL MATERIAL: clayey SAND lt. Br. m-f S, s C				
11						
12						11.0' - 12.0' Rocky
13		sandy CLAY Br. C, s. m-f S			73.0	
14						
15		clayey silty SAND br-Gry m-f S, s \$, s C				
16					15.5	
17		silty CLAY Gry C, s \$				
18					0.0	
19		SILT Dk. Br. S. l. c-f S. s. med G				
20						
21		End of Borehole				

Logged by: L. Heerschap
 Drilled by: Horizon Drilling
 Drilling Method: Direct Push
 Date: 3/18/99

Page: 1 of 1

ENVIRO-SCIENCES, INC.
 111 HOWARD BLVD., STE 108
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 (973) 398-8183



Boring Number: A-04

Client: Witco Corporation

Project: BRKLYN/K84203

Site Location: Court Street, Brooklyn, NY

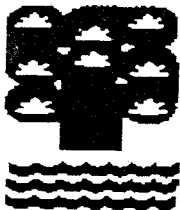
Boring Depth: 20' bgs

Depth	Symbol	Description	USC	Blow count	OVA PPM	Remarks
0		Ground Surface				
1					4.2	
2		FILL MATERIAL: silty SAND				Sample Collected
3		Dk Br -Blk c-f S, s S, t.G				A-04/0-2
4						
5					67	Sample Collected
6						A-04/4-6
7		FILL MATERIAL: clayey SAND				5.23' - Groundwater
8		lt. Br. m-f S, s.C				Encountered
9						
10						8.0' to 9.0' Stained Soil
11		sandy CLAY			0.0	Petroleum Odor
12		Br-Gry C, s, f, S				
13						
14		CLAY				
15		Gry C, t.S			0.0	
16						
17						
18		silty sandy CLAY				
19		Br. C, s.S, s, m-f S				
20						
21		End of Borehole				

Logged by: L. Heerschap
 Drilled by: Horizon Drilling
 Drilling Method: Direct Push
 Date: 3/18/99

Page: 1 of 1

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Boring Number: A-05

Client: Witco Corporation

Project: BRKLYN/K84203

Site Location: Court Street, Brooklyn, NY

Boring Depth: 16' bgs

Depth	Symbol	Description	USC	Blow count	OVA PPM	Remarks
0		Ground Surface				
1					0.0	
2						Sample Collected A-05/0-2
3					15.0	
4						3'6" - Groundwater Encountered
5		FILL MATERIAL: silty SAND Dk. Br. m-f S. s.S. t.G				Sample Collected A-05/4-6
6						
7						
8					78	Slight Petroleum Odor
9						
10						
11		silty CLAY Dk. Br. C. s.S				
12						
13						
14		NO RECOVERY 3-4 pebbles recovered				
15						
16		End of Borehole				
17						
18						
19						
20						
21						

Logged by: L. Heerschap
 Drilled by: Horizon Drilling
 Drilling Method: Direct Push
 Date: 3/18/99

Page: 1 of 1

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