VERTEX®

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February 19, 2016

New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233-7014
Attn: Douglas MacNeal, P.E.

Re: Remedial Investigation Report / Work Plan
One Lawrence Street
Ardsley, Westchester County, New York
BCP Site ID No. C360146
Vertex Project No. 28366

Dear Mr. MacNeal,

The Vertex Companies, Inc. (VERTEX) is pleased to submit this Remedial Investigation Report / Work Plan for the above referenced property (the Site). The RIR / RIWP includes a summary of previous site investigation (SI) activities completed at the Site by others and documents the remedial investigation (RI) activities completed by Vertex on March 1, 2014 and April 16-18, 2014. The RIWP section of the enclosed report outlines the scope of work to complete the RI at the Site.

Please contact Paul Crosby at telephone number (848) 207-2082 or via email at pcrosby@vertexeng.com should you have any questions or comments regarding this report.

Sincerely,

The Vertex Companies, Inc.

Paul J. Crosby
Senior Project Manager

Joseph J. Dultz, CHMM
Vice President

CC: Krista Anders – New York State Department of Health
Jason Spratt – Jefferson at Saw Mill River, LLC
Elizabeth Mack – Locke Lord LLP
Robin Minter Smyers – Thompson Hine LLP
Greenburgh Public Library
Ardsley Public Library

REMEDIAL INVESTIGATION REPORT / REMEDIAL INVESTIGATION WORK PLAN

1 LAWRENCE STREET
WESTCHESTER COUNTY
ARDSLEY, NEW YORK
BCP SITE ID NO. C360146

Prepared For:

Jefferson at Saw Mill River, LLC
3 West Main Street, Suite 203
Irvington, NY 10533
Attn: Mr. Jason Spratt

Certification

I, Joseph J. Dultz, CHMM, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Remedial Investigation Report / Remedial Investigation Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

Joseph J.C. Dultz, CHMM
Vice President

Prepared By:

The Vertex Companies, Inc.
400 Libbey Parkway
Weymouth, MA 02189
781-952-6000

Project No: 28366

February 2016

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LIST OF ACRONYMS

Acronym	Definition
AOC	Area of Concern
asl	above mean sea level
AWQS	Ambient Water Quality Standards
BCP	Brownfield Cleanup Program
bgs	Below ground surface
BNs	Base Neutral Compounds
CAMP	Community Air Monitoring Plan
COC	Contaminant of Concern
CPP	Citizen Participation Plan
CSM	Conceptual Site Model
DCE	Dichloroethene
DDE	Dichlorophenyldichloroethylene
DDT	Dichlorodihphenyltrichloroethane
DER-10	New York State Department of Environmental Conservation Technical Guide 10
DUSR	Data Usability Summary Report
FAPP	Fatty Amines Pilot Plant
FID	Flame Ionization Detector
GPS	Global Positioning System
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
IRM	Interim Remedial Measure
LDPE	Low-Density Polyethylene
MDL	Method Detection Limit
MFED	Multi-Function Engine Detergents Laboratory
MPPP	Multi-Purpose Pilot Plant
NAPL	Non-aqueous Phase Liquid
NYS DOH	New York State Department of Health
NELAP	National Environmental Laboratory Accreditation Program
OSHA	Occupational Safety and Health Administration
PAHs	Polynuclear Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PCE	Tetrachloroethene
PE	Professional Engineer
PID	Photoionization Detector
PP	Priority Pollutant Compounds
PVC	Polyvinyl Chloride
QA/QC	Quality Assurance / Quality Control
QEP	Qualified Environmental Professional
R & D	Research and Development
RCRA	Resource Conservation Recovery Act
RI	Remedial Investigation
RIR	Remedial Investigation Report

RIWP	Remedial Investigation Work Plan
SCO	Soil Cleanup Objective
SI	Site Investigation
SIR	Site Investigation Report
SVOCs	Semi-Volatile Organic Compounds
TAL	Target Analyte List
TCE	Trichloroethene
TCL	Target Compound List
TPHC	Total Petroleum Hydrocarbons
USDA	United States Department of Agriculture
U.S. EPA	United States Environmental Protection Agency
USGS	United States Geological Service
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds

1.0 INTRODUCTION

The following Remedial Investigation Report / Remedial Investigation Work Plan (RIR / RIWP) for the One Lawrence Street Site (the Site) located at 1 Lawrence Street, Westchester County, Ardsley, New York (Figure 1) was prepared to document remedial investigation (RI) activities completed at the Site to date and the extent of contamination by chlorinated solvents, pesticides, polychlorinated biphenyls (PCBs), metals, and polynuclear aromatic hydrocarbons (PAHs) in soil and groundwater. The soil and groundwater impacts were identified in a Site Investigation Report (SIR) prepared by Sovereign Consulting, Inc. in November 2009. The SIR documented investigation activities completed at the Site by Sovereign, on behalf of Akzo Nobel Chemicals, Inc. (AkzoNobel) between October 2006 and June 2009. The Vertex Companies, Inc. (VERTEX), on behalf of Jefferson at Saw Mill River, LLC (Saw Mill River, LLC), completed additional RI activities on March 1, 2014 and April 16-18, 2014 to further assess the impacts identified in the SIR prepared by Sovereign and fill data gaps based upon the review of the existing data.

Based on the environmental impacts identified by the SIR completed by Sovereign and the RI completed by VERTEX, Saw Mill River, LLC submitted an application to enter the site into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) to facilitate its proposed redevelopment of the Site. The Site was officially accepted into the NYSDEC BCP on May 5, 2015 (BCP Site No. C360146). AkzoNobel is still the property owner, and Saw Mill River, LLC is under contract to buy the property, with closing contemplated for the third quarter of 2016.

This RIR / RIWP contains the following: 1) soil and groundwater sampling locations; 2) generalized geologic cross-sections; 3) laboratory analysis of soil and groundwater samples; 4) a summary of analytical information collected at the Site; and, 5) a RIWP to complete the investigation of the soil and groundwater impacts. This RIR / RIWP documents the previous environmental investigations completed at the Site as well as the collection and associated analytical results of soil and groundwater characterization sampling completed by VERTEX during mobilizations in March and April 2014.

2.0 SITE LOCATION AND PHYSICAL SETTING

The Site is located at 1 Lawrence Street in Ardsley (Unincorporated Greenburgh Township), Westchester County, New York. The Site is located between the Saw Mill River Parkway to the west and Saw Mill River Road to the east. According to the Greenburgh Township Assessor's Office, the Site is comprised of four parcels of land identified as Parcels #8.370-265-1, #8.370-265-2, #8.370-265-3, and #8.370-265-4, and is currently owned by AkzoNobel. The Site is currently not improved with any structures and there are no current operations at the Site. Several former building slabs, foundations, and asphalt paved areas remain at the Site. The northern end of the Site is wooded, undeveloped land. There is a landscaped area at the southern end of the Site with planted trees.

The Saw Mill River is located within the Site boundaries on the northern and eastern portions of the property. For the purposes of the BCP, the lands on both sides of the Saw Mill River are included in the Brownfield site; however, the Saw Mill River is excluded from the Brownfield site as it was defined in the BCP application. The Brownfield Site is 9.62 acres in area inclusive of road beds that are not included in the acreage of the parcels.

The elevation of the Site is approximately 120 feet above mean seal level and the topography is relatively level across the Site. The Site lies within a valley between areas of higher elevation to the east and west. The Site is currently vacant and there are no structures present. According to the SIR prepared by Sovereign, dated November 4, 2009, the Site was previously improved with seven structures and a guard house. These former structures were demolished in the fall and winter of 2008-2009. Building slabs and various foundations remain at the Site.

A Westchester County Sanitary Sewer trunk line runs below ground from the northern corner of the Site to the southeast portion of the Site. A manhole for the sanitary sewer trunk line is visible on the eastern portion of the Site. An asphalt paved area is present at the southwest corner of the Site and a loading dock is present at the northern end of the paved area.

3. 0 HISTORIC AND CURRENT USAGE

The Site History section of the aforementioned SIR prepared by Sovereign indicates the Site was originally developed in the 1920s by Stauffer Chemical Company (Stauffer). Stauffer reportedly manufactured citric acid from the 1920s to the 1940s, potash from the 1930s to 1973, and carbon disulfide and insoluble sulfur from the 1930s through the 1950s. Research and development (R&D) operations began at the Site in the 1950s. Additionally, various biocides and pesticides were produced at the Site through 1984. Chemical manufacturing at the Site ceased in 1984; however, R&D operations continued after the cessation of the manufacturing. According to the SIR, prior to demolition activities, the Site was improved with seven freestanding structures including an Office Building, Whey Building, Pilot Plant, the White House, Solvent Shed, Maintenance Shop, Boiler House, and a Guard House.

Based upon the available Site information, Stauffer Chemical Company owned the property as early as 1924. The current property owner, AkzoNobel acquired Stauffer Chemical Company and the Site in 1987.

4.0 DESCRIPTION OF SURROUNDING PROPERTY USE

The Site is located in an area historically comprised of industrial, commercial, and residential properties. Review of readily available historical information reveals that the property to the north of the Site appears to have been wooded land since at least the late 1800s. The property to the south of the Site, beyond Lawrence Street, has been developed with an industrial / commercial building since at least the mid-1920s. The Stauffer Chemical Company Inc. Chauncey Plant Underground Piping Plan (the "Plan") provided to VERTEX by AkzoNobel indicates that the building on the property to the south was historically occupied by Stauffer Chemical. The building is labeled as an office; however, the Plan also indicates the presence of a laboratory. This building has been occupied by various commercial operations since at least 2002. The property east of the Site has consisted of wooded land since at least the installation of Route 87 in the 1960s. The area northeast of the Site has been developed with residences since the 1940s. The area west of the Site was historically developed with residences in the 1940s but was later developed with industrial/commercial properties. No environmental concerns were identified with respect to current or past use of the adjoining properties.

5.0 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

5.1 Site Investigation Report – Sovereign, November 2009

The SIR prepared by Sovereign in November 2009 documented environmental sampling activities completed between October 2006 and June 2009 on behalf of AkzoNobel.

Sovereign completed their investigation in general compliance with ASTM E1527-05 Standard for Environmental Site Assessments: Phase I Environmental Site Assessment Process and ASTM E1903-97 (Reapproved 2002) Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process. A copy of the SIR report text, tables, and figures is provided as Appendix I.

Potential areas of environmental concern were identified through interviews with AkzoNobel representatives, a Site inspection to identify areas where hazardous materials and substances were potentially used, handled, or stored, and a review of historical Site plans and aerial photographs. The investigation consisted of a geophysical survey, collection and analysis of soil samples from soil borings and test pits, collection and analysis of sediment and surface water samples from an off-Site location upstream of the Site, installation of three groundwater monitoring wells, and the collection and analysis of groundwater samples from the monitoring wells.

In addition, a total of eight underground storage tanks (USTs) were removed and petroleum-impacted soils were excavated from two locations at the Site. The UST closures and soil remediation were summarized in a UST Closure Report dated March 13, 2009. The Westchester County Department of Health issued a No Further Action letter dated April 27, 2009 for the UST closures. A copy of the Westchester County No Further Action letter is provided as Appendix II.

Sovereign identified and investigated the following areas of concern during the SI:

- Pilot Plant Sumps, Drains, and Underground Piping
- Waste Water Treatment Pits
- White House Building / Carbon Disulfide Vaults
- UST Areas
- Hazardous Waste Storage Pad (less than 90 day storage area) and Solvent Sheds
- Former Potash Plant
- Former Railcar Loading Area
- Former Septic System
- Pre-Sanitary Sewer Collection Pit
- Former Coal Storage Areas
- Outdoor Equipment Storage Pad
- Debris Pile
- Other Magnetic Anomalies
- Historic Fill / Background Metals

A geophysical survey was performed to target a buried railcar to confirm location and orientation, a suspected subsurface sulfur disposal area on the eastern side of the former Potash Plant, a former rail spur, the undeveloped land and parking area at the northern end of the property, and the hazardous waste storage pad (for storage less than 90 days) to determine the orientation of sanitary sewer and storm water drain lines beneath the pad.

VERTEX reviewed the SIR dated November 2009 on behalf of Saw Mill River, LLC. The findings from the environmental sampling activities completed between October 2006 and June 2009 are summarized by area of concern (AOC) in the following sections. Based upon the findings provided in the November 2009 SIR, VERTEX made recommendations for additional investigation, where warranted. VERTEX's recommendations for each AOC are also noted for each AOC.

Pilot Plant Sumps, Drains, and Underground Piping

Sumps, drains, and piping were present in various locations at the Site. The sampling conducted to investigate these areas of concern is summarized in the following sections organized by their location.

Area Scrubber: The area scrubber was located near the northwest corner of the former Pilot Plant building. The scrubber was caustic-based and most pilot processes used the scrubber, which handled particulates and scrubbable volatile organic compounds (VOCs). The scrubber effluent was discharged to a sump, which was pumped to the wastewater pre-treatment pits before discharge to the sanitary sewer system. Soil samples SB-22 through SB-24 were collected from the 0.5 to 1 foot below ground surface (bgs) interval from soil borings located on the west side of the scrubber unit (adjacent to former off-Site railroad tracks) and analyzed for semi-volatile organic compounds (SVOCs) and metals. Soil sample SB-11 was collected from the 0.5 to 1 foot bgs interval adjacent to the sump, which received effluent from the scrubber, Sample SB011 was analyzed for the Priority Pollutants suite of compounds with a 40 compound library search (PP+40).

No targeted VOCs, SVOCs, pesticides or PCBs were detected in soil at concentrations exceeding laboratory method detection limits (MDLs). Benzo(a)anthrecene, benzo(a)pyrene and / or benzo(b)fluoranthene were detected in soil samples SB-22 and SB-23 at concentrations exceeding the 1 mg/kg NYSDEC Soil Cleanup Objectives (SCOs) for these compounds. Additionally, several metals were detected in soil samples SB-11, SB-22, SB-23, and SB-24 at concentrations exceeding the NYSDEC Residential and Restricted Residential SCOs. The PAHs and metals detected in soil samples SB-22 through SB-24 are likely associated with the historic fill used to raise the elevation of the Site. No further investigation of the PAHs and metal impacts in this area is proposed.

Mini Lab: The Mini Lab was located at the north end of the former Pilot Plant and had a floor drain at the center of the room and trench drains beneath fume hoods. The floor drains piping was connected to sump pits located in the Mini Lab and ultimately discharged to the sanitary

sewer system. Soil samples SB-57 and SB-58 were collected from the 0 to 2 feet bgs interval from sump pits located in the Mini Lab analytical area and main Mini Lab area respectively. The soil samples were analyzed for VOCs, SVOCs, metals, pesticides, and PCBs.

No VOCs were detected in soil sample SB-57 and SB-58 at concentrations exceeding the NYSDEC SCOs. The PCB Aroclor 1242 was detected in sample SB-57 at a concentration exceeding the NYSDEC Residential, Restricted Residential, and Commercial SCOs. The pesticide dieldrin was detected at a concentration exceeding the Residential, Restricted Residential, Commercial, and Industrial SCOs. PAHs and metals were detected at concentrations exceeding the NYSDEC SCOs at both locations. The PAHs and metals detected in soil samples SB-57 and SB-58 are likely associated with the historic fill used to raise the elevation of the Site. No further investigation of the PAHs and metal impacts in this area is proposed.

Catalyst Pilot Plant: The Catalyst Pilot Plant was located adjacent to the Mini Lab in the former Pilot Plant building. Sovereign biased three soil samples, SB-59 through SB-61, to three floor drains located in this area. Soil samples SB-59 and SB-60 were collected from 0 to 0.5 feet bgs and analyzed for SVOCs and metals. Soil sample SB-61 was collected from the 0 to 2 foot bgs interval and analyzed for VOCs, SVOCs, metals, pesticides, and PCBs.

Several SVOCs and metals were detected at concentrations exceeding the NYSDEC SCOs in all three soil samples. No VOCs or pesticides were detected at concentrations exceeding the NYSDEC SCOs at SB-61. The PCB Aroclor 1254 was detected at SB-61 at a concentration exceeding the NYSDEC Residential, Restricted Residential, and Commercial SCOs. Further investigation of the PCB impacts detected at SB-61 is proposed.

Multi-Purpose Pilot Plant (MPPP): The MPPP was located in the northwest corner of the Pilot Plant building. According to the Sovereign report, all chemicals made at the facility were handled in the MPPP. Soil sample SB-62 was collected from the 0 to 2 feet bgs interval from a boring installed adjacent to a floor drain and analyzed for VOCs, SVOCs, metals, pesticides, and PCBs.

No VOCs, SVOCs, PCBs, or pesticides were detected in soil sample SB-62. The concentration of total chromium detected in soil sample SB-62 exceeds the 22 mg/kg Residential SCO, 19 mg/kg Protection of Groundwater SCO, and 1 mg/kg Protection of Ecological Resources SCO for hexavalent chromium. Zinc was detected at a concentration exceeding the 109 mg/kg Protection of Ecological Resources SCO. Several additional metals were detected in soil sample SB-62 at concentrations below their respective NYSDEC SCOs. The metals detected in soil samples SB-62 are likely associated with the historic fill used to raise the elevation of the Site. No further investigation of the metal impacts in this area is proposed.

Fatty Amines Pilot Plant (FAPP): According to the Sovereign report, the FAPP was built in 1992 and was located near the Catalyst Pilot Plant in the northern portion of the former Pilot Plant building. Manufacturing of surfactants and other organic nitrogen compounds took place in the FAPP. Two soil samples, SB-65 and SB-67, were collected from the 0 to 2-foot bgs depth interval and biased to floor drains located inside the FAPP. A third boring, SB-66, was installed near a collection sump at the southeast corner of the FAPP yard; however, no soil samples were collected due to a lack of recovery in the sampling device. Soil samples SB-65 and SB-67 were analyzed for VOCs and SVOCs.

No VOCs were detected in SB-65 or SB-67; however, benzo(a)anthracene, benzo(a)pyrene, and chrysene were detected at concentrations exceeding the NYSDEC Residential and Restricted Residential SCOs in soil sample SB-65. These PAHs were also detected in soil sample SB-67 at concentrations below all of their respective NYSDEC SCOs. The PAHs detected in soil samples SB-65 and SB-67 are likely associated with the historic fill used to raise the elevation of the Site. No further investigation of the PAHs impacts in this area is proposed.

Multi-Function Engine Detergents Lab (MFED): The MFED lab was located in the southeast corner of the former Pilot Plant building. Sovereign installed three soil borings, SB-82 through SB-84, to investigate three floor drains that were located in the MFED lab. Sovereign collected two soil samples from each boring. Shallow soil samples SB-82A through SB-84A were collected from the 1 to 1.5 feet bgs interval and three deeper soil samples, SB-82B through SB-84B, were collected from the 2.5 to 4 feet bgs interval. The shallow soil samples were analyzed

for SVOCs and the deeper soil samples were analyzed for VOCs.

No VOCs were detected in the "B" soil samples (i.e., the deeper soil samples) at concentrations exceeding the NYSDEC SCOs. Several PAHs were detected in soil samples SB-82A, SB-83A, and SB-84A at concentrations below their respective NYSDEC Unrestricted Use SCOs. The PAHs detected in soil samples SB-82A, SB-83A, and SB-84A are likely associated with the historic fill used to raise the elevation of the Site. No further investigation of the PAHs impacts in this area is proposed.

Inorganics Area / Propylene Module: This area was located at the southwest corner of the former Pilot Plant building. Soil borings were installed to investigate floor drains (SB-85 and SB-86) and a pit (SB-87) located in this area. Sovereign collected two soil samples from each boring. Shallow soil samples SB-85A through SB-87A were collected from the 1 to 1.5 feet bgs interval and three deeper soil samples, SB-82B through SB-84B, were collected from the 2.5 to 4 feet bgs interval. The shallow soil samples were analyzed for SVOCs and the deeper soil samples were analyzed for VOCs. No VOCs or SVOCs were detected in any of the soil samples at concentrations exceeding the NYSDEC SCOs. No further investigation of this area is proposed.

Polymer Module: The Polymer Module was located in the central portion of the former Pilot Plant building. According to the Sovereign report, organic compounds including acrylonitrile, styrene, and carbon tetrachloride were handled in this area. Three soil borings, SB-68 through SB-70, were installed to investigate floor drains located in this area. Based on field observations, Sovereign only collected a soil sample from the 0 to 2 foot bgs interval from SB-70. Soil sample SB-70 was analyzed for VOCs and SVOCs.

No VOCs or SVOCs were detected in soil sample SB-70 at concentrations exceeding the NYSDEC SCOs. The PAHs that were detected in soil sample SB-70 at concentrations below their respective NYSDEC SCOs are likely associated with the historic fill used to raise the elevation of the Site. No further investigation of the PAHs impacts in this area is proposed.

Crystex Module / Maintenance Shop: According to the Sovereign report, the Crystex Module was located on the eastern wall of the Pilot Plant building and operated from the late 1970s through the mid-1980s. Materials used in this area included carbon disulfide and process oil. One soil sample, SB-71, was collected from the 0 to 2 feet bgs interval adjacent to a floor drain clean out in the eastern portion of the maintenance shop located adjacent to the Crystex Module. The clean out and boring location were located near the intersection of the floor drains that served both the Crystex Module and maintenance shop. Soil sample SB-71 was analyzed for SVOCs and VOCs.

No VOCs or SVOCs were detected in soil sample SB-71 at concentrations exceeding the NYSDEC SCOs. No further investigation of this area is proposed.

Mini Lab Sump: The sump was located next to the analytical lab at the north end of the former Pilot Plant building and collected waste from the former Mini Lab and analytical lab. Sovereign collected one soil sample, SB-10, from the 7 feet to 8 feet bgs interval, which was submitted for PP+40 analysis.

No VOCs were detected at concentrations exceeding the NYSDEC SCOs. One PAH, several metals, and the pesticides dieldrin (6.47 mg/kg), 4,4-DDE (7.06 mg/kg), and 4,4-DDT (35.5 mg/kg) were detected at concentrations exceeding one or more NYSDEC SCO. The concentration of dieldrin exceeds the Residential, Restricted Residential, Commercial, and Industrial SCOs. The concentration of 4,4-DDE exceeds the Residential SCO, and the concentration of 4,4-DDT exceeds the Residential and Restricted Residential SCOs.

In May 2009, Sovereign completed five soil borings, SB-10A and SB-77 through SB-80, to horizontally and vertically delineate the extent of the pesticide impacts at soil sample SB-10 (7-8'). The dieldrin, 4,4-DDE, and 4,4-DDT impacts were vertically delineated at the SB-10 location by soil sample SB-10A collected from 12 feet to 12.5 feet bgs. The concentrations of these pesticides in soil sample SB-10A were below the Residential SCO. The pesticide impacts were horizontally delineated to concentrations below the Residential SCO to the west, east, and south by soil samples SB-77, SB-78, and SB-80, respectively; however, the concentration of

dieldrin detected in soil sample SB-79 (north of SB-10) exceeded the Residential SCO but was below the Restricted Residential SCO. No further investigation of this area is proposed as the pesticide impacts have been substantially delineated.

Powder Materials Room: Sovereign collected one soil sample to investigate a floor drain collection area in the Powder Materials Room, which was located on the eastern side of the former Pilot Plant. Wastes collected in the Powder Materials Room were directed by the floor drain to a sump outside the powder room. Soil sample SB-72 was collected next to the floor drain from the 0 to 2 feet interval and analyzed for PP+40.

No VOCs or SVOCs were detected in soil sample SB-72 at concentrations exceeding the NYSDEC SCOs. No PCBs were detected in soil sample SB-72. Lead and chromium were detected in soil sample SB-72 at concentrations one or more NYSDEC SCOs. The concentration of total chromium (50.8 mg/kg) exceeds the Residential SCOs for hexavalent and trivalent chromium. The concentration of lead (108 mg/kg) that was detected in soil sample SB-72 exceeds the 63 mg/kg Protection of Groundwater SCO for lead. The pesticide toxaphene was detected in soil sample SB-72 at a concentration of 1.3 mg/kg. There is no established NYSDEC SCO for toxaphene; however, the concentration of toxaphene that was detected in soil sample SB-72 was below the Unites States Environmental Protection Agency (USEPA) standard of 2 mg/kg for migration to groundwater. The metals detected in soil sample SB-72 are likely associated with the historic fill used to raise the elevation of the Site. No further investigation of the detection of metals in soil in this area is proposed.

AutoClave Module 5 Area: One soil sample, SB-73, was collected in this area, which was located on the eastern side of the former Pilot Plant building between the Powder Materials Room and Waste Water Treatment Pits. Soil sample SB-73 was collected from the 0 to 2 feet bgs interval and analyzed for VOCs, SVOCs, and metals.

No VOCs or SVOCs were detected at concentrations exceeding the NYSDEC SCOs Mercury was detected at a concentration (0.21 mg/kg), which exceeds the NYSDEC Protection of Ecological Resources SCO, but is below the Residential, Restricted Residential, and Commercial

SCOs. This sample was not collected in an ecologically sensitive portion of the Site; therefore, the exceedance of the Ecological SCOs does not warrant further investigation. No further investigation of the mercury impacts in this area is proposed.

Waste Water Treatment Pits

The Waste Water Treatment Pits were located on the east side of the former Pilot Plant building. According to the Sovereign report, the pits were originally intended to hold water for fire suppression purposes but were later retrofitted to collect and treat (pH adjustment) waste water generated by various plant processes prior to discharge to the sanitary sewer system. Sovereign indicated that a visual investigation of the pits did not identify any cracks, penetrations, or other deterioration of the waste water pit walls. Sovereign collected three soil samples, SB-37 through SB-39, from the east, south, and west sides of the former treatment pits, respectively. Soil sample SB-37 was collected from the 9 feet to 10 feet bgs interval and soil samples SB-38 and SB-39 were collected from the 11 feet to 12 feet bgs interval. The soil samples were biased toward intervals exhibiting a reported "sewage odor". Soil samples SB-37 through SB-39 were analyzed for the PP+40 suite of compounds.

The VOC tetrachloroethene (PCE) was detected in soil sample SB-38 at a concentration of 7.83 mg/kg, which exceeds the NYSDEC Residential SCO and Protection of Groundwater SCOs. The concentrations of PAHs that were detected in soil sample SB-39 were below their respective NYSDEC SCOs. Several metals were detected in each of the three soil samples at concentrations exceeding the NYSDEC SCOs. Arsenic (19.9 mg/kg) was detected at a concentration exceeding the Residential, Restricted Residential, Commercial, and Industrial, and Protection of Groundwater SCOs of 16 mg/kg and the 13 mg/g Proection of Ecological Resources SCO. The concentration of copper (72.6 mg/kg) detected in soil sample SB-39 exceeds the 50 mg/kg Protection of Ecological Resources SCO for copper. The concentrations of total chromium that were detected in soil samples SB-38 (42.7 mg/kg) and SB-39 (42.8 mg/kg) exceeds the Residential and Protection of Ecological Resource SCOs for hexavalent and trivalent chromium. The concentrations also exceed the 19 mg/kg Protection of Groundwater SCO for hexavalent chromium. Further investigation of this area was completed in April 2014.

The delineation sampling is summarized in Section 9.1.

Underground Storage Tanks

A total of eight USTs were removed from the Site. The UST closures and soil remediation were summarized in a UST Closure Report, prepared by Sovereign, dated March 13, 2009. The Westchester County Department of Health issued a No Further Action letter dated April 27, 2009 for the eight USTs that were removed. The UST removal activities and investigation of other areas/structures identified by Sovereign as USTs are summarized in the following sections.

White House Building / Carbon Disulfide Vaults - According to the Sovereign report, a concrete vault containing carbon disulfide tanks was historically located near the southeast corner of the former Pilot Plant building. The carbon disulfide tanks were reportedly removed and the vault was backfilled with soil. The former White House building, which reportedly was used for the storage of maintenance supplies, equipment, and some chemicals, was constructed over the former vault. The Sovereign report indicated that the floor of the White House building was in disrepair with evidence of petroleum staining. There was also a pit located along the eastern wall of the structure. A soil boring, SB-49, was biased toward the stained area within the former White House building and advanced to the depth of refusal (5.5 feet bgs). It is not known if the depth of refusal corresponds to the bottom of the vault. Soil sample SB-49A was collected from the 0 to 4 feet bgs interval and analyzed for VOCs, SVOCs, metals, and PCBs. Soil sample SB-49B was collected from the 5 feet to 5.5 feet bgs interval and analyzed for VOCs.

A total of eight soil samples, SB-43 through SB-48, SB-55, and SB-56, were collected from the perimeter of the former White House building at depths ranging between 12.5 to 16 feet bgs and analyzed for VOCs.

No VOCs or SVOCs were detected at concentrations exceeding their respective NYSDEC SCOs in soil sample SB-49A; however, at the total chromium concentration that was detected in soil sample SB-49A exceeds the NYSDEC Residential (22 mg.kg), Protection of Ecological Resource (1 mg/kg), and Pretection of Groundwater (19 mg/kg) SCOs for hexavalent chromium.

Benzene (1.46 mg/kg), carbon disulfide (1,150 mg/kg), PCE (23.9 mg/kg) toluene (3.68 mg/kg), and xylenes were detected in soil sample SB-49B at concentrations exceeding their respective NYSDEC Protection of Groundwater SCOs. The concentration of PCE also exceeds the NYSDEC Residential and Restricted Residential SCOs. Based upon the NYSDEC Commissioner Policy (CP-51) – Soil Cleanup Policy, the concentration of carbon disulfide exceeds the total organic contaminant concentrations for Residential Use (100 mg/kg), Commercial Use (500 mg/kg), and Industrial Use (1,000 mg/kg). The concentrations of VOCs detected in soil samples SB-43 through SB-48, SB-55, and SB-56 were below the NYSDEC SCOs. The perimeter soil analytical results indicate that the soil impacts are contained within the former carbon disulfide vault; therefore, no further investigation of this area is proposed.

Fuel Oil / Carbon Disulfide UST Areas - Four 10,000-gallon USTs were located on the eastern portion of the Site near the former maintenance shop. The Sovereign report indicated that the USTs were used for the storage of #6 heating oil as late as 2006. These USTs were reportedly originally used for the storage of carbon disulfide and were converted for fuel oil storage. The four 10,000-gallon USTs were located in a concrete vault. The Sovereign report also stated that historic Site plans indicated the presence of an additional vault directly adjacent to the north of the former maintenance shop. According to the Site plans, the vault contained three 20,000-gallon carbon disulfide USTs.

Sovereign collected a total of seven soil samples from nine soil borings, SB-28 through SB-36, installed around the perimeters of the two vault areas. The soil samples were collected from the depth interval corresponding to the depth of the UST inverts, which ranged from 11.5 feet bgs to 16 feet bgs. Soil samples SB-29, SB-30, and SB-32 through SB-34 were analyzed only for VOCs and SB-35 and SB-36 were analyzed for VOCs, SVOCs, and TPHC. No soil samples were collected from soil borings SB-28 and SB-31 due to a lack of evidence of contamination based on field instrument readings and observations.

Acetone was detected in two soil samples (SB-29 and SB-34) at concentrations exceeding the 0.05 mg/kg NYSDEC Protection of Groundwater SCO for acetone. The concentrations of acetone were below all other NYSDEC SCOs and no other VOCs were detected at

concentrations exceeding their respective NYSDEC SCOs.

The Sovereign report indicated that PAHs were detected in soil samples SB-35 (14 feet to 16 feet bgs) and SB-36 (13 feet to 16 feet bgs) at concentrations exceeding the NYSDEC SCOs; however, review of the PAH data indicates that the concentrations that were detected in soil samples SB-35 and SB-36 were below their most restrictive NYSDEC SCO. TPHC were detected in soil samples SB-35 and SB-36 at 52.5 mg/kg and 261 mg/kg respectively. The NYSDEC does not have a SCO for TPHC.

During UST removal activities in July 2008, the Westchester County Health Department inspected the vault and determined the concrete vault was competent, noted that no contamination was observed in the vault, and therefore sampling was not required following the removal of the USTs.

Sovereign completed a test pit to investigate the vault shown on the Site plan to the north of the former maintenance building, which had been previously backfilled with soil. Sovereign collected a soil sample TP-6 from 8 feet to 8.5 feet bgs to confirm the quality of the backfill material. The soil sample was analyzed for the full suite of PP+40 compounds. PAHs and metals were detected at concentrations exceeding their respective NYSDEC SCOs. The concentration of lead detected in TP-6 was 10,200 mg/kg, which exceeds the NYSDEC Residential, Restricted Residential, Commercial and Industrial SCOs. Sovereign subsequently installed one soil boring outside the vault adjacent to the southeast corner and collected soil samples from the 2.5 feet to 3 feet interval (SB-81A) and 7.5 feet to 8 feet bgs (SB-81B) for lead analysis. The concentrations of lead in SB-81A and SB-81B were 9.6 mg/kg and 38.5 mg/kg, respectively. Based on the analytical results for SB-81A and SB-81B, Sovereign concluded that the lead concentrations outside the vault were consistent with background concentrations and the elevated lead concentrations were limited to the interior of the vault area. There were no VOC, pesticide, or PCBs detected at concentrations exceeding their respective NYSDEC SCOs. On March 1, 2014, groundwater sample VES-4 GW was collected in this area to evaluate the potential for the historic presence of USTs in this area to impact groundwater. The findings of the groundwater investigation are summarized in Section 9.2.

Former 2,000-Gallon # 4 Fuel Oil UST - The former 2,000-gallon #4 fuel oil UST was located at the south end of the Site near the northwest corner of the former boiler house. This UST was historically registered as Tank A-9 and referred to as tank T-1 in the UST Closure Report dated March 13, 2009. Sovereign collected soil sample SB-40 from the 10 feet to 12 feet bgs interval near the UST. Soil sample SB-40 was analyzed for VOCs, SVOCs, and TPHC.

No VOCs or SVOCs were detected in soil sample SB-40 at concentrations exceeding the NYSDEC SCOs. TPHC was detected in soil sample SB-40 at a concentration of 83.2 mg/kg. The NYSDEC does not have a SCO for TPHC.

The 2,000-gallon #4 fuel oil UST was removed in July 2008. The UST Closure Report dated March 13, 2009 indicated that this UST was previously abandoned in place with sand. The sand used to abandon the UST was stockpiled for disposal. Sovereign collected three centerline soil samples (T-1-1, T-1-2, and T-1-3) from the bottom of the excavation at 7 feet to 7.5 feet bgs and a composite sidewall sample (T-1 Comp) that was also collected from the 7 feet to 7.5 feet bgs interval and submitted them to the laboratory for PAH analysis. One of the centerline soil samples and the composite sidewall sample reported concentrations of PAHs exceeding the NYSDEC TAGM Direct Contact Recommended SCO and the Protection of Groundwater SCO. According to the UST Closure Report dated March 13, 2009, Sovereign excavated soil in the eastern portion of the former UST excavation and collected three additional post-excavation soil samples (T-1-4, T-1-5, and T-1-6) from depths ranging between 7 feet to 8.5 feet bgs and submitted them for PAH analysis.

The laboratory analytical results indicated that the PAH concentrations were below the NYSDEC TAGM Direct Contact Recommended SCO and the Protection of Groundwater SCO; therefore, no further remediation was conducted. In a letter dated April 27, 2009, the Westchester County Department of Health indicated that no further action was required for this location. No further investigation of this area is proposed.

Former 5,000-Gallon #4 / #6 Fuel Oil UST - The 5,000-gallon fuel oil UST was centrally located on the Site near the rail spur to the east of the former Pilot Plant. According to the UST Closure Report dated March 3, 2009, this UST formerly contained #4 fuel oil and #6 fuel oil. This UST was registered as A-5 and referred to as tank T-2 in the UST Closure Report dated March 13, 2009. Sovereign collected two soil samples, SB-20 (8.5 feet to 11 feet bgs) and SB-21 (11.5 feet to 12 feet bgs) to investigate the 5,000-gallon fuel oil UST. The samples were analyzed for SVOCs and total petroleum hydrocarbons (TPHC). Napthalene (36.4 mg/kg) was detected at a concentration exceeding the NYSDEC Protection of Groundwater SCO in soil sample SB-21. TPHC was also detected at concentrations of 11,900 mg/kg and 20,800 mg/kg at SB-20 and SB-21, respectively. Although NYSDEC does not have an SCO for TPHC, the detected concentrations in soil are indicative of a release.

In May 2009, Sovereign collected soil samples SB-20A and SB-21A from the 15.5 feet to 16 feet bgs intervals to vertically delineate the impacts detected at these locations. According to the Sovereign report, there were no TPHC detected above the laboratory MDLs in soil samples SB-20A and SB-21A.

The former 5,000-gallon fuel oil UST was removed in July 2008. Soil samples were collected from the base of the excavation sidewalls (8 feet bgs). Centerline soil samples were not collected due to the presence of perched water in the excavation. Stained soil and a petroleum odor were noted in the southern portion of the excavation. Analysis of the soil samples indicated the presence of PAHs at concentrations exceeding the NYSDEC Protection of Groundwater SCOs in the samples collected from the south end of the excavation. In August 2008, additional soil was excavated to remediate the PAH-impacted soils at the south end of the excavation. Two additional post-excavation soil samples were collected at 8 feet bgs and analyzed for PAHs. No PAHs were detected at concentrations exceeding the NYSDEC SCOs.

In the letter dated April 27, 2009, the Westchester County Health department stated that no further action was required for the former 5,000-gallon fuel oil UST. No further investigation of this area is proposed.

Former Buried Railcar (13,000-Gallon #6 Fuel Oil UST) - A buried railcar was discovered near the northeast corner of the former Pilot Plant building during the installation of a nitrogen tank in the 1980s. Following its discovery, the railcar was filled with sand and left in place due to its proximity to the building. The buried railcar was registered as tank A-6 and referred to as tank T-3 in the UST Closure Report dated March 13, 2009.

In 2006, Sovereign collected soil samples SB-53 and SB-54 from 12 feet bgs to 14 feet bgs on the west and east sides of the buried railcar, respectively. The soil samples were analyzed for the full suite of PP+40 compounds and TPHC. No SVOCs, PCBs, or pesticides were detected at concentrations exceeding the NYSDEC SCOs in either soil sample. The VOCs benzene and xylene and the metals chromium, nickel, and zinc were detected at concentrations exceeding their respective NYSDEC Protection of Groundwater SCOs. The highest petroleum hydrocarbon concentration was 73.7 mg/kg.

The buried railcar was removed in July 2008. The sand used to previously abandon the railcar was stockpiled for disposal. Based upon field observations and field screening readings, soil was excavated to the extent possible without undermining the adjacent structures and seven post-excavation soil samples (six sidewall samples and one composite floor sample) were collected for laboratory analysis. Several PAHs were detected at concentrations exceeding one or more of their respective NYSDEC SCOs. However, the sum of all detected PAH concentrations in all soil samples was less than 500 mg/kg and all individual PAH concentrations were below 50 mg/kg; therefore, no further remediation was conducted. The buried railcar was included in the Westchester County Health Department no further action letter dated April 27, 2009. In April 2014, additional soil sampling was completed in this area to confirm the remediation of VOC impacts in soil. The soil sampling is summarized in Section 9.1.

Former 550-Gallon Gasoline UST - The 550-gallon gasoline UST was historically located at the southwest portion of the Site near the former loading dock. The date that the UST was removed is not known. Soil samples SB-50 and SB-51 were collected from 11 feet to 11.5 feet bgs in the location of the former gasoline UST and analyzed for VOCs. Ethylbenzene and xylenes were detected at concentrations exceeding their respective NYSDEC Protection of

Groundwater SCOs in both soil samples. No further investigation of this area is proposed.

Former 2,000-Gallon #4 Fuel Oil UST: A second 2,000-gallon #4 fuel oil UST was identified during soil remediation activities related to the former 2,000-gallon #4 fuel oil UST located at the south end of the Site near the northwest corner of the former boiler house. The UST was removed and centerline soil samples were collected from 7.5 feet to 8 feet bgs and a composite sidewall soil sample was collected. PAH compounds were detected at concentrations exceeding NYSDEC SCOs; however, the sum of all detected PAH concentrations in all samples was less than 500 mg/kg and all individual PAH concentrations were below 50 mg/kg; therefore, no further remediation was conducted. The former 2,000-gallon #4 fuel oil UST was included in the Westchester County Health Department no further action letter dated April 27, 2009. No further investigation of this area is proposed.

Storage Pads, Storage Areas, Loading and Disposal Areas

The soil sampling activities to investigate hazardous material storage areas, loading areas, and disposal areas, including suspected landfill locations and septic drain fields that may have received hazardous materials, are summarized in the following sections.

Resource Conservation Recovery Act (RCRA) Storage Pad and Solvent Sheds: Historic Site plans indicated the presence of a solvent shed northeast of the former Pilot Plant building. No VOCs were detected in soil samples SB-6 through SB-8, which were collected from 2 feet to 3 feet bgs at the former location of the solvent shed. This solvent shed was removed and replaced with the RCRA Storage Pad / Solvent Shed that were located on the eastern / central portion of the Site.

Sovereign collected eight soil samples, SB-12 through SB-19, from depths ranging from 1 to 4 feet bgs along the perimeter of the former RCRA Storage Pad and Solvent Shed area and analyzed for VOCs. One soil sample, SB-52, was collected from 6.5 feet to 7 feet bgs adjacent to a sump in the former storage pad area and two soil samples, SB-74 and SB-75, were collected adjacent to cracks in the storage shed floor and analyzed for PP+40.

PCE was detected in soil sample SB-16 at a concentration (98.8 mg/kg) exceeding the NYSDEC Residential, Restricted Residential, and Protection of Groundwater SCOs. PCBs were detected in soil sample SB-74 (3.44 mg/kg) at a concentration exceeding the Residential, Restricted Residential, Commercial, and Protection of Groundwater SCOs. Dieldrin was detected in soil sample SB-75 (0.0532 mg/kg), which exceeds the Residential SCO. In addition, arsenic was detected in soil sample SB-75 (15.1 mg/kg) at a concentration exceeding the 13 mg/kg NYSDEC Protection of Groundwater SCO. None of the PAH detections exceed their respective NYSDEC SCOs. Additional investigation of the Former Solvent Shed and Former RCRA Shed was conducted in March 2014 and April 2014. The findings of the soil and groundwater sampling in these areas are summarized in Sections 9.1 and 9.2.

Former Potash Plant: The Potash Plant was located on the south end of the Site (current grass / landscaped area). Based upon a Phase I Site Assessment completed in the mid-1980s in which a former plant manager indicated that 15 tons of insoluble sulfur was landfilled at the Site between 1950 and 1969, a former landfill / disposal area was suspected to also be present in this area. A geophysical survey identified potential subsurface anomalies, which were investigated through the excavation of test pits (TP-7 and TP-9). No evidence of waste disposal was identified in the test pits. Soil samples were collected from both test pits from the 7.5 to 8 feet bgs intervals, which were analyzed for SVOCs and priority pollutant metals. The PAHs benzo(a)anthracene, benzo(a)pyrene, and chrysene were detected at concentrations exceeding NYSDEC Residential SCOs in both soil samples. The concentration of total chromium that was detected in soil samples TP-7 and TP-8 exceeded the NYSDEC Residential, Protection of Ecological Resources, and Protection of Groundwater SCOs for hexavalent chromium. In March 2014, soil and groundwater sampling was completed in this area to investigate the reported landfilling. The results are summarized in Sections 9.1 and 9.2.

Former Railcar Loading Area: A railcar loading area was located south of an outside storage area in the central portion of the Site and was elevated compared to surrounding grade. A test pit (TP-8) and three soil samples (SB-25, SB-26, and SB-27) were collected to investigate the quality of the fill used to raise the area. Soil samples were analyzed for the full suite of PP+40 compounds. PAHs and mercury were detected at concentrations exceeding the NYSDEC

Residential SCOs in one of more of the soil samples collected to investigate the railcar loading area. The pesticide toxaphene was also detected in soil sample SB-27 (5.42 mg/kg); however, there is no NYSDEC SCO for this pesticide. The concentration of toxaphene that was detected in soil sample SB-27 exceeded the EPA standard of 2 mg/kg for migration to groundwater. The PAHs and mercury detected in these soil samples are likely associated with the historic fill used to raise the elevation of the Site. No further investigation of the PAH, mercury, and toxaphene impacts in this area is proposed.

Former Septic System Collection Pits: Two pits believed to be the collection pits for the former septic system were suspected to be present in the northwest portion of the Site. Two soil borings (SB-4 and SB-5) were advanced in the suspected locations of the collection pits; however, no soil samples were collected due to the lack of evidence of the former septic pits. No further investigation of this area is proposed.

Former Septic Tile Field: The Underground Piping Plan shows a tile field (i.e., leach field) on the northwest portion of the Site. The plan shows that a drain line at a former solvent shed discharged to this tile field. Sovereign collected one soil sample, SB-9, from the 6.5 feet to 7 feet bgs interval in the location of the former septic tile field, which was analyzed for VOCs. The VOCs carbon disulfide, chloroform, methylene chloride, and PCE were detected in soil sample SB-9; however, the concentrations were below the NYSDEC Protection of Groundwater SCOs; therefore, no further investigation of this area is proposed.

Pre-Sanitary Sewer Collection Pit: Two soil samples, SB-41 and SB-42, were collected from the 6 feet to 8 feet bgs interval at the former location of a sanitary sewer collection pit in the south-central portion of the Site. The soil samples were analyzed for VOCs and SVOCs. No VOCs were detected at concentrations exceeding the NYSDEC Protection of Groundwater SCOs or other SCOs. Several PAHs were detected at concentrations exceeding the NYSDEC Residential SCOs. The PAHs detected in soil samples SB-41 and SB-42 are likely associated with the historic fill used to raise the elevation of the Site. No further investigation of the PAH impacts in this area is proposed.

Former Coal Storage Areas: According to the Sovereign report, a drawing provided by AkzoNobel indicated several coal piles were historically located in the northeast portion of the Site. Soil samples SB-1 through SB-3 were collected from the 0.5 to 2 feet bgs intervals at the former coal pile locations and were analyzed for SVOCs and metals. The PAHs benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene were detected in soil sample SB-2 at concentrations exceeding the 1 mg/kg NYSDEC Residential SCO for these PAHs. The concentration of total chromium detected in soil sample SB-1 exceeds the NYSDEC Residential (22 mg/kg) and Protection of Groundwater SCO for hexavalent chromium. The concentration of zinc (113 mg/kg) detected in soil sample SB-1 also exceeded the 109 mg/kg NYSDEC Protection of Groundwater SCO for zinc. The concentrations of PAHs and mercury detected in SB-2 exceeded the NYSDEC Residential SCOs. The PAHs and metals detected in soil samples SB-1 through SB-3 are likely associated with the historic fill used to raise the elevation of the Site. No further investigation of the PAH and metal impacts in this area is proposed.

Outdoor Equipment Storage Pad: Two soil samples, SB-63 and SB-64, were collected beneath the Outdoor Equipment Storage Pad from the 0 to 1.5 feet bgs intervals and analyzed for the full suite of PP+40 compounds. No VOCs were detected at concentrations exceeding the NYSDEC Protection of Groundwater or other SCOs. PAHs were detected in soil samples SB-63 and SB-64 at concentrations exceeding NYSDEC Residential SOCs Lead, arsenic, PCBs, and dieldrin were detected in soil sample SB-63 at concentrations exceeding the NYSDEC Residential SCOs. The PAHs and metals detected in soil samples SB-63 and SB-64 are likely associated with the historic fill used to raise the elevation of the Site. No further investigation of the PAHs and metal impacts in this area is proposed. In April 2014, soil sampling was completed to delineate the PCB and dieldrin impacts that were detected in soil sample SB-63. The findings of the soil sampling are summarized in Section 9.1.

Other Areas of Concern and Background Sampling

The following additional investigations were performed by Sovereign to assess other areas of concern and collect background data for metals in soil at the Site:

Debris Pile: Sovereign visually inspected a debris pile located in the parking lot on the northern portion of the Site. According to the Sovereign report, the pile consisted mainly of brick, asphalt, stone block and concrete debris. Based on the nature of the debris, no soil samples were collected for analysis. VERTEX observed this debris pile during our Phase I ESA Site reconnaissance and confirmed the contents of the pile. No further investigation of the debris pile is proposed.

Investigation of Metallic Anomalies: In October 2006, a total of three test pits (TP-1 through TP-3) were excavated to further investigate magnetic anomalies in the paved parking area on the northern portion of the Site that were identified during the geophysical survey. A steel vessel, identified as a possible boiler, was buried at the location of TP-3, which was excavated at the central southern portion of the paved parking area. The Sovereign report indicated that no other significant materials were found in test pits TP-1 through TP-3.

Soil samples were collected from each test pit and analyzed for PP+40. No VOCs or PCBs were detected in soil samples TP-1 through TP-3. Metals were detected at concentrations exceeding NYSDEC SCOs at all three soil sample locations. The concentration of total chromium detected in soil samples TP-1 (36.7 mg/kg) and TP-3 (27.4) exceed the NYSDEC Residential (22 mg/kg), Protection of Ecological Resources (1 mg/kg) and Protection of Protection of Groundwater (19 mg/kg) SCOs for hexavalent chromium. The concentration of total chromium detected in soil sample TP-1 also exceeds the NYSDEC Residential SCO for trivalent chromium (36 mg/kg). The concentration of total chromium detected in soil sample TP-2 (19.4 mg/kg) exceeds the NYSDEC Protection of Ecological Resources SCO for hexavalent chromium. The concentration of mercury detected in soil sample TP-3 (0.89 mg/kg) exceeds the 0.81 mg/kg NYSDEC Residential / Restricted Residential SCO for mercury. The concentration of mercury detected in soil sample TP-1 (0.78 mg/kg) exceeds the 0.18 mg/kg NYSDEC Protection of Groundwater SCO. Additionally, the concentration of the pesticide toxaphene (22.2 mg/kg) that was detected in soil sample TP-1 exceeded the EPA standard of 2 mg/kg for migration to groundwater. The concentrations of SVOCs detected in samples TP-1, TP-2 and TP-3 were below the NYSDEC SCOs. The toxaphene impacts were vertically delineated to a depth of 7.5 feet bgs to 8 feet bgs by soil sample TP-1A. The PAHs and metals detected in soil samples collected from TP-1

through TP-3 are likely associated with the historic fill used to raise the elevation of the Site. No further investigation of the PAH and metal impacts in this area is proposed. The toxaphene impacts exceed only an EPA standard for the migration to groundwater and were vertically delineated above the groundwater table; therefore, no further investigation of the toxaphene impacts is proposed.

Background Metals: Two soil samples SB-76A (2 to 2.5 feet bgs) and SB-76B (10-10.5 feet bgs) were collected from soil boring SB-76, which was advanced north of the parking lot in an undeveloped portion of the Site to establish baseline metals concentrations for comparison to the analytical data collected from the developed portion of the Site. Both soil samples contained concentrations of total chromium exceeding the NYSDEC SCOs. The total chromium concentrations that were detected in soil samples SB-76A [2-2.5 feet bgs (30.3 mg/kg)] and SB-76B [10-10.5 feet bgs (22.4 mg/kg)] exceeded the NYSDEC Residential (22 mg/kg), Protection of Ecological Resources (1 mg/kg), and Protection of Groundwater (19 mg/kg) SCOs for hexavalent chromium.

Comparison to the analytical results for the metals data collected from the developed operations areas of the site, which also appears to have had historical fill material emplaced, detections of mercury and lead appear to be related to the historic fill material. Mercury was consistently detected in soil samples collected by Sovereign from the developed / filled portions of the Site at concentrations ranging between 0.064 mg/kg and 9 mg/kg. Mercury was not detected in the two soil samples collected from the undeveloped portion of the site to establish baseline conditions - SB-76A (2 to 2.5 feet bgs) and SB-76B (10-10.5 feet bgs). In addition, the concentrations of lead detected in soil samples SB-76A (2 to 2.5 feet bgs) and SB-76B (10-10.5 feet bgs), 8.8 mg/kg and 4.4 mg/kg, respectively are lower than the concentrations of lead detected in the developed / filled areas of the Site which range from 2.7 mg/kg to 10,200 mg/kg. Based upon the limited background data currently available, the higher detections of mercury and lead in soil appear to be related to the historic fill material present in the developed portions of the Site. The proposed soil characterization samples (Section 12.5) will provide additional data for this evaluation.

Sediment, Surface Water, and Groundwater Sampling

Sovereign collected baseline sediment and surface water samples from the Saw Mill River upgradient of the Site and installed three groundwater monitoring wells on the Site to investigate general Site groundwater conditions. These activities are summarized in the following sections.

Baseline Sediment and Surface Water Sampling: Sediment (SED1) and surface water (SW1) samples were collected from an off-Site upstream location from a branch of the Saw Mill River to establish baseline sediment and surface water concentrations for the Saw Mill River near the Site. Sediment sample SED1 was analyzed for SVOCs, total organic carbon, and metals. Surface water samples SW1 was analyzed for VOCs, base neutral compounds (BNs), and metals.

One SVOC, benzo(a)anthracene, was detected at a concentration of 69.07 micrograms per gram (ug/g) of organic carbon in sample SED1, which exceeds the NYSDEC Benthic Aquatic Life Chronic Toxicity Sediment Criteria of 12 ug/g of organic carbon. No VOCs, BNs, or metals were detected in surface water sample SW1 at concentrations exceeding the NYSDEC Class A Surface Water Standards.

Groundwater: Three groundwater monitoring wells (MW-1 through MW-3) were installed at the Site in May 2009. The total well depths are between 20 feet bgs to 25 feet bgs. Monitoring well MW-1 was installed in the parking lot in the northern end of the developed portion of the Site. Monitoring well MW-2 was installed in an asphalt area at the southwest corner of the Site. Monitoring well MW-3 was installed at the southeast corner of the Site. None of the monitoring wells installed by Sovereign were located within the AOCs / former operational areas. The wells were sampled in June 2009 and analyzed for the full PP+40 suite of compounds. Filtered and unfiltered samples were collected for metals analysis. No targeted compounds were detected at concentrations exceeding the NYSDEC Ambient Water Quality Standards (AWQS) in monitoring well MW-1. PCE was detected in monitoring well MW-2 at a concentration (7.4 ug/L) exceeding the NYSDEC AWQS of 5 ug/L for PCE. The VOCs cis-1, 2 DCE (5.6 ug/L), vinyl chloride (5.4 ug/L), and the SVOC bis(2-ethylhexyl)phthalate (29 ug/L) were detected in monitoring well MW-3 at concentrations exceeding their respective NYSDEC AWQS. The unfiltered sample for MW-3 contained metals, including arsenic, chromium, and lead, at

concentrations exceeding the NYSDEC AWQS; however, the metals were not detected in the filtered samples.

The monitoring wells were sampled again in December 2009; however, the samples were analyzed only for VOCs and SVOCs in December 2009. PCE was detected in monitoring wells MW-2 (5.3 ug/L) and MW-3 (12.6 ug/L) at concentrations exceeding the NYSDEC AWQS. The locations and vertical elevations of monitoring wells MW-1, MW-2, and MW-3 were surveyed by a licensed surveyor (DPK Consulting of Middlesex, New Jersey). Based upon the monitoring well elevations and depth to groundwater data, groundwater was confirmed to flow in a south-southeasterly direction across the Site.

Deep Well Contamination from Off-Site Source: The SIR also referenced an incident that was reported in a Phase I Site Assessment completed in the mid-1980s. According to the report, in October 1983, 1,1,1-trichloroethane was detected in the plant's effluent to the Saw Mill River. The 1,1,1-trichloroethane was traced to the groundwater from a deep well (approximately 1,200 feet deep) at the Site that was used as the source for non-contact cooling water. The NYSDEC required Stauffer to cease discharges of contaminated effluent to the Saw Mill River and the deep well was sealed. Reportedly, a NYSDEC memo dated November 30, 1983 confirms that Stauffer did not use or manufacture 1,1,1-trichloroethane and the contamination may be connected to a regional groundwater problem that had also been identified in wells in Armonk and Bedford, New York. Based on the available information, the NYSDEC did not require any further action by Stauffer.

6.0 VERTEX PHASE I ENVIRONMENTAL SITE ASSESSMENT – AUGUST 2014

In August 2014, VERTEX, on behalf of TDI Real Estate, performed a Phase I ESA in conformance with the scope and limitations of ASTM E 1527-13, Standard Practice for Environmental Site Assessments of the Site. VERTEX reviewed the SIR prepared by Sovereign in November 2009 and completed a Site reconnaissance in August 2014 as part of the Phase 1 ESA.

Based upon the review of the SIR and the Site reconnaissance, VERTEX identified the following Areas of Concern (AOC) that required additional investigation or will require remediation. PAHs / SVOCs and metals that were detected in soil samples collected to investigate the various AOCs associated with former Site operations were attributed to historic fill material that is located throughout the Site and therefore consolidated into one AOC (historic fill material).

- Former Solvent Shed (PCE-impacts in soil sample SB-16). The PCE concentrations detected in soil sample SB-16 exceeded the NYSDEC SCOs and considered a potential source of groundwater impacts;
- Former RCRA Shed (PCB-impacted soils);
- Mini Lab Sump (Pesticide-impacted soils at soil sample location SB-10);
- Outdoor Equipment Storage Pad (Pesticide-impacted soils at soil sample location SB-63 and PCB impacted soils at soil sample location SB-64);
- Fuel Oil / Carbon Disulfide UST Areas (lead-impacted fill material within the former carbon disulfide UST vault at the eastern portion of the Site);
- Former White House Building (carbon disulfide/PCE/benzene-impacted soil within the vault below the former White House building);
- Former Waste Water Treatment Pits (PCE-impacted soil in soil sample SB-38);
- Former Rail Car Area (VOCs detected in soil sample SB-53)
- Historic fill material located throughout the Site;
- A reported landfill area, former electrical substation, laboratory / polymer area, and transformer area that did not appear to have been investigated during the previous SIR;
- The detection of VOCs, including PCE, and the SVOC bis(2-ethylhexyl)phthalate at concentrations exceeding the NYSDEC AWQS were detected in groundwater samples collected from monitoring well MW-3.

Additional investigation of the PAH and metal impacts associated with the historic fill material was not completed as the fill material is present throughout most of the Site. In addition, no further sampling was conducted at the Mini Lab Sump as the pesticide impacts detected in soil sample SB-10 were substantially delineated by Sovereign. VERTEX conducted soil and / or groundwater sampling at all other AOCs identified above in March

and April 2014. The RI activities conducted by VERTEX are summarized in Section 8 and Section 9.

7.0 MANAGEMENT AND ORGANIZATION

The Qualified Environmental Professional (QEP) and Professional Engineer (PE) responsible for preparation of this RIR / RIWP are Joseph Dultz, CHMM and Richard Tobia (New York Professional Engineer License #095039-1). All work described in Section 9.0 of this RIR / RIWP was performed in full compliance with applicable laws and regulations, including site and Occupational Safety and Health Administration (OSHA) worker safety requirements and Hazardous Waste Operations and Emergency Response (HAZWOPER) requirements. The drill cuttings for all soil borings and temporary well locations were placed back into the borings from which they were collected.

8.0 REMEDIAL INVESTIGATION ACTIVITIES

VERTEX completed RI activities at the Site in March and April 2014 as discussed below. Soil boring logs prepared by VERTEX are provided in Appendix III. The laboratory analytical reports for the samples collected by VERTEX are provided in Appendix IV.

8.1 VERTEX Initial Subsurface Investigation Activities --- February/March 2014

On February 28, 2014, VERTEX conducted a Site inspection to identify the soil boring locations and a private utility locating subcontractor scanned the boring locations for the presence of subsurface utilities. On March 1, 2014, VERTEX installed eight soil borings at the Site to further investigate areas of environmental concern identified in the November 2009 SIR. A total of seven soil samples were collected to fill data gaps based on the review of existing data, and to further evaluate areas that were considered likely to require remediation to meet Residential and/or Restricted Residential SCOs and/or remediate sources of groundwater impacts. Soil samples were also collected for disposal requirements to evaluate future disposal costs for the identified impacted soils.

Additionally, five of the soil borings were converted to temporary groundwater monitoring wells to 1) collect groundwater samples to investigate locations of previous soil samples where soil detections indicated the potential for impact to groundwater; 2) investigate the potential sources of chlorinated VOCs detected in the existing Site monitoring wells; 3) evaluate the potential for the off-Site migration of groundwater contamination; and, 4) evaluate the potential for vapor intrusion to future Site buildings.

The results of the initial RI performed by VERTEX are discussed in Section 9.5.

8.2 VERTEX Subsurface Delineation Investigation Activities --- April 2014

After receiving the results of the sampling completed in March 2014, additional sampling needs were identified. The scope of work for the April 2014 RI activities included:

- Three soil samples were collected to further delineate PCE impacts at the Former Solvent Shed (soil boring SB-16),
- Ten soil samples were collected to further delineate the PCB impacts at the Former RCRA Shed (soil sample SB-74) and Former Outdoor Equipment Storage Area (soil sample SB-64)
- Four soil samples were collected to further delineate pesticide impacts at Former RCRA Shed (soil boring SB-75)and the Former Outdoor Equipment Shed (soil sample SB-63); Six soil samples were collected to further delineate PCE impacts at the Former Waste Water Treatment Pit AOC (soil boring SB-38) for the purpose of identifying the horizontal extent of impacts;
- Four soil samples were collected to further delineate VOC impacts at the Former Rail Car Area (soil boring SB-53 and SB-54) for the purpose of identifying the vertical and horizontal extents of the soil impacts;
- A total of 13 groundwater samples were collected from temporary wells installed at the Site to investigate previous soil samples where PCBs, pesticide, metals, and SVOC concentrations indicated a potential for impact to groundwater and to further investigate the VOC impacts confirmed by groundwater samples collected during the March 1, 2014

investigation.

- Three surface water samples and three sediment samples were collected from the branch of the Saw Mill River that runs through the eastern portion of the Site to determine if the river had been impacted by historic Site operations and / or the discharge of impacted groundwater to the river.

The results of the supplemental RI performed by VERTEX are discussed in Section 9.5.

8.3 Temporary Groundwater Monitoring Well Construction

The temporary monitoring wells were constructed using a one-inch diameter polyvinyl chloride (PVC) casing with 10 feet of slotted PVC screen. After the sampling activities were completed, the temporary well materials were removed and each borehole location was backfilled with native material and/or bentonite grout.

8.4 Water Level Measurements

Groundwater levels were measured in all temporary groundwater monitoring wells using a Solinst water level indicator.

8.5 Sample Collection and Chemical Analysis

Sampling performed as part of the field investigations conducted by VERTEX in March and April 2014 was primarily based upon the findings of the previous SI; however, where soil borings were installed to evaluate AOCs that were not previously investigated, the sample locations and depths were based on professional judgment, area history, discolored soils, drainage patterns, field instrument measurements, odor, or other field indicators. Discrete (grab) samples have been used for delineation of the nature and extent of contamination and to determine the impact of contaminants on public health and the environment. All soil, groundwater, surface water, and sediment samples collected by VERTEX were analyzed by Alpha Analytical of Westborough, Massachusetts, a National Environmental Laboratory

Accreditation Program (NELAP)-accredited laboratory.

8.5.1 Soil Sampling

In total, 35 soil samples were collected for chemical analysis during the March and April 2014 remedial investigations from 36 borings advanced with a direct-push drill rig with dedicated acetate liners used for each soil core. Data on soil sample collection for chemical analyses, including dates of collection and sample depths, are reported on the following tables:

- Table 1 – Summary of VOCs and TPHC in Soil.
- Table 2 – Summary of PCBs and Pesticides in Soil
- Table 3 – Summary of Metals in Soil
- Table 4 – Summary of SVOCs in Soil

Figure 2 shows the location of samples collected during the Sovereign and VERTEX investigations. Analytical methods included the following:

- Total Petroleum Hydrocarbons (TPHC) by U.S. EPA Method 3546
- PCBs via U.S. EPA Method 8082
- SVOCs, PAHs and/or BNS via U.S. EPA Method 8270
- VOCs via U.S. EPA Method 8260
- Metals via U.S. EPA Method 6010 and Method 7471B (mercury only)
- Pesticides via U.S. EPA Method 8081

8.5.2 Groundwater Sampling

A total of 18 groundwater samples were collected for chemical analysis during the VERTEX RI activities. During the April 16-18, 2014 RI activities, the temporary groundwater sampling points were purged with a peristaltic pump and dedicated low-density polyethylene (LDPE) tubing. Groundwater samples for metals, PCB, and pesticide analysis were collected directly from the dedicated tubing. With the exception of groundwater sample VES-GW1A collected

during the April 16-18, 2014 RI activities, groundwater grab samples for VOC and SVOC analysis were collected using a narrow diameter bottom fill bailer. Groundwater sample VES-GW1A was collected directly from the peristaltic pump using dedicated tubing set at a discrete sample depth to vertically delineate PCE impacts in groundwater at the VES-1 / SB-16 location. Groundwater sample collection data is reported in the following tables:

- Table 5 – Summary of VOCs and SVOCs Detected in Groundwater
- Table 6 – Summary of PCBs, Pesticides, and Metals in Groundwater

Figure 3 shows the location of groundwater samples collected by both Sovereign and VERTEX. Analytical methods included the following:

- VOCs via U.S. EPA Method 8260
- SVOCs, PAHs, and/or BNs via U.S. EPA Method 8270
- Target Compound List (TCL) / Target Analyte List (TAL)
- PCBs via U.S. EPA Method 8082
- Pesticides via U.S. EPA Method 8081
- Metals via U.S. EPA Method 6010 and Method 7471B (mercury only)
- Total Organic Carbon via U.S. EPA Method 9060

8.5.3 Surface Water Sampling

On April 18, 2014, three surface water samples (VSW-1 through VSW-3) were collected from the eastern branch of the Saw Mill River that flows through the eastern portion of the Site, but is excluded from the BCP "Site". Surface water sample VSW-1 was collected at the southern portion of the Site to the east of MW-3; VSW-2 was collected from the central portion of the Site in the suspected downgradient direction of the Former Solvent Shed; and, VSW-3 was collected upstream of the operational areas and confirmed groundwater impacts to obtain background surface water conditions. The surface water samples were collected using a dedicated disposable bailer. The surface water samples were analyzed for VOCs via U.S. EPA Method 8260. The surface water analytical results are summarized on Table 7. The surface water sample locations

are shown on Figure 3.

8.5.4 Sediment Sampling

On April 18, 2014, three sediment samples (VSED-1 through VSED-3) were collected from the eastern branch of the Saw Mill River. The sediment samples were co-located with the surface water samples described above. Sediment sample VSED-1 was co-located with surface water sample VSW-1, VSED-2 with VSW-2, and VSED-3 with VSW-3. The sediment samples were collected with a stainless steel coring device with dedicated disposable acetate liners. The sediment samples were collected from the 0 to 6-inch interval. The sediment sample analytical results are summarized on Table 8. The sediment sample locations are shown on Figure 3. The sediment samples were analyzed for the following parameters:

- VOCs via U.S. EPA Method 8260
- SVOCs via U.S. EPA Method 8270
- PCBs via U.S. EPA Method 8082
- Pesticides via U.S. EPA Method 8081
- Metals via U.S. EPA Method 6010
- Total Organic Carbon via U.S. EPA Method 9060

9.0 ENVIRONMENTAL EVALUATION

9.1 Soil Investigation Summary

The soil sampling activities and the soil analytical results for the RI completed by VERTEX on March 1, 2014 and April 16-18, 2014 are summarized in the following sections.

Former Solvent Shed

On March 1, 2014, VERTEX collected soil sample VES-1A from the 2.5-4 feet bgs interval from the location of Sovereign soil sample SB-16. PCE was previously detected in soil sample SB-16 (2.5-4) at a concentration of 98.8 mg/kg. According to the Sovereign report, soil sample SB-16 was collected to investigate a former Solvent Shed. PCE was detected in soil sample VES-1A at a concentration of 100 mg/kg.

Soil sample VES-1B was collected from the 13-13.5 feet bgs interval to determine the depth of the PCE impacts at this location. The PCE concentration that was detected in soil sample VES-1B (4.6 mg/kg) exceeds the NYSDEC Protection of Groundwater SCO, but is below the Residential and Restricted Residential SCOs for PCE. Benzene was also detected in sample VES-1B at a concentration (0.097 mg/kg) equal to its respective NYSDEC Protection of Groundwater SCO (0.097 mg/kg). Acetone and 2-butanone were also detected at concentrations exceeding their NYSDEC Protection of Groundwater SCOs; however, acetone and butanone were not detected in the groundwater samples collected at this location (VES-1GW and VES-GW1A). Based on the groundwater data, the acetone and 2-butanone that were detected in soil sample VES-1B have not impacted groundwater. VOC tentatively identified compounds (TICs) were detected at a concentration of 27 mg/kg in soil sample VES-1B. The VOC TICs are listed as "Unknown" VOCs. The NYSDEC has not established a SCO for VOC TICs.

During the RI activities completed April 16 through 18, 2014, a soil sample [VB-6 (2.5-4' bgs)] was collected from the 2.5 to 4 feet bgs interval of soil boring VB-6 to delineate the PCE impacts detected in soil sample SB-64 / VES-1 to the west. Soil samples VB-12 (2.5-4' bgs), and SB-64 (2.5-4' bgs) were collected east / southeast of SB-64 / VES-1 to delineate the PCE impacts.

No VOCs were detected at concentrations exceeding the NYSDEC SCOs in soil sample VB-6 (2.5-4' bgs). VOC TICs were detected at a concentration of 0.00372 mg/kg in soil sample VB-6 (2.5-4' bgs). The VOC TICs are listed as "Unknown" VOCs. The VOCs PCE (4.2 mg/kg), carbon tetrachloride (4.2 mg/kg), 1,2-dichloroethane (DCA), methylene chloride (0.14 mg/kg), chloroform (0.7 mg/kg), and acetone (0.2 mg/kg) were detected in soil sample VB-12 (2.5-4' bgs). The concentrations of PCE, 1,2-DCA, methylene chloride, chloroform, and acetone, exceed only their respective NYSDEC Protection of Groundwater SCOs. The concentration of carbon tetrachloride detected in soil sample VB-12 (2.5-4' bgs) exceeds the NYSDEC Residential, Restricted Residential, and Protection of Groundwater SCOs. VOC TICs were detected at a concentration of 14.35 mg/kg in soil sample VB-12 (2.5-4' bgs). The VOC TICs are listed as "Unknown" VOCs and "Unknown Naphthalenes." The NYSDEC has not established a SCO for VOC TICs.

The VOC concentrations that were detected in soil sample SB-64 (2.5-4' bgs) were below their respective NYSDEC Residential and Restricted Residential SCOs. Acetone (0.15 mg/kg) was detected at a concentration exceeding the 0.05 mg/kg NYSDEC Protection of Groundwater SCO for acetone. VOC TICs were detected at a concentration of 0.3184 mg/kg in soil sample SB-64 (2.5-4' bgs). The VOC TICS are listed as hexane, methylcyclohexane, and "Unknown" VOCs. The NYSDEC has not established a SCO for VOC TICs.

Based upon the results of the soil sampling completed on March 1, 2014 and April 16-18, 2014, the VOC impacts at the Former Solvent Shed are delineated to the north (Sovereign sample SB-15), to the west by VB-6 (2.5-4' bgs), and to the east by SB-64 (2.5-4' bgs). Vertical delineation of the PCE concentration exceeding the NYSDEC Protection of Groundwater SCO is required at SB-16 / VES-1 and horizontal delineation of PCE impacts exceeding the Residential and Restricted Residential SCOs is needed to the south of SB-16 / VES-1.

Former RCRA Shed and Outdoor Equipment Storage Shed – PCB and Pesticide-Impacted Soils

PCBs were detected at concentrations exceeding the NYSDEC SCOs in two soil samples collected by Sovereign in the Former RCRA Shed area. PCBs were detected in soil samples SB-

64 (0-1.5 feet bgs) and SB-74 (0-2 feet bgs) at concentrations of 1.81 mg/kg and 3.44 mg/kg, respectively. Soil samples SB-64 and SB-74 were located at the northern and southern ends of the Former RCRA Shed, respectively. The pesticide dieldrin was detected in soil samples SB-75 (0-2' bgs) and SB-63 (0-2' bgs) at concentrations of 0.0532 mg/kg and 0.107 mg/kg, respectively. Soil sample SB-63 was collected to investigate a Former Outdoor Equipment Shed that was located south of the Former RCRA Shed area. The concentrations of dieldrin detected in these two soil samples exceed the NYSDEC Residential SCO of 0.039 mg/kg.

Delineation of PCBs in Soil

Soil samples were collected in areas surrounding SB-64 and SB-74 to determine the extent of PCB impacted soils. Soil samples were collected from the 0 to 2 feet bgs intervals in soil borings VB-8, VB-10, VB-11, VB-13, VB-14 VB-18, VB-19, and VES-1 to horizontally delineate the PCB impacts detected in soil samples SB-64 and SB-74. Soil samples SB-74A (3.5-4' bgs) and SB-74A (5.5-6' bgs) were collected from the original location of soil sample SB-74 (0-2' bgs) to vertically delineate the PCB impacts.

The concentrations of PCBs detected in soil sample VB-14 (0-2' bgs) were below the NYSDEC Unrestricted SCO of 0.1 mg/kg. Soil samples collected at VB-10 (0-2' bgs), VB-11 (0-2' bgs), SB-74A (3.5-4' bgs), and SB-74A (5.5-6' bgs) contained PCB concentrations of 7.1 mg/kg, 1.74 mg/kg, 3.18 mg/kg, and 2.57 mg/kg, respectively, exceeding the NYSDEC Residential SCO of 1 mg/kg. The concentrations of PCBs detected in soil samples VB-8 (0-2' bgs) and VB-13 (0-2' bgs) both exceeded the NYSDEC Unrestricted SCO of 0.1 mg/kg but were both below the NYSDEC Residential SCO of 1 mg/kg. The PCB impacts in the Former RCRA Shed are horizontally delineated to the Residential SCO and Restricted Residential SCO by soil samples SB-75 (north), VB-8 (west), VB-19 (east), and SB-63 (south). However, vertical delineation of the PCB impacts has not been attained.

Delineation of Pesticides in Soil

During the April 16-18, 2014 RI activities, VERTEX collected soil samples to horizontally delineate the pesticide impacts detected in soil samples SB-75 (0-2' bgs) and SB-63 (0-2' bgs) collected by Sovereign. Soil sample VB-9 (0-2' bgs) was collected to the north of soil sample

SB-75 (0-2’ bgs). Soil samples VB-14 (0-2’ bgs), VB-15 (0-2’ bgs), VB-16 (0-2’ bgs), and VB-22 (0-2’ bgs) were collected to delineate the dieldrin impacts that were detected in soil sample SB-63 (0-2’ bgs).

Dieldrin was not detected above the laboratory MDL in soil samples VB-9 (0-2’ bgs), VB-16 (0-2’ bgs), and VB-22 (0-2’ bgs). However, the concentrations of 4-4’-DDT that were detected in VB-9 (0-2’ bgs), VB-16 (0-2’ bgs), and VB-22 (0-2’ bgs) exceeded the NYSDEC Unrestricted Use SCO of 0.0033 mg/kg for 4-4’-DDT. The concentrations of 4-4’-DDT that were detected in soil samples VB-9 (0-2’ bgs), VB-16 (0-2’ bgs), and VB-22 (0-2’ bgs) did not exceed the NYSDEC Residential SCO of 1.7 mg/kg for 4-4’-DDT. Since the impacts were delineated to the NYSDEC Residential SCO by soil sample VB-22, soil sample VB-14 (0-2’ bgs) was not analyzed. The pesticide impacts at SB-75 and SB-63 have been horizontally delineated to the NYSDEC Residential SCOs.

Former Waste Water Treatment Pits (PCE-Impacted Soil at Soil Sample Location SB-38)

PCE was detected at a concentration (7.38 mg/kg) exceeding the NYSDEC Residential SCO of 5.5 mg/kg in soil sample SB-18 (11.5-12 feet bgs) collected by Sovereign. During the April 16-18, 2014 RI activities, VERTEX collected soil samples VB-1 (11.5-12’ bgs), VB-2 (11.5-12’ bgs), VB-20 (11.5-12’ bgs), VB-3 (11.5-12’ bgs) and VB-21 (11.5-12’ bgs) to laterally delineate the PCE impacts in soil sample SB-18 (11.5-12’ bgs). Soil sample SB-38A (15-15.5’ bgs) was collected to vertically delineate the PCE detection in SB-38 (11.5-12). The concentrations of all VOCs detected in these samples were below the NYSDEC Residential SCO. The VOC 2-butanone [methyl ethyl ketone (MEK)] was detected at a concentration of 0.27 mg/kg in soil sample SB-38A (15-15.5’ bgs). This concentration exceeds the 0.12 mg/kg NYSDEC Protection of Groundwater SCO for 2-butanone. No other VOC detections exceeding their respective NYSDEC Protection of Groundwater SCOs or other SCOs. Soil samples VB-20 and VB-21 were not analyzed as the impacts were delineated by the soil samples collected from VB-1, VB-2, and VB-3.

VOC TICs were detected at a concentration of 0.0489 mg/kg in soil sample VB-1, 0.0449 mg.kg in soil sample VB-2, 0.0659 mg/kg in soil sample VB-3, and 0.0684 mg/kg in soil sample

SB38A. The VOC TICs are listed as "Unknown" VOCs. The NYSDEC has not established a SCO for VOC TICs.The PCE impacts are horizontally and vertically delineated at this AOC.

Former Rail Car Area - Investigation of VOC Impacts at SB-53

VOCs were detected in deep soil samples collected by Sovereign in the Former Rail Car Area. To delineate the VOC impacts and confirm there were no other sources for the VOC impacts in this area, soil samples were collected from the 13.5 to 14 feet interval from soil borings VB-4, VB-5, VB-6, VB-7, and VB-14. A soil sample was also collected from the 16 to 17 feet bgs interval from soil boring SB-53A. The soil samples collected from VB-4, VB-5, VB-6, VB-7, and SB-53A were analyzed for VOCs. No VOCs were detected at concentrations exceeding their respective NYSDEC Residential SCOs. The concentration of benzene (0.086 mg/kg) that was detected in soil sample VB-6 (13.5-14' bgs) exceeded the 0.06 mg/kg NYSDEC Protection of Groundwater SCO for benzene. The soil sample collected from VB-14 was not analyzed as there were no exceedances of the NYSDEC SCOs detected in the soil sample collected from VB-5. VOC TICs were detected at a concentration of 0.1055 mg/kg in soil sample VB-4. The VOC TICs are listed as "Unknown" VOCs. VOC TICs were detected at a concentration of 19.54 mg/kg in soil sample VB-5. The VOC TICs are listed as 1,1,3-trimethylcyclohexane, "Unknown Alkane", "Unknown Cyclohexane", 1-methylindan, "Unknown Benzene", "Unknown Cycloaromatic", "Unknown Naphthalene", and "Unknown" VOCs. VOC TICs were detected at a concentration of 27.8 mg/kg in soil sample VB-6. The VOC TICs are listed as nonane, undecane, "Unknown Benzene", 2-ethenyl-1,4-dimethylbenzene, 1,3-diethyl-5-methylbenzene, "Unknown Naphthalene", and "Unknown" VOCs. VOC TICs were detected at a concentration of 0.0649 mg/kg in soil sample VB-7. The VOC TICs are listed as "Unknown" VOCs. VOC TICs were detected at a concentration of 0.0469 mg/kg in soil sample SB-53A. The VOC TICs are listed as "Unknown" VOCs. The NYSDEC has not established a SCO for VOC TICs. Horizontal and vertical delineation is completed at this AOC.

Reported Insoluble Sulfur Landfill

The Sovereign SIR dated November 2009 cited a Phase I Site Assessment completed in the mid-1980s in which a former plant manager indicated that 15 tons of insoluble sulfur was landfilled near the former Potash Plant between 1950 and 1969. The former Potash Plant was located at

the southern end of the Site. On March 1, 2014, soil boring VES-5 was installed within this area. Soil boring VES-5 was advanced to a depth of 15 feet bgs. No evidence of landfilling or debris was observed in the soil boring. Soil sample VES-5 was collected for the full suite of TCL and TAL contaminants. The aliquot for SVOC, PCBs, metals, and pesticide analysis was collected from a suspected fill layer at 3.25-4 feet bgs. The VOC fraction of soil sample VES-5 was collected from the 5.5 feet to 6 feet bgs interval, which corresponds to the 0 to 6 inch interval above the soil/groundwater interface. No targeted VOCs were detected above the laboratory MDL. VOC and SVOC tentatively identified compounds (TICs) were detected at concentrations of 0.095 mg/kg and 0.26 mg/kg, respectively. The VOC and SVOC TICs are listed as "Unknown" compounds. The NYSDEC has not established a SCO for TICs in soil and the TIC data does not indicate the presence of VOC impacts in this area. With the exception of iron, which was detected in soil samples VES-5 at a concentration of 6,900 mg/kg, no other contaminants where detected at concentrations exceeding their respective NYSDEC SCOs. Following the collection of soil samples, soil boring VES-5 was converted to a temporary well point. The groundwater sampling and analytical results are summarized in Section 10.2.

Former Electrical Substation

Soil boring VES-6 was advanced in the location of a former electrical substation at the south end of the former Pilot Plant. Soil boring VES-6 was advanced to a depth of 15 feet bgs and no evidence of soil impacts were observed. Soil sample VES-6 (2-4 feet bgs) was analyzed for TPHC, PCBs, and SVOCs. PCBs were not detected above the laboratory MDL. The concentrations of SVOCs that were detected in soil sample VES-6 were below their respective NYSDEC SCOs. SVOC TICs detected at a concentration of 49 mg/kg. A TIC identified as cyclic octaatomic sulfur was detected at a concentration of 44 mg/kg. This detection may be associated with the former manufacturing of insoluble sulfur at the Site. The remaining SVOC TICs were "Unidentified" compounds. The NYSDEC has not established a SCO for TICs. Total petroleum hydrocarbons were detected at a concentration of 132 mg/kg.

Former Laboratory / Polymer Area

Soil boring VES-7 was installed within a former laboratory / polymer area that did not appear to have been investigated during the previous SI activities. Soil boring VES-7 was advanced to a

depth of 15 feet bgs and no evidence of soil impacts were observed. Soil sample VES-7 was analyzed for the full suite of TCL and TAL contaminants. The aliquot for SVOC, PCBs, metals, and pesticide analysis was collected from the 2 to 3 feet bgs interval. Groundwater was not encountered in soil boring VES-7; therefore, the VOC fraction of soil sample VES-7 was collected from 10 feet bgs. With the exception of iron, which was detected in soil sample VES-7 at a concentration of 12,000 mg/kg, no other contaminants where detected at concentrations exceeding their respective NYSDEC SCOs. The concentration of iron detected in VES-7 exceeds the 2,000 mg/kg NYSDEC Residential SCO for total iron. VOC and SVOC TICs were detected in soil sample VES-7 at concentrations of 0.05 mg/kg and 0.28 mg/kg, respectively. The VOC and SVOC TICs are listed as "Unknown" compounds. The NYSDEC has not established a SCO for TICs in soil.

Former Electrical Transformer Area

Soil boring VES-8 was installed within a former electrical transformer area that did not appear to have been investigated during the previous SI activities. Soil boring VES-8 was advanced to a depth of 15 feet bgs and no evidence of soil impacts were observed. Soil sample VES-8 (1-2 feet bgs) was analyzed for TPHC, PCBs, and SVOCs. No concentrations of TPHC, PCBs, or SVOCs were detected at concentrations exceeding their respective NYSDEC SCOs. SVOC TICs were detected in soil sample VES-8 at a concentration of 0.3 mg/kg. The TIC detection consists of one "Unidentified" compound. This NYSDEC has not established a SCO for TICs in soil.

Soil Boring VES-2

Soil boring VES-2 was initially intended only to be a temporary groundwater monitoring well location to investigate an area where petroleum impacts were previously remediated but no groundwater sampling had been completed. However, during the installation of soil boring VES-2, a suspect petroleum odor and photoionization detector (PID) readings above background concentrations were observed at 11 feet to 12 feet bgs. A soil sample was collected from this interval and submitted to the laboratory for TPHC analysis. The TPHC concentration detected in VES-2 was 204 mg/kg. There is no established NYSDEC SCO for TPHC and the concentration detected in VES-2 does not warrant remediation or further investigation. Soil boring VES-2 was converted to a temporary well point.

The groundwater sampling and analytical results are summarized in Section 9.2.

9.2 Groundwater Investigation Summary

Groundwater Sampling – March 1, 2014

Soil borings VES-1, VES-2, VES-3, VES-4, and VES-5 were converted to temporary groundwater sampling points. All groundwater samples collected by VERTEX were analyzed for VOCs. Groundwater samples VES-2 GW, VES-4 GW, and VES-5 GW were additionally analyzed for SVOCs. Due to a lack of sample volume from the temporary well points, groundwater samples for SVOCs could not be collected from VES-1 GW and VES-3 GW and the additional TCL / TAL parameters for sample VES-5 GW could also not be obtained. The laboratory analysis of groundwater samples collected from soil borings VES-1, VES-2, and VES-3 confirm the presence of several VOCs and SVOCs at concentrations exceeding their respective NYSDEC AWQS.

Groundwater sample VES-1GW was collected from soil boring VES-1, which was installed at the location of Sovereign soil sample SB-16 (2.5-4) to determine if the discharge of PCE at this location had impacted groundwater in the Former Solvent Shed area. PCE was detected in soil sample SB-16 (2.5-4) at a concentration of 98.8 mg/kg in October 2006. Groundwater sample VES-2 GW was collected from soil boring VES-2, which was installed in the central portion of the site. Based upon VERTEX's review of the SIR dated November 2009, petroleum impacts associated with former USTs were remediated in this area; however, the potential impacts to groundwater were not investigated. Groundwater sample VES-3 GW was collected from soil boring VES-3, which was installed in the assumed downgradient direction of the vault located below the former White House Building, where benzene (1.46 mg/kg), carbon disulfide (1,150 mg/kg), PCE (23.9 mg/kg) toluene (3.68 mg/kg), and xylenes were detected in soil sample SB-49B at concentrations exceeding their respective NYSDEC Protection of Groundwater SCOs. Groundwater sample VES-4 GW was installed to determine if groundwater contaminants may be migrating off Site and potentially discharging to the Saw Mill River. Groundwater sample VES-5 GW was installed in soil boring VES-5 at the southern portion of the Site to investigate

potential groundwater impacts due to reported landfilling in this area and determine if groundwater impacts were migrating off-Site in this direction.

PCE was detected in groundwater samples VES-1 GW, VES-2 GW, and VES-3 GW at concentrations of 2,000 ug/l, 12 ug/l, and 3.4 ug/l, respectively. The concentrations of PCE detected in VES-1 GW and VES-2 GW exceed the 5 ug/l NYSDEC AWQS for PCE.

Carbon disulfide, which was manufactured at the Site and historically stored in USTs at various locations, was detected in groundwater samples VES-1 GW, VES-2 GW, VES-3 GW, and VES-4GW at concentrations of 680 ug/l, 640 ug/l, 15 ug/l, and 2,600 ug/l, respectively. The concentrations of carbon disulfide detected in VES-1 GW, VES-2 GW, and VES-4GW exceed the NYSDEC AWQS of 60 ug/l for carbon disulfide.

Benzene, trichloroethene (TCE), vinyl chloride, and several SVOCs were also detected in groundwater sample VES-2 GW at concentrations exceeding their respective NYSDEC AWQS. However, the SVOC concentrations may have been biased high due to sample turbidity. Due to low yield, the temporary groundwater monitoring well VES-2 GW was not purged of a full three-well volumes and the groundwater sample was turbid upon collection. The presence of benzene at this location may be due to a discharge from a former 5,000-gallon #4/#6 fuel oil UST located at the central portion of the Site along the former rail spur. The former 5,000-gallon #4/#6 fuel oil UST was removed in July 2008. Soil remediation was completed in July 2008 following the UST removal and additional soil remediation was completed in August 2008.

Trichlorofluoremethane was detected in groundwater sample VES-3 GW (22 ug/l) at a concentration exceeding the 5 ug/l NYSDEC AWQS for trichlorofluoromethane. No other VOCs were detected at concentrations exceeding the NYSDEC AWQS in VES-3 GW. Phenol was detected in VES-4 GW at a concentration of 5 ug/l, which exceeds the NYSDEC AWQS of 1 ug/l for phenol.

VOC TICs were detected in groundwater samples VES-2GW, VES-3 GW, and VES-4 GW at concentrations of 88 ug/l, 55 ug/l, and 8.5 ug/l, respectively. The VOC TICs identified in

groundwater sample consist of "Unknown" compounds, "Unknown naphthalene," and sulfur dioxide. The "Unknown naphthalene" is likely the result of the residual petroleum impacts observed in soil boing VES-2. The VOC TICs identified inVES-3 GW and VES-4 GW are listed as "Unknown." The NYSDEC does not have an AWQS for VOC TICs and the TIC data does not indicate another source of groundwater impacts.

SVOC TICs were detected in groundwater samples VES-2GW, VES-4 GW, and VES-5 GW at concentrations of 1,200 ug/l, 150 ug/l, and 74 ug/l, respectively. The SVOC TICs mainly consisted of "Unknown" compounds or "Unknown organic acids." An "Unknown phenol" was detected in groundwater sample VES-4 GW and "Unknown PAHs" were detected in groundwater sample VES-2 GW. The high concentration of SVOC TICs in groundwater sample VES-2 GW is likely due to the presence of residual petroleum impacts that were identified in soil boring VES-2. The NYSDEC has not established an AWQS for SVOC TICs and the TIC data does not indicate a source of SVOC impacts in groundwater.

Groundwater Sampling – April 16-18, 2014

During the April 16-18, 2014 RI activities, VERTEX collected additional groundwater samples to; 1) evaluate the extent of the PCE and carbon disulfide impacts detected in groundwater samples collected on March 1, 2014; 2) determine if the PCE and carbon disulfide impacts were potentially discharging to the branch of the Saw Mill River on the eastern portion of the Site; and, 3) collect groundwater samples for PCBs, pesticides, SVOCs, and metals analyses from the locations of previous soil samples that confirmed similar impacts in the soil.

Delineation of PCE and Carbon Disulfide in Groundwater

Groundwater samples VES-9 GW, VES-10 GW, VES-11 GW, VES-12 GW, and VES-13 GW were installed to substantially delineate the PCE and carbon disulfide impacts that were detected in groundwater samples collected on March 1, 2014. Groundwater sample VES- GW1A was collected to vertically delineate the PCE and carbon disulfide that were detected in groundwater sample VES-1 GW collected on March 1, 2014. Temporary groundwater monitoring well VES-1A GW was installed to a depth of 45 feet bgs with the screened interval set from 35 to 45 feet bgs. The groundwater sample was collected using a peristaltic pump with the dedicated

disposable tubing intake set at approximately 40 feet bgs from VES-1GWA. The temporary groundwater monitoring well was purged of approximately two to three well volumes until the groundwater was relatively clear, at which time the groundwater sample was collected directly from the tubing.

The temporary monitoring wells VES-9 GW, VES-10 GW, VES-12 GW, and VES-13 GW were located as close as possible to the branch of the Saw Mill River on the eastern portion of the Site to determine if the groundwater contaminants were migrating toward the river. Temporary groundwater monitoring well VES-11 GW was installed approximately 250 feet to the south of the Former Solvent Shed to evaluate the PCE and carbon disulfide concentrations between the suspected source area and monitoring well MW-3, which is located at the southern portion of the Site where vinyl chloride and cis-1,2-dichloroethene (DCE) were detected at concentrations exceeding the NYSDEC AWQS.

The concentrations of VOCs that were detected in groundwater samples VES-9 GW and VES-12 GW were below their respective NYSDEC AWQS and Groundwater Effluent Limits.

The concentrations of PCE and carbon disulfide detected in groundwater sample VES-GW1A were below their respective NYSDEC AWQS; however, cis-1,2-DCE was detected at a concentration of 17 ug/l, which exceeds the 5 ug/l NYSDEC AWQS for cis-1,2-DCE.

Samples collected from VES-10 GW and VES-11 GW contained concentrations of PCE at 7.4 ug/l and 13 ug/l, respectively, both exceeding the NYSDEC AWQS of 5 ug/l. PCE and carbon disulfide were not detected above the laboratory MDL in groundwater sample VES-13 GW; however, vinyl chloride was detected at a concentration of 2.3 ug/l, which slightly exceeds the NYSDEC AWQS of 2 ug/l for vinyl chloride.

Carbon disulfide was not detected above the laboratory MDL in groundwater samples VES-9 GW, VES-10 GW, VES-12 GW, and VES-13 GW. Carbon disulfide was detected in groundwater sample VES-12 GW at a concentration of 1.5 ug/l, which is below the 5 ug/l NYSDEC AWQS for carbon disulfide.

Based upon the groundwater analytical results for the groundwater samples collected March 1, 2014 and April 16-18, 2014, a PCE plume extends from the southwest corner of the Former Solvent Shed to the location of groundwater sample VES-11 GW to the south, which is at least 250 feet to the south of the Former Solvent Shed. Based upon the analytical results for groundwater samples collected from monitoring well MW-3 by Sovereign in June 2009, the PCE concentrations detected in monitoring well MW-3 were below the NYSDEC AWQS; however, the concentrations of vinyl chloride and cis-1,2-DCE that were detected in MW-3 exceeded the 5 ug/l NYSDEC AWQS for both of these compounds. Vinyl chloride and cis-1,2-DCE are breakdown products of PCE and their presence in the fringes of the groundwater plume indicates that natural degradation of the PCE impacts in groundwater is occurring at the Site.

The groundwater analytical results suggest that there are two separate carbon disulfide groundwater plumes at the Site. Carbon disulfide was detected in groundwater sample VES-1 GW and VES-2 GW at concentrations of 680 ug/l and 640 ug/l, respectively. These detections of carbon disulfide appear to originate from the Former Solvent Shed area. The higher concentration of carbon disulfide was detected in groundwater sample VES-4 GW (2,600 ug/l), which was located downgradient of VES-1 GW and VES-2 GW. This data indicates a separate source area. The suspected source of the carbon disulfide impacts detected in VES-4 GW is the four former 10,000-gallon USTs that were located in this area. According to the Sovereign SIR, these USTs were used for the storage of #6 heating oil as late as 2006; however, the USTs were reportedly originally used for the storage of carbon disulfide and were converted for fuel oil storage. The carbon disulfide impacts detected in VES-4 GW are delineated to the south by groundwater sample VES-12 GW.

PCBs in Groundwater

Groundwater sample SB-74 GW was collected from a temporary groundwater monitoring well that was installed and sampled within the Former RCRA Shed at the location of soil sample SB-74 to determine if groundwater quality had been impacted by the PCBs. PCBs were detected at a concentration of 3.44 mg/kg in Sovereign soil sample SB-74 (0-2’ bgs). PCBs were also detected in soil samples SB-74 (3.5-4’ bgs) and SB-74 (5.5-6’ bgs) at concentrations of 3.18 mg/kg and 2.57 mg/kg, respectively.

PCBs were not detected above the laboratory MDL in groundwater sample SB-74 GW. Based on the groundwater analytical results for SB-74 GW, the PCB impacts in soil have not impacted the groundwater in the former RCRA Shed area.

Pesticides in Groundwater

Groundwater sample VES-14 GW was collected from a temporary groundwater monitoring well that was installed and sampled at the location of the Former Mini Lab Sump (soil sample SB-10) to determine if groundwater quality had been impacted by pesticides that were detected in the soil at this location. The pesticides dieldrin, 4,4'-dichlorophenyldichloroethylene (DDE), and 4,4'-dichlorodihphenyltrichloroethane (DDT) were detected in soil sample SB-10 (7-8' bgs) at concentrations of 6.47 mg/kg, 7.06 mg/kg, and 35.5 mg/kg, respectively. The pesticide impacts in the soil were delineated vertically to the 12 to 12.5 feet bgs interval.

The pesticides alpha-BHC (0.023 ug/l), beta-BHC (0.21 ug/l), aldrin (0.039 ug/l), endrin (0.077 ug/l), and dieldrin (5.26 ug/l) were detected in groundwater sample VES-14 GW at concentrations exceeding their respective NYSDEC AWQS.

SVOCs in Groundwater

The groundwater sample collected from VES-11 GW was also analyzed for SVOCs to determine if groundwater quality had been impacted by the SVOCs that were detected in Sovereign soil samples SB-25 and SB-41, which were collected in this area. Based upon a review of the soil analytical data reported in the SIR dated November 2009, the highest concentrations of SVOCs were detected in soil samples SB-25 and SB-41.

None of the SVOC concentrations detected in groundwater sample VES-11 GW exceeded their respective NYSDEC AWQS. Phenol was not detected above the laboratory MDL; however, the MDL for phenol was equal to the 5 ug/l NYSDEC AWQS for phenol. Based upon the groundwater analytical results for VES-11 GW, the groundwater at this location does not appear to have been impacted by SVOCs.

Metals in Groundwater

The groundwater samples VES-12 GW and VES-15 GW were analyzed for TCL metals.

Groundwater samples VES-12 GW and VES-15 GW were field filtered to reduce sample turbidity to obtain a groundwater sample that is more representative of dissolved groundwater conditions. Groundwater sample VES-12 GW was collected downgradient of the former vault where lead was detected at a concentration of 10,200 mg/kg in soil sample TP-6, which was collected from the fill material located in the vault. Groundwater sample VES-15 GW was collected in the central portion of the Site to determine if metals detected in the fill material have impacted groundwater quality.

The metals iron, magnesium, and sodium were detected at concentrations exceeding their respective NYSDEC AWQS in groundwater samples VES-12 GW and VES-15 GW. Manganese was also detected in groundwater sample VES-12 GW at a concentration exceeding the 300 ug/l NYSDEC AWQS and 600 ug/l Groundwater Effluent Limit for manganese.

VOC TICs were not detected in groundwater samples VES-9 GW, VES-10 GW, VES-12 GW, and VES-13 GW. VOC TICs were detected in groundwater sample VES-11 GW at a concentration of 2.7 ug/l. The TIC detection in groundwater sample VES-11 GW consisted of one "Unknown" compound. The NYSDEC has not established an AWQS for VOC TICs.

SVOC TICs were detected in groundwater sample VES-11 GW at a concentration of 34.5 ug/l. The SVOC TICs detected in VES-11 GW consisted of three "Unknown" SVOC compounds. The SVOC TICs detected in groundwater sample NYSDEC has not established an AWQS for SVOC TICs.

9.3 Surface Water Investigation Summary

Surface water samples VSW-1, VSW-2, and VSW-3, were analyzed only for VOCs to determine if PCE and carbon disulfide impacts detected in the groundwater were migrating to the Saw Mill River, which is not part of the BCP "Site". There were no detectable concentrations of VOCs in any of the surface water samples collected. Based upon the analytical results for the surface water samples, it does not appear that VOC-impacted groundwater is discharging to the branch of the Saw Mill River on the eastern portion of the Site; therefore, no additional investigation is

planned.

9.4 Sediment Investigation Summary

In April 2014, VERTEX collected three sediment samples (VSED-1, VSED-2, and VSED-3) for analysis of VOCs, SVOCs, PCBs, and pesticides. Pesticides were not detected above the laboratory MDLs in sediment samples VSED-1, VSED-2, and VSED-3. None of the detected VOCs and SVOCs concentrations in VSED-1, VSED-2, and VSED-3 exceeded their applicable NYSDEC criteria. No VOC TICs were identified in sediment samples VSED-1 or VSED-2. VOC TICs were identified at a concentration of 0.0095 mg/kg in sediment sample VSED-3. The one identified VOC TIC was ethanol. SVOC TICs were identified at a concentration of 21.02 mg/kg in sediment sample VSED-1. The SVOC TICs were identified as cyclic octaatomic sulfur, "Unknown Alkane", and "Unknown" SVOCs. SVOC TICs were identified at a concentration of 8.06 mg/kg in sediment sample VSED-2. The SVOC TICs were listed as sulfur, "Unknown Alkane", and "Unknown" SVOCs. SVOC TICs were identified at a concentration of 10.3 mg/kg in sediment sample VSED-3. The SVOC TICs were listed as cyclic octaatomic sulfur, "Unknown Alkane", and "Unknown" SVOCs. The NYSDEC has not established a criterion for VOC or SVOC TICs.

Sample VSED-1, collected from the Saw Mill River downstream of the former operational areas of the Site, but within the site boundaries, detected concentrations of PCBs at 25.5 ug/gOC, which exceeds the Human Health Bioaccumulation criteria of 0.0008 ug/gOC, the Wildlife Bioaccumulation criteria of 1.4 ug/gOC, and the Benthic Aquatic Life Chronic Toxicity criteria of 19.3 ug/gOC. The detected concentration of benzo(a)pyrene (6.9 ug/gOC) exceeds the Human Health Bioaccumulation criteria of 1.3 ug/gOC. Detected concentrations of arsenic (12 ug/g), copper (61 ug/g), lead (88 ug/g), mercury (0.35 ug/g), and zinc (200 ug/g) exceed their respective NYSDEC Lowest Effect Level criteria. The concentration of chromium (150 ug/g) exceeds the NYSDEC Severe Effect Level.

Sample VSED-2, collected within the Site boundaries to the east / southeast of the Former Solvent / RCRA Shed areas, did not contain detected concentrations of VOCs, SVOCs, or pesticides exceeding the NYSDEC Sediment criteria. Concentrations of arsenic (7.2 ug/g),

chromium (48 ug/g), copper (26 ug/g), and zinc (220 ug/g) exceeded their respective NYSDEC Lowest Effect Level criteria.

The third sample (VSED-3), collected immediately upstream from former Site operations, contained detected concentrations of PCBs at 172.9 ug/gOC, exceeding the Human Health Bioaccumulation criteria, the Wildlife Bioaccumulation criteria, and the Benthic Aquatic Life Chronic Toxicity criteria. The detected concentration of benzo(a)pyrene (8.9 ug/gOC) exceeds the Human Health Bioaccumulation criteria. Detected concentrations of arsenic (11 ug/g), copper (66 ug/g), and lead (42 ug/g) exceed the NYSDEC Lowest Effect Level criteria. Detected concentrations of chromium (180 ug/g), nickel (85 ug/g), and zinc (280 ug/g) exceeded the NYSDEC Severe Effect Level.

After discussion with NYSDEC representatives during the pre-application meeting and the BCP application process, the Saw Mill River and the lands below it were excluded from the Site description.

9.5 Data Usability Summary

Data Usability Summary Reports (DUSR) following the guidelines provided in Section 2.2 and Appendix 2B of NYSDEC DER-10 for each of the laboratory data deliverables submitted with this RIR / RIWP are provided herein. Soil and groundwater analysis was completed by Alpha Analytical (NY-11148). Overall the data met the requirements of the NYSDEC and are regarded as accurate and reliable. Specific quality control (QC) exceedances and discussions are noted for each of the laboratory reports below:

Alpha Analytical – 1404459 – March 1, 2014 Soil Sampling

All laboratory quality assurance / quality control (QA/QC) issues were related to a waste classification composite soil sample that was collected during the RI activities. The waste classification sample was not used for site classification purposes; therefore, the QA/QC issues reported for this sample are not noted in this report. There were no QA/QC issues noted for the samples collected for site characterization purposes.

Alpha Analytical – 1404460 – March 1, 2014 Groundwater Sampling

Groundwater samples collected on March 1, 2014 were received by the laboratory on March 3, 2014 in proper condition. All analyses were completed within their appropriate hold times.

Semi-Volatile Organics

Samples VES-4 GW and VES-2 GW had elevated detection limits due to the dilution required by the sample matrix and due to limited sample volume available for analysis. Sample VES-5 GW had elevated detection limits due to limited sample volume available for analysis. The WG673430-1 Method Blank, associated with samples VES-4 GW, VES-2 GW, and VES-5 GW, had TICs detected. The results are qualified with a "B" for any associated sample concentrations that are less than 10x the blank concentration for the TICs.

Overall, the data are considered accurate and reliable.

Alpha Analytical – 1404461 – March 1, 2014 Soil Sampling

Soil samples collected on March 1, 2014 were received by the laboratory on March 3, 2014. When the soil samples VES-5 and VES-7 were received by the laboratory, the water-preserved VOA vials for Volatile Organics Low-Level analysis were frozen beyond the 48-hour method required holding time. The client was notified and the results of the Low-Level analysis are reported for samples VES-5 and VES-7. Sample VES-1A was received in an inappropriate container for the Volatile Organics analysis.

Semivolatile Organics

The method blank associated with samples VES-5, VES-7, and VES-8 had TICs detected. The results are qualified with a “B” for any associated sample concentrations that are less than 10x the blank concentration for the TIC.

Semivolatile Organics – SIM

Samples VES-5 and VES-6 have elevated detection limits due to the dilutions required by the sample matrices.

TPHC

The Laboratory Duplicate RPD (51%), performed on sample VES-2, is outside the acceptance

criteria. The elevated RPD has been attributed to the non-homogeneous nature of the sample utilized for the laboratory duplicate.

Total Metals

Samples VES-5 and VES-7 have elevated detection limits for all elements, with the exception of mercury, due to the dilutions required by matrix interferences encountered during analysis.

Overall, the data are considered accurate and reliable.

Alpha Analytical – 1408055 – April 16, 2014 Soil Sampling

Soil samples collected on April 16, 2014 were received by the laboratory on April 17, 2014 in proper condition. All analyses were completed within their appropriate hold times. Sample SB-38A was analyzed as a "High Level Methanol" sample in order to quantitate the sample within the calibration range. The result should be considered estimated, for any compound that exceeded the calibration on the initial Low Level analysis. The results of both the original and re-calibrated analyses are reported.

Overall, the data are considered accurate and reliable.

Alpha Analytical – 1408198 – April 17, 2014 Soil Sampling

Soil samples collected on April 17, 2014 were received by the laboratory on April 18, 2014 in proper condition. All analyses were completed within their appropriate hold times. The surrogate recoveries for samples SB-74A and VB-10 were below the acceptance criteria for 2,4,5,6-tetrachlorom-xylene (0%) and decachlorobiphenyl (0%) due to the dilutions required to quantitate the samples. Re-extraction was not required; therefore, the results of the original analyses were reported.

Overall, the data are considered accurate and reliable.

Alpha Analytical – 1408314 – April 18, 2014 Sediment, Soil, and Surface Water Sampling

Sediment, soil, and surface water samples collected on April 18, 2014 were received by the laboratory on April 19, 2014 in proper condition. All analyses were completed within their appropriate hold times.

PCBs

The surrogate recoveries for sample VSED-3 are below the acceptable criteria for 2,4,5,6-tetrachloro-m-xylene and decachlorobiphenyl (all 0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

Pesticides

Samples VSED-1 and VSED-3 had elevated detection limits due to the dilutions required by the sample matrices. The surrogate recoveries for Sample VSED-3 are below the acceptance criteria for 2,4,5,6-tetrachloro-m-xylene and decachlorobiphenyl (all 0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

Total Metals

Samples VSED-1, VSED-2, and VSED-3 have elevated detection limits for all compounds, with the exception of mercury, due to the analytical dilutions required by matrix interferences encountered during analysis. During matrix spike analysis, recoveries for aluminum (0%), chromium (70%), iron (0%), and manganese (70%), performed on sample VSED-1, do not apply because the sample concentrations are greater than four times the spike amounts added. The matrix spike recovery, performed on sample VSED-1, is outside of the acceptance criteria for calcium (62%). A post-digestion spike was performed and yielded an unacceptable recovery of 64%. This has been attributed to the sample matrix.

Overall, the data are considered accurate and reliable.

Alpha Analytical – 1408315 – April 18, 2014 Soil and Groundwater Sampling

Soil and groundwater samples collected on April 18, 2014 were received by the laboratory on April 19, 2014 in proper condition. All analyses were originally completed within their

appropriate hold times. Sample SB-64 was re-analyzed outside of its respective hold time for VOC analysis, both the original and re-analysis results are reported, as detailed below. Samples VES-15 GW and VES-12 GW were field filtered for Dissolved Metals.

Volatile Organics

For soil sample SB-64 the internal standard (IS) responses for chlorobenzene-d5 (38%) and 1,4-dichlorobenzene-d4 (8%) and the surrogate recoveries for toluene-d8 (131%) and 4-bromofluorobenzene (239%) were outside the acceptance criteria; however, re-analysis (outside of holding time) achieved similar results: chlorobenzene-d5 (19%) and 1,4-dichlorobenzene-d4 (2%) and the surrogate recoveries for toluene-d8 (194%) and 4-bromofluorobenzene (284%). The results of both analyses are reported.

PCBs

Soil sample SB-74 reported elevated detection limits due to limited sample volume available for analysis.

Pesticides

Soil sample VB-22 reported elevated detection limits due to the dilution required by the sample matrix.

Dissolved Metals

The WG684422-4 MS (matrix spike) recoveries for calcium (130%), iron (43%), magnesium (138%), and sodium (240%), performed on groundwater sample VES-12 GW do not apply because the sample concentrations are greater than four times the spike amount added.

Overall, the data are considered accurate and reliable.

10.0 GEOLOGIC CONDITIONS

Based on the 1994 United States Geological Survey (USGS) Topographic Quadrangle Map of White Plains, New York, the surface elevation of the Site is approximately 120 feet to 130 feet above mean sea level (asl). This was confirmed by a Site Plan provided to VERTEX by Akzo Nobel Chemicals, Inc. dated July 1991, which shows the western developed portion of the site at an elevation of approximately 130 feet asl with the topography sloping gently to the east toward a branch of the banks of the Saw Mill River. Most of the change in the site topography takes place near the Saw Mill River. The Site elevation near the western bank of the Saw Mill River drops from approximately 125 feet asl to 118 feet asl. On the east side of the Saw Mill River, the elevation rises from 118 feet asl to approximately 125 feet asl near the eastern Site boundary.

According to the United States Department of Agriculture (USDA) Web Soil Survey, soils at the Site consist primarily of Udifluvents (gravelly silt loam) and urban land. Soils classified as urban land consist of fill material, soils reworked during construction, and those covered by impervious surfaces such as asphalt or buildings. According to the USGS Online Spatial Data, the Site is mapped within two geological units, the Fordham Gneiss and Inwood Marble. The Fordham Gneiss underlies most of the site and is described as Precambrian to Middle Proterozoic age and primarily consisting of gneiss with amphibiolite. The eastern portion of the Site, beginning just to the west of the Saw Mill River, is mapped within the Inwood Marble. According to the USGS description, the Inwood Marble is early Cambrian to Lower Ordovician aged and consists primarily of marble with schist. A bedrock outcrop was observed off-site along the Westchester County Trailway that is located to the west of the Site. A geologic cross-section is provided as Figure 4.

11.0 HYDROGEOLOGY

Based on surface topography and groundwater elevation data collected during site investigation activities completed by Sovereign, which are documented in the 2009 SIR, the groundwater flow direction is to the south-southeast. Based upon the data provided in the Site Investigation Report dated November 2009, the depth to groundwater is between 5 feet to 12 bgs. This depth to groundwater range was confirmed during VERTEX's subsequent RI activities.

The Saw Mill River flows within the Site boundaries on the northern and eastern portions of the Site, but is not included in the BCP "site". On the undeveloped northern portion of the Site, the Saw Mill River bifurcates the property and flows to the east and southwest. The eastern branch of the Saw Mill River flows to the south within the eastern portion of the Site boundaries. The southwestern branch of the Saw Mill River flows beyond the western Site boundary in a southerly direction between the Service Road / Westchester County Trailway and the Saw Mill River Parkway (see Figure 1, Site Location Map).

12.0 REMEDIAL INVESTIGATION WORK PLAN

The RIWP to further investigate soil and groundwater impacts at the Site is outlined in the following sections. The RIWP for groundwater includes the installation, surveying, gauging and sampling of additional temporary groundwater monitoring wells to determine if there is a westerly groundwater flow direction from the Site toward the southwestern branch of the Saw Mill River located off-Site to the west, delineate pesticide-impacted groundwater detected in groundwater sample VES-14 GW, which was installed at the Former Mini Lab Sump location (Sovereign soil sample SB-10), delineate the PCE and carbon disulfide impacts upgradient of the Former Solvent Shed area, and evaluate groundwater quality at the south / southeastern portion of the site downgradient of monitoring well MW-3.

Based upon the findings of the previous RI activities and review of the SIR dated November 2009, additional soil sampling is needed to delineate PCE-impacted soil in the Former Solvent Shed area, delineate PCB-impacted soil in the Former RCRA Shed area, and investigate PCB and pesticide impacts in the Former Catalyst Plant and Mini Lab, which were located in the northern portion of the former Pilot Plant building.

No further investigation of surface water or sediments within the Saw Mill River within the Site boundary is proposed. During the BCP application process, the Saw Mill River and the lands below it were excluded from the Site description as it pertains to the investigation and remediation under the BCP.

12.1 Groundwater

The purpose of the proposed RI for groundwater is to determine if there is a westerly groundwater flow component and associated contaminant migration to the west toward the western Site boundary and west branch of the Saw Mill River; delineate pesticide-impacted groundwater detected in groundwater sample VES-14 GW (Former Mini Lab Sump – soil sample SB-10), delineate the PCE and carbon disulfide plume at the Former Solvent Shed in the upgradient direction; and to obtain a groundwater sample near the southern Site boundary to the south of monitoring well MW-3. Temporary groundwater monitoring wells VES-4 GW, VES-9 GW, VES-10 GW, VES-12 GW, and VES-13 GW were collected as close as possible to the

eastern branch of the Saw Mill River. Carbon disulfide was detected at a concentration exceeding the NYSDEC AWQS in groundwater sample VES-4 GW and PCE was detected in groundwater sample VES-10 GW at a concentration exceeding the NYSDEC AWQS. The area between where these groundwater samples were collected and the river consists of a steep wooded embankment; therefore, the collection of groundwater samples closer to the Saw Mill River is not possible. However, the surface water samples from the Saw Mill River confirm that groundwater has not impacted the Saw Mill River; therefore, further delineation of the impacts in groundwater samples VES-4 GW and VES-10 GW is not proposed or warranted.

The RI for groundwater will be completed through the installation of temporary groundwater monitoring wells using a direct-push drill rig. The temporary monitoring wells will be constructed with one-inch diameter PVC well screen and riser. The screened interval will be set to straddle the soil-groundwater interface. The elevation of the temporary groundwater monitoring wells will be surveyed by a New York-licensed surveyor and the temporary groundwater monitoring wells will be gauged to confirm the depth to groundwater. A total of seven temporary monitoring wells are proposed. The proposed locations and laboratory analyses for each of the temporary monitoring wells are summarized in the table below. The proposed locations are also shown on Figure 5.

PROPOSED TEMPORARY MONITORING WELL ID	LOCATION / PURPOSE	PROPOSED ANALYSIS
TW-1	Western portion of the Site within access road north of former Building 1 and Building 2 / Determine if there is a westerly groundwater flow and contaminant migration.	VOCs+10 via US EPA Method 8260, Pesticides via US EPA Method 8081B (due to pesticide detections in VES-14 GW)
TW-2	Western portion of the Site between former Building 1 and Building 2 / Determine if there is a westerly groundwater flow and contaminant migration.	VOCs+10 via US EPA Method 8260, Pesticides via US EPA Method 8081B (due to pesticide detections in VES-14 GW)
TW-3	Western Site boundary, west of the former White House Building where carbon disulfide, PCE, and benzene were detected in soil within a vault / Determine if there is a westerly groundwater flow and contaminant migration.	VOCs+10 via US EPA Method 8260

PROPOSED TEMPORARY MONITORING WELL ID	LOCATION / PURPOSE	PROPOSED ANALYSIS
TW-4	West of the Former Solvent shed within the footprint of former Building 1 / Delineate PCE and carbon disulfide impacts to the west and evaluate potential vapor intrusion risk in area of proposed site building.	VOCs+10 via US EPA Method 8260
TW-5	Upgradient of the Former Solvent Shed to delineate PCE and carbon disulfide impacts in groundwater. Delineate pesticide impacts in VES-14 GW to east / Collect groundwater elevation data in the central portion of the Site to confirm groundwater flow direction.	VOCs+10 via US EPA Method 8260, Pesticides via US EPA Method 8081B
TW-6	Central portion of the Site, southeast of VES-14 GW / Delineate pesticide impacts in VES-14 GW to the southeast.	Pesticides via US EPA Method 8081B
TW-7	Near northwest corner of former Building #6 / Groundwater elevation confirmation only	For groundwater elevation / flow direction confirmation only no analyses are proposed
TW-8	Near southern site boundary / Obtain groundwater sample south of monitoring well MW-3.	VOCs+10 via US EPA Method 8260

The temporary monitoring wells will be allowed to equilibrate prior to measuring the depth to groundwater and collecting groundwater samples. Prior to sample collection, the temporary monitoring wells will be purged using a peristaltic pump until the groundwater is relatively clear. The temporary wells will be sampled using low flow purging and sampling techniques to minimize VOC loss. The groundwater samples will be collected directly from the peristaltic pump tubing. Teflon or Teflon-lined polyethylene tubing will be used to purge and sample the temporary monitoring wells. Filtered and unfiltered groundwater samples will be collected from temporary monitoring wells TW-1, TW-2, and TW-5 for the pesticide analysis to confirm that the detections of pesticides in groundwater are representative of the dissolved groundwater conditions. Following the surveying, gauging, and sampling of the temporary monitoring wells, the well materials will be removed from the ground and the borings backfilled to grade in accordance with applicable NYSDEC requirements.

12.2 Delineation of PCE-Impacted Soil at Former Solvent Shed

Additional delineation of the PCE detections in the soil at the Former Solvent Shed is necessary to complete the RI. A summary of soil samples with PCE detections that require delineation is provided in the following table:

SAMPLE ID	PCE CONCENTRATION	APPLICABLE NYSDEC SCO EXCEEDED
SB-16 (2.5-4) / VES-1 (2.5-4)	98.4 mg/kg / 100 mg/kg	5.5 mg/kg Residential SCO and 19 mg/kg Restricted Residential SCOs.
VES-1B (13-13.5)	4.6 mg/kg	1.3 mg/kg Protection of Groundwater SCO
VB-12 (2.5-4)	4.2 mg/kg	1.3 mg/kg Protection of Groundwater SCO

To complete the delineation of the PCE impacts in the Former Solvent Shed Area, soil samples will be collected from soil borings installed to the south and east of the previous soil samples with PCE detections exceeding the NYSDEC Residential / Restricted Residential SCOs and Protection of Groundwater SCO. The soil samples will be analyzed for VOCs+10 via US EPA Method 8260B. The proposed soil sample locations and depths are summarized in the table below. The proposed soil sample locations are also shown on Figure 6. All soil samples will be discrete, non-homogenized samples collected with En Core soil sampler to minimize VOC loss.

PROPOSED SAMPLE ID	PROPOSED SAMPLE LOCATION	DEPTH	PURPOSE
VES-1B	Former SB-16 / VES-1 location	17-17.5 feet – A soil sample for contingent analysis will be collected from the 20-20.5 feet bgs interval	Vertically delineate the PCE impacts exceeding the NYSDEC Protection of Groundwater SCOs.
VB-23	New boring location – south of former SB-16 / VES-1	2.5-3 feet - A soil sample for contingent analysis will be collected from the 13-13.5 feet bgs interval	Delineate the PCE impacts exceeding the Residential / Restricted Residential SCOs to the south

PROPOSED SAMPLE ID	PROPOSED SAMPLE LOCATION	DEPTH	PURPOSE
VB-24	New boring location – east of former SB-16 / VES-1	2.5-3 feet - A soil sample for contingent analysis will be collected from the 13-13.5 feet bgs interval	Delineate the PCE impacts exceeding the Residential / Restricted Residential SCOs to the east

The PCE impacts are delineated to the north by soil sample SB-16 (2.5-4), which was collected by Sovereign and to the west by soil sample VB-6 (2.5-4) collected by VERTEX.

The proposed soil samples will be collected using a direct-push drill rig. The soil samples will be screened continuously with a PID and, if necessary, additional soil samples will be collected from intervals exhibiting evidence of impacts.

12.3 Delineation of PCB-Impacted Soil at Former RCRA Shed

The PCB impacts at the Former RCRA Shed are substantially delineated. The PCB impacts are delineated to the Unrestricted Use SCO of 0.1 mg/kg by soil samples VB-14 (0-2 feet), VB-18 (0-2 feet), and SB-63 (0-2 feet). Vertical delineation of the PCB impacts exceeding the 0.1 mg/kg NYSDEC Unrestricted Use SCO is needed at the location of VB-19 (0-2 feet) and horizontal delineation of the PCB impacts is needed to the east of soil sample VB-19 (0-2 feet).

Vertical delineation of the PCB detections exceeding the 1 mg/kg Residential SCO, Restricted-Residential SCO and the Protection of Ecological Resources SCO for PCBs is required at three of the previous soil sample locations. The PCB impacts are horizontally delineated to the Residential SCO, Restricted-Residential SCO and the Protection of Ecological Resources SCO by soil samples SB-75 (north), VB-8 (west), VB-19 (east), and SB-63 (south).

The locations and depths of the proposed vertical delineation soil samples are summarized in the following table. All soil samples will be discrete non-homogenized samples. The proposed soil sample locations are also shown on Figure 6.

PROPOSED SAMPLE ID	PROPOSED SAMPLE LOCATION	PROPOSED SAMPLE DEPTH(S)	PURPOSE
SB-74B, SB-74C, SB-74D, SB-74E	Former SB-74 location	7-7.5 feet – Soil samples will be collected for contingent analysis from the 8-8.5 feet, 10-10.5 feet, and 12-12.5 feet bgs intervals.	Vertically delineate the PCB impacts exceeding the NYSDEC Residential / Restricted Residential / Protection of Ecological Resources SCOs at SB-74A (5.5-6 feet).
VB-10A,VB-10B, VB-10C, VB-10D, VB-10E, VB-10F	Former VB-10 location	3.5-4 feet, 5.5-6 feet – Soil samples for contingent analysis will be collected from the 7-7.5 feet, 8-8.5 feet, 10-10.5 feet, and 12-12.5 feet bgs intervals.	Vertically delineate the PCB impacts exceeding the NYSDEC Residential / Restricted Residential / Protection of Ecological Resources SCOs at VB-10 (0-2 feet).
VB-11A,VB-11B, VB-11C, VB-11D, VB-11E, and VB-11F	Former VB-11 location	3.5-4 feet, 5.5-6 feet Soil samples for contingent analysis will be collected from the 7-7.5 feet, 8-8.5 feet, 10-10.5 feet, and 12-12.5 feet bgs intervals.	Vertically delineate the PCB impacts exceeding the NYSDEC Residential / Restricted Residential / Protection of Ecological Resources SCOs at VB-11 (0-2 feet).
VB-19A, VB-19B	Former VB-19 location	3.5-4 feet. A soil sample for contingent analysis will be collected from the 5.5-6, 8-8.5 feet, 10-10.5 feet, and 12-12.5 feet bgs intervals. .	Vertically delineate the PCB impacts exceeding the NYSDEC Unrestricted Use SCO at VB-19
VB-25	New boring location – east of former VB-19 location	0-2 feet – Soil samples for contingent analysis will be collected from the 3.5-4 feet, and 5.5-6, 8-8.5 feet, 10-10.5 feet, and 12-12.5 feet bgs intervals. .	Horizontally delineate the PCB impacts exceeding the NYSDEC Unrestricted Use SCO in soil sample VB-19 (0-2 feet)

The proposed soil samples will be collected using a direct-push drill rig. The proposed soil samples will be analyzed for PCBs by U.S. EPA Method 8082. In the event that staining or other evidence of impact is observed the sample intervals will be adjusted accordingly or additional soil samples will be collected.

12.4 Investigation and Delineation of PCB and Pesticide-Impacted Soil at Former Catalyst Pilot Plant and Mini Lab (Northern portion of former Pilot Plant building)

The Mini Lab and Catalyst Plant were located at the northern end of the former Pilot Plant building. The PCB Aroclor 1242 was detected in soil sample SB-57 (0-2' bgs) at a concentration of 5.25 mg/kg and the pesticide dieldrin was detected in soil sample SB-58 (0-2' bgs) at a concentration of 4.56 mg/kg. The concentrations of PCBs and dieldrin that were detected exceed their respective NYSDEC Residential and Restricted Residential SCOs. Soil samples SB-57 and SB-58 were collected from sump pits located in the Mini Lab Analytical area and main Mini Lab area, respectively. The PCB Aroclor 1254 were detected at a concentration of 1.94 mg/kg in soil sample SB-61 (0-2' bgs), which was collected from the Former Catalyst Pilot Plant. The PCB concentration detected in soil sample SB-61 (0-2' bgs) exceeds the NYSDEC Residential, and Restricted Residential SCOs of 1 mg/kg for PCBs.

The proposed RI for the former Catalyst Plant and Mini Lab includes the vertical delineation of the soil impacts at the original locations of soil samples SB-57, SB-58, and SB-61 and the horizontal delineation of the PCB and pesticide detections exceeding the NYSDEC Residential, and Restricted Residential SCOs throughout the area. The proposed soil sample locations and depths are summarized in the table below. The proposed soil sample locations are also shown on Figure 6.

PROPOSED SAMPLE ID		PROPOSED SAMPLE DEPTH(S)	PURPOSE	PROPOSED ANALYSIS
SB-57A, SB-57B, SB-57C, SB-57D, SB-57E, SB-57F	Former SB-57 Location	3.5-4 feet, 5.5-6 feet – Soil samples for contingent analysis will be collected from the 7-7.5 feet, 8-8.5 feet, 10-10.5 feet, and 12-12.5 feet bgs intervals.	Vertically delineate PCB impacts detected in soil sample SB-57 (0-2' bgs).	PCBs via U.S. EPA Method 8082
SB-58A, SB-58B, SB-58C, SB-58D, SB-58E, SB-58F	Former SB-58 Location	3.5-4 feet, 5.5-6 feet – Soil samples for contingent analysis will be collected from the 7-7.5 feet, 8-8.5 feet, 10-10.5 feet, and 12-12.5 feet bgs intervals.	Vertically delineate pesticide impacts detected in soil sample SB-58 (0-2' bgs).	Pesticides via US EPA Method 8081B

PROPOSED SAMPLE ID		PROPOSED SAMPLE DEPTH(S)	PURPOSE	PROPOSED ANALYSIS
SB-61A, SB-61B, SB-61C, SB-61D, SB-61E, SB-61F	Former SB-61 Location	3.5-4 feet, 5.5-6 feet – Soil samples for contingent analysis will be collected from the 7-7.5 feet, 8-8.5 feet, 10-10.5 feet, and 12-12.5 feet bgs intervals.	Vertically delineate PCB impacts detected in soil sample SB-61 (0-2' bgs). Delineate	PCBs via U.S. EPA Method 8082
VB-26	New boring location – north of SB-57	0-2 feet – Soil samples for contingent analysis will be collected from the 3.5-4 feet, 5.5-6, 8-8.5 feet, 10-10.5 feet, and 12-12.5 feet bgs intervals.	Horizontally delineate the PCB impacts detected in soil sample SB-57 to the north	PCBs via U.S. EPA Method 8082
VB-27	New boring location – south of SB-57 and SB-58	0-2 feet – Soil samples for contingent analysis will be collected from the 3.5-4 feet, and 5.5-6, 8-8.5 feet, 10-10.5 feet, and 12-12.5 feet bgs intervals.	Horizontally delineate the PCB impacts in SB-57 and pesticide impacts in SB-58 to the south.	PCBs via U.S. EPA Method 8082, Pesticides via US EPA Method 8081B
VB-28	New boring location – east of SB-61	0-2 feet – Soil samples for contingent analysis will be collected from the 3.5-4 feet, and 5.5-6, 8-8.5 feet, 10-10.5 feet, and 12-12.5 feet bgs intervals.	Horizontally delineate the PCB impacts detected in soil sample SB-61 to the east.	PCBs via U.S. EPA Method 8082
VB-29	New boring location – south of SB-61	0-2 feet – Soil samples for contingent analysis will be collected from the 3.5-4 feet, and 5.5-6, 8-8.5 feet, 10-10.5 feet, and 12-12.5 feet bgs intervals.	Horizontally delineate the PCB impacts detected in soil sample SB-61 to the south.	PCBs via U.S. EPA Method 8082
VB-30	New boring location – west of SB-61	0-2 feet – Soil samples for contingent analysis will be collected from the 3.5-4 feet, and 5.5-6, 8-8.5 feet, 10-10.5 feet, and 12-12.5 feet bgs intervals.	Horizontally delineate the PCB impacts detected in soil sample SB-61 to the west.	PCBs via U.S. EPA Method 8082
VB-31	New boring location – west of SB-57 and SB-58	0-2 feet – Soil samples for contingent analysis will be collected from the 3.5-4 feet, and 5.5-6, 8-8.5 feet, 10-10.5 feet, and 12-12.5 feet bgs intervals.	Horizontally delineate the PCB impacts in SB-57 and pesticide impacts in SB-58 to the west.	PCBs via U.S. EPA Method 8082, Pesticides via US EPA Method 8081B

The proposed soil samples will be collected using a direct-push drill rig. All soil samples will be discrete non-homogenized samples. In the event that staining or other evidence of impacts is observed the sample intervals will be adjusted accordingly or additional soil samples will be collected.

12.5 Soil Characterization Sampling

Soil characterization samples will be collected to evaluate the quality of soils that will not be

covered by asphalt, concrete, or buildings following the redevelopment of the Site. Soil samples will also be collected from the northern portion of the Site and the area on the eastern side of the Saw Mill River to characterize soil quality in these areas. The soil samples will be analyzed for the full Target Analyte List / Target Compound List (TAL / TCL). The sample aliquots for VOC analysis will be collected from the 0-6" interval. The samples for all other parameters will be collected from the 0-2" interval. The soil samples will be collected using a hand auger which will be decontaminated between sampling locations. A total of six soil characterization sampling locations are proposed. The proposed soil characterizations sample locations are shown on Figure 7.

12.6 Soil Vapor Sampling

Soil vapor samples will be collected within the footprints of the proposed residential buildings to evaluate the potential for vapor intrusion due to the detection of VOCs in Site groundwater. The soil vapor samples will be collected from temporary soil vapor probes that will be installed via a direct-push drill rig. The soil vapor samples will be collected from at a depth comparable to the depth of the proposed building foundation footings.

The soil vapor probes will be sealed at the surface to prevent outdoor air infiltration. A helium tracer test will be performed at each soil vapor sample location to confirm a proper seal. An inert tubing (ie. polyethylene or Teflon tubing) will be fitted to the soil vapor probe to facilitate the sample collection. Prior to sampling, the sampling train will be purged of at least 100 milliliters of air. Once the sample train has been purged and a surface seal confirmed, the tubing will be connected to a 1-liter stainless steel summa canister fitted with a 5-minute flow controller for sample collection. The soil vapor samples will be analyzed for VOCs via U.S. EPA Method TO-15. A total of seven soil vapor sample locations are proposed. The proposed locations are shown on Figure 8.

12.7 Proposed Schedule for Implementing RIWP

The proposed schedule for implementing the RIWP is outlined in the following table. The starting point is the NYSDEC approval of the final RIR / RIWP. The schedule includes a second

sampling event as a contingency in the event that delineation is not achieved following the completion of the proposed RI.

ACTIVITY	TIME TO COMPLETE ACTIVITY
Mobilize to Site and implement RIWP	2 weeks following NYSDEC approval of RIR / RIWP
Receive laboratory data / Review analytical results to confirm completion of RI	2 weeks from completion of RI activities
Mobilize to Site to complete additional RI (if necessary)	2 weeks from receipt of laboratory data
Receive laboratory data for additional RI (if necessary) and begin Preparation of RIR / Alternatives Analysis Report (AAR) / Remedial Action Plan (RAP)	2 weeks from completion of additional RI activities (if necessary)
Estimated Total Time to Complete Proposed RI and begin preparation of RIR / AAR / RAP	**8 weeks following NYSDEC approval of RIR / RIWP**

TABLES

Table 1
Summary of Soil Analytical Results
Volatile Organic Compounds and Total Petroleum Hydrocarbons
1 Lawrence Street, Ardsley, Westchester County New York
Brownfield Cleanup Program Site No. C360146

	LOCATION							VES-1A		VES-1B		VES-5		VES-7		VB-1		VB-2		VB-3		SB-38A		VB-4		VB-5		VB-6 (2.5-4)
	SAMPLING DATE							3/1/2014		3/1/2014		3/1/2014		3/1/2014		4/16/2014		4/16/2014		4/16/2014		4/16/2014		4/17/2014		4/17/2014		4/16/2014
	LAB SAMPLE ID							L1404461-02		L1404461-06		L1404461-01		L1404461-05		L1408055-04		L1408055-05		L1408055-02		L1408055-03 R1		L1408198-02		L1408198-01		L1408055-10
	SAMPLE TYPE							Soil		Soil		3/1/2014		3/1/2014		Soil		Soil		Soil		Soil		Soil		Soil		Soil
	SAMPLE DEPTH (ft.)		NYSDEC	NYSDEC	NYSDEC	NYSDEC		2.5-4		2.5-4		5.5-6		1-2		11.5-12		11.5-12		11.5-12		15-15.5		13.5-14		13.5-14		2.5-4
		CasNum	RESGW	RESR	RESRR	UNRES	Units		Qual		Qual		Qual		Qual		Qual		Qual		Qual		Qual		Qual		Qual	
Petroleum Hydrocarbon Quantitation																												
	TPH	NONE	-	-	-	-	mg/kg	NA	-	NA	-	NA		NA	-	NA		-		NA		NA		NA		NA		NA
Volatile Organics																												
	Methylene chloride	75-09-2	0.05	51	100	0.05	mg/kg	0.03	U	0.03	U	0.0051	U	0.0047	U	0.012	U	0.013	U	0.012	U	0.77	U	0.012	U	0.72	U	0.012
	1,1-Dichloroethane	75-34-3	0.27	19	26	0.27	mg/kg	0.0091	U	0.0091	U	0.0015	U	0.0014	U	0.0017	U	0.002	U	0.0018	U	0.12	U	0.0018	U	0.11	U	0.0018
	Chloroform	67-66-3	0.37	10	49	0.37	mg/kg	0.013		0.15	U	0.0015	U	0.0014	U	0.0017	U	0.002	U	0.0018	U	0.12	U	0.0018	U	0.11	U	0.0018
	Carbon tetrachloride	56-23-5	0.76	1.4	2.4	0.76	mg/kg	0.0061	U	0.098	U	0.001	U	0.00093	U	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.072	U	0.0012
	1,2-Dichloropropane	78-87-5	-	-	-	-	mg/kg	0.021	U	0.34	U	0.0035	U	0.0033	U	0.0041	U	0.0046	U	0.0041	U	0.27	U	0.0042	U	0.25	U	0.0043
	Dibromochloromethane	124-48-1	-	-	-	-	mg/kg	0.0061	U	0.098	U	0.001	U	0.00093	U	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.072	U	0.0012
	1,1,2-Trichloroethane	79-00-5	-	-	-	-	mg/kg	0.0091	U	0.15	U	0.0015	U	0.0014	U	0.0017	U	0.002	U	0.0018	U	0.12	U	0.0018	U	0.11	U	0.0018
	Tetrachloroethene	127-18-4	1.3	5.5	19	1.3	mg/kg	100		4.6		0.001	U	0.00093	U	0.053		0.097		0.0018		0.077	U	0.0004	J	0.072	U	0.014
	Chlorobenzene	108-90-7	1.1	100	100	1.1	mg/kg	0.0061	U	0.098	U	0.001	U	0.00093	U	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.072	U	0.0012
	Trichlorofluoromethane	75-69-4	-	-	-	-	mg/kg	0.03	U	0.49	U	0.0051	U	0.0047	U	0.0018	J	0.001	J	0.0059	U	0.38	U	0.006	U	0.36	U	0.0088
	1,2-Dichloroethane	107-06-2	0.02	2.3	3.1	0.02	mg/kg	0.01		0.098	U	0.001	U	0.00093	U	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.00037	J	0.072	U	0.0012
	1,1,1-Trichloroethane	71-55-6	0.68	100	100	0.68	mg/kg	0.0061	U	0.098	U	0.001	U	0.00093	U	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.072	U	0.0012
	Bromodichloromethane	75-27-4	-	-	-	-	mg/kg	0.0061	U	0.098	U	0.001	U	0.00093	U	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.072	U	0.0012
	trans-1,3-Dichloropropene	10061-02-6	-	-	-	-	mg/kg	0.0061	U	0.098	U	0.001	U	0.00093	U	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.072	U	0.0012
	cis-1,3-Dichloropropene	10061-01-5	-	-	-	-	mg/kg	0.0061	U	0.098	U	0.001	U	0.00093	U	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.072	U	0.0012
	1,1-Dichloropropene	563-58-6	-	-	-	-	mg/kg	NA	-	NA	-	0.001	U	NA	-	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	Bromoform	75-25-2	-	-	-	-	mg/kg	0.024	U	0.39	U	0.004	U	0.0037	U	0.0046	U	0.0052	U	0.0047	U	0.31	U	0.0048	U	0.29	U	0.0049
	1,1,2,2-Tetrachloroethane	79-34-5	0.6	35	-	-	mg/kg	0.0061	U	0.098	U	0.001	U	0.00093	U	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.072	U	0.0012
	Benzene	71-43-2	0.06	2.9	4.8	0.06	mg/kg	0.0061	U	0.097	J	0.001	U	0.00093	U	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.072	U	0.0012
	Toluene	108-88-3	0.7	100	100	0.7	mg/kg	0.0091	U	0.15	U	0.0015	U	0.0014	U	0.0017	U	0.002	U	0.0018	U	0.033	J	0.0018	U	0.11	U	0.0018
	Ethylbenzene	100-41-4	1	30	41	1	mg/kg	0.0061	U	0.098	U	0.001	U	0.00093	U	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.1		0.0012
	Chloromethane	74-87-3	-	-	-	-	mg/kg	0.03	U	0.49	U	0.0051	U	0.0047	U	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	Bromomethane	74-83-9	-	-	-	-	mg/kg	0.012	U	0.2	U	0.002	U	0.0019	U	0.0023	U	0.0026	U	0.0024	U	0.15	U	0.0024	U	0.14	U	0.0025
	Vinyl chloride	75-01-4	0.02	0.21	0.9	0.02	mg/kg	0.012	U	0.2	U	0.002	U	0.0019	U	0.0023	U	0.00095	J	0.0024	U	0.15	U	0.0024	U	0.14	U	0.0025
	Chloroethane	75-00-3	1.9	-	-	-	mg/kg	0.012	U	0.2	U	0.002	U	0.0019	U	0.0023	U	0.0026	U	0.0024	U	0.15	U	0.0024	U	0.14	U	0.0025
	1,1-Dichloroethene	75-35-4	0.33	100	100	0.33	mg/kg	0.0061	U	0.098	U	0.001	U	0.00093	U	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.072	U	0.0012
	trans-1,2-Dichloroethene	156-60-5	0.19	100	100	0.19	mg/kg	0.0091	U	0.15	U	0.0015	U	0.0014	U	0.0017	U	0.002	U	0.0018	U	0.12	U	0.0018	U	0.11	U	0.0018
	Trichloroethene	79-01-6	0.47	10	21	0.47	mg/kg	0.013		0.098	U	0.001	U	0.00093	U	0.0026		0.017		0.0012	U	0.077	U	0.0012	U	0.072	U	0.0012
	1,2-Dichlorobenzene	95-50-1	1.1	100	100	1.1	mg/kg	0.03	U	0.49	U	0.0051	U	0.0047	U	0.0058	U	0.00085	J	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	1,3-Dichlorobenzene	541-73-1	2.4	17	49	2.4	mg/kg	0.03	U	0.49	U	0.0051	U	0.0047	U	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	1,4-Dichlorobenzene	106-46-7	1.8	9.8	13	1.8	mg/kg	0.03	U	0.49	U	0.0051	U	0.0047	U	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	Methyl tert butyl ether	1634-04-4	0.93	62	100	0.93	mg/kg	0.012	U	0.2	U	0.002	U	0.0019	U	0.0023	U	0.0026	U	0.0024	U	0.15	U	0.0024	U	0.14	U	0.0025
	p/m-Xylene	179601-23-1	-	-	-	-	mg/kg	0.012	U	0.2	U	0.002	U	0.0019	U	0.0023	U	0.0026	U	0.0024	U	0.15	U	0.0024	U	0.064	J	0.0025
	o-Xylene	95-47-6	-	-	-	-	mg/kg	0.012	U	0.2	U	0.002	U	0.0019	U	0.0023	U	0.0026	U	0.0024	U	0.15	U	0.0024	U	0.12	J	0.0025
	Total Xylenes		1.6	100	100	0.26	mg/kg	ND		ND		ND		ND		ND		ND		ND		ND		ND		0.184J		ND
	cis-1,2-Dichloroethene	156-59-2	0.25	59	100	0.25	mg/kg	0.0052	J	0.098	U	0.001	U	0.00093	U	0.0012	U	0.031		0.0012	U	0.077	U	0.0012	U	0.072	U	0.0012
	Dibromomethane	74-95-3	-	-	-	-	mg/kg	0.012	U	0.39	U	NA	-	0.0019	U	0.012	U	0.013	U	0.012	U	0.77	U	0.012	U	0.72	U	0.012
	Styrene	100-42-5	-	-	-	-	mg/kg	0.061	U	0.2	U	0.002	U	0.0093	U	0.0023	U	0.0026	U	0.0024	U	0.15	U	0.0024	U	0.14	U	0.0025
	Dichlorodifluoromethane	75-71-8	-	-	-	-	mg/kg	0.22	U	0.98	U	0.01	U	0.0059	J	0.012	U	0.013	U	0.012	U	0.77	U	0.012	U	0.72	U	0.012
	Acetone	67-64-1	0.05	100	100	0.05	mg/kg	0.061	U	0.42	J	0.036	U	0.0093	U	0.0085	J	0.0051	J	0.023		0.77	U	0.017		0.72	U	0.0091
	Carbon disulfide	75-15-0	2.7	100			mg/kg	0.061	U	58		0.01	U	0.0093	U	0.0051	J	0.0054	J	0.031		0.77	U	0.0063	J	1.1		0.012
	2-Butanone	78-93-3	0.12	100	100	0.12	mg/kg	0.061	U	0.34	J	0.01	U	0.0093	U	0.012	U	0.013	U	0.012	U	0.27	J	0.0044	J	0.72	U	0.012
	Vinyl acetate	108-05-4	-	-	-	-	mg/kg	NA	-	NA	-	NA	-	NA	-	0.012	U	0.013	U	0.012	U	0.77	U	0.012	U	0.72	U	0.012
	4-Methyl-2-pentanone	108-10-1	1	-	-	-	mg/kg	0.061	U	0.98	U	0.01	U	0.0093	U	0.012	U	0.013	U	0.012	U	0.77	U	0.012	U	0.72	U	0.012
	1,2,3-Trichloropropane	96-18-4	0.34	80	-	-	mg/kg	NA	-	NA	-	NA	-	NA	-	0.012	U	0.013	U	0.012	U	0.77	U	0.012	U	0.72	U	0.012
	2-Hexanone	591-78-6	-	-	-	-	mg/kg	0.061	U	0.98	U	0.01	U	0.0093	U	0.012	U	0.013	U	0.012	U	0.77	U	0.012	U	0.72	U	0.012
	Bromochloromethane	74-97-5	-	-	-	-	mg/kg	NA	-	0.49	U	NA	-	0.0047	U	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	2,2-Dichloropropane	594-20-7	-	-	-	-	mg/kg	NA	-	NA	-	NA	-	NA	-	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	1,2-Dibromoethane	106-93-4	-	-	-	-	mg/kg	0.024	U	0.39	U	0.004	U	0.39	U	0.0046	U	0.0052	U	0.0047	U	0.31	U	0.0048	U	0.29	U	0.0049
	1,3-Dichloropropane	142-28-9	0.3	-	-	-	mg/kg	NA	-	NA	-	NA	-	NA	-	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	1,1,1,2-Tetrachloroethane	630-20-6	-	-	-	-	mg/kg	NA	-	NA	-	NA	-	NA	-	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.072	U	0.0012
	Bromobenzene	108-86-1	-	-	-	-	mg/kg	NA	-	NA	-	NA	-	NA	-	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	n-Butylbenzene	104-51-8	12	100	100	12	mg/kg	0.0061	U	0.098	U	0.0051	U	0.00093	U	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.2		0.0012
	sec-Butylbenzene	135-98-8	11	100	100	11	mg/kg	0.0061	U	0.098	U	0.001	U	0.00093	U	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.12		0.0012
	tert-Butylbenzene	98-06-6	5.9	100	100	5.9	mg/kg	0.03	U	0.49	U	0.001	U	0.0047	U	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	o-Chlorotoluene	95-49-8	-	-	-	-	mg/kg	NA	-	NA	-	0.0051	U	NA	-	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	p-Chlorotoluene	106-43-4	-	-	-	-	mg/kg	NA	-	NA	-	0.001	U	NA	-	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	1,2-Dibromo-3-chloropropane	96-12-8	-	-	-	-	mg/kg	0.03	U	0.49	U	0.001	U	0.03	U	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	Hexachlorobutadiene	87-68-3	-	-	-	-	mg/kg	NA	-	NA	-	NA	-	NA	-	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	Isopropylbenzene	98-82-8	2.3	100	-	-	mg/kg	NA	-	NA	-	NA	-	NA	-	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.084		0.0012
	p-Isopropyltoluene	99-87-6	10	-	-	-	mg/kg	NA	-	NA	-	NA	-	NA	-	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.14		0.0012
	Naphthalene	91-20-3	12	100	100	12	mg/kg	NA	-	NA	-	NA	-	NA	-	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.39		0.0062
	Acrylonitrile	107-13-1	-	-	-	-	mg/kg	NA	-	NA	-	NA	-	NA	-	0.012	U	0.013	U	0.012	U	0.77	U	0.012	U	0.72	U	0.012
	n-Propylbenzene	103-65-1	3.9	100	100	3.9	mg/kg	0.0061	U	0.098	U	0.001	U	0.00093	U	0.0012	U	0.0013	U	0.0012	U	0.077	U	0.0012	U	0.15		0.0012
	1,2,3-Trichlorobenzene	87-61-6	-	-	-	-	mg/kg	0.03	U	0.49	U	0.0051	U	0.0047	U	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	1,2,4-Trichlorobenzene	120-82-1	3.4	-	-	-	mg/kg	0.03	U	0.49	U	0.0051	U	0.0047	U	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	1,3,5-Trimethylbenzene	108-67-8	8.4	47	52	8.4	mg/kg	0.03	U	0.49	U	0.0051	U	0.0047	U	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	1,2,4-Trimethylbenzene	95-63-6	3.6	47	52	3.6	mg/kg	0.03	U	0.49	U	0.0051	U	0.0047	U	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.81		0.0062
	1,4-Dioxane	123-91-1	0.1	9.8	13	0.1	mg/kg	0.61	U	9.8	U	0.1	U	0.093	U	0.12	U	0.13	U	0.12	U	7.7	U	0.12	U	7.2	U	0.12

Table 1
Summary of Soil Analytical Results
Volatile Organic Compounds and Total Petroleum Hydrocarbons
1 Lawrence Street, Ardsley, Westchester County New York
Brownfield Cleanup Program Site No. C360146

	LOCATION							VES-1A		VES-1B		VES-5		VES-7		VB-1		VB-2		VB-3		SB-38A		VB-4		VB-5		VB-6 (2.5-4)
	SAMPLING DATE							3/1/2014		3/1/2014		3/1/2014		3/1/2014		4/16/2014		4/16/2014		4/16/2014		4/16/2014		4/17/2014		4/17/2014		4/16/2014
	LAB SAMPLE ID							L1404461-02		L1404461-06		L1404461-01		L1404461-05		L1408055-04		L1408055-05		L1408055-02		L1408055-03 R1		L1408198-02		L1408198-01		L1408055-10
	SAMPLE TYPE							Soil		Soil		3/1/2014		3/1/2014		Soil		Soil		Soil		Soil		Soil		Soil		Soil
	SAMPLE DEPTH (ft.)		NYSDEC	NYSDEC	NYSDEC	NYSDEC		2.5-4		2.5-4		5.5-6		1-2		11.5-12		11.5-12		11.5-12		15-15.5		13.5-14		13.5-14		2.5-4
		CasNum	RESGW	RESR	RESRR	UNRES	Units		Qual		Qual		Qual		Qual		Qual		Qual		Qual		Qual		Qual		Qual	
	1,4-Diethylbenzene	105-05-5	-	-	-	-	mg/kg	NA	-	NA	-	NA	-	NA	-	0.0046	U	0.0052	U	0.0047	U	0.31	U	0.0048	U	0.18	J	0.0049
	4-Ethyltoluene	622-96-8	-	-	-	-	mg/kg	NA	-	NA	-	NA	-	NA	-	0.0046	U	0.0052	U	0.0047	U	0.31	U	0.0048	U	0.24	J	0.0049
	1,2,4,5-Tetramethylbenzene	95-93-2	-	-	-	-	mg/kg	NA	-	NA	-	NA	-	NA	-	0.0046	U	0.0052	U	0.0047	U	0.31	U	0.0048	U	0.57		0.0049
	Ethyl ether	60-29-7	-	-	-	-	mg/kg	NA	-	NA	-	NA	-	NA	-	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	trans-1,4-Dichloro-2-butene	110-57-6	-	-	-	-	mg/kg	NA	-	NA	-	NA	-	NA	-	0.0058	U	0.0065	U	0.0059	U	0.38	U	0.006	U	0.36	U	0.0062
	Total VOC TICs	-	-	-	-	-	mg/kg	0.024	J	27	J	0.095	J	0.5	J	0.0489	J	0.0449	J	0.0659	J	0.0684	J	0.105	J	19.54	J	0.0372

Sample not analyzed for this compound
Concentration exceeds one or more NYSDEC Soil Cleanup Objectives
Reporting Limit is above one or more NYSDEC Soil Cleanup Objectives
RESGW - NYSDEC Protection of Groundwater Soil Cleanup Objective
RESR - NYSDEC Residential Use Soil Cleanup Objective
RESRR - NYSDEC Restricted Residential Use Soil Cleanup Objective
UNRES - NYSDEC Unrestricted Use Soil Cleanup Objective

Table 1
Summary of Soil Analytical Results
Volatile Organic Compounds and Total Petroleum Hydrocarbons
1 Lawrence Street, Ardsley, Westchester County New York
Brownfield Cleanup Program Site No. C360146

	LOCATION								VB-6 (13.5-14)		VB-7		SB-53A (16.5-17')		VB-12 (2.5-4')		SB-64 (2.5-4')	
	SAMPLING DATE								4/16/2014		4/16/2014		4/16/2014		4/18/2014		4/18/2014	
	LAB SAMPLE ID								L1408055-11		L1408055-07		L1408055-09		L1408315-05		L1408315-06R1	
	SAMPLE TYPE								Soil		Soil		Soil		Soil		Soil	
	SAMPLE DEPTH (ft.)		NYSDEC	NYSDEC	NYSDEC	NYSDEC			13.5-14		13.5-14		16.5-17					
		CasNum	RESGW	RESR	RESRR	UNRES	Units	Qual		Qual		Qual		Qual		Qual		Qual
Petroleum Hydrocarbon Quantitation																		
	TPH	NONE	-	-	-	-	mg/kg		7,690		NA		NA		NA		NA	-
Volatile Organics																		
	Methylene chloride	75-09-2	0.05	51	100	0.05	mg/kg	U	0.73	U	0.012	U	0.012	U	0.14	J	0.016	U
	1,1-Dichloroethane	75-34-3	0.27	19	26	0.27	mg/kg	U	0.11	U	0.0018	U	0.0018	U	0.089	U	0.0023	U
	Chloroform	67-66-3	0.37	10	49	0.37	mg/kg	U	0.11	U	0.0018	U	0.0018	U	0.7		0.0023	U
	Carbon tetrachloride	56-23-5	0.76	1.4	2.4	0.76	mg/kg	U	0.073	U	0.0012	U	0.0012	U	4.2		0.0016	U
	1,2-Dichloropropane	78-87-5	-	-	-	-	mg/kg	U	0.26	U	0.0041	U	0.0043	U	0.21	U	0.0055	U
	Dibromochloromethane	124-48-1	-	-	-	-	mg/kg	U	0.073	U	0.0012	U	0.0012	U	0.059	U	0.0016	U
	1,1,2-Trichloroethane	79-00-5	-	-	-	-	mg/kg	U	0.11	U	0.0018	U	0.0018	U	0.089	U	0.0023	U
	Tetrachloroethene	127-18-4	1.3	5.5	19	1.3	mg/kg		0.073	U	0.0017		0.0019		4.2		0.0028	
	Chlorobenzene	108-90-7	1.1	100	100	1.1	mg/kg	U	0.056	J	0.0012	U	0.003		0.059	U	0.0016	U
	Trichlorofluoromethane	75-69-4	-	-	-	-	mg/kg		0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	1,2-Dichloroethane	107-06-2	0.02	2.3	3.1	0.02	mg/kg	U	0.073	U	0.0012	U	0.0012	U	0.15		0.0016	U
	1,1,1-Trichloroethane	71-55-6	0.68	100	100	0.68	mg/kg	U	0.073	U	0.0012	U	0.0012	U	0.059	U	0.0016	U
	Bromodichloromethane	75-27-4	-	-	-	-	mg/kg	U	0.073	U	0.0012	U	0.0012	U	0.059	U	0.0016	U
	trans-1,3-Dichloropropene	10061-02-6	-	-	-	-	mg/kg	U	0.073	U	0.0012	U	0.0012	U	0.059	U	0.0016	U
	cis-1,3-Dichloropropene	10061-01-5	-	-	-	-	mg/kg	U	0.073	U	0.0012	U	0.0012	U	0.059	U	0.0016	U
	1,1-Dichloropropene	563-58-6	-	-	-	-	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	Bromoform	75-25-2	-	-	-	-	mg/kg	U	0.29	U	0.0047	U	0.0049	U	0.24	U	0.0062	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.6	35	-	-	mg/kg	U	0.073	U	0.0012	U	0.0012	U	0.059	U	0.0016	U
	Benzene	71-43-2	0.06	2.9	4.8	0.06	mg/kg	U	0.086		0.0012	U	0.0012	U	0.059	U	0.0016	
	Toluene	108-88-3	0.7	100	100	0.7	mg/kg	U	0.044	J	0.0018	U	0.0018	U	0.018	J	0.013	
	Ethylbenzene	100-41-4	1	30	41	1	mg/kg	U	0.17		0.0012	U	0.0014		0.059	U	0.0018	
	Chloromethane	74-87-3	-	-	-	-	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	Bromomethane	74-83-9	-	-	-	-	mg/kg	U	0.15	U	0.0024	U	0.0024	U	0.12	U	0.0031	U
	Vinyl chloride	75-01-4	0.02	0.21	0.9	0.02	mg/kg	U	0.15	U	0.0024	U	0.0024	U	0.12	U	0.0031	U
	Chloroethane	75-00-3	1.9	-	-	-	mg/kg	U	0.15	U	0.0024	U	0.0024	U	0.12	U	0.0031	U
	1,1-Dichloroethene	75-35-4	0.33	100	100	0.33	mg/kg	U	0.073	U	0.0012	U	0.0012	U	0.059	U	0.0016	U
	trans-1,2-Dichloroethene	156-60-5	0.19	100	100	0.19	mg/kg	U	0.11	U	0.0018	U	0.0018	U	0.089	U	0.0023	U
	Trichloroethene	79-01-6	0.47	10	21	0.47	mg/kg	U	0.073	U	0.0012	U	0.0028		0.059	U	0.0016	U
	1,2-Dichlorobenzene	95-50-1	1.1	100	100	1.1	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	1,3-Dichlorobenzene	541-73-1	2.4	17	49	2.4	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	1,4-Dichlorobenzene	106-46-7	1.8	9.8	13	1.8	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	Methyl tert butyl ether	1634-04-4	0.93	62	100	0.93	mg/kg	U	0.15	U	0.0024	U	0.0024	U	0.12	U	0.0031	U
	p/m-Xylene	179601-23-1	-	-	-	-	mg/kg	U	0.16		0.0024	U	0.0024	U	0.12	U	0.011	
	o-Xylene	95-47-6	-	-	-	-	mg/kg	U	0.18		0.0024	U	0.0024	U	0.12	U	0.0035	
	Total Xylenes		1.6	100	100	0.26	mg/kg		0.34		ND		ND		ND		0.0145	
	cis-1,2-Dichloroethene	156-59-2	0.25	59	100	0.25	mg/kg	U	0.073	U	0.0012	U	0.0089		0.059	U	0.0016	U
	Dibromomethane	74-95-3	-	-	-	-	mg/kg	U	0.73	U	0.012	U	0.012	U	0.59	U	0.016	U
	Styrene	100-42-5	-	-	-	-	mg/kg	U	0.15	U	0.0024	U	0.0024	U	0.12	U	0.0031	U
	Dichlorodifluoromethane	75-71-8	-	-	-	-	mg/kg	U	0.73	U	0.012	U	0.012	U	0.59	U	0.016	U
	Acetone	67-64-1	0.05	100	100	0.05	mg/kg	J	0.73	U	0.015		0.0072	J	0.2	J	0.15	
	Carbon disulfide	75-15-0	2.7	100			mg/kg	U	0.78		0.0032	J	0.099		0.59	U	0.016	U
	2-Butanone	78-93-3	0.12	100	100	0.12	mg/kg	U	0.73	U	0.012	U	0.012	U	0.59	U	0.016	U
	Vinyl acetate	108-05-4	-	-	-	-	mg/kg	U	0.73	U	0.012	U	0.012	U	0.59	U	0.016	U
	4-Methyl-2-pentanone	108-10-1	1	-	-	-	mg/kg	U	0.73	U	0.012	U	0.012	U	0.59	U	0.016	U
	1,2,3-Trichloropropane	96-18-4	0.34	80	-	-	mg/kg	U	0.73	U	0.012	U	0.012	U	0.59	U	0.016	U
	2-Hexanone	591-78-6	-	-	-	-	mg/kg	U	0.73	U	0.012	U	0.012	U	0.59	U	0.016	U
	Bromochloromethane	74-97-5	-	-	-	-	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	2,2-Dichloropropane	594-20-7	-	-	-	-	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	1,2-Dibromoethane	106-93-4	-	-	-	-	mg/kg	U	0.29	U	0.0047	U	0.0049	U	0.24	U	0.0062	U
	1,3-Dichloropropane	142-28-9	0.3	-	-	-	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	1,1,1,2-Tetrachloroethane	630-20-6	-	-	-	-	mg/kg	U	0.073	U	0.0012	U	0.0012	U	0.059	U	0.0016	U
	Bromobenzene	108-86-1	-	-	-	-	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	n-Butylbenzene	104-51-8	12	100	100	12	mg/kg	U	0.18		0.0012	U	0.0012	U	0.059	U	0.0016	U
	sec-Butylbenzene	135-98-8	11	100	100	11	mg/kg	U	0.12		0.0012	U	0.0012	U	0.059	U	0.0016	U
	tert-Butylbenzene	98-06-6	5.9	100	100	5.9	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	o-Chlorotoluene	95-49-8	-	-	-	-	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	p-Chlorotoluene	106-43-4	-	-	-	-	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	1,2-Dibromo-3-chloropropane	96-12-8	-	-	-	-	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	Hexachlorobutadiene	87-68-3	-	-	-	-	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	Isopropylbenzene	98-82-8	2.3	100	-	-	mg/kg	U	0.095		0.0012	U	0.0012	U	0.059	U	0.00069	J
	p-Isopropyltoluene	99-87-6	10	-	-	-	mg/kg	U	0.12		0.0012	U	0.0012	U	0.059	U	0.0016	U
	Naphthalene	91-20-3	12	100	100	12	mg/kg	U	0.88		0.0059	U	0.0061	U	0.12	J	0.0022	J
	Acrylonitrile	107-13-1	-	-	-	-	mg/kg	U	0.73	U	0.012	U	0.012	U	0.59	U	0.016	U
	n-Propylbenzene	103-65-1	3.9	100	100	3.9	mg/kg	U	0.17		0.0012	U	0.0012	U	0.059	U	0.003	
	1,2,3-Trichlorobenzene	87-61-6	-	-	-	-	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	1,2,4-Trichlorobenzene	120-82-1	3.4	-	-	-	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	1,3,5-Trimethylbenzene	108-67-8	8.4	47	52	8.4	mg/kg	U	0.3	J	0.0059	U	0.0061	U	0.3	U	0.0044	J
	1,2,4-Trimethylbenzene	95-63-6	3.6	47	52	3.6	mg/kg	U	0.89		0.0059	U	0.0061	U	0.3	U	0.0082	
	1,4-Dioxane	123-91-1	0.1	9.8	13	0.1	mg/kg	U	7.3	U	0.12	U	0.12	U	5.9	U	0.16	U

Table 1
Summary of Soil Analytical Results
Volatile Organic Compounds and Total Petroleum Hydrocarbons
1 Lawrence Street, Ardsley, Westchester County New York
Brownfield Cleanup Program Site No. C360146

	LOCATION								VB-6 (13.5-14)		VB-7		SB-53A (16.5-17')		VB-12 (2.5-4')		SB-64 (2.5-4')	
	SAMPLING DATE								4/16/2014		4/16/2014		4/16/2014		4/18/2014		4/18/2014	
	LAB SAMPLE ID								L1408055-11		L1408055-07		L1408055-09		L1408315-05		L1408315-06R1	
	SAMPLE TYPE								Soil		Soil		Soil		Soil		Soil	
	SAMPLE DEPTH (ft.)		NYSDEC	NYSDEC	NYSDEC	NYSDEC			13.5-14		13.5-14		16.5-17					
		CasNum	RESGW	RESR	RESRR	UNRES	Units	Qual		Qual		Qual		Qual		Qual		Qual
	1,4-Diethylbenzene	105-05-5	-	-	-	-	mg/kg	U	0.18	J	0.0047	U	0.0049	U	0.019	J	0.0062	U
	4-Ethyltoluene	622-96-8	-	-	-	-	mg/kg	U	0.42		0.0047	U	0.0049	U	0.24	U	0.0004	J
	1,2,4,5-Tetramethylbenzene	95-93-2	-	-	-	-	mg/kg	U	0.42		0.0004	J	0.0049	U	0.014	J	0.0062	U
	Ethyl ether	60-29-7	-	-	-	-	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	trans-1,4-Dichloro-2-butene	110-57-6	-	-	-	-	mg/kg	U	0.36	U	0.0059	U	0.0061	U	0.3	U	0.0078	U
	Total VOC TICs	-	-	-	-	-	mg/kg	J	27.8	J	0.0649	J	0.0469	J	14.35	J	0.3184	J

Sample not analyzed for this compound
Concentration exceeds one or more NYSDEC Soil Cleanup Objectives
Reporting Limit is above one or more NYSDEC Soil Cleanup Objectives
RESGW - NYSDEC Protection of Groundwater Soil Cleanup Objective
RESR - NYSDEC Residential Use Soil Cleanup Objective
RESRR - NYSDEC Restricted Residential Use Soil Cleanup Objective
UNRES - NYSDEC Unrestricted Use Soil Cleanup Objective

Table 2
Summary of Soil Analytical Results
PCBs and Pesticides
1 Lawrence Street
Ardsley, Westchester County, New York
Brownfield Cleanup Program Site No. C360146

	LOCATION								VES-5		VES-6		VES-7		VES-8		SB-64 (3.5-4)		SB-74A (3.5-4)		SB-74A (5.5-6)		VB-8		VB-9	
	SAMPLING DATE								3/1/2014		3/1/2014		3/1/2014		3/1/2014		4/18/2014		4/17/2014		4/17/2014		4/17/2014		4/17/2014	
	LAB SAMPLE ID								L1404461-01		L1404461-04		L1404461-05		L1404461-06		L1408315-07		L1408198-08		L1408198-09		L1408198-06		L1408198-07	
	SAMPLE TYPE								Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
	SAMPLE DEPTH (ft.)		NYSDEC	NYSDEC	NYSDEC	NYSDEC	NYSDEC		3.25-4		2-4		2-3		1-2		3.5-4		3.5-4		5.5-6		0-2		0-2	
		CasNum	RESGW	RESR	RESRR	UNRES	PER	Units		Qual		Qual		Qual		Qual		Qual		Qual		Qual		Qual		Qual
Organochlorine Pesticides																										
	Delta-BHC	319-86-8	0.25	100	100	0.04	0.25	mg/kg	0.00164	U	-		0.00162	U	-		-		-		-		-		0.00194	U
	Lindane	58-89-9	0.1	0.28	1.3	0.1	6	mg/kg	0.00068	U	-		0.00067	U	-		-		-		-		-		0.000809	U
	Alpha-BHC	319-84-6	0.02	0.097	0.48	0.02	0.04	mg/kg	0.00068	U	-		0.00067	U	-		-		-		-		-		0.000809	U
	Beta-BHC	319-85-7	0.09	0.072	0.36	0.036	0.6	mg/kg	0.00164	U	-		0.00162	U	-		-		-		-		-		0.00194	U
	Heptachlor	76-44-8	0.38	0.42	2.1	0.042	0.14	mg/kg	0.00082	U	-		0.0008	U	-		-		-		-		-		0.000971	U
	Aldrin	309-00-2	0.19	0.019	0.097	0.005	0.14	mg/kg	0.00164	U	-		0.00162	U	-		-		-		-		-		0.00194	U
	Heptachlor epoxide	1024-57-3	0.02	0.077	-	-	-	mg/kg	0.00308	U	-		0.00303	U	-		-		-		-		-		0.00364	U
	Endrin	72-20-8	0.06	2.2	11	0.014	0.014	mg/kg	0.00068	U	-		0.00067	U	-		-		-		-		-		0.000809	U
	Endrin ketone	53494-70-5	-	-	-	-	-	mg/kg	0.00164	U	-		0.00162	U	-		-		-		-		-		0.00194	U
	Dieldrin	60-57-1	0.1	0.039	0.2	0.005	0.006	mg/kg	0.00103	U	-		0.00101	U	-		-		-		-		-		0.00121	U
	4,4'-DDE	72-55-9	17	1.8	8.9	0.0033	0.0033	mg/kg	0.00164	U	-		0.00162	U	-		-		-		-		-		0.00194	U
	4,4'-DDD	72-54-8	14	2.6	13	0.0033	0.0033	mg/kg	0.00164	U	-		0.00162	U	-		-		-		-		-		0.00194	U
	4,4'-DDT	50-29-3	136	1.7	7.9	0.0033	0.0033	mg/kg	0.00308	U	-		0.00303	U	-		-		-		-		-		0.0955	
	Endosulfan I	959-98-8	102	4.8	24	2.4	-	mg/kg	0.00164	U	-		0.00162	U	-		-		-		-		-		0.00194	U
	Endosulfan II	33213-65-9	102	4.8	24	2.4	-	mg/kg	0.00164	U	-		0.00162	U	-		-		-		-		-		0.00194	U
	Endosulfan sulfate	1031-07-8	1000	4.8	24	2.4	-	mg/kg	0.00068	U	-		0.00067	U	-		-		-		-		-		0.000809	U
	Methoxychlor	72-43-5	900	100	-	-	-	mg/kg	0.00308	U	-		0.00303	U	-		-		-		-		-		0.00364	U
	Toxaphene	8001-35-2	-	-	-	-	-	mg/kg	0.0308	U	-		0.0303	U	-		-		-		-		-		0.0364	U
	cis-Chlordane	5103-71-9	2.9	0.91	4.2	0.094	-	mg/kg	0.00206	U	-		0.00202	U	-		-		-		-		-		0.00243	U
	trans-Chlordane	5103-74-2	14	0.54	-	-	-	mg/kg	0.00206	U	-		0.00202	U	-		-		-		-		-		0.00243	U
	Chlordane	57-74-9	-	-	-	-	1.3	mg/kg	0.0308	U	-		0.0131	U	-		-		-		-		-		0.0158	U
Polychlorinated Biphenyls																										
	Aroclor 1016	12674-11-2	3.2	1	1	0.1	1	mg/kg	0.0335	U	0.0374	U	0.0332	U	0.0344	U	0.0424	U	0.464	U	0.0143	U	0.0353	U	-	
	Aroclor 1221	11104-28-2	3.2	1	1	0.1	1	mg/kg	0.0335	U	0.0374	U	0.0332	U	0.0344	U	0.0424	U	0.464	U	0.0167	U	0.0353	U	-	
	Aroclor 1232	11141-16-5	3.2	1	1	0.1	1	mg/kg	0.0335	U	0.0374	U	0.0332	U	0.0344	U	0.0424	U	0.464	U	0.0212	U	0.0353	U	-	
	Aroclor 1242	53469-21-9	3.2	1	1	0.1	1	mg/kg	0.0335	U	0.0374	U	0.0332	U	0.0344	U	0.0424	U	0.464	U	0.0222	U	0.0353	U	-	
	Aroclor 1248	12672-29-6	3.2	1	1	0.1	1	mg/kg	0.0335	U	0.0374	U	0.00766	J	0.0344	U	0.0424	U	0.464	U	0.0153	U	0.0353	U	-	
	Aroclor 1254	11097-69-1	3.2	1	1	0.1	1	mg/kg	0.0335	U	0.0374	U	0.0332	U	0.0344	U	0.0424	U	3.18		2.57		0.375		-	
	Aroclor 1260	11096-82-5	3.2	1	1	0.1	1	mg/kg	0.0335	U	0.0374	U	0.0332	U	0.0344	U	0.0424	U	0.464	U	0.0138	U	0.0353	U	-	
	Aroclor 1262	37324-23-5	3.2	1	1	0.1	1	mg/kg	0.0335	U	0.0374	U	0.0332	U	0.0344	U	0.0424	U	0.464	U	0.00899	U	0.0353	U	-	
	Aroclor 1268	11100-14-4	3.2	1	1	0.1	1	mg/kg	0.0335	U	0.0374	U	0.0332	U	0.0344	U	0.0424	U	0.464	U	0.0263	U	0.0353	U	-	

Notes:

Yellow highlight indicates concentration exceeds one or more NYSDEC Soil Cleanup Objectives

Gray highlight indicates Reporting Limit exceeds one of more NYSDEC Soil Cleanup Objectives

RESGW - NYSDEC Protection of Groundwater Soil Cleanup Objective

RESR - NYSDEC Residential Use Soil Cleanup Objective

RESRR - NYSDEC Restricted Residential Use Soil Cleanup Objective

UNRES - NYSDEC Unrestricted Use Soil Cleanup Objective

PER- NYSDEC Protection of Ecological Resources Soil Cleanup Objective

Table 2
Summary of Soil Analytical Results
PCBs and Pesticides
1 Lawrence Street
Ardsley, Westchester County, New York
Brownfield Cleanup Program Site No. C360146

	LOCATION								VB-10		VB-11		VB-12 (0-1.5')		VB-13		VB-14		VB-15		VB-16		VB-19		VB-22	
	SAMPLING DATE								4/17/2014		4/17/2014		4/18/2014		4/17/2014		4/17/2014		4/18/2014		4/18/2014		4/18/2014		4/18/2014	
	LAB SAMPLE ID								L1408198-10		L1408198-11		L1408315-04		L1408198-12		L1408198-13		L1408315-10		L1408315-08		L1408314-07		L1408315-09 R1	
	SAMPLE TYPE								Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
	SAMPLE DEPTH (ft.)		NYSDEC	NYSDEC	NYSDEC	NYSDEC	NYSDEC		0-2		0-2		0-1.5		0-1.5		0-1.5		0-1.5		0-1.5		0-1.5		0-1.5	
		CasNum	RESGW	RESR	RESRR	UNRES	PER	Units		Qual		Qual		Qual		Qual		Qual		Qual		Qual		Qual		Qual
Organochlorine Pesticides																										
	Delta-BHC	319-86-8	0.25	100	100	0.04	0.25	mg/kg	-	-	-	-	-		-	-	-	-	0.0017	U	0.00179	U			0.00897	U
	Lindane	58-89-9	0.1	0.28	1.3	0.1	6	mg/kg	-	-	-	-	-		-	-	-	-	0.000707	U	0.000747	U			0.00374	U
	Alpha-BHC	319-84-6	0.02	0.097	0.48	0.02	0.04	mg/kg	-	-	-	-	-		-	-	-	-	0.000707	U	0.000747	U			0.00374	U
	Beta-BHC	319-85-7	0.09	0.072	0.36	0.036	0.6	mg/kg	-	-	-	-	-		-	-	-	-	0.0017	U	0.00179	U			0.00897	U
	Heptachlor	76-44-8	0.38	0.42	2.1	0.042	0.14	mg/kg	-	-	-	-	-		-	-	-	-	0.000848	U	0.000896	U			0.00449	U
	Aldrin	309-00-2	0.19	0.019	0.097	0.005	0.14	mg/kg	-	-	-	-	-		-	-	-	-	0.0017	U	0.00179	U			0.00897	U
	Heptachlor epoxide	1024-57-3	0.02	0.077	-	-	-	mg/kg	-	-	-	-	-		-	-	-	-	0.00318	U	0.00336	U			0.0168	U
	Endrin	72-20-8	0.06	2.2	11	0.014	0.014	mg/kg	-	-	-	-	-		-	-	-	-	0.000707	U	0.000747	U			0.00374	U
	Endrin ketone	53494-70-5	-	-	-	-	-	mg/kg	-	-	-	-	-		-	-	-	-	0.0017	U	0.00179	U			0.00897	U
	Dieldrin	60-57-1	0.1	0.039	0.2	0.005	0.006	mg/kg	-	-	-	-	-		-	-	-	-	0.00106	U	0.00112	U			0.00561	U
	4,4'-DDE	72-55-9	17	1.8	8.9	0.0033	0.0033	mg/kg	-	-	-	-	-		-	-	-	-	0.0017	U	0.00179	U			0.00897	U
	4,4'-DDD	72-54-8	14	2.6	13	0.0033	0.0033	mg/kg	-	-	-	-	-		-	-	-	-	0.0017	U	0.00179	U			0.00897	U
	4,4'-DDT	50-29-3	136	1.7	7.9	0.0033	0.0033	mg/kg	-	-	-	-	-		-	-	-	-	0.00318	U	0.0123				0.0351	
	Endosulfan I	959-98-8	102	4.8	24	2.4	-	mg/kg	-	-	-	-	-		-	-	-	-	0.0017	U	0.00179	U			0.00897	U
	Endosulfan II	33213-65-9	102	4.8	24	2.4	-	mg/kg	-	-	-	-	-		-	-	-	-	0.0017	U	0.00179	U			0.00897	U
	Endosulfan sulfate	1031-07-8	1000	4.8	24	2.4	-	mg/kg	-	-	-	-	-		-	-	-	-	0.000707	U	0.000747	U			0.00374	U
	Methoxychlor	72-43-5	900	100	-	-	-	mg/kg	-	-	-	-	-		-	-	-	-	0.00318	U	0.00336	U			0.0168	U
	Toxaphene	8001-35-2	-	-	-	-	-	mg/kg	-	-	-	-	-		-	-	-	-	0.0318	U	0.0336	U			0.168	U
	cis-Chlordane	5103-71-9	2.9	0.91	4.2	0.094	-	mg/kg	-	-	-	-	-		-	-	-	-	0.00212	U	0.00224	U			0.0112	U
	trans-Chlordane	5103-74-2	14	0.54	-	-	-	mg/kg	-	-	-	-	-		-	-	-	-	0.00212	U	0.00224	U			0.0112	U
	Chlordane	57-74-9	-	-	-	-	1.3	mg/kg	-	-	-	-	-		-	-	-	-	0.0138	U	0.0146	U			0.0729	U
Polychlorinated Biphenyls																										
	Aroclor 1016	12674-11-2	3.2	1	1	0.1	1	mg/kg	0.835	U	0.174	U	0.0364	U	0.0354	U	0.0437	U	-	-	-	-	0.049	U	-	-
	Aroclor 1221	11104-28-2	3.2	1	1	0.1	1	mg/kg	0.835	U	0.174	U	0.0364	U	0.0354	U	0.0437	U	-	-	-	-	0.049	U	-	-
	Aroclor 1232	11141-16-5	3.2	1	1	0.1	1	mg/kg	0.835	U	0.174	U	0.0364	U	0.0354	U	0.0437	U	-	-	-	-	0.049	U	-	-
	Aroclor 1242	53469-21-9	3.2	1	1	0.1	1	mg/kg	0.835	U	0.174	U	0.0364	U	0.0354	U	0.0437	U	-	-	-	-	0.049	U	-	-
	Aroclor 1248	12672-29-6	3.2	1	1	0.1	1	mg/kg	0.835	U	0.174	U	0.0364	U	0.0354	U	0.0437	U	-	-	-	-	0.049	U	-	-
	Aroclor 1254	11097-69-1	3.2	1	1	0.1	1	mg/kg	7.1		1.74		0.522		0.16		0.0677	P	-	-	-	-	0.102		-	-
	Aroclor 1260	11096-82-5	3.2	1	1	0.1	1	mg/kg	0.835	U	0.174	U	0.0364	U	0.0354	U	0.0437	U	-	-	-	-	0.049	U	-	-
	Aroclor 1262	37324-23-5	3.2	1	1	0.1	1	mg/kg	0.835	U	0.174	U	0.0364	U	0.0354	U	0.0437	U	-	-	-	-	0.049	U	-	-
	Aroclor 1268	11100-14-4	3.2	1	1	0.1	1	mg/kg	0.835	U	0.174	U	0.0364	U	0.0354	U	0.0437	U	-	-	-	-	0.049	U	-	-

Notes:

Yellow highlight indicates concentration exceeds one or more NYSDEC Soil Cleanup Objectives

Gray highlight indicates Reporting Limit exceeds one of more NYSDEC Soil Cleanup Objectives

RESGW - NYSDEC Protection of Groundwater Soil Cleanup Objective

RESR - NYSDEC Residential Use Soil Cleanup Objective

RESRR - NYSDEC Restricted Residential Use Soil Cleanup Objective

UNRES - NYSDEC Unrestricted Use Soil Cleanup Objective

PER- NYSDEC Protection of Ecological Resources Soil Cleanup Objective

Table 3
Summary of Soil Analytical Results
Metals
1 Lawrence Street
Ardsley, Westchester County New York
Brownfield Cleanup Program Site No. C360146

LOCATION							VES-5		VES-7	
SAMPLING DATE							3/1/2014		3/1/2014	
LAB SAMPLE ID							L1404461-01		L1404461-05	
SAMPLE TYPE							Soil		Soil	
SAMPLE DEPTH (ft.)							3.25-4		2-3	
	NYSDEC	NYSDEC	NYSDEC	NYSDEC	NYSDEC					
	RESGW	RESR	RESRR	PER	UNRES	Units		Qual		Qual
Total Metals										
Aluminum, Total	-	-	-		-	mg/kg	7,000		7,000	
Antimony, Total	-	-	-		-	mg/kg	4	U	4.1	U
Arsenic, Total	16	16	16	13	13	mg/kg	4		6.6	
Barium, Total	820	350	400	433	350	mg/kg	38		42	
Beryllium, Total	47	14	72	10	7.2	mg/kg	0.17	J	0.2	J
Cadmium, Total	7.5	2.5	4.3	4	2.5	mg/kg	0.79	U	0.82	U
Calcium, Total	-	-	-	-	-	mg/kg	41,000		21,000	
Chromium, Total	-	-	-	-	-	mg/kg	8.8		14	
Cobalt, Total	-	30	-	-	-	mg/kg	2.5		4.4	
Copper, Total	1,720	270	270	1,720	50	mg/kg	9.2		13	
Iron, Total	-	2,000		-		mg/kg	6,900		12,000	
Lead, Total	450	400	400	63	63	mg/kg	12		5.2	
Magnesium, Total	-	-	-	-	-	mg/kg	3,800		3,500	
Manganese, Total	2,000	2,000	2,000	1,600	1,600	mg/kg	150		170	
Mercury, Total	0.73	0.81	0.81	0.18	0.18	mg/kg	0.06	J	0.07	U
Nickel, Total	130	140	310	30	30	mg/kg	6.4		12	
Potassium, Total	-	-	-	-	-	mg/kg	1,100		1,300	
Selenium, Total	4	36	180	3.9	3.9	mg/kg	1.6	U	1.6	U
Silver, Total	8.3	36	180	2	2	mg/kg	0.79	U	0.82	U
Sodium, Total	-	-	-	-	-	mg/kg	290		120	J
Thallium, Total	-	-	-	-	-	mg/kg	1.6	U	1.6	U
Vanadium, Total	-	100	-	-	-	mg/kg	11		17	
Zinc, Total	2,480	2,200	10,000	109	109	mg/kg	28		28	

Notes:

Yellow highlight indicates concentration exceeds one or more NYSDEC Soil Cleanup Objectives

Gray highlight indicates Reporting Limit exceeds one of more NYSDEC Soil Cleanup Objectives

RESGW - NYSDEC Protection of Groundwater Soil Cleanup Objective

RESR - NYSDEC Residential Use Soil Cleanup Objective

RESRR - NYSDEC Restricted Residential Use Soil Cleanup Objective

UNRES - NYSDEC Unrestricted Use Soil Cleanup Objective

PER - NYSDEC Protection of Ecological Resources Soil Cleanup Objective

Table 4
Summary of Soil Analytical Results
Semi-Volatile Organic Compounds
1 Lawrence Street
Ardsley, Westchester County, New York
Brownfield Cleanup Program Site No. C360146

	LOCATION							VES-2		VES-5		VES-6		VES-7		VES-8	
	SAMPLING DATE							3/1/2014		3/1/2014		3/1/2014		3/1/2014		3/1/2014	
	LAB SAMPLE ID							L1404461-07		L1404461-01		L1404461-04		L1404461-05		L1404461-06	
	SAMPLE TYPE							Soil		Soil		Soil		Soil		Soil	
	SAMPLE DEPTH (ft.)							11-12		3.25-4		2-4		2-3		1-2	
			NYSDEC	NYSDEC	NYSDEC	NYSDEC											
		CP-51	RESGW	RESR	RESRR	UNRES	Units		Qual		Qual		Qual		Qual		Qual
Petroleum Hydrocarbon Quantitation																	
	TPH	-		-	-	-	mg/kg	204		NA		132		NA		16.8	
Semivolatile Organics by GC/MS - Westborough Lab																	
	Acenaphthene	20	-	100	100	20	mg/kg	-	-	0.14	U	0.15	U	0.14	U	0.14	U
	2-Chloronaphthalene	-	-	-	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	Fluoranthene	100	-	100	100	100	mg/kg	-	-	0.11		0.65		0.1	U	0.1	U
	4-Chlorophenyl phenyl ether	-	-	-	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	Bis(2-chloroisopropyl)ether	-	-	-	-	-	mg/kg	-	-	0.21	U	0.23	U	0.2	U	0.21	U
	Bis(2-chloroethoxy)methane	-	-	-	-	-	mg/kg	-	-	0.18	U	0.2	U	0.18	U	0.19	U
	Hexachlorocyclopentadiene	-	-	-	-	-	mg/kg	-	-	0.49	U	0.54	U	0.49	U	0.5	U
	Naphthalene	12	-	100	100	12	mg/kg	-	-	0.17	U	0.072	J	0.17	U	0.18	U
	Bis(2-Ethylhexyl)phthalate	-	435	50	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	Butyl benzyl phthalate	-	122	100	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	Di-n-butylphthalate	-	-	100	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	Di-n-octylphthalate	-	-	100	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	Diethyl phthalate	-	7.1	100	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	Dimethyl phthalate	-	-	100	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	Chrysene	1	-	1	3.9	1	mg/kg	-	-	0.057	J	0.31		0.1	U	0.1	U
	Acenaphthylene	100	-	100	100	100	mg/kg	-	-	0.14	U	0.05	J	0.14	U	0.14	U
	Anthracene	100	-	100	100	100	mg/kg	-	-	0.1	U	0.086	J	0.1	U	0.1	U
	Benzo(ghi)perylene	100	-	100	100	100	mg/kg	-	-	0.14	U	0.2		0.14	U	0.14	U
	Fluorene	30	-	100	100	30	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	Phenanthrene	100	-	100	100	100	mg/kg	-	-	0.075	J	0.44		0.1	U	0.1	U
	Pyrene	100	-	100	100	100	mg/kg	-	-	0.094	J	0.51		0.1	U	0.1	U
	4-Chloroaniline	-	0.22	100	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	2-Nitroaniline	-	0.4	-	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	3-Nitroaniline	-	0.5	-	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	4-Nitroaniline	-	-	-	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	Dibenzofuran	-	-	14	59	7	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	2-Methylnaphthalene	-	36.4	0.41	-	-	mg/kg	-	-	0.21	U	0.23	U	0.2	U	0.21	U
	P-Chloro-M-Cresol	-	-	-	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	2-Nitrophenol	-	0.1	-	-	-	mg/kg	-	-	0.37	U	0.41	U	0.37	U	0.38	U
	Phenol	-	-	100	100	0.33	mg/kg	-	-	0.17	U	0.21		0.17	U	0.18	U
	2-Methylphenol	-	36.4	100	100	0.33	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	3-Methylphenol/4-Methylphenol	-	-	34	100	0.33	mg/kg	-	-	0.25	U	0.27	U	0.24	U	0.25	U
	Carbazole	-	-	-	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	4-Nitrophenol	-	0.1	-	-	-	mg/kg	-	-	0.24	U	0.27	U	0.24	U	0.24	U
	4-Bromophenyl phenyl ether	-	-	-	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	Benzaldehyde	-	-	-	-	-	mg/kg	-	-	0.23	U	0.57		0.22	U	0.23	U
	Caprolactam	-	-	-	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	Acetophenone	-	-	-	-	-	mg/kg	-	-	0.17	U	0.44		0.17	U	0.18	U
	Biphenyl	-	-	-	-	-	mg/kg	-	-	0.39	U	0.43	U	0.39	U	0.4	U
	1,2,4,5-Tetrachlorobenzene	-	-	-	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	2,3,4,6-Tetrachlorophenol	-	-	-	-	-	mg/kg	-	-	0.17	U	0.19	U	0.17	U	0.18	U
	Bis(2-chloroethyl)ether	-	-	-	-	-	mg/kg	-	-	0.089	U	-	-	0.044	U	0.045	U
	2-Chlorophenol	-	-	100	-	-	mg/kg	-	-	0.22	U	-	-	0.11	U	0.11	U
	Benzo(a)anthracene	1	-	1	1	1	mg/kg	-	-	0.069	J	-	-	0.11	U	0.11	U
	n-Nitrosodi-n-propylamine	-	-	-	-	-	mg/kg	-	-	0.089	U	-	-	0.044	U	0.045	U
	Isophorone	-	4.4	100	-	-	mg/kg	-	-	0.089	U	-	-	0.044	U	0.045	U
	Nitrobenzene	-	0.17	3.7	15		mg/kg	-	-	0.089	U	-	-	0.044	U	0.045	U
	2,4-Dichlorophenol	-	0.4	100	-	-	mg/kg	-	-	0.089	U	-	-	0.044	U	0.045	U
	2,4-Dimethylphenol	-	-	-	-	-	mg/kg	-	-	0.31	U	-	-	0.15	U	0.16	U
	2,4,6-Trichlorophenol	-	-	-	-	-	mg/kg	-	-	0.089	U	-	-	0.044	U	0.045	U
	2,4,5-Trichlorophenol	-	0.1	100	-	-	mg/kg	-	-	0.089	U	-	-	0.044	U	0.045	U
	2,6-Dinitrotoluene	-	1	1.03	-	-	mg/kg	-	-	0.089	U	-	-	0.044	U	0.045	U
	2,4-Dinitrophenol	-	0.2	100	-	-	mg/kg	-	-	0.13	U	-	-	0.065	U	0.067	U
	2,4-Dinitrotoluene	-	-	-	-	-	mg/kg	-	-	0.089	U	-	-	0.044	U	0.045	U
	4,6-Dinitro-o-cresol	-	-	-	-	-	mg/kg	-	-	0.13	U	-	-	0.065	U	0.067	U
	NitrosoDiPhenylAmine(NDPA)/DPA	-	-	-	-	-	mg/kg	-	-	0.089	U	-	-	0.044	U	0.045	U
	Atrazine	-	-	-	-	-	mg/kg	-	-	0.089	U	-	-	0.044	U	0.045	U
	3,3'-Dichlorobenzidine	-	-	-	-	-	mg/kg	-	-	0.089	U	-	-	0.044	U	0.045	U
	Benzo(a)pyrene	1	-	1	1	1	mg/kg	-	-	0.079	J	-	-	0.044	U	0.045	U
	Benzo(b)fluoranthene	1	-	1	1	1	mg/kg	-	-	0.075	J	-	-	0.044	U	0.045	U
	Benzo(k)fluoranthene	0.8	-	1	3.9	0.8	mg/kg	-	-	0.08	J	-	-	0.044	U	0.045	U
	Dibenzo(a,h)anthracene	0.33	-	0.33	0.33	0.33	mg/kg	-	-	0.039	J	-	-	0.044	U	0.045	U
	Indeno(1,2,3-cd)Pyrene	0.5	-	0.5	0.5	0.5	mg/kg	-	-	0.065	J	-	-	0.13	U	0.13	U
	Hexachlorobenzene	-	1.4	0.41	1.2	0.33	mg/kg	-	-	0.089	U	-	-	0.044	U	0.045	U
	Pentachlorophenol	-	-	2.4	6.7	0.8	mg/kg	-	-	0.13	U	-	-	0.065	U	0.067	U
	Hexachlorobutadiene	-	-	-	-	-	mg/kg	-	-	0.26	U	-	-	0.13	U	0.13	U
	Hexachloroethane	-	-	-	-	-	mg/kg	-	-	0.089	U	-	-	0.044	U	0.045	U

Notes:

NA - Sample not analyzed for this parameter

RESGW - NYSDEC Protection of Groundwater Soil Cleanup Objective

RESR - NYSDEC Residential Use Soil Cleanup Objective

RESRR - NYSDEC Restricted Residential Use Soil Cleanup Objective

UNRES - NYSDEC Unrestricted Use Soil Cleanup Objective

Table 5
Summary of Groundwater Analytical Results
Volatile Organic Compounds and Semi-Volatile Organic Compounds Detected in Groundwater
1 Lawrence Street
Ardsley, Westchester County, New York
Brownfield Cleanup Program Site No. C360146

	LOCATION					VES-1 GW		VES-1 GWA		VES-2 GW		VES-3 GW		VES-4 GW		VES-5 GW		VES-9 GW		VES-10 GW		VES-11 GW		VES-12 GW		VES-13 GW	
	SAMPLING DATE					3/1/2014		4/18/2014		3/1/2014		3/1/2014		3/1/2014		3/1/2014		4/18/2014		4/18/2014		4/18/2014		4/18/2014		4/18/2014	
	LAB SAMPLE ID					L1404460-02		L1408315-14		L1404460-04		L1404460-03		L1404460-01		L1404460-05		L1408315-03		L1408315-15		L1408315-11		L1408315-13		L1408315-12	
	DEPTH TO GROUNDWATER (FEET BGS)		NYSDEC	NYSDEC		11.5		13.1		11.8		14		7.7		7.99		11.56		11		9.03		4.56		4.9	
		CasNum	AWQS	TOGS-GA	Units		Qual		Qual		Qual		Qual		Qual		Qual		Qual		Qual		Qual		Qual		Qual
Semivolatile Organic Compounds																											
	Acenaphthene	83-32-9	20	20	ug/l	-	-	-	-	80		-	-	2	U	2.5	U	-	-	-	-	0.09	J	-	-	-	-
	3-Methylphenol/4-Methylphenol	108-39-4	-	-	ug/l	-	-	-	-	16	J	-	-	5	U	6.3	U	-	-	-	-	5	U	-	-	-	-
	Fluoranthene	206-44-0	50	50	ug/l	-	-	-	-	340		-	-	2	U	2.5	U	-	-	-	-	0.09	J	-	-	-	-
	Napthalene	91-20-3	10	10	ug/l	-	-	-	-	320				2	U	2.5	U	-	-	-	-	0.2	U	-	-	-	-
	Fluorene	86-73-7	50	50	ug/l	-	-	-	-	92		-	-	2	U	2.5	U	-	-	-	-	0.07	J	-	-	-	-
	Pyrene	129-00-0	50	50	ug/l	-	-	-	-	270		-	-	2	U	2.5	U	-	-	-	-	0.08	J	-	-	-	-
	Chrysene	218-01-9	0.002	0.002	ug/l	-	-	-	-	130		-	-	2	U	2.5	U	-	-	-	-	0.2	U	-	-	-	-
	Acenaphthylene	208-96-8	-	-	ug/l	-	-	-	-	20		-	-	2	U	2.5	U	-	-	-	-	0.2	U	-	-	-	-
	Anthracene	120-12-7	50	50	ug/l	-	-	-	-	120		-	-	2	U	2.5	U	-	-	-	-	0.2	U	-	-	-	-
	Benzo(ghi)perylene	191-24-2	-	-	ug/l	-	-	-	-	64		-	-	2	U	2.5	U	-	-	-	-	0.2	U	-	-	-	-
	Phenanthrene	85-01-8	50	50	ug/l	-	-	-	-	420		-	-	2	U	2.5	U	-	-	-	-	0.2	U	-	-	-	-
	Dibenzofuran	132-64-9	-	-	ug/l	-	-	-	-	70		-	-	2	U	2.5	U	-	-	-	-	2	U	-	-	-	-
	2-Methylnaphthalene	91-57-6	-	-	ug/l	-	-	-	-	50		-	-	2	U	2.5	U	-	-	-	-	0.2	U	-	-	-	-
	Phenol	108-95-2	1	2	ug/l	-	-	-	-	35	U	-	-	5		6.3	U	-	-	-	-	5	U	-	-	-	-
	Total SVOC TICs	-	-	-	ug/l	-	-	-	-	1,200	J	-	-	150	J	74	J	-	-	-	-	34.5		-	-	-	-
Volatile Organic Compounds																											
	Methylene chloride	75-09-2	5	5	ug/l	120	U	2.5	U	12	U	2.5	U	12	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
	1,1-Dichloroethane	75-34-3	5	5	ug/l	120	U	2.5	U	12	U	2.5	U	12	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
	Chloroform	67-66-3	7	7	ug/l	120	U	2.5	U	12	U	2.5	U	12	U	2.5	U	2.5	U	1.4	J	2.5		2.5	U	2.5	U
	Carbon tetrachloride	56-23-5	5	5	ug/l	25	U	0.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
	1,2-Dichloropropane	78-87-5	1	1	ug/l	50	U	1	U	5	U	1	U	5	U	1	U	1	U	1	U	1	U	1	U	1	U
	Dibromochloromethane	124-48-1	50	50	ug/l	25	U	0.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
	1,1,2-Trichloroethane	79-00-5	1	1	ug/l	75	U	1.5	U	7.5	U	1.5	U	7.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
	Tetrachloroethene	127-18-4	5	5	ug/l	2,000		4		12		3.4		2.5	U	0.98		0.5	U	7.4		13		0.5	U	0.5	U
	Chlorobenzene	108-90-7	5	5	ug/l	120	U	2	J	24		2.5	U	12	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.9	
	Trichlorofluoromethane	75-69-4	5	5	ug/l	120	U	2.5	U	5.6	J	22		12	U	2.5	U	2.5	U	3.5		4.6		2.5	U	2.5	U
	1,2-Dichloroethane	107-06-2	0.6	0.6	ug/l	25	U	0.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.32	J	0.5	U	0.5	U	0.49	J
	Benzene	71-43-2	1	1	ug/l	10	J	0.51		270		0.5	U	2.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.16	J
	Vinyl chloride	75-01-4	2	2	ug/l	50	U	1	U	9.4		1	U	5	U	1	U	1	U	1	U	1	U	1	U	2.3	
	trans-1,2-Dichloroethene	156-60-5	5	5	ug/l	120	U	2.1	J	12	U	2.5	U	12	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	3.4	
	Trichloroethene	79-01-6	5	5	ug/l	25	U	0.19	J	5		0.5	U	2.5	U	0.5	U	0.5	U	0.5	U	0.27	J	0.5	U	0.2	J
	cis-1,2-Dichloroethene	156-59-2	5	5	ug/l	120	U	17		12	U	2.5	U	12	U	2.5	U	0.87	J	2.5	U	2.5	U	2.5	U	2.5	U
	Acetone	67-64-1	50	50	ug/l	250	U	5	U	40		5	U	25	U	5	U	5	U	1.3	J	5	U	5	U	1.3	J
	Carbon disulfide	75-15-0	60	60	ug/l	680		1.4	J	640		15		2,600		5	U	5	U	5	U	5	U	1.5	J	5	U
	Total VOC TICs	-	-	-	ug/l	8.5	J			88	J	55	J	8.5	J	ND	-	ND	-	ND	-	2.7		ND	-	ND	-

ug/l = micrograms per liter
Exceeds applicable NYSDEC Standards
Reporting Limit is equal to or exceeds applicable NYSDEC Standard
AWQS: Ambient Water Quality Standards
TOGS: Technical and Operation Guidance Series Source of Drinking Water Groundwater Standards

Table 6
Summary of Groundwater Analytical Results
Metals, PCB, and Pesticides
1 Lawrence Street
Ardsley, Westchester CountyNew York
Brownfield Cleanup Program Site No. C360146

	LOCATION					SB-74 GW		VES-12 GW		VES-12 GW		VES-14 GW		VES-14 GW		VES-15 GW		VES-15 GW	
	SAMPLING DATE					4/17/2014		4/18/2014		4/18/2014		4/17/2014		4/17/2014		4/18/2014		4/18/2014	
	LAB SAMPLE ID					L1408315-16		L1408315-13		L1408315-13 R1		L1408315-17		L1408315-17 R1		L1408315-02		L1408315-02 R1	
	DEPTH TO GROUNDWATER (FEET BGS)		NYSDEC	NYSDEC		9.89		4.56		4.56		10.28		10.28		11.35		11.35	
		CasNum	AWQS	TOGS-GA	Units		Qual		Qual		Qual		Qual		Qual		Qual		Qual
Dissolved Metals																			
	Aluminum, Dissolved	7429-90-5		2000	ug/l	-	-	-		4.89	J	-	-	-	-	-		66	
	Antimony, Dissolved	7440-36-0	3	6	ug/l	-	-	-		0.17	J	-	-	-	-	-		0.58	J
	Arsenic, Dissolved	7440-38-2	25	50	ug/l	-	-	-		1.66		-	-	-	-	-		0.5	
	Barium, Dissolved	7440-39-3	1000	2000	ug/l	-	-	-		70.4		-	-	-	-	-		21.61	
	Beryllium, Dissolved	7440-41-7	3	3	ug/l	-	-	-		0.5	U	-	-	-	-	-		0.5	U
	Cadmium, Dissolved	7440-43-9	5	10	ug/l	-	-	-		0.2	U	-	-	-	-	-		0.12	J
	Calcium, Dissolved	7440-70-2			ug/l	-	-	188,000		-	-	-	-	-	-	174,000		-	
	Chromium, Dissolved	7440-47-3	50	100	ug/l	-	-	-		0.36	J	-	-	-	-	-		0.58	J
	Cobalt, Dissolved	7440-48-4			ug/l	-	-	-		0.2	J	-	-	-	-	-		1.14	
	Copper, Dissolved	7440-50-8	200	1000	ug/l	-	-	-		1.07		-	-	-	-	-		2.15	
	Iron, Dissolved	7439-89-6	300	600	ug/l	-	-	-		6,550		-	-	-	-	-		351	
	Lead, Dissolved	7439-92-1	25	50	ug/l	-	-	-		1	U	-	-	-	-	-		0.31	J
	Magnesium, Dissolved	7439-95-4	35000	35000	ug/l	-	-	96,200		-	-	-	-	-	-	-		38,200	
	Manganese, Dissolved	7439-96-5	300	600	ug/l	-	-	1,050		-	-	-	-	-	-	-		127.7	
	Mercury, Dissolved	7439-97-6	0.7	1.4	ug/l	-	-	0.2	U	-	-	-	-	-	-	0.2	U	-	
	Nickel, Dissolved	7440-02-0	100	200	ug/l	-	-	-		1.74		-	-	-	-	-		7.96	
	Potassium, Dissolved	7440-09-7			ug/l	-	-	-		8,820		-	-	-	-	-		10,900	
	Selenium, Dissolved	7782-49-2	10	20	ug/l	-	-	-		1.01	J	-	-	-	-	-		1.77	J
	Silver, Dissolved	7440-22-4	50	100	ug/l	-	-	-		0.4	U	-	-	-	-	-		0.4	U
	Sodium, Dissolved	7440-23-5	20000		ug/l	-	-	310,000		-	-	-	-	-	-	-		27,100	
	Thallium, Dissolved	7440-28-0	0.5	0.5	ug/l	-	-	-		0.5	U	-	-	-	-	-		0.04	J
	Vanadium, Dissolved	7440-62-2			ug/l	-	-	-		0.25	J	-	-	-	-	-		0.71	J
	Zinc, Dissolved	7440-66-6	2000	5000	ug/l	-	-	-		4.35	J	-	-	-	-	-		21.94	
Organochlorine Pesticides																			
	Delta-BHC	319-86-8	0.04	0.04	ug/l	-		-		-		0.02	U	-	-	-		-	
	Lindane	58-89-9	0.05	0.05	ug/l	-		-		-		0.03	P	-	-	-		-	
	Alpha-BHC	319-84-6	0.01	0.01	ug/l	-		-		-		0.023		-	-	-		-	
	Beta-BHC	319-85-7	0.04	0.04	ug/l	-		-		-		0.21		-	-	-		-	
	Heptachlor	76-44-8	0.04	0.04	ug/l	-		-		-		0.02	U	-	-	-		-	
	Aldrin	309-00-2	0	0	ug/l	-		-		-		0.039	P	-	-	-		-	
	Heptachlor epoxide	1024-57-3	0.03	0.03	ug/l	-		-		-		0.02	U	-	-	-		-	
	Endrin	72-20-8	0	0	ug/l	-		-		-		0.077		-	-	-		-	
	Endrin ketone	53494-70-5	5	5	ug/l	-		-		-		0.45		-	-	-		-	
	Dieldrin	60-57-1	0.004	0.004	ug/l	-		-		-		2.13	E	5.26		-		-	
	4,4'-DDE	72-55-9	0.2	0.2	ug/l	-		-		-		0.04	U	-	-	-		-	
	4,4'-DDD	72-54-8	0.3	0.3	ug/l	-		-		-		0.04	U	-	-	-		-	
	4,4'-DDT	50-29-3	0.2	0.2	ug/l	-		-		-		0.07		-	-	-		-	
	Endosulfan I	959-98-8			ug/l	-		-		-		0.02	U	-	-	-		-	
	Endosulfan II	33213-65-9			ug/l	-		-		-		0.04	U	-	-	-		-	
	Endosulfan sulfate	1031-07-8			ug/l	-		-		-		0.04	U	-	-	-		-	
	Methoxychlor	72-43-5	35	35	ug/l	-		-		-		0.2	U	-	-	-		-	
	Toxaphene	8001-35-2	0.06	0.06	ug/l	-		-		-		0.2	U	-	-	-		-	
	cis-Chlordane	5103-71-9			ug/l	-		-		-		0.02	U	-	-	-		-	
	trans-Chlordane	5103-74-2			ug/l	-		-		-		0.02	U	-	-	-		-	
	Chlordane	57-74-9	0.05	0.05	ug/l	-		-		-		0.2	U	-	-	-		-	
Polychlorinated Biphenyls																			
	Aroclor 1016	12674-11-2	0.09	0.09	ug/l	0.1	U	-		-		-	-	-	-	-		-	
	Aroclor 1221	11104-28-2	0.09	0.09	ug/l	0.1	U	-		-		-	-	-	-	-		-	
	Aroclor 1232	11141-16-5	0.09	0.09	ug/l	0.1	U	-		-		-	-	-	-	-		-	
	Aroclor 1242	53469-21-9	0.09	0.09	ug/l	0.1	U	-		-		-	-	-	-	-		-	
	Aroclor 1248	12672-29-6	0.09	0.09	ug/l	0.1	U	-		-		-	-	-	-	-		-	
	Aroclor 1254	11097-69-1	0.09	0.09	ug/l	0.1	U	-		-		-	-	-	-	-		-	
	Aroclor 1260	11096-82-5	0.09	0.09	ug/l	0.1	U	-		-		-	-	-	-	-		-	
	Aroclor 1262	37324-23-5	0.09	0.09	ug/l	0.1	U	-		-		-	-	-	-	-		-	
	Aroclor 1268	11100-14-4	0.09	0.09	ug/l	0.1	U	-		-		-	-	-	-	-		-	

ug/l = micrograms per liter
Concentration exceeds one or more NYSDEC Ambient Water Quality Standard and / or Class GA Groundwater Effluent Limit

Table 7
Summary of Analytical Results
Surface Water Samples Collected April 18, 2014
1 Lawrence Street
Ardsley, Westchester County, New York
Brownfield Cleanup Program Site No. C360146

LOCATION				VSW-1		VSW-2		VSW-3	
SAMPLING DATE				4/18/2014		4/18/2014		4/18/2014	
LAB SAMPLE ID		NYSDEC		L1408314-01		L1408314-03		L1408314-05	
	CasNum	AWQS	Units		Qual		Qual		Qual
Volatile Organics by GC/MS									
Methylene chloride	75-09-2	5	ug/l	2.5	U	2.5	U	2.5	U
1,1-Dichloroethane	75-34-3	5	ug/l	2.5	U	2.5	U	2.5	U
Chloroform	67-66-3	7	ug/l	2.5	U	2.5	U	2.5	U
Carbon tetrachloride	56-23-5	0.4	ug/l	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	78-87-5	1	ug/l	1	U	1	U	1	U
Dibromochloromethane	124-48-1	50	ug/l	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	79-00-5	1	ug/l	1.5	U	1.5	U	1.5	U
Tetrachloroethene	127-18-4	0.7	ug/l	0.5	U	0.5	U	0.5	U
Chlorobenzene	108-90-7	5	ug/l	2.5	U	2.5	U	2.5	U
Trichlorofluoromethane	75-69-4	5	ug/l	2.5	U	2.5	U	2.5	U
1,2-Dichloroethane	107-06-2	0.6	ug/l	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	71-55-6	5	ug/l	2.5	U	2.5	U	2.5	U
Bromodichloromethane	75-27-4	50	ug/l	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	10061-02-6	-	ug/l	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	10061-01-5	-	ug/l	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	563-58-6	5	ug/l	2.5	U	2.5	U	2.5	U
Bromoform	75-25-2	50	ug/l	2	U	2	U	2	U
1,1,2,2-Tetrachloroethane	79-34-5	0.2	ug/l	0.5	U	0.5	U	0.5	U
Benzene	71-43-2	1	ug/l	0.5	U	0.5	U	0.5	U
Toluene	108-88-3	5	ug/l	2.5	U	2.5	U	2.5	U
Ethylbenzene	100-41-4	5	ug/l	2.5	U	2.5	U	2.5	U
Chloromethane	74-87-3	-	ug/l	2.5	U	2.5	U	2.5	U
Bromomethane	74-83-9	5	ug/l	2.5	U	2.5	U	2.5	U
Vinyl chloride	75-01-4	0.3	ug/l	1	U	1	U	1	U
Chloroethane	75-00-3	5	ug/l	2.5	U	2.5	U	2.5	U
1,1-Dichloroethene	75-35-4	0.7	ug/l	0.5	U	0.5	U	0.5	U
trans-1,2-Dichloroethene	156-60-5	5	ug/l	2.5	U	2.5	U	2.5	U
Trichloroethene	79-01-6	5	ug/l	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	95-50-1	3	ug/l	2.5	U	2.5	U	2.5	U
1,3-Dichlorobenzene	541-73-1	3	ug/l	2.5	U	2.5	U	2.5	U
1,4-Dichlorobenzene	106-46-7	3	ug/l	2.5	U	2.5	U	2.5	U
Methyl tert butyl ether	1634-04-4	10	ug/l	2.5	U	2.5	U	2.5	U
p/m-Xylene	179601-23-1	5	ug/l	2.5	U	2.5	U	2.5	U
o-Xylene	95-47-6	5	ug/l	2.5	U	2.5	U	2.5	U
cis-1,2-Dichloroethene	156-59-2	5	ug/l	2.5	U	2.5	U	2.5	U
Dibromomethane	74-95-3	5	ug/l	5	U	5	U	5	U
1,2,3-Trichloropropane	96-18-4	0.04	ug/l	2.5	U	2.5	U	2.5	U
Acrylonitrile	107-13-1	0.07	ug/l	5	U	5	U	5	U
Styrene	100-42-5	5	ug/l	2.5	U	2.5	U	2.5	U
Dichlorodifluoromethane	75-71-8	5	ug/l	5	U	5	U	5	U
Acetone	67-64-1	50	ug/l	5	U	5	U	5	U
Carbon disulfide	75-15-0		ug/l	5	U	5	U	5	U
2-Butanone	78-93-3	50	ug/l	5	U	5	U	5	U
Vinyl acetate	108-05-4	-	ug/l	5	U	5	U	5	U
4-Methyl-2-pentanone	108-10-1	-	ug/l	5	U	5	U	5	U
2-Hexanone	591-78-6	50	ug/l	5	U	5	U	5	U
Bromochloromethane	74-97-5	5	ug/l	2.5	U	2.5	U	2.5	U
2,2-Dichloropropane	594-20-7	5	ug/l	2.5	U	2.5	U	2.5	U
1,2-Dibromoethane	106-93-4	5	ug/l	2	U	2	U	2	U
1,3-Dichloropropane	142-28-9	5	ug/l	2.5	U	2.5	U	2.5	U
1,1,1,2-Tetrachloroethane	630-20-6	5	ug/l	2.5	U	2.5	U	2.5	U
Bromobenzene	108-86-1	5	ug/l	2.5	U	2.5	U	2.5	U
n-Butylbenzene	104-51-8	5	ug/l	2.5	U	2.5	U	2.5	U
sec-Butylbenzene	135-98-8	5	ug/l	2.5	U	2.5	U	2.5	U
tert-Butylbenzene	98-06-6	5	ug/l	2.5	U	2.5	U	2.5	U
o-Chlorotoluene	95-49-8	5	ug/l	2.5	U	2.5	U	2.5	U
p-Chlorotoluene	106-43-4	5	ug/l	2.5	U	2.5	U	2.5	U
1,2-Dibromo-3-chloropropane	96-12-8	0.04	ug/l	2.5	U	2.5	U	2.5	U
Hexachlorobutadiene	87-68-3	0.01	ug/l	2.5	U	2.5	U	2.5	U
Isopropylbenzene	98-82-8	2.6	ug/l	2.5	U	2.5	U	2.5	U
p-Isopropyltoluene	99-87-6	5	ug/l	2.5	U	2.5	U	2.5	U
Naphthalene	91-20-3	10	ug/l	2.5	U	2.5	U	2.5	U
n-Propylbenzene	103-65-1	5	ug/l	2.5	U	2.5	U	2.5	U
1,2,3-Trichlorobenzene	87-61-6	5	ug/l	2.5	U	2.5	U	2.5	U
1,2,4-Trichlorobenzene	120-82-1	5	ug/l	2.5	U	2.5	U	2.5	U
1,3,5-Trimethylbenzene	108-67-8	5	ug/l	2.5	U	2.5	U	2.5	U
1,2,4-Trimethylbenzene	95-63-6	5	ug/l	2.5	U	2.5	U	2.5	U
1,4-Dioxane	123-91-1	-	ug/l	250	U	250	U	250	U
p-Diethylbenzene	105-05-5	-	ug/l	2	U	2	U	2	U
p-Ethyltoluene	622-96-8	-	ug/l	2	U	2	U	2	U
1,2,4,5-Tetramethylbenzene	95-93-2	5	ug/l	2	U	2	U	2	U
Ethyl ether	60-29-7	-	ug/l	2.5	U	2.5	U	2.5	U
trans-1,4-Dichloro-2-butene	110-57-6	5	ug/l	2.5	U	2.5	U	2.5	U

Reporting limit equal to or greater than applicable NYSDEC AWQS

Table 8
Laboratory Analytical Results
Sediment Samples Collected April 18, 2014
1 Lawrence Street
Ardsley, Westchester County, New York
Brownfield Cleanup Program Site No. C360146

	LOCATION							VSED-1			VSED-2			VSED-3		
	SAMPLING DATE							4/18/2014			4/18/2014			4/18/2014		
	LAB SAMPLE ID							L1408314-02			L1408314-04			L1408314-06		
	SAMPLE TYPE		Human Health	Benthic Aquatic Life	Benthic Aquatic Life	Wildlife		Sediment			Sediment			Sediment		
	SAMPLE DEPTH (ft.)		Bioaccumulation	Acute Toxicity	Chronic Toxicity	Bioaccumulation		0-6"			0-6"			0-6"		
		CasNum	ug/gOC	ug/gOC	ug/gOC	ug/gOC	Units	ug/kg	Qual	ug/gOC		Qual	ug/gOC		Qual	ug/gOC
General Chemistry - Westborough Lab																
	Solids, Total	NONE	-	-	-	-	%	53.6			57.5			71.2		
Organochlorine Pesticides																
	Delta-BHC	319-86-8	-	-	-	-	ug/kg	29.6	U	-	2.63	U	-	42.5	U	-
	Lindane	58-89-9	-	-	-	-	ug/kg	12.3	U	-	1.09	U	-	17.7	U	-
	Alpha-BHC	319-84-6	-	-	-	-	ug/kg	12.3	U	-	1.09	U	-	17.7	U	-
	Beta-BHC	319-85-7	-	-	-	-	ug/kg	29.6	U	-	2.63	U	-	42.5	U	-
	Heptachlor	76-44-8	0.0008	13.1	0.1	0.03	ug/kg	14.8	U	-	1.31	U	-	21.2	U	-
	Aldrin	309-00-2	0.1	-	-	0.77	ug/kg	29.6	U	-	2.63	U	-	42.5	U	-
	Heptachlor epoxide	1024-57-3	0.008	13.1	0.1	0.03	ug/kg	55.6	U	-	4.92	U	-	79.7	U	-
	Endrin	72-20-8	-	0.8	4.0(E)[1]	-	ug/kg	12.3	U	-	1.09	U	-	17.7	U	-
	Endrin ketone	53494-70-5	-	-	-	-	ug/kg	29.6	U	-	2.63	U	-	42.5	U	-
	Dieldrin	60-57-1	0.1	-	9.0(E)[5]	-	ug/kg	18.5	U	-	1.64	U	-	26.6	U	-
	4,4'-DDE	72-55-9	0.01	1100	1	1	ug/kg	29.6	U	-	2.63	U	-	42.5	U	-
	4,4'-DDD	72-54-8	0.01	1100	1	1	ug/kg	29.6	U	-	2.63	U	-	42.5	U	-
	4,4'-DDT	50-29-3	0.01	1100	1	1	ug/kg	55.6	U	-	4.92	U	-	79.7	U	-
	Endosulfan I	959-98-8	-	0.78	0.03	-	ug/kg	29.6	U	-	2.63	U	-	42.5	U	-
	Endosulfan II	33213-65-9	-	0.78	0.03	-	ug/kg	29.6	U	-	2.63	U	-	42.5	U	-
	Endosulfan sulfate	1031-07-8	-	-	-	-	ug/kg	12.3	U	-	1.09	U	-	17.7	U	-
	Methoxychlor	72-43-5	-	-	0.6	-	ug/kg	55.6	U	-	4.92	U	-	79.7	U	-
	Toxaphene	8001-35-2	0.02	3.2	0.01	-	ug/kg	556	U	-	49.2	U	-	797	U	-
	cis-Chlordane	5103-71-9	-	-	-	-	ug/kg	37	U	-	3.28	U	-	53.1	U	-
	trans-Chlordane	5103-74-2	-	-	-	-	ug/kg	37	U	-	3.28	U	-	53.1	U	-
	Chlordane	57-74-9	0.001	1.4	0.03	0.006	ug/kg	241	U	-	21.3	U	-	345	U	-
Polychlorinated Biphenyls																
	Aroclor 1016	12674-11-2	0.0008	2760.8	19.3	1.4	ug/kg	297	U	-	54.6	U	-	446	U	-
	Aroclor 1221	11104-28-2	0.0008	2760.8	19.3	1.4	ug/kg	297	U	-	54.6	U	-	446	U	-
	Aroclor 1232	11141-16-5	0.0008	2760.8	19.3	1.4	ug/kg	297	U	-	54.6	U	-	446	U	-
	Aroclor 1242	53469-21-9	0.0008	2760.8	19.3	1.4	ug/kg	297	U	-	54.6	U	-	446	U	-
	Aroclor 1248	12672-29-6	0.0008	2760.8	19.3	1.4	ug/kg	297	U	-	54.6	U	-	446	U	-
	Aroclor 1254	11097-69-1	0.0008	2760.8	19.3	1.4	ug/kg	1550		20.23169	54.6	U	-	3310		147.9367
	Aroclor 1260	11096-82-5	0.0008	2760.8	19.3	1.4	ug/kg	406		5.299397	54.6	U	-	558		24.93917
	Aroclor 1262	37324-23-5	0.0008	2760.8	19.3	1.4	ug/kg	297	U	-	54.6	U	-	446	U	-
	Aroclor 1268	11100-14-4	0.0008	2760.8	19.3	1.4	ug/kg	297	U	-	54.6	U	-	446	U	-
	Total PCBs	-	0.0008	2760.8	19.3	1.4	ug/kg	1956	-	25.53109	-	-	-	3868	-	172.8758

Table 8
Laboratory Analytical Results
Sediment Samples Collected April 18, 2014
1 Lawrence Street
Ardsley, Westchester County, New York
Brownfield Cleanup Program Site No. C360146

	LOCATION							VSED-1			VSED-2			VSED-3		
	SAMPLING DATE							4/18/2014			4/18/2014			4/18/2014		
	LAB SAMPLE ID							L1408314-02			L1408314-04			L1408314-06		
	SAMPLE TYPE		Human Health	Benthic Aquatic Life	Benthic Aquatic Life	Wildlife		Sediment			Sediment			Sediment		
	SAMPLE DEPTH (ft.)		Bioaccumulation	Acute Toxicity	Chronic Toxicity	Bioaccumulation		0-6"			0-6"			0-6"		
		CasNum	ug/gOC	ug/gOC	ug/gOC	ug/gOC	Units	ug/kg	Qual	ug/gOC		Qual	ug/gOC		Qual	ug/gOC
Semivolatile Organics by GC/MS																
	Acenaphthene	83-32-9	-	-	140(E)[2]	-	ug/kg	77	J	1.005058	230	U	-	180	U	-
	Fluoranthene	206-44-0	-	-	1,020(E)[1]	-	ug/kg	1200		15.66324	170	U	-	490		21.89999
	Naphthalene	91-20-3	-	258	30	-	ug/kg	210	J	2.741068	280	U	-	230	U	-
	Bis(2-Ethylhexyl)phthalate	117-81-7	-	-	199.5	-	ug/kg	150	J	1.957905	280	U	-	560		25.02856
	Benzo(a)anthracene	56-55-3	-	94	12	-	ug/kg	560		7.309514	170	U	-	200		8.938771
	Benzo(a)pyrene	50-32-8	1.3	-	-	-	ug/kg	530		6.917932	230	U	-	200		8.938771
	Benzo(b)fluoranthene	205-99-2	-	-	-	-	ug/kg	860		11.22532	170	U	-	270		12.06734
	Benzo(k)fluoranthene	207-08-9	-	-	-	-	ug/kg	290		3.785284	170	U	-	110	J	4.916324
	Chrysene	218-01-9	-	-	-	-	ug/kg	600		7.831622	170	U	-	240		10.72652
	Acenaphthylene	208-96-8	-	-	-	-	ug/kg	78	J	1.018111	230	U	-	180	U	-
	Anthracene	120-12-7	-	986	107	-	ug/kg	170	J	2.218959	170	U	-	50	J	2.234693
	Benzo(ghi)perylene	191-24-2	-	-	-	-	ug/kg	410		5.351608	230	U	-	140	J	6.257139
	Fluorene	86-73-7	-	73	8	-	ug/kg	140	J	1.827378	280	U	-	230	U	-
	Phenanthrene	85-01-8	-	-	120(E)[6]	-	ug/kg	610		7.962149	170	U	-	220		9.832648
	Dibenzo(a,h)anthracene	53-70-3	-	-	-	-	ug/kg	99	J	1.292218	170	U	-	140	U	-
	Indeno(1,2,3-cd)Pyrene	193-39-5	-	-	-	-	ug/kg	450		5.873716	230	U	-	150	J	6.704078
	Pyrene	129-00-0	-	8,775	961	-	ug/kg	990		12.92218	170	U	-	420		18.77142
	Dibenzofuran	132-64-9	-	-	-	-	ug/kg	120	J	1.566324	280	U	-	230	U	-
	Carbazole	86-74-8	-	-	-	-	ug/kg	110	J	1.435797	280	U	-	230	U	-
	SVOC TICs	-	-	-	-	-	ug/kg	21.02	J	0.274368	8.06	J	0.105205	10.3	J	0.460347
Volatile Organics by GC/MS																
	Toluene	108-88-3	-	235	49	-	ug/kg	0.55	J	0.007179	0.53	J		0.42	J	0.018771
	Ethylbenzene	100-41-4	-	212	24	-	ug/kg	1.9	U	-	1.7	U	-	1.4	U	-
	Chloromethane	74-87-3	-	-	-	-	ug/kg	9.3	U	-	8.7	U	-	7	U	-
	Bromomethane	74-83-9	-	-	-	-	ug/kg	3.7	U	-	3.5	U	-	2.8	U	-
	Vinyl chloride	75-01-4	0.07	-	-	-	ug/kg	0.42	J	0.005482	3.5	U	-	2.8	U	-
	Acetone	67-64-1	-	-	-	-	ug/kg	71		0.926742	49			63		2.815713
	Carbon disulfide	75-15-0	-	-	-	-	ug/kg	19	U	-	31			14	U	-
	2-Butanone	78-93-3	-	-	-	-	ug/kg	16	J	0.208843	8.7	J		16		0.715102
	VOC TICs	-	-	-	-	-	ug/kg	ND	-	-	-	ND	-	ND	-	
Total Organic Carbon																
	Total Organic Carbon (Rep1)	7440-44-0	-	-	-	-	mg/kg	76700			14700			20600		
	Total Organic Carbon (Rep2)	7440-44-0	-	-	-	-	mg/kg	60200			16700			22400		

Exceeds one of more of the NYSDEC Sediment Criteria

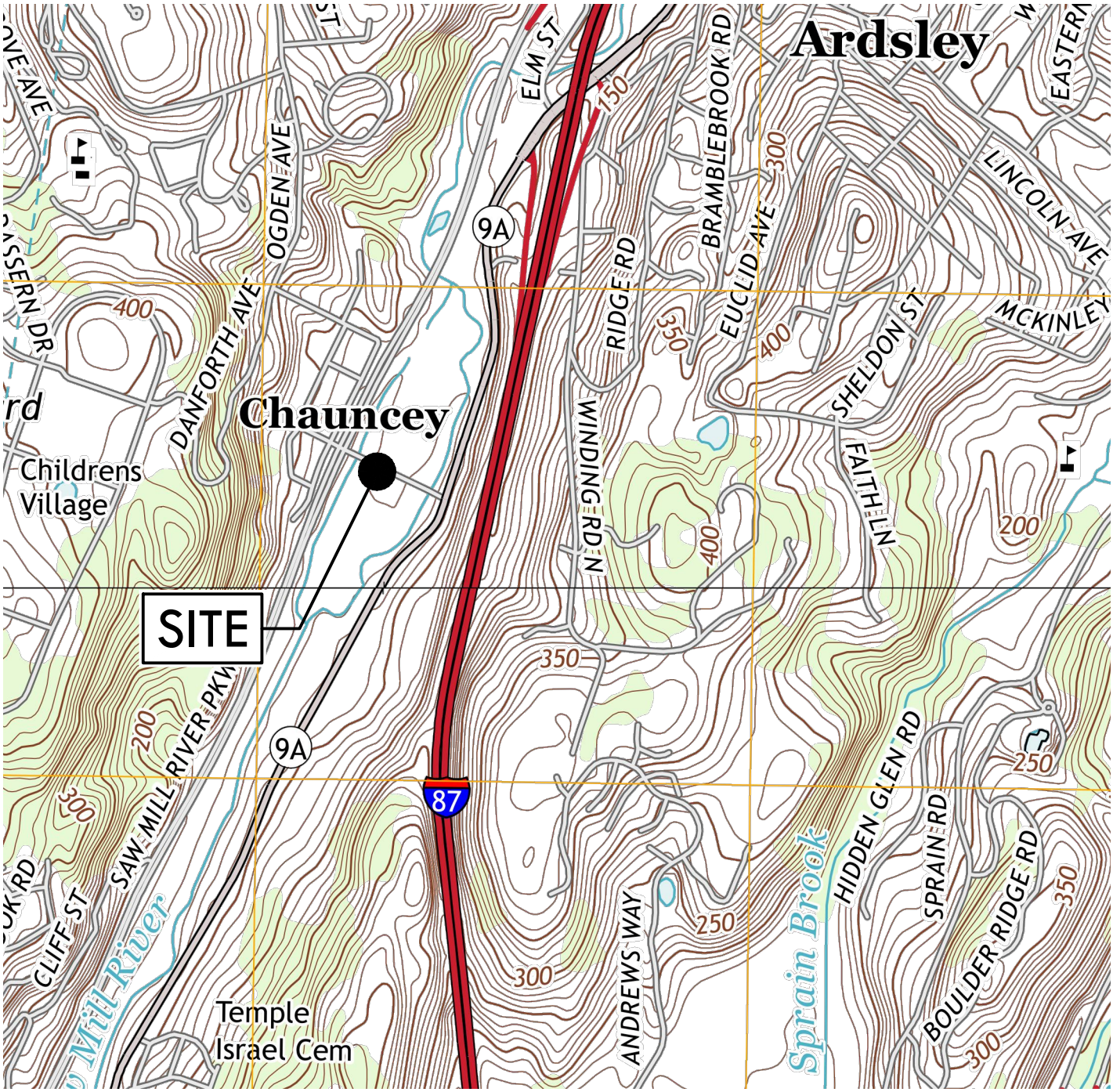
Table 8
Laboratory Analytical Results
Sediment Samples Collected April 18, 2014
1 Lawrence Street
Ardsley, Westchester County New York

	LOCATION					VSED-1		VSED-2		VSED-3	
	SAMPLING DATE					4/18/2014		4/18/2014		4/18/2014	
	LAB SAMPLE ID					L1408314-02		L1408314-04		L1408314-06	
	SAMPLE TYPE		Lowest	Severe		Sediment		Sediment		Sediment	
	SAMPLE DEPTH (ft.)		Effect Level	Effect Level		0-6"		0-6"		0-6"	
		CasNum	ug/g (ppm)	ug/g (ppm)	Units	ug/kg	Qual		Qual		Qual
General Chemistry - Westborough Lab											
	Solids, Total	NONE	-	-	%	53.6		57.5		71.2	
Total Metals											
	Aluminum, Total	7429-90-5	-	-	ug/g	13,000		18,000		12,000	
	Antimony, Total	7440-36-0	2	25	ug/g	1.7	J	6.9	U	2.4	J
	Arsenic, Total	7440-38-2	6	33	ug/g	12		7.2		11	
	Barium, Total	7440-39-3	-	-	ug/g	110		110		42	
	Beryllium, Total	7440-41-7	-	-	ug/g	0.48	J	0.84		0.66	
	Cadmium, Total	7440-43-9	0.6	9	ug/g	0.25	J	0.32	J	1.1	U
	Calcium, Total	7440-70-2	-	-	ug/g	4,900		2,300		3,000	
	Chromium, Total	7440-47-3	26	110	ug/g	150		48		180	
	Cobalt, Total	7440-48-4	-	-	ug/g	9.6		20		31	
	Copper, Total	7440-50-8	16	110	ug/g	61		26		66	
	Iron, Total	7439-89-6	2%	4%	ug/g	21,000		18,000		11,000	
	Lead, Total	7439-92-1	31	110	ug/g	88		10		42	
	Magnesium, Total	7439-95-4	-	-	ug/g	6,000		5,200		2,900	
	Manganese, Total	7439-96-5	460	1100	ug/g	370		200		190	
	Mercury, Total	7439-97-6	0.15	1.3	ug/g	0.35		0.06	J	0.05	J
	Nickel, Total	7440-02-0	16	50	ug/g	25		51		85	
	Potassium, Total	7440-09-7	-	-	ug/g	1,500		570		520	
	Selenium, Total	7782-49-2	-	-	ug/g	0.69	J	1.4	J	0.38	J
	Silver, Total	7440-22-4	1	2.2	ug/g	1.4	U	1.4	U	1.1	U
	Sodium, Total	7440-23-5	-	-	ug/g	420		280		340	
	Thallium, Total	7440-28-0	-	-	ug/g	2.8	U	2.7	U	2.2	U
	Vanadium, Total	7440-62-2	-	-	ug/g	28		28		13	
	Zinc, Total	7440-66-6	120	270	ug/g	200		220		280	
Total Organic Carbon											
	Total Organic Carbon (Rep1)	7440-44-0	-	-	mg/kg	76,700		14,700		20,600	
	Total Organic Carbon (Rep2)	7440-44-0	-	-	mg/kg	60,200		16,700		22,400	

Exceeds Lowest and / or Severe Effect Level

Reporting Limit is above standard

FIGURES



LEGEND:

N

0 2000 4000 6000

SCALE: 1" = 2000'

(WHEN PRINTED AT 8x11)

SOURCE: UNITED STATES GEOLOGICAL SURVEY MAP WHITE PLAINS QUADRANGLE NEW YORK-WESTCHESTER COUNTY 7.5 MINUTE SERIES (2013) AND MOUNT VERNON QUADRANGLE NEW YORK 7.5 MINUTE SERIES (2013)

SITE LOCUS

AKZO NOBEL
PILOT PLANT

1 LAWRENCE STREET
ARDSLEY, NEW YORK

File No.:	14-28366
Date:	MARCH 2014
Drawn:	KHH
Checked:	LPV
Job No.:	28366

FIGURE 1

VERTEX®

LEGEND:

SITE BOUNDARY

EXISTING MONITORING WELL LOCATION

SUMMARY OF IDENTIFIED AREAS OF CONCERN

1	FORMER PILOT PLANT
B	MINI LAB
C	CATALYST PILOT PLANT
D	MULTI-PURPOSE PILOT PLANT
E	FATTY AMINES PILOT PLANT
F	MULTI-FUNCTION ENGINE DETERGENTS LAB
G	INORGANICS AREA
H	POLYMER MODULE
I	CRYSTEX MODULE / MAINTENANCE SHOP
J	POWDER MATERIALS ROOM / AUTOCLAVE MODULE 5 AREA
2	FORMER OFFICE
3	FORMER WHEY BUILDING
4	FORMER HAZARDOUS WASTE STORAGE PAD AND SOLVENT SHED
5	FORMER WHITE HOUSE BUILDING
6	FORMER MACHINE SHOP
7	FORMER WASTEWATER TREATMENT PITS
8	FOUR FORMER 10,000-GALLON FUEL OIL USTS AND
9	THREE 20,000-GALLON CARBON DISULFIDE USTS
10	TWO FORMER 2,000-GALLON #4 FUEL OILS USTS
11	FORMER 13,000-GALLON #6 FUEL OIL UST (BURIED RAILCAR)
12	FORMER 550-GALLON GASOLINE UST
13	FORMER RAILCAR LOADING AREA
14	FORMER SEPTIC SYSTEM COLLECTION PITS
15	FORMER SEPTIC TILE FIELD
16	FORMER PRE-SANITARY COLLECTION PIT
17	FORMER OUTDOOR EQUIPMENT STORAGE PAD
18	FORMER AREA SCRUBBER SUMP
19	FORMER MINI LAB SUMP
20	DEBRIS PILE
21	FORMER LOCATION OF POTASH PLANT
MA	LOCATION OF METALLIC ANOMALIES IN PAVED PARKING AREAS

APPROXIMATE LOCATION OF FORMER COAL STORAGE AREAS

SEDIMENT & SURFACE WATER SAMPLE LOCATION

N

0 200 400 600

SCALE: 1" = 200'-0"

(WHEN PRINTED AT 11x17)

VERTEX

REVISIONS

FIGURE 2

File No.:	14-28366
Date:	DECEMBER 2015
Drawn:	JC
Checked:	MM
Job No.:	28366

SITE SCHEMATIC

ONE LAWRENCE STREET

1 LAWRENCE STREET
ARDSLEY, NEW YORK
BCP SITE ID NO. C360146

P:\5) PROJECTS\10000-10099\10093.CA - Vertex ACAD\3_Data Development\ACAD\XE-BASE_14-28366 - TDI Real Estate_VTXR2.dwg
Wednesday, January 13, 2016 2:09:07 PM

LEGEND:

1 FORMER PILOT PLANT
2 FORMER OFFICE
3 FORMER WHEY BUILDING
4 FORMER STORAGE SHED
5 FORMER WHITE HOUSE BUILDING
6 FORMER MACHINE SHOP

SITE BOUNDARY

EXISTING MONITORING WELL LOCATION

SAMPLES COLLECTED MARCH 1, 2014:

GROUNDWATER SAMPLE LOCATION

SOIL & GROUNDWATER SAMPLE LOCATION

SOIL SAMPLE LOCATION

SAMPLES COLLECTED APRIL 14-18, 2014:

LOCATION OF GROUNDWATER SAMPLE FOR PCB ANALYSIS

LOCATION OF GROUNDWATER SAMPLE FOR PESTICIDE ANALYSIS

LOCATION OF GROUNDWATER SAMPLE FOR METALS ANALYSIS

LOCATION OF GROUNDWATER SAMPLE FOR VOC & SVOC ANALYSIS

LOCATION OF GROUNDWATER SAMPLE FOR VOC ANALYSIS

LOCATION OF GROUNDWATER SAMPLE FOR VOC & METALS ANALYSIS

SEDIMENT & SURFACE WATER SAMPLE LOCATION

NYSDEC CRITERIA = NYSDEC AMBIENT WATER QUALITY STANDARDS

HIGHLIGHTED RESULT INDICATES AN EXCEEDANCE OF THE NYSDEC AWQS

Well ID	NYSDEC Criteria (µg/L)	Concentration (µg/L)	
Carbon disulfide	60	--	Parameter Detected, Below Criteria
Benzene	1	ND	Parameter Not Detected
PCE	5	13	Concentration Exceeds Criteria

0 100 200 300

SCALE: 1" = 100'-0"
(WHEN PRINTED AT 11x17)

VES-14	NYSDEC Criteria (µg/L)	Concentration (µg/L)	
		4/17/2014	4/17/2014
Alpha-BHC	0.01	0.023	Not Analyzed
Beta-BHC	0.04	0.21	Not Analyzed
Aldrin	0	0.039	Not Analyzed
Endrin	0	0.077	Not Analyzed
Dieldrin	0.004	2.13	5.26

VES-1	NYSDEC Criteria	Concentration (µg/L)	
		3/1/2014	4/18/2014
Carbon Disulfide	60	680	--
Benzene	1	10	--
PCE	5	2,000 (16'), ND (35')	--
cis-1,2-DCE	5	ND	17

VES-2	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		3/1/2014
Carbon Sisulfide	60	640
Benzene	1	270
PCE	5	12
cis-1,2-DCE	5	17
Chlorobenzene	5	24
Trichlorofluoromethane	5	5.6
Vinyl Chloride	2	9.4
TCE	5	5
Acenaphthene	20	80
Fluoranthene	50	340
Napthalene	10	320
Fluorene	50	92
Pyrene	50	270
Chrysene	0.002	130
Anthracene	50	120
Phenanthrene	50	420

VES-15	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		4/18/2014
Iron, Dissolved	300	351
Magnesium, Dissolved	35,000	38,200
Sodium, Dissolved	20,000	27,100

VES-3	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		3/1/2014
Carbon disulfide	60	--
Benzene	1	ND
PCE	5	--
Trichlorofloromethane	5	22

MW-2	NYSDEC Criteria (µg/L)	Concentration (µg/L)	
		6/29/2009	12/17/2009
Benzene	1	ND	ND
Carbon Disulfide	60	Not Analyzed	ND
Carbon Tetrachloride	5	0.32	ND
Chlorobenzene	5	ND	ND
Chloroform	7	0.60	0.27
1,2 - Dichlorobenzene	3	ND	Not Analyzed
cis-1,2-Dichloroethene	5	ND	ND
Tetrachloroethene	5	7.4	5.3
TCE	5	ND	ND
Trichlrofluoromethane	5	1.3	Not Analyzed
Vinyl Chloride	2	ND	ND
Acenapthene	20	ND	ND
Di-n-octyl phtalate	50	ND	ND
Bis(2-ethylhexyl) phthalate	5	2.2	ND
PCB	0.09	ND	Not Analyzed
Pesticides	-	ND	Not Analyzed
Arsenic	25	ND	Not Analyzed
Beryllium	3	ND	Not Analyzed
Copper	200	ND	Not Analyzed

VES-5	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		3/1/2014
Carbon disulfide	60	ND
Benzene	1	ND
PCE	5	--

VES-11	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		4/18/2014
Carbon disulfide	60	ND
Benzene	1	ND
PCE	5	13

VES-13	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		4/18/2014
Carbon disulfide	60	ND
Benzene	1	--
PCE	5	ND
Vinyl Chloride	2	2.3

MW-1	NYSDEC Criteria (µg/L)	Concentration (µg/L)	
		6/29/2009	12/17/2009
Benzene	1	ND	ND
Carbon Disulfide	60	Not Analyzed	ND
Carbon Tetrachloride	5	ND	ND
Chlorobenzene	5	Not Applicable	ND
Chloroform	7	0.38	ND
1,2 - Dichlorobenzene	3	ND	Not Analyzed
cis-1,2-Dichloroethene	5	ND	ND
Tetrachloroethene	5	ND	ND
TCE	5	ND	ND
Trichlrofluoromethane	5	ND	Not Analyzed
Vinyl Chloride	2	ND	ND
Acenapthene	20	ND	ND
Di-n-octyl phtalate	50	ND	3.0
Bis(2-ethylhexyl) phthalate	5	3.1	4.4
PCB	0.09	ND	Not Analyzed
Pesticides	-	ND	Not Analyzed
Arsenic	25	ND	Not Analyzed
Beryllium	3	ND	Not Analyzed
Copper	200	10.4	Not Analyzed

SB-74 GW	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		4/18/2014
Aroclor 1016	0.09	ND
Aroclor 1221	0.09	ND
Aroclor 1232	0.09	ND
Aroclor 1242	0.09	ND
Aroclor 1248	0.09	ND
Aroclor 1254	0.09	ND
Aroclor 1260	0.09	ND
Aroclor 1262	0.09	ND
Aroclor 1268	0.09	ND

VES-9	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		4/18/2014
Carbon disulfide	60	ND
Benzene	1	ND
PCE	5	ND

VES-10	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		4/18/2014
Carbon disulfide	60	ND
Benzene	1	ND
PCE	5	7.4

VES-4	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		3/1/2014
Carbon disulfide	60	2,600
Benzene	1	ND
PCE	5	ND
Phenol	1	5

VES-12	NYSDEC Criteria (µg/L)	Concentration (µg/L)	
		4/18/2014	4/18/2014
Carbon disulfide	60	--	Not Analyzed
Benzene	1	ND	Not Analyzed
PCE	5	ND	Not Analyzed
Iron, Dissolved	300	Not Applicable	6,550
Magnesium, Dissolved	35,000	96,200	Not Analyzed
Manganese, Dissolved	300	1,050	Not Analyzed
Sodium, Dissolved	20,000	310,000	Not Analyzed

MW-3	NYSDEC Criteria (µg/L)	Concentration (µg/L)	
		6/29/2009	12/17/2009
Benzene	1	0.81	ND
Carbon Disulfide	60	Not Analyzed	ND
Carbon Tetrachloride	5	ND	0.31
Chlorobenzene	5	3.1	ND
Chloroform	7	ND	1.1
1,2 - Dichlorobenzene	3	0.64	Not Analyzed
cis-1,2-Dichloroethene	5	5.6	1.0
Tetrachloroethene	5	1.6	12.6
TCE	5	2.1	0.51
Trichlrofluoromethane	5	ND	Not Analyzed
Vinyl Chloride	2	5.4	ND
Acenapthene	20	0.55	ND
Di-n-octyl phtalate	50	7.6	ND
Bis(2-ethylhexyl) phthalate	5	29	2.8
PCB	0.09	ND	Not Analyzed
Pesticides	-	ND	Not Analyzed
Arsenic	25	4.1	Not Analyzed
Beryllium	3	1.1	Not Analyzed
Copper	200	ND	Not Analyzed

VERTEX

REVISIONS

GROUNDWATER, SURFACE WATER, AND SEDIMENT SAMPLE LOCATION MAP

ONE LAWRENCE STREET

1 LAWRENCE STREET
ARDSLEY, NEW YORK
BCP SITE ID NO. C360146

File No.: 14-28366 FIGURE 3
Date: NOV 2015
Drawn: JC
Checked: MM
Job No.: 28366

P:\5) PROJECTS\10000-10099\10093.CA - Vertex ACAD\8_Data Development\ACAD\XE-BASE_14-28366 - TDI Real Estate_VTX.dwg
Tuesday, November 24, 2015 1:34:49 PM
Copyright 2013 McGlamery Engineering Group

LEGEND:

BGS - Feet Below Ground Surface
NR - No Recovery in Soil Sampler

Marker for Soil description interval, see borehole logs for details.

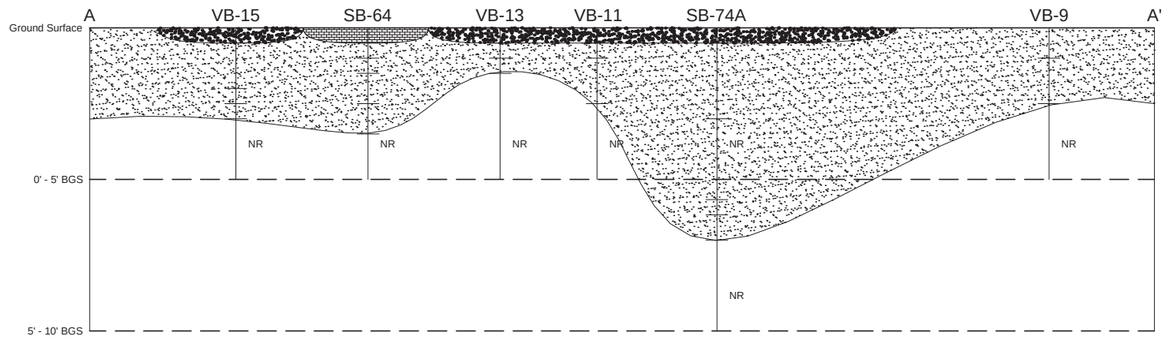
SAND, fine to coarse

CRUSHED BRICK, with gravel

CRUSHED CONCRETE

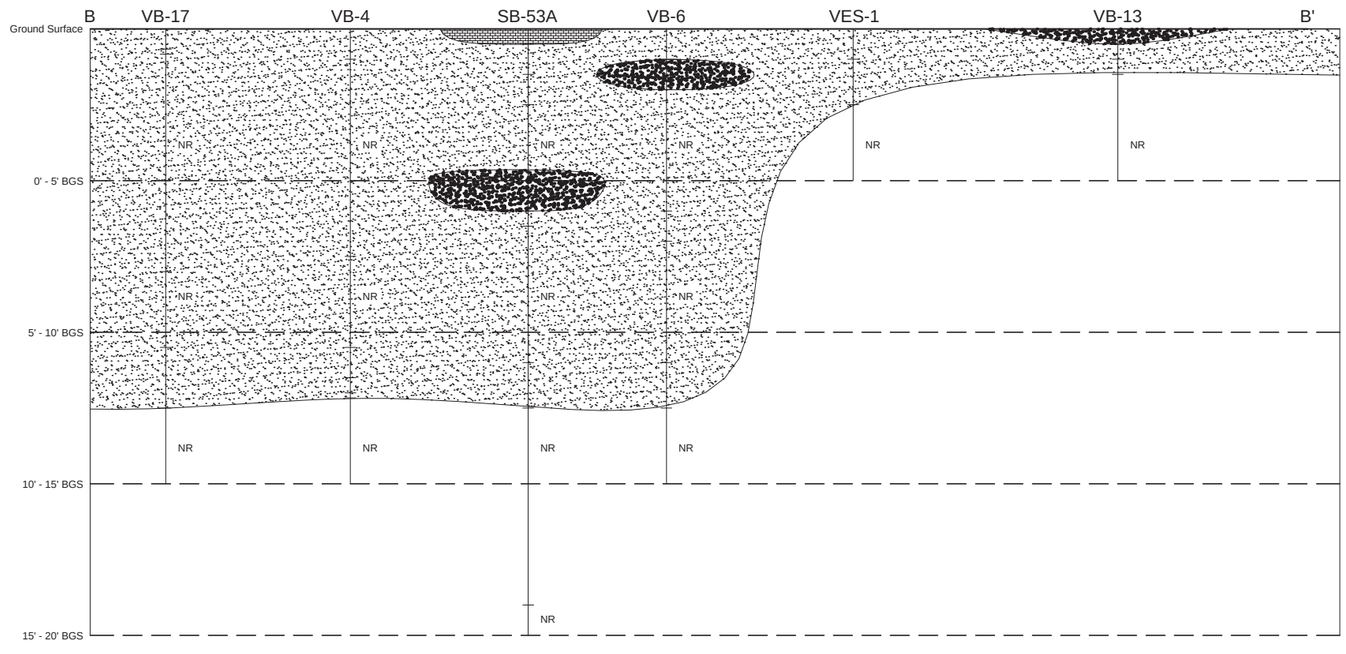
Note: - For soil symbols spanning a NR (no recovery in borehole log), the soil descriptions from above and below the NR were reviewed and the missing interval is assumed to be the same soil type. For NR's at the bottom of the boreholes, the last available soil description above is used.

See Figure 2 for locations of the cross-sections.



SECTION A - A'

(Vertical Exaggeration - 6:1)



SECTION B - B'

(Vertical Exaggeration - 6:1)

N

0 30 60 90

SCALE: 1" = 30'-0"
(WHEN PRINTED AT 11x17)

REVISIONS

GEOLOGIC CROSS-SECTIONS
ONE LAWRENCE STREET

1 LAWRENCE STREET
ARDSLEY, NEW YORK
BCP SITE ID NO. C360146

File No.:	14-28366
Date:	MAY 2015
Drawn:	JC
Checked:	MM
Job No.:	28366

FIGURE 4

LEGEND:

1 FORMER PILOT PLANT
2 FORMER OFFICE
3 FORMER WHEY BUILDING
4 FORMER STORAGE SHED
5 FORMER WHITE HOUSE BUILDING
6 FORMER MACHINE SHOP

SITE BOUNDARY

EXISTING MONITORING WELL LOCATION

TW-1 PROPOSED TEMPORARY MONITORING WELL LOCATION

SAMPLES COLLECTED MARCH 1, 2014:

GROUNDWATER SAMPLE LOCATION

SOIL & GROUNDWATER SAMPLE LOCATION

SOIL SAMPLE LOCATION

SAMPLES COLLECTED APRIL 14-18, 2014:

LOCATION OF GROUNDWATER SAMPLE FOR PCB ANALYSIS

LOCATION OF GROUNDWATER SAMPLE FOR PESTICIDE ANALYSIS

LOCATION OF GROUNDWATER SAMPLE FOR METALS ANALYSIS

LOCATION OF GROUNDWATER SAMPLE FOR VOC & SVOC ANALYSIS

LOCATION OF GROUNDWATER SAMPLE FOR VOC ANALYSIS

LOCATION OF GROUNDWATER SAMPLE FOR VOC & METALS ANALYSIS

SEDIMENT & SURFACE WATER SAMPLE LOCATION

NYSDEC CRITERIA = NYSDEC AMBIENT WATER QUALITY STANDARDS

Well ID	NYSDEC Criteria (µg/L)	Concentration (µg/L)	
Carbon disulfide	60	--	Parameter Detected, Below Criteria
Benzene	1	ND	Parameter Not Detected
PCE	5	13	Concentration Exceeds Criteria

N

0 100 200 300

SCALE: 1" = 100'-0"
(WHEN PRINTED AT 11x17)

VES-14	NYSDEC Criteria (µg/L)	Concentration (µg/L)	
		4/17/2014	4/17/2014
Alpha-BHC	0.01	0.023	Not Analyzed
Beta-BHC	0.04	0.21	Not Analyzed
Aldrin	0	0.039	Not Analyzed
Endrin	0	0.077	Not Analyzed
Dieldrin	0.004	2.13	5.26

VES-1	NYSDEC Criteria	Concentration (µg/L)	
		3/1/2014	4/18/2014
Carbon Sisulfide	60	680	--
Benzene	1	10	--
PCE	5	2,000 (16'), ND (35')	--
cis-1,2-DCE	5	ND	17

VES-15	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		4/18/2014
Iron, Dissolved	300	351
Magnesium, Dissolved	35,000	38,200
Sodium, Dissolved	20,000	27,100

SB-74 GW	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		4/18/2014
Aroclor 1016	0.09	0.1
Aroclor 1221	0.09	0.1
Aroclor 1232	0.09	0.1
Aroclor 1242	0.09	0.1
Aroclor 1248	0.09	0.1
Aroclor 1254	0.09	0.1
Aroclor 1260	0.09	0.1
Aroclor 1262	0.09	0.1
Aroclor 1268	0.09	0.1

VES-2	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		3/1/2014
Carbon Sisulfide	60	640
Benzene	1	270
PCE	5	12
cis-1,2-DCE	5	17
Chlorobenzene	5	24
Trichlorofluoromethane	5	5.6
Vinyl Chloride	2	9.4
TCE	5	5
Acenaphthene	20	80
Fluoranthene	50	340
Napthalene	10	320
Fluorene	50	92
Pyrene	50	270
Chrysene	0.002	130
Anthracene	50	120
Phenanthrene	50	420

VES-9	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		4/18/2014
Carbon disulfide	60	ND
Benzene	1	ND
PCE	5	ND

VES-10	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		4/18/2014
Carbon disulfide	60	ND
Benzene	1	ND
PCE	5	7.4

VES-3	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		3/1/2014
Carbon disulfide	60	--
Benzene	1	ND
PCE	5	--
Trichlorofloromethane	5	22

VES-4	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		3/1/2014
Carbon disulfide	60	2,600
Benzene	1	ND
PCE	5	ND
Phenol	1	5

VES-5	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		3/1/2014
Carbon disulfide	60	ND
Benzene	1	ND
PCE	5	--

VES-12	NYSDEC Criteria (µg/L)	Concentration (µg/L)	
		4/18/2014	4/18/2014
Carbon disulfide	60	--	Not Applicable
Benzene	1	ND	Not Applicable
PCE	5	ND	Not Applicable
Iron, Dissolved	300	Not Applicable	6,550
Magnesium, Dissolved	35,000	96,200	Not Applicable
Manganese, Dissolved	300	1,050	Not Applicable
Sodium, Dissolved	20,000	310,000	Not Applicable

VES-11	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		4/18/2014
Carbon disulfide	60	ND
Benzene	1	ND
PCE	5	13

VES-13	NYSDEC Criteria (µg/L)	Concentration (µg/L)
		4/18/2014
Carbon disulfide	60	ND
Benzene	1	--
PCE	5	ND
Vinyl Chloride	2	2.3

TW-1 TW-2 TW-3 TW-4 TW-5 TW-6 TW-7 TW-8

MW-1 MW-2 MW-3

VES-1 VES-2 VES-3 VES-4 VES-5 VES-6 VES-7 VES-8 VES-9 VES-10 GW VES-11 GW VES-12 GW VES-13 GW VES-14 GW VES-15 GW

VSW-2/VSED-2 VSW-3/VSED-3 MW-1/VSED-1 SB-74 GW

VERTEX

REVISIONS

PROPOSED TEMPORARY GROUNDWATER MONITORING WELL LOCATION MAP
ONE LAWRENCE STREET

1 LAWRENCE STREET
ARDSLEY, NEW YORK
BCP SITE ID NO. C360146

File No.: 14-28366 FIGURE 5
Date: MAY 2015
Drawn: JC
Checked: MM
Job No.: 28366

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LEGEND:

1 FORMER PILOT PLANT
2 FORMER OFFICE
3 FORMER WHEY BUILDING
4 FORMER STORAGE SHED
5 FORMER WHITE HOUSE BUILDING
6 FORMER MACHINE SHOP
SITE BOUNDARY

EXISTING MONITORING WELL LOCATION

SAMPLES COLLECTED MARCH 1, 2014:

GROUNDWATER SAMPLE LOCATION

SOIL & GROUNDWATER SAMPLE LOCATION

SOIL SAMPLE LOCATION

SAMPLES COLLECTED APRIL 16-18, 2014:

SOIL SAMPLE LOCATION FOR PCE ANALYSIS

SOIL SAMPLE LOCATION FOR PCB ANALYSIS

SOIL SAMPLE LOCATION FOR PESTICIDE ANALYSIS

SOIL SAMPLE LOCATION FOR PCB & PCE IMPACTS

SEDIMENT & SURFACE WATER SAMPLE LOCATION

PROPOSED SOIL SAMPLE LOCATIONS

PCE DELINEATION

PCB DELINEATION

PCB AND PESTICIDE DELINEATION IN SB-57, SB-58 AND SB-61

0 100 200 300

SCALE: 1" = 100'-0"
(WHEN PRINTED AT 11x17)

VERTEX

REVISIONS

FIGURE	6
File No.:	14-28366
Date:	MAY 2015
Drawn:	JC
Checked:	MM
Job No.:	28366

PROPOSED SOIL BORING LOCATION MAP
ONE LAWRENCE STREET

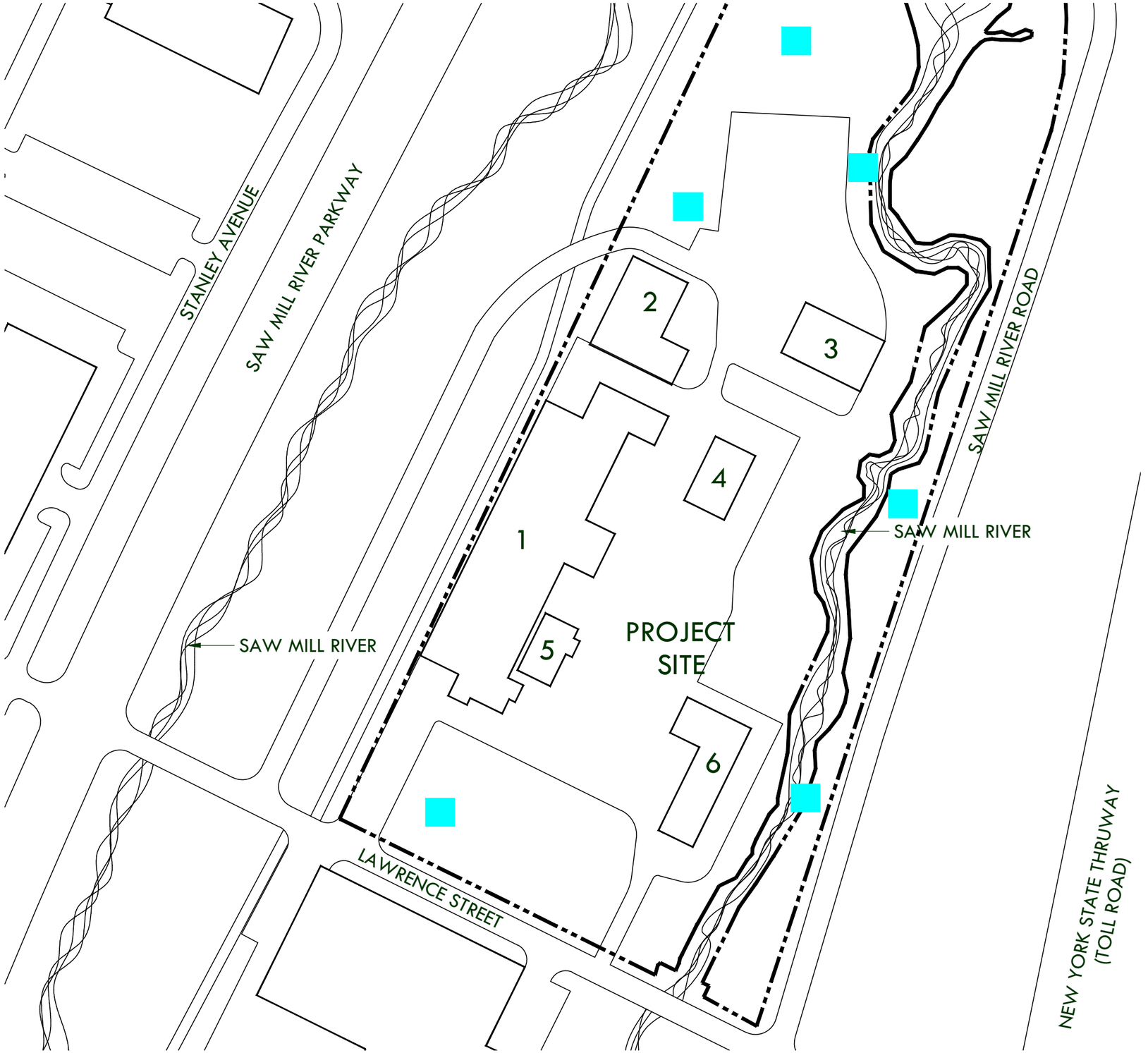
1 LAWRENCE STREET
ARDSLEY, NEW YORK
BCP SITE ID NO. C360146

LEGEND:

1 FORMER PILOT PLANT
2 FORMER OFFICE
3 FORMER WHEY BUILDING
4 FORMER STORAGE SHED
5 FORMER WHITE HOUSE BUILDING
6 FORMER MACHINE SHOP
SITE BOUNDARY

PROPOSED SOIL SAMPLE LOCATIONS

PROPOSED SOIL CHARACTERIZATION SAMPLE LOCATIONS
All Soil Characterization Samples will be collected from the 0-2" interval and analyzed for the full target analyte list. Samples for VOC analysis will be collected from the 0-6" interval.



N

0 100 200 300

SCALE: 1" = 100'-0"
(WHEN PRINTED AT 11x17)

VERTEX

REVISIONS

PROPOSED SOIL CHARACTERIZATION SAMPLE LOCATION MAP

ONE LAWRENCE STREET

1 LAWRENCE STREET
ARDSLEY, NEW YORK
BCP SITE ID NO. C360146

File No.: 14-28366
Date: DECEMBER 2015
Drawn: JC
Checked: MM
Job No.: 28366

FIGURE 7

P:\5) PROJECTS\10000-10099\10093.CA - Vertex ACAD\B_Data Development\ACAD\XE-BASE_14-28366 - TDI Real Estate_VTX02.dwg
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LEGEND:

- SITE BOUNDARY
- PROPOSED BUILDINGS
- PROPOSED PARKING DECK

PROPOSED SOIL SAMPLE LOCATIONS

- PROPOSED SOIL VAPOR SAMPLE LOCATION

0 100 200 300

SCALE: 1" = 100'-0"
(WHEN PRINTED AT 11x17)

VERTEX

REVISIONS

PROPOSED SOIL VAPOR SAMPLE LOCATION MAP

ONE LAWRENCE STREET

1 LAWRENCE STREET
ARDSLEY, NEW YORK
BCP SITE ID NO. C360146

File No.:	14-28366
Date:	DECEMBER 2015
Drawn:	JC
Checked:	MM
Job No.:	28366

FIGURE 8

APPENDIX I:

SITE INVESTIGATION REPORT BY SOVEREIGN DATED NOVEMBER 2009

1 INTRODUCTION

Akzo Nobel Chemicals Inc. (Akzo Nobel) is planning to divest the "Ardsley Pilot Plant" property in the Village of Ardsley, New York. The property is zoned for commercial/industrial use.

Between October 2006 and June 2009, Akzo Nobel conducted a thorough investigation to determine if soil and groundwater quality at the property had been adversely affected by historical operations. The sampling was performed in two phases – prior to demolition and after demolition. The first phase included sampling of those areas [e.g., north end parking lot, less than 90-day hazardous waste storage area & solvent shed, pilot plant scrubber, area north of maintenance shop, green lawn at the south end (former Potash Building) of the real estate , etc.] that were accessible to the sampling rigs. The 2nd phase of sampling was performed following the removal of underground storage tanks, etc. The demolition was delayed for about eight months because of the bureaucratic proceedings of the Town of Greenburgh in procuring the Wetland and Demolition permits.

Background investigation activities, including interviews with the current site owner, review of historical facility plans, and performance of a site reconnaissance, were conducted in general compliance with the American Society for Testing and Materials (ASTM) E1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. The field investigation, including soil, sediment, surface water, and groundwater sampling, was conducted in general compliance with ASTM E1903-97 (Reapproved 2002) Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process. The investigation included the following activities:

1. Meeting with Akzo Nobel representatives and performance of a site inspection to identify areas where hazardous materials/substances were potentially used, handled, or stored;
2. Review of historical maps (i.e. plot plans, historical aerial photographs, etc.) of the facility to identify hazardous materials use/handling/storage areas;
3. Performance of a geophysical survey including ground penetrating radar (GPR) and electromagnetic (EM) surveys to identify potential buried debris, drums, tanks, etc.;
4. Identification of areas of concern;

5. Collection and analysis of soil samples from borings installed with all-terrain, track-mounted, and truck mounted GeoProbe rigs;
6. Collection and analysis of soil samples from test pits excavated by a backhoe;
7. Collection and analysis of sediment and surface water samples from an off-site location upstream of the pilot plant;
8. Installation of groundwater monitoring wells via hollow-stem auger drilling techniques; and
9. Collection and analysis of groundwater samples from the monitoring wells;

In addition to these activities, a site assessment was also conducted relative to the removal of underground storage tanks (USTs) in the summer and fall of 2008. This work included remediation of petroleum-impacted soil by excavation and off-site disposal at two UST locations. The results of the site assessment conducted relative to removal of USTs are summarized in the *UST Closure Report,* dated March 13, 2009 (Appendix N). The Westchester County Department of Health issued a No Further Action letter dated April 27, 2009 to Akzo Nobel relative to the UST Closure project.

2 SITE DESCRIPTION

The former Akzo Nobel Pilot Plant property is located on Lawrence Street in the Village of Ardsley, New York. The property is located in the Saw Mill River valley between Saw Mill River Parkway to the west and Saw Mill River Road to the east. Lawrence Street borders the property to the south and undeveloped land borders the property to the north. A branch of the Saw Mill River flows in a general easterly direction in the northern portion of the property and then in a southerly direction across the site within the property's eastern boundary. A Site Location Map is included as Figure 1.

Topography in the plant area slopes gently toward the east from the former main pilot plant building to a branch of the Saw Mill River. The elevation of the property ranges from approximately 132 feet near the southwest corner of the main Pilot Plant building to approximately 118 feet near the western bank of the Saw Mill River, although most of the topographic relief occurs along the bank of the river. On the eastern side of the Saw Mill River (i.e. across from the developed portion of the property), topography rises to approximately 126 ft. near the eastern property boundary.

The site is 10.3 acres in area and most recently contained seven freestanding structures and a guard house (building No. 12) which were demolished in the fall and winter of 2008-2009. At the time of demolition, the main site structures included offices (building No. 2), Whey Building (No. 3), Pilot Plant (attached building Nos. 4, 5, 6, and 10), the White House (building No. 7.), Solvent Shed (building No. 8), Maintenance Shop (building No. 9), and Boiler House (building No. 11).

With the exception of an area of undeveloped land north of the main parking lot in the northern portion of the property, most of the property was historically covered by impervious surfaces (buildings and pavement). The Pilot Plant facility was demolished during the end of 2008 and the beginning of 2009. Presently, the building slabs remain visible and the remainder of the site is covered by asphalt parking areas, landscaped areas, and clean brick and concrete rubble which was used to grade the site following demolition activities.

3 SITE HISTORY

The property was initially developed by Stauffer Chemical Company (Stauffer) in the 1920s. Products manufactured at the facility by Stauffer included citric acid (not manufactured in the Pilot Plant portion of the property) from the 1920s to the 1940s, potash from the 1930s to 1973, and carbon disulfide and insoluble sulfur from the 1930s through the 1950s. In addition, a variety of biocides and pesticides were produced at the site through 1984, when chemical manufacturing at the facility was ceased entirely. Research and development (R&D) operations, which began in the 1950s, continued after cessation of the manufacturing activities.

In the mid-1980s, a Phase I Site Assessment was completed for Stauffer at the subject property. Two significant findings were identified through the Phase I Assessment process. Firstly, a former plant manager indicated that approximately fifteen tons of insoluble sulfur was landfilled at the site between 1950 and 1969. This claim was investigated via a test-pitting operation conducted in October 2006 and no indications of landfilling operations were observed (see Section 5.6.6). Secondly, laboratory analysis conducted on the plant's effluent to the Saw Mill River in October 1983 revealed elevated concentrations of 1,1,1-trichloroethane. The elevated 1,1,1-trichloroethane effluent concentration was traced to groundwater from a deep well (approximately 1,200 feet in depth) on the property which was utilized as a source for the plant's non-contact cooling water. As Stauffer did not use nor produce 1,1,1-trichloroethane, the source of the groundwater impact was unknown.

The NYSDEC required Stauffer to cease discharge of contaminated effluent to the Saw Mill River and the deep well was subsequently sealed. In a NYSDEC memorandum dated November 30, 1983 (from Richard Bissonette, Division of Water, Region 3, White Plains to Peter Doshna, Division of Water, Region 3, White Plains) about a Stauffer Chemical Company Inspection, Mr. Bissonnette clarifies that the Stauffer facility does not use or manufacture 1,1,1-Trichloroethane. It further states that the well contamination problem in Armonk and Bedford that was publicized in the newspapers in 1983 may be a starting point in determining the source of this problem in Ardsley.

Akzo Nobel acquired Stauffer in 1987 and initially continued Stauffer's R&D operations. Eventually, Akzo Nobel converted the R&D operations away from the Stauffer processes towards Akzo's process products. Changes to the pilot systems during the conversion

generally involved modifications of equipment to facilitate R&D and pilot scale production of various chemical products for R&D. The R&D operations continued exclusively at the site until January 2006, at which time all site operations ceased.

During the fall of 2008 and the winter of 2008-09, site demolition activities were conducted at the property. Prior to demolition, electrical equipment (i.e. fluorescent light ballasts, transformers, switches, thermostats, etc.) potentially containing polychlorinated biphenyls (PCBs) and/or mercury, were removed intact, isolated, and packed properly for off-site disposal in a very careful manner to prevent impacts to the site. Prior to demolition activities and demolition of the site buildings, all asbestos containing materials were removed properly in accordance with OSHA requirements.

In addition, on September 24, 2008, the demolition contractor collected representative samples of building materials and structures for laboratory analysis for lead and other contaminants following the demolition activities. These materials were found to be free of potential contaminants; therefore, some of the building materials (bricks, concrete, etc.) were used to grade the property following site demolition. The remaining building materials were handled and disposed of off-site by a licensed contractor. A copy of the laboratory analytical results for the demolition material is included as Appendix A.

Due to the extensive use of the site as a chemical manufacturing and R&D facility, a comprehensive list of raw materials is not known. However, information obtained from historical documents and Akzo Nobel personnel indicate that some of the raw materials used at the Pilot Plant facility include carbon disulfide, monomethylamines, bromomethane, dimethyl sulfoxide, biocides, sulfur, organophosphorous compounds, oroganomettalics, fatty amines, ethylene oxide, methyl chloride, and ammonia. R&D and pilot process areas, along with other areas of investigation, are discussed in further detail in Section 5 – Site Investigation.

4 BACKGROUND INVESTIGATION/RECORDS REVIEW

Sovereign conducted a background investigation and records review for the Site in accordance with ASTM 1527-05. As part of the records review, Sovereign retained Environmental Data Resources, Inc. (EDR) to perform an environmental database search and provide historic aerial photographs, topographic maps, and Sanborn Fire Insurance maps for the subject property and general vicinity.

EDR reviewed local, state, and federal regulatory agency databases for environmental information pertaining to the Site and surrounding properties. The EDR *Radius Map with Geocheck Report®* indicated that the subject property was listed on the following federal, state, or local government databases:

Owner/Operator:	Physical Address:	Databases:	Comments:
Akzo Nobel Chemicals Inc.	Lawrence St./North Side, Ardsley, NY	MANIFEST	
Stauffer Chemical Company	Lawrence St., Ardsley, NY	DEL SHWS	
Akzo Chemicals Inc. – Pilot Plant	Lawrence St., N. Side; SHT 47 P37	CERCLIS, RCRA-LQG, CORRACTS	NYD056301104
Akzo Nobel Chemical	1 Lawrence St., Dobbs Ferry, NY	HIST L TANKS	Date Closed: 4/4/01
Akzo Chemicals Inc.	Livingston Ave. (Lawrence St.), Dobbs Ferry (Greenburgh), NY	NYSDEC PBS (CBS AST, CBS)	
Akzo Nobel Chemical	1 Lawrence St., Dobbs Ferry, NY	NY SPILLS	Date Closed: 4/4/01
Akzo Nobel Chemicals Inc – Ardsley	Lawrence St. – N. Side	FINDS	
Akzo Nobel – Chemical Pilot Plant	1 Lawrence Street, Ardsley, NY	NY SPILLS	Date Closed: 5/5/09

Findings of the EDR records search for the Site and properties within a one-mile radius of the Site are summarized in the following sections, sorted by databases searched.

Facility location maps with the identified locations of environmental record, registration, releases, environmental investigations, or incidents of non-compliant activities within one mile of the Site are included in the EDR Report presented as Appendix B.

4.1 Standard Environmental Record Sources

Standard Environmental Record Sources, as defined by *ASTM 1527-05*, were searched by EDR. Results of the Standard Environmental Record Source search are detailed in the *Radius Map with Geocheck Report®* and are summarized in the following sections.

4.1.1 National Priority List (NPL)

This database is a subset of CERCLIS and identifies over 1,200 facilities for priority cleanup under the Superfund Program. NPL facilities may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices. No NPL facilities were identified within a one-mile radius of the Site.

4.1.2 Delisted NPL Sites

This database contains sites where no further response is appropriate based on criteria established by the National Oil and Hazardous Substances Pollution Contingency Plan. All sites in this database have been deleted from the NPL. No Delisted NPL facilities were identified within a one-mile radius of the Site.

4.1.3 Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)

CERCLIS sites are potential hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies, and private individuals, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites that are either proposed to be or on the NPL and sites that are in the screening and assessment phase for possible inclusion on the NPL. The site was listed on the CERCLIS database. No surrounding properties were identified within 0.5-miles of the subject property.

The listing for the site is for the Akzo Chemicals Inc. – Pilot Plant located on the north side of Lawrence Street in Ardsley, New York. The site identification number is

0203229. According to the CERCLIS history, the site was identified on June 14, 1989 and Site Assessment was completed on March 30, 1990 at which time the site was deferred to RCRA. A reassessment was conducted in December 2003 and a priority level of no further Remedial Action planned (NFRAP) was assigned.

4.1.4 CERCLIS NFRAP Sites

A "No Further Remedial Action Planned" (NFRAP) designation is given to CERCLIS sites where, following an initial investigation, no contamination was found, contamination was quickly removed, or contamination is not serious enough to require Federal Superfund action or NPL consideration. According to the EDR report, one CERCLIS-NFRAP facility was identified within one-half mile of the Site.

The CERCLIS-NFRAP listing is for RSA Corporation located at 690 Saw Mill River Road in Ardsley, New York, approximately 2,500-feet northeast of the site. The site identification number is 0203060 and the site is not on the NPL list. According to the CERCLIS history, the site was identified on June 6, 1989 and a Site Assessment was completed on September 18, 1989 at which time a priority level of no further Remedial Action Planned (NFRAP) was assigned. This facility was archived on November 12, 1998; therefore, this facility is not anticipated to have the potential to impact the subject property.

4.1.5 RCRIS Corrective Actions (CORRACTS) and Associated TSD Facilities

Corrective Action Report (CORRACTS) sites are identified by the USEPA as undergoing Resource Conservation and Recovery Information System (RCRIS) Corrective Action Order to address the release of hazardous waste or constituents into the environment from a RCRIS classified hazardous waste facility. According to the EDR report, the subject property is listed on the CORRACTS database. No other CORRACTS sites were identified within one-mile of the Site.

The listing for the site is for the Akzo Chemicals Inc. – Pilot Plant located on the north side of Lawrence Street in Ardsley, New York. The EPA identification number is NYD056301104. According to the CORRACTS listing, the site was assigned a low corrective action priority on September 30, 1996.

4.1.6 RCRA TSD Facilities

TSD facilities transport, store, and dispose of RCRA defined hazardous wastes. No TSD facilities were identified within 0.5-mile of the Site.

4.1.7 RCRA-LQG/SQG/CESQG/NonGen Sites

A RCRA-Large Quantity Generator (LQG) is defined as a facility that generates over 1,000 kilograms (kg) per month of hazardous waste or over 1 kg of acutely hazardous material as defined by the RCRA. A RCRA-Small Quantity Generator (SQG) is defined as a facility that generates between 100 kg and 1,000 kg/month of hazardous material. A RCRA-Conditionally Exempt Small Quantity Generator (CESQG) is defined as a facility that generates less than 100 kg/month of hazardous waste or less than 1 kg/month of acutely hazardous waste. A RCRA-Non-Generator (NonGen) is defined as a facility that does not presently generate hazardous waste. The subject property was identified as a RCRA-LQG. In addition, one LQG and one SQG were identified within 0.25-mile of the Site through the environmental database search.

The listing for the site is for the Akzo Chemicals Inc. – Pilot Plant located on the north side of Lawrence Street in Ardsley, New York. The RCRA-LQG EPA identification number is listed as NYD056301104. According to the listing, the facility has been categorized as a LQG since 1980. Eight generator or TSD violations were reported for the facility between August 1983 and September 2002. The facility was found to be in compliance with all of the listed violations shortly after the date of issue in all cases.

The surrounding LQG within 0.25-mile of the site is listed as Purdue Pharma LP located at 444 Saw Mill River Road in Ardsley, New York, approximately 500 feet north-northeast of the subject property. The RCRA EPA identification number is listed as NYR000053934. Waste products identified for this site include batteries, lamps, pesticides, and thermostats. Specific wastes include ignitable, corrosive, and reactive wastes including heavy metals, VOCs, and halogenated and non-halogenated solvents. This facility has been listed as a LQG since April 1998. No violations are reported for this facility and the wastes are neither generated nor accumulated on-site; therefore, this facility is not anticipated to have the potential to impact the subject property.

The surrounding RCRA-SQG is identified as Supesta US LLC located at 430 Saw Mill River Road (3rd floor) in Ardsley, New York, approximately 386 feet north-northeast of the site. The RCRA EPA identification number is listed as NYR000133454. The facility

has been categorized as a SQG since July 2005. Five violations were issued to the facility during an on-site inspection in August 2007. The violations were promptly complied with. This facility is not anticipated to have the potential to impact the subject property.

4.1.8 Federal Institutional Control/Engineering Control Registries

The Federal Institutional Control database contains sites with administrative measures, including groundwater use restrictions, construction restrictions, property use restrictions, post remediation care requirements, and deed restrictions, which are intended to prevent exposure to contaminants remaining on site. Engineering Control sites utilize various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter the environment or effect human health. No Institutional or Engineering Control sites were identified within 0.5-mile of the subject property.

4.1.9 Federal Emergency Response Notification System (ERNS)

The Emergency Response Notification System (ERNS) records and stores information on reported releases of oil and hazardous substances. The subject property was not listed on the ERNS database.

4.1.10 State and Tribal Hazardous Waste Sites (SHWS)

The SHWS database includes all inactive hazardous waste disposal sites in New York state. The Inactive Hazardous Waste Disposal Site Remediation program, referred to as the State Superfund Program, is the cleanup program for inactive hazardous waste sites and hazardous substance sites. According to the EDR report, no SHWS facilities were located within one mile of the Site.

4.1.11 State and Tribal Solid Waste Facility/Landfill Directory (SWF/LF)

The Solid Waste Facility/Landfill Directory (SWF/LF) type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending upon the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D, Section 4004 criteria for solid waste landfills or disposal sites. The New York State SWF/LF database was last updated by the NYSDEC on June 23, 2009.

No SWF/LF facilities were identified within a 0.5-mile radius of the Site on the current database.

4.1.12 State and Tribal Leaking Underground Storage Tanks (LTANKS)

The LTANKS database contains documented releases from an underground storage tank (UST) or UST system registered on the NYSDEC Spills Information Database between April 1, 1986 and June 9, 2009. According to the EDR report, thirty-nine LTANKS facilities were identified within a 0.5-mile radius of the Site, including seven LTANKS facilities within a 0.125-mile radius of the Site. In addition, EDR searched the Historical (HIST) LTANKS database which is no longer updated or maintained by the NYSDEC. The subject property and fourteen sites within 0.5-mile of the subject property were identified on the HIST LTANKS database. Of the fourteen surrounding sites, the four that are located within 0.25-mile of the subject property are also on LTANKS database. The LTANKS/HIST LTANKS listings for the subject property and sites within 0.125-mile are detailed below.

The HIST LTANKS listing for the subject property is for Akzo Nobel Chemical located at 1 Lawrence Street in Dobbs Ferry, New York. According to the listing, on August 1, 2000, petroleum contaminated soil was encountered during the removal of a 2,000-gallon #2 fuel oil UST. A tank closure report was subsequently submitted and the Westchester County Department of Health required No Further Action in correspondence date April 4, 2001.

Information pertaining to the seven LTANKS/HIST LTANKS sites located within 0.25-mile of the subject property is provided below.

Owner/Operator:	Physical Address:	Databases:	Comments:
Residence	25 Winding Farm Road (~500 feet ESE)	LTANKS/ HIST LTANKS	Date closed: August 31, 1994
CIBA GEIGY Corporation	444 Saw Mill River Road (~500 feet NNE)	LTANKS/ HIST LTANKS	Date closed: February 12, 2005
Akzo Chemicals	1 Livingston Avenue (~600 feet WNW)	LTANKS	Date closed: August 26, 2005

Sekaer Residence	63 Livingston Avenue (~612 feet WNW)	LTANKS	Date closed: February 11, 2005
559 Almena Avenue	559 Almena Avenue (~765 feet NE)	LTANKS	Date closed: December 19, 2002
Not Listed	110 Ridge Road (~1,125 feet ENE)	LTANKS/ HIST LTANKS	Date closed: December 7, 2004
Ardsley Acres Motel	560 Sawmill River Road (~ 1,257 feet NNE)	LTANKS/ HIST LTANKS	Free product on groundwater as of December 10, 2008; may be new release

Sites that have been closed by NYSDEC are not anticipated to have the potential to impact the subject property.

The Ardsley Acres Motel facility is the only LTANKS/HIST LTANKS site located within 0.25-mile of the subject property that remains open. According to the listing for this facility, two tanks were removed from the site in November 1998 following tank test failure. Petroleum contaminated soil was excavated and soil and groundwater sampling was completed. Based on groundwater levels above the state standards, groundwater monitoring continued and in December 2008, free product was detected in a site monitoring well. The NYSDEC indicated that this may be a new release. Depending on the extent of groundwater contamination at this facility, it may have the potential to impact the subject property.

4.1.13 State and Tribal Underground Storage Tank Data (UST)

The NYSDEC Petroleum Bulk Storage database includes listings of registered USTs and aboveground storage tanks. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act. In addition to the NYSDEC database, the Chemical Bulk Storage (CBS) and Major Oil Storage Facility databases were also searched by EDR. According to the EDR Report, the subject property was identified on the CBS database. In addition, three facilities within 0.25-mile of the Site were identified on the NYSDEC PBS database.

The listing for the subject property is for Akzo Chemicals Inc. located at Livingston Avenue (Lawrence Street) in Dobbs Ferry (Greenburgh), New York. According to the CBS database, this is an active facility with one 500-gallon sodium hydroxide AST and one 3,000-gallon sulfuric acid AST. Based on the address listed, it is unknown whether this listing is for the Lawrence Street or Livingston Avenue Akzo facility.

Information pertaining to the three UST database sites located within 0.25-mile of the subject property are provided below.

Owner/Operator:	Physical Address:	Databases:	Comments:
Ardsley Park	410 Saw Mill River Road (~ 222 feet NE)	NYSDEC PBS	Multiple ASTs, active facility
G&G Building	466 Saw Mill River Road (~692 feet NNE)	NYSDEC PBS	One 5,000-gallon fuel oil UST
Selecto Products Company Inc.	2 Lawrence Street (~ 40 feet SE)	NYSDEC PBS	Date closed: August 26, 2005

No violations or releases are reported for the above UST facilities; therefore, it is not anticipated that they have the potential to impact the environmental quality of the subject property.

4.1.14 State and Tribal Institutional Control/Engineering Control Registries

State Engineering and Institutional Control sites are remediation sites with engineering or institutional controls in place which limit the use of a contaminated property. Such sites are included in the NYSDEC Registry of Institutional Controls, Registry of Engineering Controls, or Restrictive Declaration Listings. According to the EDR Report, neither the subject property nor any surrounding sites within a 0.5-mile radius were identified on state or tribal Institutional/Engineering Control sites or Restrictive Declaration databases.

4.1.15 State and Tribal Voluntary Cleanup Program (VCP) Sites

New York State's VCP program was established to address the environmental, legal, and financial barriers that often hinder the redevelopment and reuse of contaminated properties. The program enhances private sector cleanup of Brownfields by enabling parties to remediate sites using private rather than public funds and to reduce pressure on

development of Greenfield sites. Neither the subject property nor any sites within a 0.5-mile radius were identified on the VCP database.

4.1.16 State and Tribal Brownfield Sites

Brownfields are former or current commercial or industrial use sites that are presently vacant or underutilized and on which there is suspected to have been a discharge to soil or groundwater at concentrations greater than the applicable cleanup criteria. The New York State Environmental Restoration Program (ERP) was established to spur the redevelopment and cleanup of Brownfield sites. No Brownfield or ERP sites were identified within a 0.5-mile radius of the Site.

4.2 Additional Environmental Record Sources

The EDR search included several federal, state, and tribal databases in addition to the Standard Environmental Record Sources as identified in ASTM 1527-05. The additional databases searched and results are detailed in the *Radius Map with Geocheck Report®* and summarized in the following sections.

4.2.1 Local Brownfield Lists

No local Brownfield sites were identified within 0.5-mile of the subject property.

4.2.2 Local Lists of Landfill/Solid Waste Disposal Sites

EDR searched local databases, including DEBRIS US Region 9, Open Dump Inventory (ODI), Registered Waste Tire and Storage Facility (SWTIRE), Registered Recycling Facilities (SWRCY), and Indian ODI, for local landfill or sold waste disposal sites. No facilities were identified within 0.5-mile of the subject property on any of these databases.

4.2.3 Local Lists of Hazardous Waste/Contaminated Sites

EDR searched the local Clandestine Drug Lab (CDL) and Delisted Hazardous Waste Disposal Site (DEL SHWS) databases. The subject property was not identified on the CDL database; however, it was identified on the DEL SHWS database. No other sites within one mile of the subject property were identified on the DEL SHWS database.

The DEL SHWS listing for the subject property is for Stauffer Chemical Company located on Lawrence Street in Ardsley, New York. The listing indicates that the site is potentially a former landfill and that a preliminary assessment is in progress.

4.2.4 Local Lists of Registered Storage Tanks

Neither the subject property nor any surrounding sites within 0.25-mile were identified on the local storage tanks databases searched by EDR.

4.2.5 Local Land Records

EDR searched the LIENS 2 database, which contains federal CERCLA liens, and the Land Use Control Information System (LUCIS) database which contains records of land use control information relating to the former Navy base realignment and closure. The subject property was not identified on either database. No sites within 0.5-mile were identified on the LUCIS database.

4.2.6 Local Records of Emergency Release Reports

EDR searched the NY SPILLS and HIST NY SPILLS databases for site with records of chemical or petroleum spills. Five sites were identified on the NY SPILLS and/or HIST NY SPILLS databases. The sites are identified in the following table.

Owner/Operator:	Physical Address:	Databases:
OT Delivery Systems	1 Lawrence Street	NY SPILLS
Purdue Pharmaceuticals/CIBA GEIGY Corp.	444 Saw Mill River Road	NY SPILLS/HIST NY SPILLS
Homeowner	2 Colonie Street	NY SPILLS
Akzo (also misspelled ABSCO) Chemical	Livingston Ave. or 1 Livingston Avenue	NY SPILLS/HIST NY SPILLS
Not reported	5 Livingston Avenue	NY SPILLS/HIST NY SPILLS

4.2.7 Former Manufactured Gas (Coal Gas) Sites

Along with the production of large volumes of gas from coke, manufactured gas plants (MGPs) also yielded large quantities of by-products during their operation from 1816 to 1950s, including complex mixtures of coal tars, sludges, oils and other chemicals. Coal tar was the principal by-product of the gasification process. Coal tar and other waste products from the gasification plants were frequently disposed on such sites in unlined pits or in some cases injected underground through injection wells. These practices have left behind subsurface coal tar contamination at many former MGP facilities. Coal tar is the primary waste at MGP facilities. No MGP facilities were identified within one mile of the Site.

4.3 Physical Setting Source(s)

The *USGS White Plains, N.Y. 7.5-Minute Topographic Map (1994)* was reviewed by Sovereign. The subject property lies at approximately 120 to 130 feet above MSL. Topography is relatively level across the Site. The Saw Mill River flows east and southwest across the undeveloped northern portion of the Site and southward within the property's eastern boundary. A copy of the *USGS White Plains, N.Y. 7.5-Minute Topographic Map (1981)* is included with the historic topographic maps in Appendix C.

4.4 Historical Use Information on the Property

Historical property use information was compiled by Sovereign using records obtained from EDR (historical aerial photographs, historical topographic maps, and city directories).

4.4.1 Review of Aerial Photographs

A search conducted by EDR of their historical aerial photograph collection revealed aerial photographs for the years 1953, 1954, 1964, 1966, 1974, 1976, 1985, 1989, 1994, and 2006. Presented below are the dates of the aerial photographs and a summary of all discernable features in each photograph. Copies of the aerial photographs are included in Appendix D.

June 3, 1953

The southern portion of the site is developed with approximately six or seven main structures. Several smaller structures are observed but their use cannot be determined due to the scale of the photograph. A rail spur entered the site from the northwest and

terminated near the center of the developed southern portion of the site. The Saw Mill River is observed in the undeveloped northern portion of the site and along the eastern property boundary.

Rail lines, a wooded corridor, and a roadway border the site to the west. Lawrence Street borders the site to the south followed by a cleared property with one large rectangular structure. Saw Mill River Road and mostly undeveloped land border the site to the east and northeast.

April 20, 1954

No major changes are observed to the site or surrounding properties in comparison to the 1953 aerial photograph.

March 23, 1964

Two or three ASTs may be present in the center portion of the developed plant area. Two additional structures are observed to the north and northeast of the main Pilot Plant in comparison to the 1953 aerial photograph; one near the location of the former office building and the other near the location of a former solvent shed. Several objects are observed in a cleared area in the southeast corner of the site to the east of the Saw Mill River; however, neither these objects nor the activities in that portion of the site can be identified. Additional clearing is observed in the northernmost area of the site on the north and east side of the Saw Mill River; however, the purpose of the clearing is unknown.

Several structures are observed to the east of the site across Saw Mill River Road. In addition, two smaller buildings have been constructed adjacent to the main building at the property immediately south of Lawrence Street. No other changes to the site or surrounding properties are observed on the 1964 aerial photograph in comparison to the 1953-54 aerial photographs.

January 12, 1966

It appears that additional site clearing has occurred in the central portion of the site in the area that is presently the northern parking area. One additional structure, potentially the "storage shed", is observed in the northeast portion of the plant area. No other changes are observed to the site or surrounding properties in comparison to the 1964 aerial photograph.

October 24, 1974
No major changes are observed to the site or surrounding properties on the 1974 aerial photograph in comparison to the 1966 aerial photograph.

October 29, 1976
Due to the poor quality of the 1976 aerial photograph, site-specific features cannot be adequately compared to the 1974 aerial photograph.

March 16, 1985
Due to the poor quality of the 1985 aerial photograph, site-specific features cannot be adequately compared to the 1974 or 1976 aerial photographs.

April 20, 1989
The paved parking area north of the plant area is observed in the 1989 aerial photograph. To the north of the "storage shed" in the northeast plant area, one additional structure is observed. This structure is located near the location of the former Whey Building. No other major changes are observed to the Site or surrounding properties in comparison to the previous aerial photographs.

April 8, 1994
Due to the poor quality of the 1994 aerial photograph, site-specific features cannot be adequately compared to the 1989 aerial photograph.

2006
The structure (Potash Plant) immediately north of Lawrence Street has been removed in the 2006 aerial photograph. This structure has been replaced with a landscaped area. The remainder of the site appears similar to pre-demolition conditions. No other changes are observed to the Site or surrounding properties in comparison to the 1994 aerial photograph.

4.4.2 Sanborn Fire Insurance Maps

A search conducted by EDR of their historical Sanborn Fire Insurance Map collection revealed fire insurance map coverage for the years 1924, 1942, 1950, and 1970. Presented below are the dates of the Sanborn Fire Insurance Maps and a summary of all discernable features from each map. Copies of the fire insurance maps are included in Appendix E.

1924
The site is depicted as Stauffer Chemical Company facility and indicates that admittance and plans were refused. Three structures are depicted on the subject property; at the main Pilot Plant, former Potash Plant, and boiler house. Two tanks (one marked "chemical tank") are located near the southeast corner of the main Pilot Plant building. A double hydrant is located to the south of the main Pilot Plant building. The structure located near the former location of the Potash Plant is labeled as "Main Hall". The boiler room structure is labeled as "Power". The Saw Mill River is observed within the undeveloped north and east potions of the site. A roadway connecting Saw Mill River Road to the east to Eastern Ave to the northwest crosses the northern portion of the property but is labeled as "Not Open".

Rail lines are observed to the west of the subject property followed by Western Avenue and a residential neighborhood. A roadway borders the site to the south (presently Lawrence Street) followed by a structure labeled as "warehouses". Saw Mill River Road and vacant property borders the site to the east and northeast.

1942
The subject property is identified as "Chemical Co. Inc." and it appears that "Stauffer" and the western portion of the site may possibly have been cut off on this map. Seven structures are present in the southwest portion of the subject property; however, none of the buildings are identified. Two rectangular features identified as "reservoirs" are located in the eastern portion of the developed "plant area". It appears that a rail spur entered the northwest site boundary and terminated within the developed portion of the site. The unopened roadway observed in the undeveloped northern portion of the site on the 1924 Sanborn Map is identified as Danforth Avenue on this map.

Lawrence Street is identified bordering the site to the south. No structures are depicted on the property immediately south of Lawrence Street. A rail line and residential area remains to the west of the site. Saw Mill River Road borders the site to the east and northeast.

1950
The subject property is identified as "Stauffer Chemical Company – Manufacturers of Nitrate of Soda and Borax". The map indicates that the facility utilizes gas and steam for heat and electric for power and lights. Seven structures are depicted in the developed

southern portion of the property. Four of the buildings are identified as "Manufacturing", "Nitrate Building", "Power", and "Manufacturing and Storage". The other three buildings are not identified. The two tanks and double hydrant observed on the 1924 map are also depicted on the 1950 map. The rail spur observed on the 1942 map is clearly defined and extends to two areas in the developed plant area.

Lawrence Street borders the site to the south. A double hydrant and six-inch water pipe are observed within Lawrence Street. Beyond Lawrence Street to the south is a single structure identified as "Manufacturing" and "Warehouse". Rail lines, a roadway, and residential area are observed to the west of the site. Saw Mill River Road and several residential dwellings are observed to the east and northeast of the site.

1970

One additional on-site structure is observed adjacent to the north of the main Pilot Plant building. This structure is depicted near the location of the building most recently utilized as offices. No other changes to the site or surrounding properties are observed on the 1970 Sanborn® Map in comparison to the 1950 map.

4.4.3 Review of Historic USGS Topographic Maps

A search conducted by EDR of their historic USGS Topographic Map collection revealed topographic map coverage for the years 1902, 1938, 1967, 1979, and 1994. Presented below are the dates of the USGS Topographic Maps and a summary of all discernable features on each map. Copies of the topographic maps are included in Appendix C.

1902 (Tarrytown)

No development is observed on the subject property. The Saw Mill River flows through the north and east portions of the site. The New York Central Railroad is observed to the west of the subject property.

1938 (White Plains)

The site is developed with two structures, one at the former location of the main Pilot Plant and the other at the location of the former Potash Plant. A single structure is observed to the south of the subject property across the roadway presently known as Lawrence Street which appears on the 1938 map. No other changes are observed to the site in comparison to the 1902 topographic map.

1967 (White Plains)

The southern (plant) portion of the subject property is developed with eight structures. A rail spur is observed entering the northwest site boundary and terminating near the center of the plant area to the east of the main Pilot Plant. No other changes are observed to the site or surrounding properties in comparison to the 1938 topographic map.

1979 (White Plains)

Two additional buildings are observed in the developed (plant) portion of the subject property. No other changes are observed to the site or surrounding properties in comparison to the 1967 topographic map.

1994 (White Plains)

No development is observed on the subject property in the 1994 topographic map. However, site structures were present during this time period and were not demolished until 2008.

4.4.4 Local Street Directories

A search conducted by EDR of all available business directories, cross reference directories, and telephone directories, revealed that 1 Lawrence Street was identified on the 2007 directory as Aspin Wall Worldwide and OT Deliver Inc. The only surrounding property listed was 2 Lawrence Street which was identified as The Wine Enthusiast in the 1997 and 2001 directories. The site and surrounding properties were not listed in any of the sources from 1971 to 1992. A copy of EDR's City Directory Abstract Report is included in Appendix F.

5 SITE INVESTIGATION

5.1 Introduction/Report Organization

The objective of the site investigation was to identify areas of concern and evaluate potential impacts to soil and groundwater quality in those areas. The site investigation focused on areas identified through discussions with Akzo Nobel representatives familiar with the site; performance of a site inspection to identify areas where hazardous materials/substances were potentially used, handled or stored; and review of historical maps of the facility to identify hazardous materials use/handling/storage areas. Preliminary investigative tasks included an inspection of the undeveloped land for the potential presence of stressed ecologic receptors (Section 5.4) and a geophysical survey including GPR and EM surveys to identify potential buried debris, drums, tanks, etc. (Section 5.5). The following areas of investigation were identified through this process and are detailed in Sections 5.6.1 through 5.6.14:

- Pilot Plant Sumps, Drains, and Underground Piping
- Waste Water Treatment Pits
- White House Building/Carbon Disulfide Vaults
- UST Areas
- Hazardous Waste Storage Pad (operated by a large quantity generator) only as a <90 day storage area and Solvent Sheds
- Former Potash Plant
- Former Railcar Loading Area
- Former Septic System
- Pre-Sanitary Sewer Collection Pit
- Former Coal Storage Areas
- Outdoor Equipment Storage Pad
- Debris Pile
- Other Magnetic Anomalies
- Historic Fill/Background Metals

Soil sample location maps and soil quality data tables have been divided into shallow (0-4') and deep (> 4') zones to enable an overview of soil quality. All soil samples collected from inside the former main Pilot Plant structure were shallow and all were collected to

assess soil quality around sumps, drains, and piping beneath the floor of the building. If a soil sample did not contain a contaminant in a concentration that exceeded NYSDEC criteria, the soil boring from which the sample was collected is colored green on the attached maps. If a sample had a contaminant concentration that exceeded its respective NYSDEC criteria, its corresponding soil boring is colored magenta.

Figures

An overview of all soil sampling locations is provided on Figure 2. Soil sampling locations organized by targeted contaminant and color-coded as described above are depicted on the following Figures:

- Figure 3 – Volatile Organic Compound (VOC) Sampling Locations – Shallow Soil Samples (Pilot Plant Building Interior)
- Figure 4 – VOC Sampling Locations – Shallow Soil Samples
- Figure 5 – VOC Sampling Locations – Deep Soil Samples
- Figure 6 – Semi-Volatile Organic Compound (SVOC) Sampling Locations – Shallow Soil Samples (Pilot Plant Building Interior)
- Figure 7 – SVOC Sampling Locations – Shallow Soil Samples
- Figure 8 – SVOC Sampling Locations – Deep Soil Samples
- Figure 9 – Inorganic Sampling Locations – Shallow Soil Samples (Pilot Plant Building Interior)
- Figure 10 – Inorganic Sampling Locations – Shallow Soil Samples
- Figure 11 – Inorganic Sampling Locations – Deep Soil Samples
- Figure 12 – PCB/Pesticides Sampling Locations – Shallow Soil Samples (Pilot Plant Building Interior)
- Figure 13 – PCB/Pesticides Sampling Locations – Shallow Soil Samples
- Figure 14 – PCB/Pesticides Sampling Locations – Deep Soil Samples

A Sediment and Surface Water Sampling Location Map is included as Figure 15. Groundwater Contour Maps for the June 11, 2009 gauging event and June 29, 2009 groundwater sampling event are included as Figures 16 and 17, respectively.

Tables

Soil sample analysis results organized by targeted contaminant are summarized on the following Tables:

- Table 1 – VOCs – Shallow

- Table 2 – SVOCs – Shallow
- Table 3 – Inorganics – Shallow
- Table 4 – Pesticides/PCBs – Shallow
- Table 5 – VOCs – Deep
- Table 6 – SVOCs and Total Petroleum Hydrocarbons (TPH) – Deep
- Table 7 – Inorganics – Deep
- Table 8 – Pesticides/PCBs – Deep

Sediment sample analytical results are included on Table 9. Surface water and groundwater sampling data are included on Tables 10 and 11, respectively.

5.2 Sampling Rationale

Sampling rationale was based on the identified area of concern's potential to affect shallow and/or deep soil. Shallow soil samples consist of those collected from the 0 to 4-foot depth interval. Such samples were collected from a variety of locations where potential soil impact would result from a surface or near-surface release. Examples of such areas include the drum storage areas, drains and piping, historical coal storage areas, etc. Deep soil samples consist of those collected from depths greater than 4 feet below ground surface (bgs). Such samples were collected from locations where potential soil impact would result from a subsurface release. Examples of such areas include wastewater collection pits, wastewater treatment pits, former USTs, former and current UST vaults, and buried debris areas (as indicated by GPR/EM surveys).

Soil sample analytical procedures were generally selected based on the potential contaminants in a given area. For instance, soil samples collected from the former carbon disulfide USTs areas were analyzed for VOCs. However, based on the historic use of the site as a research and development facility and the lack of a comprehensive record of all hazardous materials used, stored, or generated at the property, some of the samples were analyzed for the full range of priority pollutants (PP+40). The PP+40 analyses includes VOCs, SVOCs, priority pollutant metals (including mercury), pesticides, and PCBs.

5.3 Evaluation Criteria

Soil sample analysis results were compared to NYSDEC's Recommended Soil Cleanup Objectives found in Technical and Administrative Guidance Memorandum (TAGM) #4046. The recommended soil cleanup criteria for VOCs are based on protection of groundwater. Cleanup criteria for SVOCs, PCBs and pesticides are health based standards. Cleanup criteria for inorganics (priority pollutant metals) are also health based with allowance for site or state background concentrations. Determination of site background concentrations of priority pollutant metals is required to enable evaluation of the results of analysis of the site investigation soil samples that were analyzed for priority pollutant metals.

Upstream sediment analysis results were compared to the Sediment Criteria for Metals and the Non-Polar Compounds Levels of Protection found in the NYSDEC – Technical Guidance for Screening Contaminated Sediment (1999). The NYSDEC Surface Water Standards were used to evaluate the upstream surface water analysis results. Groundwater data was compared to the New York State Ambient Water Quality Standards and Guidance Values.

5.4 Undeveloped Land Reconnaissance

Land to north and west of the northern parking lot and along the eastern property boundary is heavily vegetated/wooded. An area to the north of the parking area was historically utilized by facility employees as a garden; however none of these areas were ever developed or utilized in plant operations. A branch of the Saw Mill River flows eastward across the northern undeveloped portion of the site and continues southward along the eastern property boundary. The Saw Mill River received permitted discharges and stormwater runoff from the site during its operational history.

In September 2006, Sovereign conducted an inspection of the undeveloped areas of the site. This survey included the visual inspection of the wooded land areas and the surface waters and surrounding floodplain of the Saw Mill River. The NYSDEC defines these areas as "fish and wildlife resource" or "surface water" areas of concern. The inspection focused on the potential presence of wastes and/or any indicators of environmental stress due to unauthorized waste disposal, including stressed vegetation, stained/discolored soil areas, and disturbed/filled areas.

No indications of environmental stress were observed in the undeveloped areas of the site during the September 2006 inspections; therefore, no additional action was taken in regards to these locations.

5.5 Geophysical Survey

A geophysical survey was conducted to inspect for the presence of buried objects (i.e. drums and tanks) and buried wastes/debris areas in September 2006. The geophysical survey included both GPR and EM survey techniques in order to identify both metallic and non-metallic objects and disturbed/filled areas. Specific areas targeted by the survey included the buried railcar (to confirm location and orientation); a suspected subsurface disposal area (sulfur) on the eastern side of the former Potash Plant; the former rail spur; the undeveloped land area and parking lot in the northern portion of the property; and the Hazardous Waste Storage (less than 90 day) Pad (to determine the location and orientation of sanitary sewer and storm water drain lines beneath the pad).

Nine test pits were subsequently excavated at the site based on visual observations and the results of the geophysical survey. The test pit activities were completed on October 12 and 13, 2006.

- Test pits TP-1 through TP-3 were excavated in the parking lot north of the developed portion of the site based on magnetic anomalies detected during the geophysical survey. Sampling details for these test pits are included in Section 5.6.13.
- Test pits TP-4 and TP-5 were excavated near the southeast corner of the former Pilot Plant in order to confirm the location of several of the USTs described in section 5.6.4. Tank T-1 (former registration ID A-9) was encountered in TP-4. This tank was full of sand because it was previously abandoned (circa 1986). Competent concrete was encountered beneath the asphalt surface at test pit TP-5; excavation of a test pit at this location could not be completed.
- Test pit TP-6 was excavated from within the former carbon disulfide UST vault located in the southeast portion of the site adjacent to the north of the former maintenance building. Soil sampling related to this test pit is detailed in Section 5.6.4.1.

- Test pits TP-7 and TP-9 were excavated in the landscaped area located in the southern portion of the subject property. These test pits, completed at the former location of the Potash Plant and a suspected landfill area, are detailed in Section 5.6.6.
- Test pit TP-8 was completed within the elevated former Railcar Loading area in order to visually inspect the material used to build the structure. Details of the test pit activities and associated soil sampling are included in Section 5.6.7.

5.6 Soil Sampling and Analysis

As detailed earlier in this report, the soil investigation was completed in several phases between 2006 and 2009. Soil samples were collected from borings advanced using the direct push (i.e. GeoProbe) sampling technique. During advancement of the borings, soil was logged using the Unified Soil Classification System, visually inspected for the potential presence of contamination and screened for the presence of organic vapors using a photoionization detector (PID) fitted with an 11.7 eV lamp. Soil samples collected from the borings were biased toward the interval indicating the highest PID reading or other indications of contamination (i.e. staining, odors, etc.) if no organic vapors were detected. When no indications of contamination were observed, samples were collected from the base of the boring. If elevated concentrations of organic vapors were detected, the boring was deepened to allow collection of a contingency vertical delineation soil sample. The contingency vertical delineation samples were collected from depths where there was limited potential for contaminants based on field screening results. The contingency samples were placed on hold at the laboratory and were analyzed only if the shallower sample contained concentrations of targeted contaminants in excess of NYSDEC soil cleanup criteria. Upon completion of sampling, soil cuttings were returned to their respective borings and the borings were resurfaced to match pre-existing conditions.

Soil boring logs detailing lithology, field screening readings, and sampling intervals are included as Appendix G. Laboratory analytical data reports for the soil sampling are included as Appendices H through M.

The following sections describe the areas of concern and associated soil sampling and analysis.

5.6.1 Pilot Plant Sumps, Drains, and Underground Piping

With regard to the investigation within the main Pilot Plant, housekeeping and maintenance in these areas appeared to have been very good. Aside from only minor staining in a few areas, there was no indication of significant releases of hazardous materials/substances. Therefore, the primary focus of the investigation of these areas was wastewater collection points such as floor drains, catch basins and collection sumps and cracked and/or deteriorated concrete in hazardous materials handling areas. The actual frequency of soil sampling within the Pilot Plant building was based on review of process waste piping plans and a detailed inventory of drains/basins/sumps during the preliminary reconnaissance.

Pilot Plant building details and sampling locations are depicted on the VOC, SVOC, Inorganic, PCB/Pesticides Sampling Location maps, included as Figures 3, 6, 9, and 12, respectively.

5.6.1.1 Area Scrubber

The Area Scrubber was located outdoors near the northwest corner of the main Pilot Plant building as depicted on Figure 3. The scrubber was a caustic-based counter current flow system that handled primarily particulates and srubbable VOCs, although virtually all pilot processes utilized the scrubber. Scrubber effluent was collected in a sump which pumped to the wastewater pre-treatment pits prior to discharge to the sanitary sewer.

One soil boring (SB-11) was installed adjacent to the sump using the direct push (i.e. GeoProbe) sampling technique to a depth of 8 feet below ground surface. This depth correlated with the actual depth of the sump as determined in the field prior to commencement of soil sampling. In addition, three borings (SB-22 through SB-24) were advanced at locations from the unpaved area on the west side of this unit; these sampling locations were along the adjacent/off-site railroad tracks. Soil samples were collected from the 0.5 to 1-foot depth interval at these three locations in order to evaluate for potential shallow soil contamination from scrubber air emissions. Subsurface soil sample SB-11 was analyzed for PP+40 while samples SB-22 through SB-24 were analyzed for SVOCs and priority pollutant metals.

Laboratory analytical results indicated that no targeted VOCs, SVOCs, pesticides or PCBs were detected at concentrations exceeding the laboratory method detection limits

(MDLs) at SB-11. However, several metals, including chromium, nickel, and zinc, were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives at this location. SB-11 analytical results are included on Tables 5 through 8.

At borings SB-22 through SB-24, elevated concentrations of SVOCs, including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives. The inorganic compounds beryllium, chromium, copper, lead, mercury, nickel, selenium, and/or zinc were also detected in one or more of these samples at concentrations above the NYSDEC standards. Laboratory analytical results for samples SB-22 through SB-24 are included on Tables 2 and 3.

5.6.1.2 Mini Lab

The Mini Lab was located in the northern end of the main Pilot Plant building as depicted on Figure 3. The lab had a floor drain near the center of the room and trench drains beneath the fume hoods.

Two soil borings were installed in the Mini Lab on October 5, 2006. One boring (SB-57) was advanced near the sump pit within the Mini Lab analytical lab area. The second boring (SB-58) was advanced adjacent to the sump pit in the main Mini Lab area. Soil samples were collected from 0 to 2 feet bgs at each boring location and submitted for VOCs, SVOCs, priority pollutant metals, pesticides, and PCBs analyses.

No VOCs were detected in either sample at concentrations exceeding the NYSDEC Soil Cleanup Objectives. Several SVOCs, including benzo(a)anthracene, benzo(a)pyrene, chrysene, and/or dibenzo(a,h)anthracene were detected at SB-57 and SB-58 at concentrations exceeding the NYSDEC standards. In addition, numerous priority pollutant metals at both sampling locations, the PCB Aroclor 1242 (5.25 mg/kg) at SB-57, and the pesticide dieldrin (4.56 mg/kg) at SB-58 were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives. Laboratory analytical results for samples SB-57 and SB-58 are included on Tables 1 through 4.

5.6.1.3 Catalyst Pilot Plant

The Catalyst Pilot Plant, formerly known as the "organic module", was located adjacent to the Mini Lab in the northern portion of the main Pilot Plant building as depicted on Figure 3. In addition to trench drains throughout the area, several areas of concrete floor repairs were observed.

Three soil borings (SB-59 through SB-61) were installed in the Catalyst Pilot Plant on October 5, 2006. The borings were biased towards the three floor drains located within this area. Shallow samples (0 to 0.5 feet bgs) were collected from borings SB-59 and SB-60 and were submitted for SVOCs and priority pollutant metals analyses. At boring SB-61, samples were collected from the 0 to 2-foot depth interval and were analyzed for VOCs, SVOCs, priority pollutant metals, pesticides, and PCBs.

Numerous SVOCs and metals were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives in all three samples with the highest concentrations exhibited at SB-59. No VOCs or pesticides were detected at concentrations exceeding the NYSDEC standards at SB-61. The PCB Aroclor 1254 was detected at a concentration of 1.94 mg/kg at SB-61. This concentration exceeds the NYSDEC standard of 1 mg/kg for Aroclor 1254.

Laboratory analytical results for samples SB-59 and 60 are included on Tables 2 and 3. SB-61 analytical results are presented on Tables 1 through 4.

5.6.1.4 MPPP (Multi-Purpose Pilot Plant)

The MPPP was located in the northwest corner of the main Pilot Plant building as depicted on Figure 3. All chemicals made at the facility during Akzo Nobel's operations were handled in this room. A floor drain was observed near the approximate center of the MPPP.

One soil boring (SB-62) was installed adjacent to the floor drain in the MPPP on October 5, 2006. A subsurface soil sample was collected from the 0 to 2-foot depth interval and was submitted for analysis for VOCs, SVOCs, priority pollutant metals, pesticides, and PCBs.

No VOCs, SVOCs, PCBs, or pesticides were detected at SB-62 at concentrations exceeding the NYSDEC Soil Cleanup Objectives. However, several priority pollutant

metals, including cadmium, chromium, copper, mercury, nickel, and zinc were detected at levels above the state standards. Laboratory analytical results for sample SB-62 are presented on Tables 1 through 4.

5.6.1.5 FAPP (Fatty Amines Pilot Plant)

The FAPP was located near the Catalyst Pilot Plant in the northern portion of the main Pilot Plant building as depicted on Figure 3. The FAPP was built in 1992 and was used for pilot manufacturing of surfactants and other organic nitrogen compounds. The FAPP had two floor drains. The yard area of the FAPP contained a scrubber, trenches, and a collection sump which routed waste water to the adjacent waste water treatment pits.

Three soil borings (SB-65 through SB-67) were installed in the FAPP area on October 5, 2006. Two of the borings (SB-65 and SB-67) were installed adjacent to the floor drains inside the FAPP. Subsurface soil samples were collected from each boring from the 0 to 2-foot depth interval and submitted for VOCs and SVOCs analyses. The third boring (SB-66) was installed near the collection sump near the southeast corner of the FAPP yard. This boring was extended to a depth of approximately 2 feet bgs; however, no soil was recovered upon retrieval of the sampling equipment due to an obstruction in the sample retrieval device. Therefore, no samples were collected from boring SB-66.

No VOCs were detected at either SB-65 or SB-67 at concentrations exceeding the NYSDEC Soil Cleanup Objectives. However, the SVOCs benzo(a)anthracene, benzo(a)pyrene, chrysene, and dibenzo(a,h)anthracene were detected at both locations at concentrations exceeding the state standards. Laboratory analytical results for samples SB-65 and SB-67 are included on Tables 1 and 2.

5.6.1.6 MFED (Multi-Function Engine Detergents) Lab

The MFED lab was located in the southeast corner of the main Pilot Plant building as depicted on Figure 3. Three floor drains and a small amount of hazardous material storage were observed in this area during the site inspection.

Three soil borings (SB-82 through SB-84) were installed in the MFED area on May 28, 2009. The borings were located adjacent to each of the three floor drains and were extended to approximately 8 to 10 feet bgs. Shallow samples (SB-82A through SB-84A)

were collected from beneath the concrete pad at a depth of 1 to 1.5 feet bgs and were submitted for SVOCs analysis. Additionally, samples SB-82B through SB-84B were collected from depths of 2.5 to 4 feet bgs, approximately 18 to 24 inches below the floor drains, and were submitted for VOCs analysis.

The SVOCs benzo(a)anthracene, benzo(a)pyrene, chrysene, and dibenzo(a,h)anthracene were detected at SB-82A and SB84A at concentrations exceeding the state standards. Only benzo(a)pyrene exceeded the NYSCDEC Soil Cleanup Objectives at SB-83A. No VOCs were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives in samples SB-82B through SB-84B. Samples SB-82 through SB-84 laboratory analytical results are included on Tables 1 and 2.

5.6.1.7 Inorganics Area/Propylene Module

The Propylene Module, also known as the Polytest Area, was located in the southwest corner of the main Pilot Plant building as depicted on Figure 3. A pit was located in room 4-9-2 in this area. In addition, several floor drains were located in this area near the entrance to room 4G and to the east of room 4G.

Two soil borings (SB-85 and SB-86) were installed adjacent to the floor drains described above on May 28, 2009. In addition, one soil boring (SB-87) was advanced adjacent to the pit in this area. The borings were extended to approximately 8 to 10 feet below ground surface. Samples SB-85A through SB-87A were collected from shallow depths beneath the concrete pad (0.5 to 1.5 feet bgs) and were submitted for SVOC analysis. Samples SB-85B through SB-87B were collected from all three borings at depths ranging from 2.5 to 4 feet bgs, approximately 18 to 24 inches below the drains/pit.

No VOCs or SVOCs were detected in samples SB-85 through SB-87 at concentrations exceeding the NYSDEC Soil Cleanup Objectives. Laboratory analytical results for samples SB-85 through SB-87 are included on Tables 1 and 2.

5.6.1.8 Polymer Module

The Polymer Module was located in the central portion of the main Pilot Plant building north of the Propylene Module and south of the MPPP as depicted on Figure 3. Various

organic compounds including acrylonitrile, styrene, and carbon tetrachloride were handled in this area.

On October 5, 2006, three soil borings (SB-68 through SB-70) were installed adjacent to the floor drains observed in this area. Based on field screening with a PID and visual observations, samples were only collected from boring SB-70. Soil samples collected from 0 to 2 feet bgs at this location were submitted for SVOCs and VOCs laboratory analyses.

No VOCs were detected at SB-70 at concentrations exceeding the NYSDEC Soil Cleanup Objectives. However, the SVOCs benzo(a)anthracene, benzo(a)pyrene, and dibenzo(a,h)anthracene were detected at SB-70 at concentrations exceeding the state standards. Laboratory analytical results for sample SB-70 are included on Tables 1 and 2.

5.6.1.9 Crystex Module/Maintenance Shop

The Crystex Module was located along the eastern wall of the main Pilot Plant building as depicted on Figure 3. The Crystex Module was active from the late 1970s through the mid 1980s. Carbon disulfide and process oil were formerly used in this area.

On October 6, 2006, one soil boring (SB-71) was installed adjacent to a floor drain clean out located in the eastern portion of the maintenance shop. This shop was located adjacent to the Crystex Module and the boring was completed near the intersection of the floor drains that served both the Crystex Module and maintenance shop. Subsurface soil samples were collected from 0 to 2 feet bgs at SB-71 and submitted for SVOCs and VOCs laboratory analyses.

The results of the laboratory analyses indicated that no VOCs or SVOCs were detected in sample SB-71 at concentrations exceeding the NYSDEC Soil Cleanup Objectives (See Tables 1 and 2).

5.6.1.10 Mini Lab Sump

A sump was located adjacent to the analytical lab located at the northern end of the former Pilot Plant. This sump collected waste from the former Mini Lab and analytical lab.

On October 2, 2006, one soil boring (SB-10) was completed adjacent to the slop tank sump. Subsurface soil samples were collected from approximately 7 to 8 feet bgs and submitted for laboratory analysis for PP+40.

Results of the laboratory analysis indicated that no VOCs were detected at SB-10 at concentrations exceeding the laboratory MDLs. Benzo(a)pyrene was the only SVOC detected at SB-10 at a concentration exceeding the NYSDEC Soil Cleanup Objectives. In addition, several metals, including arsenic, chromium, mercury, selenium, and zinc were also detected above the NYSDEC standards. Most notably, the pesticides dieldrin (6.47 mg/kg), 4,4'-DDE (7.06 mg/kg), and 4,4'-DDT (35.5 mg/kg) were detected at levels above the NYSDEC Soil Cleanup Objectives of 0.044 mg/kg, 2.1 mg/kg, and 2.1 mg/kg, respectively for these compounds. Laboratory analytical results for sample SB-10 are presented on Tables 5 through 8.

Based on these results, five borings (SB-10A and SB-77 through SB-80) were completed on May 27, 2009 to delineate the vertical and horizontal extents of the elevated pesticide concentrations observed in boring SB-10. One boring was completed at the location of the original SB-10 and was extended to a depth of 20 feet bgs. Sample SB-10A was collected from a depth of 12-12.5 feet bgs and a contingency sample, SB-10B, was collected at 18-18.5 feet bgs. Both samples were submitted for dieldrin, 4,4'-DDE, and 4,4'-DDT analysis. Dieldrin, 4,4'-DDE and 4,4'-DDT were detected in sample SB-10A but the concentrations were all below the NYSDEC Soil Cleanup Objectives for these compounds. Therefore, vertical delineation of the pesticides at SB-10 was completed at 12 to 12.5 feet bgs and subsequently, contingency sample SB-10B was not analyzed. Table 8 includes the complete laboratory analytical results for sample SB-10A.

In order to accomplish horizontal delineation, borings SB-77 (west), SB-78 (east), SB-79 (north), and SB-80 (south) were installed approximately 12 to 15 feet from boring SB-10 in the direction indicated. Boring SB-77 was extended to 20 feet bgs while borings SB-78 through SB-80 were completed at 8 feet bgs. One sample was collected from each boring at 7.5 to 8 feet bgs and submitted for analysis for dieldrin, 4,4'-DDE, and 4,4'-DDT.

The laboratory analytical results indicated that dieldrin was detected at SB-77, SB-79, and SB-80 at concentrations below the NYSDEC Soil Cleanup Objectives. Dieldrin was not detected above the laboratory MDLs at SB-78. 4,4'-DDE and 4,4'-DDT were only

detected in sample SB-79; however, the concentrations of these compounds at this location were below the NYSDEC Soil Cleanup Objectives. Based on these results, horizontal delineation of the elevated pesticide concentrations at SB-10 has been completed. The laboratory analytical results for samples SB-77 through SB-80 are included on Table 8.

5.6.1.11 Powder Materials Room

The powder materials room was located in the eastern portion of the former Pilot Plant. Wastes collected in this room were directed by a floor drain to a sump just outside of the powder room.

On October 6, 2006, one boring (SB-72) was completed adjacent to the floor drain collection area in the former powder room. The boring was extended to a depth of 2 feet bgs and subsurface soil samples were collected from the 0 to 2-foot depth interval. The samples were submitted for PP+40 analyses.

The laboratory analytical results indicated that no VOCs or SVOCs were detected in sample SB-72 at concentrations exceeding the NYSDEC Soil Cleanup Objectives. Several priority pollutant metals, including cadmium, chromium, copper, lead, nickel, and zinc, were detected at concentrations above the state standards. The only pesticide detected in sample SB-72 was toxaphene which was detected at a concentration of 1.3 mg/kg. PCBs were not detected in sample SB-72. Complete laboratory analytical results for sample SB-72 are included on Tables 1 through 4.

5.6.1.12 AutoClave Module 5 Area

AutoClave Module 5 was located in the eastern portion of the former Pilot Plant between the powder room and the waste water treatment pits.

One boring (SB-73) was completed within the AutoClave Module 5 room on October 6, 2006. The boring was completed to a depth of 2 feet and subsurface soil samples were collected from the 0 to 2-foot depth interval. Samples were collected for VOCs, SVOCs, and priority pollutant metals analyses.

Laboratory analytical results indicate that no VOCs were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives. However, several SVOCs (benzo(a)anthracene, benzo(a)pyrene, chrysene, and dibenzo(a,h)anthracene) and mercury were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives. Sample SB-73 laboratory analytical results are included on Tables 1 through 3.

5.6.2 Waste Water Treatment Pits

The Waste Water Treatment Pits were located on the eastern side of the main Pilot Plant building between the FAPP yard and Crystex Module as depicted on Figure 3. This feature originally held water for fire suppression purposes. The pits were later retrofitted to collect and treat (pH adjust) waste water from various plant processes prior to discharge to the sanitary sewer system. Visual inspection of the walls of the pits revealed no obvious breaches of integrity such as cracks, penetrations, or deterioration/spalling.

On October 3, 2006, three soil borings, SB-37 through SB-39, were installed adjacent to the east, south, and west sides of the wastewater pits (formerly referred to as Fire Pits), respectively. The borings were completed to a depth of 12 feet bgs, the approximate depth of the pits. Subsurface soil samples were collected from the 9 to 10-foot depth interval at boring SB-37 and at the 11 to 12-foot depth interval at borings SB-38 and SB-39. Sample depths were biased to the only indication of potential contamination - a sewage odor was noted at the sampling depths in each boring. The samples were submitted for laboratory analysis for PP+40.

Tetrachloroethene was detected at a concentration of 7.83 mg/kg in sample SB-38, exceeding the NYSDEC Soil Cleanup Objective of 1.4 mg/kg for this compound. No other VOCs were detected at concentrations exceeding the state standards at SB-37 through SB-39. Benzo(a)pyrene and dibenzo(a,h)anthracene were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives at SB-39. No other SVOCs were detected at concentrations above the state standards at these boring locations. Numerous metals were detected in each of the Waste Water Treatment Pit borings exceeding the NYSDEC Soil Cleanup Objectives. No PCBs or pesticides were detected above the laboratory MDLs at SB-37 or SB-39. Dieldrin, 4,4'-DDE, and endrin were detected at SB-38 but only the concentration of dieldrin (0.451 mg/kg) exceeded the

state standard (0.044 mg/kg for dieldrin). Laboratory analytical results for samples SB-37 through SB-39 are included on Tables 5 through 8.

5.6.3 White House Building/Carbon Disulfide Vaults

Historical facility plans and Sanborn maps indicated that a concrete vault containing carbon disulfide tanks was originally located near the southeast corner of the main Pilot Plant building as depicted on Figure 1. The carbon disulfide tanks were apparently removed, the vault was backfilled, and a structure referred to as the White House Building was erected at this location, possibly using the vault walls as the building foundation. The White House Building was used for storage of maintenance supplies, equipment, and some chemicals. A pit was observed along the eastern wall of the building. The floor of the building was in disrepair and there was evidence of petroleum staining.

One soil boring (SB-49) was installed in the stained area within the footprint of the former White House building on October 4, 2006. This boring was advanced to the depth of refusal, 5.5 feet bgs. Shallow samples (SB-49A) were collected from the 0 to 4-foot depth interval and submitted for laboratory analysis for VOCs, SVOCs, priority pollutant metals, and PCBs. One sample (SB-49B) was collected at a depth of 5 to 5.5 feet bgs from boring SB-49 and was submitted for VOCs analysis.

In addition, eight borings (SB-43 through SB-48, SB-55, and SB-56) were installed around the perimeter of the White House Building to determine whether potential impacts detected within the building footprint were contained by the former carbon disulfide tank concrete vault beneath the building. The perimeter borings were extended to a depth of 16 feet bgs. Soil samples were collected from these borings at depths ranging from 12.5 to 16 feet bgs and were submitted for laboratory analysis for VOCs.

The laboratory analytical results indicated VOC impacts within the White House building footprint associated with sample SB-49B. At this location, benzene (1.46 mg/kg), carbon disulfide (1,150 mg/kg), tetrachloroethene (23.9 mg/kg), toluene (3.68 mg/kg), and xylenes (173 mg/kg) were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives to Protect Groundwater Quality. At the perimeter borings, one or more of the VOCs carbon disulfide, methylene chloride, and/or tetrachloroethene were detected at seven of the eight locations; however, none of the concentrations of these

compounds exceeded the NYSDEC Soil Cleanup Objectives. These results indicated that VOC-impacted soil within the former carbon disulfide vault is contained therein. Laboratory analytical results for sample SB-49A are included on Tables 1 through 4. Results for samples SB-43 through SB-48, SB-49B, SB-55, and SB-56 are presented on Table 5.

5.6.4 UST Areas

USTs at the former pilot plant were investigated in two separate phases. Soil borings were installed around several abandoned-in-place USTs and former UST areas in October 2006 to investigate for potential impacts resulting from these UST systems. In July and August of 2008, several USTs were removed at the site during site demolition activities. Tanks A-1 through A-4 and A-6 were closed under a Petroleum Bulk Storage Permit (PBS Number 3-800132) issued by the Westchester County Department of Health. In addition, three previously abandoned-in-place USTs (A-5, A-8, and A-9) were removed at this time. An additional UST encountered during demolition activities (Tank A-8), was also removed during this time period. Details of the investigations are provided in the following sections.

5.6.4.1 Fuel Oil/Carbon Disulfide UST Areas (Tanks A-1 through A-4)

Four 10,000 gallon heating oil (#6) USTs (tanks A-1 through A-4) were formerly located in the eastern portion of the property to the north of the former maintenance shop. The UST system was still in service as of 2006. Akzo indicated that these tanks historically stored carbon disulfide and were converted for fuel oil storage during plant operation. The tanks were located within a concrete vault which was inspected by the Westchester County Health Department on July 16, 2008. The Westchester County Health Department deemed the vaults competent and indicated that sampling was not required during the UST removal process for these tanks. In addition, historic facility plans indicate a second vault directly adjacent to the north of the maintenance shop which reportedly contained three 20,000-gallon carbon disulfide tanks during historic site operations.

Nine soil borings (SB-28 through SB-36) were installed around the perimeters and between the two vault areas on October 3, 2006. The borings were extended to depths equivalent to the depth of the existing UST inverts which varied given grade changes in

the area. Subsurface soil samples were collected from SB-28 through SB-36 at depths ranging from 11.5 to 16 feet bgs. Soil samples SB-29, SB-30, and SB32 through SB-34 were submitted for laboratory analysis for VOCs only. Samples SB-35 and SB-36 were analyzed for VOCs, SVOCs, and TPH. The samples collected from borings SB-28 and SB-31 were not analyzed based on field screening measurements and visual observations which did not indicate the potential presence of contamination.

The laboratory analytical results indicated that acetone was detected at SB-29 (0.284 mg/kg) and SB-34 (0.132 mg/kg) at concentrations exceeding the NYSDEC Soil Cleanup Objective to Protect Groundwater Quality of 0.11 mg/kg for acetone. No other VOCs were detected at concentrations exceeding the state standards for this area. At borings SB-35 and SB-36, one or more SVOCs including benzo(a)anthracene, benzo(a)pyrene, and/or dibenzo(a,h)anthracene were detected at concentrations exceeding the state standards. TPH was detected at borings SB-35 and SB-36 at respective concentrations of 52.5 mg/kg and 261 mg/kg. Laboratory analytical results for samples SB-29, SB-30, and SB32 through SB-34 are included on Table 5. Results for samples SB-35 and SB-36 are presented on Tables 5 and 6.

The vault immediately north of the former maintenance building had previously been backfilled. On October 13, 2006, one test pit (TP-6) was excavated from within the vault in order to inspect the backfill material. Samples were collected from 8 to 8.5 feet bgs from TP-6 and submitted for PP+40 laboratory analysis. Analytical results indicated that only SVOCs and priority pollutant metals were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives. Most notably, lead was detected at a concentration of 10,200 mg/kg. Laboratory analytical results for samples TP-6 are included on Tables 5 through 8.

On May 27, 2009, one soil boring (SB-81) was installed adjacent to the southeast corner outside of the former UST vault. Samples were collected from 2.5 to 3 feet bgs (SB-81A) and 7.5 to 8 feet bgs (SB-81B) at this location and were submitted for lead analysis. Lead was detected in samples SB-81A and SB-81B at concentrations of 9.6 mg/kg and 38.5 mg/kg, respectively (See Tables 3 and 7, respectively). These concentrations are similar to the background concentrations observed in sample SB-76; therefore, it appears that the elevated lead concentrations observed at test pit location TP-6 are localized within the vault area.

5.6.4.2 Former 2,000-Gallon Fuel Oil UST (Tank A-9)

A 2,000-gallon fuel oil UST was formerly located in the southern end of the site adjacent to the northwest corner of the former boiler house. This tank was historically registered as tank A-9 and is referred to as tank T-1 in the March 13, 2009 UST Closure Report prepared by Sovereign (Appendix N).

One soil boring (SB-40) was installed at this location on October 3, 2006. Subsurface samples were collected from 10 to 12 feet bgs and submitted for VOCs, SVOCs, and petroleum hydrocarbons analyses. No VOCs or SVOCs were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives. Petroleum hydrocarbons were detected at a concentration of 83.2 mg/kg. Laboratory analytical results for sample SB-40 are included on Tables 5 and 6.

In July 2008, UST T-1 (a.k.a. A-9) was emptied, cleaned, and removed by AAA Environmental during site demolitions activities. Sovereign collected three tank centerline samples and a composite excavation sidewall sample from the T-1 UST pit on July 18, 2008. The samples were submitted for laboratory analysis for PAHs. Results of the analyses indicated PAH concentrations above the NYSDEC TAGM #4046 direct contact Recommended Soil Cleanup Objective and the Soil Cleanup Objective to Protect Groundwater in the samples collected from the eastern portion of the tank excavation.

Based on these results, soil from the eastern portion of the UST T-1 excavation was removed and stockpiled for subsequent off-site disposal on August 19, 2008. Three post-remediation soil samples were collected and submitted for PAH analysis in accordance with the NYSDEC Petroleum-Contaminated Soil Guidance Policy, (STARS) Memo #1. Results of the post-remediation sampling indicated that no PAHs were detected at concentrations exceeding the NYSDEC TAGM #4046 direct contact Recommended Soil Cleanup Objective or the Soil Cleanup Objective to Protect Groundwater; therefore, no further remediation was conducted.

Details of the sampling and remediation activities for UST T-1 are included in the March 13, 2009 UST Closure Report, included as Appendix I. The April 27, 2009 Westchester County Department of Health correspondence, indicating that no further action is required for this location, is included as Appendix O.

5.6.4.3 Former 5,000-Gallon Fuel Oil UST (Tank A-5)

A 5,000-gallon fuel oil UST was historically located in the center portion of the site along the rail spur to the east of the main pilot plant. This tank was historically registered as tank A-5 and is referred to as tank T-2 in the March 13, 2009 UST Closure Report prepared by Sovereign.

Two soil borings (SB-20 and SB-21) were installed at this location on October 2, 2006. Subsurface soil samples were collected from 8.5 to 11 feet bgs at SB-20 and 11.5 to 12 feet bgs at SB-21. These samples were submitted for SVOCs and petroleum hydrocarbons analyses. Laboratory analytical results indicated that benzo(a)pyrene at SB-20 and naphthalene at SB-21 were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives. In addition, petroleum hydrocarbons were detected at concentrations of 11,900 mg/kg and 20,800 mg/kg at SB-20 and SB-21, respectively. Laboratory analytical results for samples SB-20 and SB-21 are included on Table 6.

In July 2008, UST T-2 was emptied, cleaned, and removed by AAA Environmental during site demolitions activities. Petroleum-stained soil and organic vapors were observed in the southern end of the excavation, therefore, the excavation was enlarged toward the south prior to post-excavation sampling. Due to perched water present in the bottom of the tank excavation, eight soil samples were collected from the base of the excavation sidewalls (two per sidewall). The samples were submitted for laboratory analysis for PAHs in accordance with the NYSDEC STARS guidance. Results of the analyses indicated PAH concentrations above the NYSDEC TAGM #4046 direct contact Recommended Soil Cleanup Objective and the Soil Cleanup Objective to Protect Groundwater in the samples collected from the southern portion of the tank excavation.

Based on these results, additional soil from the southern portion of the UST T-2 excavation was removed and stockpiled for subsequent off-site disposal on August 19, 2008. Two post-remediation soil samples were collected and submitted for PAH analysis. Results of the post-remediation sampling indicated that no PAHs were detected at concentrations exceeding the NYSDEC TAGM #4046 direct contact Recommended Soil Cleanup Objective or the Soil Cleanup Objective to Protect Groundwater; therefore, no further remediation was conducted at this location.

Details of the sampling and remediation activities for UST T-2 are included in the March 13, 2009 UST Closure Report, included as Appendix I. The April 27, 2009 Westchester

County Department of Health correspondence, indicating that no further action is required for this location, is included as Appendix O.

Based on the TPH concentrations detected in the October 2006 samples from this area, vertical delineation samples SB-20A and SB-21A were collected from these locations on May 27, 2009. The subsurface soil samples were collected from a depth of 15.5 to 16 feet bgs and were submitted for petroleum hydrocarbons analysis. Results of the analyses indicated that petroleum hydrocarbons were not detected at concentrations exceeding the laboratory MDLs in the vertical delineation samples (see Table 6).

5.6.4.4 Former Buried Railcar (Tank A-6)

A buried railcar was discovered by Akzo during installation of a nitrogen tank near the northeast corner of the main Pilot Plant building. This tank was historically registered as tank A-6 as is referred to as tank T-3 in the March 13, 2009 UST Closure Report prepared by Sovereign. Given its proximity to the main Pilot Plant building, it was filled with sand and left in place in the 1980s.

During the geophysical survey, the location and orientation of the railcar were confirmed. Two soil borings (SB-53 and SB-54) were installed adjacent to the railcar on October 5, 2006. Boring SB-53 was advanced on the west side of the railcar closest to the former Pilot Plant while SB-54 was installed adjacent to the east of the tank. Subsurface soil samples were collected from depths of 12 to 14 feet bgs, the approximate invert depth of the railcar, and were submitted for petroleum hydrocarbons and PP+40 analyses.

Results of the laboratory analyses indicated that the VOCs benzene and xylenes and the metals chromium, nickel, and zinc were detected at concentrations exceeding their respective NYSDEC Soil Cleanup Objectives in both samples. Petroleum hydrocarbons were detected at SB-53 and SB-54 at respective concentrations of 39.7 mg/kg and 73.7 mg/kg. No SVOCs, PCBs, or pesticides were detected at either location at concentrations above the NYSDEC Soil Cleanup Objectives. The full laboratory analytical results for samples SB-53 and SB-54 are included on Tables 5 through 8.

In July 2008, UST T-3 (a.k.a. A-6) was emptied, cleaned, and removed by AAA Environmental during site demolitions activities. Based on visual observations and field screening readings, over-excavation was conducted to the furthest extent possible without impairing the structural integrity of the surrounding structures. Six post-remediation

sidewall samples and one composite floor sample were collected from the base of the resultant excavation. The samples were submitted for laboratory analysis for PAHs in accordance with the NYSDEC STARS guidance. Results of the analyses indicated concentrations of several PAHs above the NYSDEC TAGM #4046 direct contact Recommended Soil Cleanup Objective at six of the seven post-excavation sampling locations. In addition, benzo(b)fluoranthene and chrysene were detected at concentrations slightly above the NYSDEC Soil Cleanup Objective to Protect Groundwater in one or more samples. However, in accordance with TAGM #4046, the sum of the detected PAH concentrations in all samples was less than 500 mg/kg and all individual PAH concentrations were less than 50 mg/kg.

Details of the sampling and remediation activities for UST T-3 are included in the March 13, 2009 UST Closure Report, included as Appendix I. The April 27, 2009 Westchester County Department of Health correspondence, indicating that no further action is required for this location, is included as Appendix O.

5.6.4.5 Former 550-Gallon Gasoline UST

A 550-gallon gasoline UST was historically located near the former loading dock in the southwestern portion of the site. Two borings (SB-50 and SB-51) were installed at this location on October 4, 2006. Both samples were collected from a depth of 11 to 11.5 feet bgs and were submitted for VOCs analysis.

Results of the analyses indicated that ethylbenzene and xylenes were detected at both SB-50 and SB-51 at concentrations exceeding the NYSDEC Soil Cleanup Objectives to Protect Groundwater Quality. Laboratory analytical results for samples SB-50 and SB-51 are included on Table 5.

5.6.4.6 Former 2,000-Gallon Fuel Oil UST (Tank A-8)

On August 19, 2008, a 2,000-gallon fuel oil UST was discovered during soil remediation (excavation) activities relative to UST T-1 (A-9). This tank was historically registered as tank A-8 and is referred to as tank T-4 in the March 13, 2009 UST Closure Report prepared by Sovereign (Appendix N).

On August 27, 2008, UST T-4 was removed from the ground by AAA Environmental. The tank appeared to have been previously abandoned-in-place as it was filled with sand. The tank, which was constructed of steel, appeared to be in good condition; no holes were observed.

Three post-excavation tank centerline samples and a composite sidewall sample were collected from the UST pit. The samples were submitted for laboratory analysis for PAHs in accordance with the NYSDEC STARS guidance. Results of the analyses indicated that the post-excavation centerline samples did not contain concentrations of PAHs above the NYSDEC Soil Cleanup Objective to Protect Groundwater. However, benzo(a)pyrene was detected in one centerline sample at a concentrations exceeding the NYSDEC direct contact Recommended Soil Cleanup Objective. In addition, several PAH compounds were detected in the composite sidewall sample at concentrations exceeding the NYSDEC direct contact Recommended Soil Cleanup Objective and Soil Cleanup Objective to Protect Groundwater. However, in accordance with TAGM #4046, the sum of the detected PAH concentrations in all samples was less than 500 mg/kg and all individual PAH concentrations were less than 50 mg/kg.

Details of the tank removal and sampling activities for UST T-4 are included in the March 13, 2009 UST Closure Report, included as Appendix I. The April 27, 2009 Westchester County Department of Health correspondence, indicating that no further action is required for this location, is included as Appendix O.

5.6.5 RCRA Storage Pad and Solvent Sheds

Historic site drawings indicated the existence of a former 30 foot by 16 foot solvent storage shed located in the central portion of the site northeast of the main Pilot Plant. On October 2, 2006, three soil borings (SB-6 through SB-8) were installed at this location. Subsurface soils samples were collected from each boring from depths ranging from 2 to 3 feet bgs and were submitted for VOCs analysis. Results of the laboratory analysis indicated that no VOCs were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives at the former solvent shed location (see Table 1).

The original solvent shed was removed during plant operations and replaced with the more recent RCRA Storage Pad/Solvent Shed. The RCRA Storage Pad and adjoining Solvent Shed were formerly located in the east/central portion of the property. The

storage pad was covered by a relatively new roof structure which was constructed within the last several years. The concrete pad and berm were also relatively new. Two large diameter manholes were observed in the storage pad area. A county sewer line traverses this area and one of the manholes is associated with the sewer system. The second manhole is believed to be a collection point for stormwater which formerly drained to the Waste Water Treatment Pits for treatment.

The perimeter of the RCRA Storage Pad and Solvent Shed area was assessed by installing two or three borings along the north, west, and south sides of the pad/shed area (eight borings total, SB-12 through SB-19). The eastern side of the pad/shed area abutted the steep-sloped and wooded perimeter of the plant and could not be accessed for sampling. The borings were spaced along each side as depicted on Figure 3. The objective of the perimeter borings was to collect soil samples to determine whether soil was adversely affected by pad runoff prior to construction of the roof and new concrete berm. In addition, one soil boring (SB-52) was installed adjacent to a sump in the storage pad area and two borings (SB-74 and SB-75) were installed near cracks in the storage shed floor.

The perimeter soil samples, SB-12 through SB-19, were collected from depths ranging from 1 to 4 feet bgs and were submitted for VOCs analysis. At boring SB-16, installed along the west side of the former storage pad, tetrachloroethene was detected at a concentration of 98.8 mg/kg which exceeds the NYSDEC Soil Cleanup Objective to Protect Groundwater Quality of 1.4 mg/kg for this compound. No other VOCs were detected at concentrations exceeding the state standards from the perimeter soil borings. Laboratory analytical results for samples SB-12 through SB-19 are included on Table 1.

Adjacent to the former pad sump, sample SB-52 was collected from a depth of 6.5 to 7 feet bgs and was submitted for VOCs analysis. Low levels of chloroform, methylene chloride, and tetrachloroethene were detected at SB-52, but none of the concentrations exceeded the NYSDEC Soil Cleanup Objectives to Protect Groundwater Quality (see Table 5).

Samples SB-74 and SB-75, collected from adjacent to floor cracks observed in the RCRA shed, were submitted for laboratory analysis for PP+40. No VOCs were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives at this location. Several SVOCs, including benzo(a)anthracene, benzo(a)pyrene, chrysene, and dibenzo(a,h)anthracene, were detected at SB-74 and/or SB-75 at concentrations above the

state standards. In addition, several metals at both locations, the PCB aroclor 1254 at SB-74, and the pesticide dieldrin at SB-75 were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives. Sample SB-74 and SB-75 laboratory analytical results are included on Tables 1 through 4.

5.6.6 Former Potash Plant

The former Potash Plant was located in the southern portion of the site which is currently a landscaped area. A former landfill/disposal area was suspected to be located in this area prior to construction of the Potash Plant. A geophysical survey was completed in October 2006 in order to detect any subsurface anomalies associated with a possible landfill/disposal area. Several anomalies were detected and were investigated through the excavation of test pits TP-7 and TP-9 in those areas. No indications of historic waste disposal were observed during the test pit operation; however, subsurface soil samples were collected from approximately 7.5 to 8 feet bgs at both locations and submitted for SVOCs and priority pollutant metals analyses.

Laboratory analytical results indicated that the SVOCs benzo(a)anthracene, benzo(a)pyrene, chrysene, and dibenzo(a,h)anthracene, benzo(b)fluoranthene, and benzo(k)fluoranthene were detected at both locations at concentrations exceeding the NYSDEC Soil Cleanup Objectives. The metals chromium, copper, mercury, nickel, and zinc were detected at concentrations exceeding the state standards at one or both of the test pit sampling locations. Laboratory analytical results for samples TP-7 and TP-9 are included on Tables 6 and 7.

5.6.7 Former Railcar Loading

A former Railcar Loading area is located south of the Outside Storage area in the central portion of the property as depicted on Figure 1. This feature is elevated compared to surrounding grade. As the origin of fill material used to create this structure was unknown, a test pit and several soil borings were conducted in order to investigate the area for potential contamination.

Three soil borings (SB-25 through SB-27) were installed along the length of the rail car loading area on October 3, 2006. Samples SB-25 and SB-26 were collected from a depth of 7.5 to 8 feet bgs while a shallower sample (2.8 to 4 feet bgs) was collected at SB-27.

All three samples were submitted for laboratory analysis for PP+40. In addition, test pit TP-8 was excavated into the raised Railcar Loading area on October 13, 2006. One soil sample was collected and submitted for laboratory analysis for PP+40.

No VOCs were detected at any of the four samples at concentrations exceeding the NYSDEC Soil Cleanup Objectives to Protect Groundwater Quality. One or more SVOCs and metals were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives in all of the samples collected from this location. The SVOCs exceeding the state standards generally included benzo(a)anthracene, benzo(a)pyrene, chrysene, and dibenzo(a,h)anthracene, benzo(b)fluoranthene, and benzo(k)fluoranthene with the highest concentrations being from sample TP-8. Mercury was the only metal detected above state standards at SB-25 and SB-26 while samples SB-27 and TP-8 contained numerous metals at concentrations exceeding the NYSDEC Soil Cleanup Objectives. No PCBs or pesticides were detected above the state standards at SB-25, SB-26, or TP-8; however, the pesticide toxaphene (5.42 mg/kg) was detected at SB-27 at a concentration exceeding the most conservative EPA standard of 2 mg/kg for migration to groundwater for that compound.

Laboratory analytical results for shallow sample SB-27 are included on Tables 1 through 4. Sample results for SB-25, SB-26, and TP-8 are included on Tables 5 through 8.

5.6.8 Former Septic System

A septic system was historically utilized at the site for the disposal of sanitary wastes prior to connection to the sanitary sewer system. As part of the site investigation, soil borings were completed at two pits suspected to be part of the former system and at the suspected location of the former septic disposal (tile) field. Details of the sampling completed at these two locations are provided in the following sections.

5.6.8.1 Former Septic System Collection Pits

Two pits were suspected to be located in the northwest portion of the property near the former guard house. These pits were believed to be collection pits for the facility's former septic system. Boring SB-4 was installed near the suspected location of the smaller of the two pits and SB-5 was installed near the suspected location of the larger

pit. Based on visual observations and field screening PID readings, no samples were collected from either boring since no evidence of former septic pits was observed.

5.6.8.2 Former Septic System Tile Field

On October 5, 2006, one boring (SB-9) was advanced in the area of the former septic system disposal field. One sample was collected from this boring at a depth of 6.5 to 7 feet bgs. Sample SB-9 was submitted for laboratory analysis for VOCs

Low concentrations of carbon disulfide, chloroform, methylene chloride, and tetrachloroethene were detected at SB-9; however, none of the concentrations exceeded the NYSDEC Soil Cleanup Objectives to Protect Groundwater Quality (see Table 5).

5.6.9 Pre-Sanitary Sewer Collection Pit

A sanitary sewer collection pit was formerly located in the south-central portion of the site. Sanitary sewage was collected by the pit prior to discharge to the county sewer system. Two soil borings (SB-41 and SB-42) were advanced in the area of the pre-sanitary sewer collection pit on October 4, 2006. Samples were collected from each boring at depth ranging from 6 to 8 feet bgs and were submitted for laboratory analysis for VOCs and SVOCs.

Laboratory analytical results indicated that no VOCs were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives to Protect Groundwater Quality at either sampling location. Several SVOCs, including benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and dibenzo(a,h)anthracene at SB-41 and benzo(a)pyrene and dibenzo(a,h)anthracene at SB-42, were detected at concentrations exceeding the state standards. Laboratory analytical results for samples SB-41 and SB-42 are included on Tables 5 and 6.

5.6.10 Former Coal Storage Areas

Drawings provided by Akzo depicted several areas of coal piles historically located in the northeast portion of the site. Three soil borings (SB-1 through SB-3) were installed at the location of these piles on October 2, 2006. Subsurface soil samples were collected from

each of the borings from depths ranging from 0.5 to 2 feet bgs and were submitted for SVOCs and priority pollutant metals analysis.

Laboratory analytical results indicated that several SVOCs, including benzo(a)anthracene, benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene, benzo(b)fluoranthene, and benzo(k)fluoranthene, were detected at one or more of the former coal pile storage areas at concentrations exceeding the NYSDEC Soil Cleanup Objectives. In addition, several metals were detected at SB-1 through SB-3 at concentrations exceeding the state standards. Laboratory analytical results for samples SB-1 through SB-3 are included on Tables 2 and 3.

5.6.11 Outdoor Equipment Storage Pad

On October 5, 2006, two soil borings (SB-63 and SB-64) were advanced in the area of the former outdoor equipment storage pad. Subsurface samples were collected from beneath the pad at a depth of 0 to 1.5 feet bgs. Both samples were submitted for PP+40 laboratory analysis. Laboratory analytical results indicated that no VOCs were detected at concentrations exceeding the NYSDEC Soil Cleanup Objectives to Protect Groundwater Quality. Several SVOCs, including phenol, benzo(a)anthracene, benzo(a)pyrene, chrysene, and dibenzo(a,h)anthracene, were detected at both samples at concentrations exceeding the state standards. Numerous metals were also detected at both locations at concentrations above the NYSDEC standards with concentrations at SB-63 being the highest of any of the shallow samples collected at the site. In addition, the concentrations of the pesticide dieldrin at SB-63 and the PCB aroclor 1254 at SB-64 exceeded the state standards for these compounds. Sample SB-63 and SB-64 analytical results are presented on Tables 1 through 4.

5.6.12 Debris Pile

A pile of debris (several cubic yards) was located north of the plant parking lot in the undeveloped portion of the property. The debris pile was inspected and appeared to consist mainly of bricks, asphalt, stone block and concrete possibly associated with building demolition; therefore, no samples were collected for laboratory analysis.

5.6.13 Other Magnetic Anomalies

Several magnetic anomalies unrelated to current or former site structures or activities were encountered during performance of the geophysical survey in October 2006. These anomalies were located in the paved parking area in the northern portion of the site. On October 12, 2006, three test pits, TP-1 through TP-3, were excavated at the locations of the anomalies.

Other than a steel vessel (possible boiler) at TP-3, no materials of consequence were observed. Subsurface soil samples were collected from each test pit and were submitted for laboratory analysis for PP+40. Results of the analyses indicated that no VOCs or PCBs were detected in samples TP-1 through TP-3 at concentrations exceeding the respective NYSDEC Soil Cleanup Objectives. Several SVOCs, including benzo(a)anthracene, benzo(a)pyrene, and dibenzo(a,h)anthracene were detected in sample TP-1 at concentrations over the state criteria. SVOC concentrations at TP-2 and TP-3 were below the New York state standards. All three samples contained concentrations of three or more priority pollutant metals at concentrations exceeding the NYSDEC Soil Cleanup Criteria. The pesticide toxaphene was detected at a concentration of 22.2 mg/kg in sample TP-1, which is above the most conservative EPA standard of 2 mg/kg for migration to groundwater. Laboratory analytical results for samples TP-1 through TP-3 are included on Tables 5 through 8.

On May 27, 2009, one soil boring (SB-TP1) was completed adjacent to the west edge of test pit TP-1 in order to vertically delineate the toxaphene concentration detected in the test pit sample. Boring SB-TP1 was extended to a depth of 12 feet bgs. One sample was collected from 7.5 to 8 feet bgs (TP-1A) and a contingency sample was collected from 11.5 to 12 feet bgs (TP-1B). The samples were submitted for analysis for toxaphene. Laboratory analytical results indicated that toxaphene was not detected at a concentration exceeding the laboratory MDLs in sample TP-1A (see Table 8); therefore, contingency sample TP-1B was not analyzed.

5.6.14 Historic Fill/Background Metals

On May 27, 2009, one boring (SB-76) was installed to the north of the asphalt parking area in the undeveloped portion of the site. Subsurface soil samples SB-76A (2 to 2.5 feet bgs) and SB-76B (10-10.5 feet bgs) were collected to establish baseline metals

concentrations at the subject property. Both samples were submitted for priority pollutant metals analysis.

Laboratory analytical results indicated that both shallow sample SB-76A and deep sample SB-76B contained concentrations of chromium, nickel, and zinc exceeding the NYSDEC Soil Cleanup Objectives (see Tables 3 and 7, respectively).

5.7 Baseline Sediment and Surface Water Sampling and Analysis

On September 7, 2006, sediment and surface water samples were collected from an offsite, upstream location on a branch of the Saw Mill River. Downstream from the sampling location, the Saw Mill River flows east across the undeveloped northern portion of the subject property and south along the eastern side of the site. These samples were collected in order to establish baseline sediment and surface water concentrations for the Saw Mill River in the vicinity of the site. Sediment sample SED1 was collected from 0 to 0.5 feet bgs and was submitted for SVOCs, total organic carbon, and metals analyses. Surface water sample SW1 was submitted for VOCs, BNs, and metals analyses.

Surface water sample SW1 did not contain any VOCs, BNs, or metals at concentrations exceeding the NYSDEC Class A Surface Water Standards. Laboratory analytical results indicated that one SVOC, benzo(a)anthracene, was detected at a concentration of 69.07 micrograms per gram (µg/g) of organic carbon (OC) in sediment sample SED1. This concentration exceeds the NYSDEC Benthic Aquatic Life Chronic Toxicity Sediment Criteria of 12 µg/g OC for benzo(a)anthracene. In addition, the metals copper, lead, mercury, nickel, and zinc were detected at concentrations exceeding the NYSDEC Sediment Criteria for Metals – Lowest Effect Levels for these compounds in the sediment sample.

The sediment/surface water sampling location is depicted on Figure 15. Laboratory analytical results for the sediment sample SED1 are located on Table 9. Results for surface water sample SW1 are located on Table 10. The laboratory analytical data packages for the sediment and surface water sample is included as Appendix P.

5.8 Groundwater Monitoring, Sampling, and Analysis

On May 26, 2009, three groundwater monitoring wells (MW-1 through MW-3) were installed at the site using hollow stem auger drilling techniques. Monitoring well MW-1 was installed to a depth of 23 feet bgs in the parking area in the northern most developed portion of the site. Well MW-2 was installed to a depth of 25 feet bgs in an asphalt area to the south of the former pilot plant. Monitoring well MW-3 is located in the southeast portion of the site and was installed to a depth of 20 feet bgs. All three wells were completed with locking water-tight gripper plugs and bolt-down flushmount manholes. Monitoring well locations are depicted on the June 11 and June 29, 2009 Groundwater Contour Maps, included as Figures 16 and 17, respectively. Monitoring well logs are included in Appendix Q.

Following installation, all three well were developed using submersible pumps. Approximately 55 gallons of water was purged from each well to drums for off-site disposal.

On June 11, the three monitoring wells were surveyed for location and vertical elevation by licensed land surveyors, DPK Consulting, LLC of Middlesex, New Jersey. Additionally on this day, water level measurements were collected from the three monitoring wells. Depth to water below the top of well casings was recorded as 4.79 feet at MW1, 12.03 feet at MW2, and 5.01 feet at MW3. A Groundwater Contour Map for June 11, 2009, indicating groundwater flow to the south-southeast across the site, is included as Figure 16.

On June 29, 2009, groundwater samples were collected from monitoring wells MW1 through MW3. Prior to sample collection, water level measurements were recorded and 6 to 8 gallons of water was purged from each well. Depth to water below the top of well casings was 4.46 feet at MW-1, 10.91 feet at MW-2, and 4.83 feet at MW-3. Groundwater samples were submitted for PP+40 analyses.

Laboratory analytical results indicated that no targeted compounds were detected at concentrations exceeding the NY State Ambient Water Quality Standards/Guidance Values at MW1. At MW2, the VOC tetrachloroethene was detected at a concentration of 7.4 micrograms per liter (µg/l) which slightly exceeds state standard of 5 µg/l for principal organic compounds. At MW-3, cis-1,2-dichloroethene (5.6 µg/l), vinyl chloride (5.4 µg/l), and bis(2-ethylhexyl)phthalate (29.0 µg/l) were detected at concentrations

above the NY State Ambient Water Quality Standards/Guidance Values for these compounds. No other targeted compounds were detected above the state standards at MW2 or MW3.

A Groundwater Contour Map for the June 29, 2009 sampling event, indicating groundwater flow to the south-southeast across the site, is included as Figure 17. Laboratory analytical results for the groundwater samples are included on Table 11. The laboratory analytical data package for the groundwater samples collected on June 29, 2009 is included as Appendix R.

6 SUMMARY

Based on a review of historical site records, the subject property may potentially be listed on the NYSDEC Petroleum Bulk Storage database. This database contained a listing for Akzo Chemicals Inc. located at Livingston Avenue (Lawrence Street) in Dobbs Ferry (Greenburgh), New York. According to the PBS database, this is an active facility with one 500-gallon sodium hydroxide AST and one 3,000-gallon sulfuric acid AST. Based on the address listed, it is unknown whether this listing is for the Lawrence Street or Livingston Avenue Akzo facility. AkzoNobel has provided clarification that the 500-gallon sodium hydroxide AST and 3,000-gallon sulfuric acid AST were removed from the Pilot Plant facility (the subject site on Lawrence Street, not the Livingstone Avenue property) approximate 10 years ago. A request should be submitted to the NYSDEC to amend the Petroleum Bulk Storage facility database as no tanks are located at the site.

One surrounding facility was identified through the database search that may have the potential to impact the subject property. The Ardsley Acres Motel facility is located within 0.25-mile of the subject property and has a continuing leaking UST investigation. According to the listing for the motel, two tanks were removed from the site in November 1998 following tank test failure. Petroleum contaminated soil was excavated and soil and groundwater sampling was completed. Based on groundwater levels above the state standards, groundwater monitoring continued and in December 2008, free product was detected in a site monitoring well. The NYSDEC indicated that this may be a new release. Depending on the extent of groundwater contamination at this facility, it may have the potential to impact the subject property. If further information regarding this site is required, a file review with the NYSDEC may be necessary.

Environmental conditions at the site are summarized by environmental media in the following sections.

Soil

SVOCs, specifically polynuclear aromatic hydrocarbons (PAHs), were observed at concentrations that exceed the NYSDEC Soil Cleanup Objectives in many of the samples analyzed during this investigation. Generally, low level PAH exceedances were observed within both the shallow and deep sampling zones in the developed/plant portion of the site. With a few exceptions (i.e. former UST excavations that were recently remediated), the widespread distribution of similar PAHs, at similar low-level concentrations does not

indicate the presence of a point source. Rather, the findings suggest that the presence of PAHs is likely the result of the fill material used to grade the site during development. This is supported by the lab results indicating elevated concentrations of PAHs in samples collected from unpaved areas, from beneath paved surfaces, from offsite sampling locations (SB-22, 23 and 24) and from beneath the Pilot Plant building and by the observation of non-native material (i.e. fill including cinders, coal, and debris) in many of the borings and test pits performed in the developed/plant portion of the property. Historic fill, such as that which was observed during the investigation, commonly contain low levels of PAHs.

Similarly, priority pollutant metals were detected at concentrations slightly exceeding the NYSDEC Soil Cleanup Objectives both in the plant area and background/undeveloped area, including unpaved areas, in soil beneath pavement, and in soil beneath the concrete floor of the Pilot Plant building. Low level metals exceedances were observed within both the shallow and deep sampling zone. The presence of the inorganics is likely attributable to historic fill, the historic storage of coal in piles, and naturally occurring metals. As illustrated by NYSDEC TAGM #4046 – Table 4 Heavy Metals, many of the inorganic compounds detected at the site occur naturally at concentrations ranges described as "Eastern USA Background". Many of the upper limits of the "Eastern USA Background" concentration ranges exceed the NYSDEC Soil Cleanup Objectives for metals.

In order to compare the observed metals concentrations and "Eastern USA Background" ranges to site background, one boring, SB-76, was installed in the wooded area to the north and upgradient of the developed portion of the site. Chromium, copper, lead, nickel, and zinc were detected in both the shallow and deep potions of sample SB-76 and the concentrations of chromium, nickel, and zinc exceeded the NYSDEC Soil Cleanup Objectives (see Tables 3 and 7). The inorganic concentrations observed at SB-76 mostly fall within or slightly above the "Eastern USA Background" ranges provided on TAGM 4#4046 – Table 4. Therefore, with a few exceptions (i.e. lead in samples SB-22, SB23, SB-63, and TP-6, which is likely attributable to historic fill), the priority pollutant metals concentrations observed at the site fall within or slightly above the range of "Eastern USA" or site background concentrations. It is important to note that the background evaluation for metals was limited in scope. More extensive background evaluation may reveal that the background concentration of lead in the site area is also elevated.

Tetrachloroethene at SB-16 was the only VOC detected in the shallow zone at a concentration that exceeds the NYSDEC Soil Cleanup Objective. Several deep zone soil samples contained VOCs exceeding the NYSDEC Soil Cleanup Objectives. Most notably, sample SB-49B contained benzene, carbon disulfide, tetrachloroethene, toluene, and xylenes at concentration above the state standards. However, this sample was collected from within the vault located beneath the former White House building. Samples collected from the perimeter of the White House building (SB-43 through SB-48, SB-55, and SB-56, outside of the vault), did not exhibit any VOC concentrations above the NYSDEC Soil Cleanup Criteria.

The most heavily impacted pesticide/PCB location at the site, SB-10 (MiniLab sump), was vertically and horizontally delineated during the 2009 sampling event. Based on the delineation borings, the pesticide/PCB impacts at this location are localized in this area.

Given the somewhat widespread presence of low concentrations of contaminants - some of which are attributable to historic fill (i.e. lead, PAHs) and some which may be naturally occurring (i.e. metals) - remedial action does not appear to be warranted. In a commercial/industrial continued use scenario, a more appropriate alternative may be to implement institutional controls (i.e. Deed Notice/Restriction) and engineering controls (i.e. clean fill cover, impervious surfaces, etc.).

Sediment/Surface Water

During the September 2006 site inspection, no indications of environmental stress were observed to the on-site or nearby portions of the Saw Mill River. Upstream sediment and surface water samples were collected to establish baseline concentrations for these strata. Laboratory analytical results indicated that one PAH was detected in the sediment sample at a concentration exceeding the NYSDEC Benthic Aquatic Life Chronic Toxicity Sediment Criteria. In addition, the metals copper, lead, mercury, nickel, and zinc were detected at concentrations exceeding the NYSDEC Sediment Criteria for Metals – Lowest Effect Levels for these compounds in the sediment sample. No targeted compounds were detected in the upstream surface water samples at concentrations exceeding the applicable NYSDEC standards.

Anthropogenic PAHs may reach an aquatic environment as a result of both industrial and domestic effluents, deposition of airborne particles, surface runoff and oil spillage from roads and highways. Having a relatively low water solubility and high affinity to adsorb to the suspended particulate matter, most of the PAHs introduced to the aquatic

environment tend to accumulate in bottom sediments. Trace metals, especially arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc frequently are detected in aqueous sediment samples. Trace metals may have local geologic sources, but all of these elements (and others) occur as constituents of runoff and atmospheric deposition as a consequence of release from fossil fuel combustion, metals processing, tire wear, and incinerator emissions. Based on this information, the PAH and metals concentrations detected in sediment sample SED1 are considered baseline/background concentrations and are not resultant from the Pilot Plant operations.

Groundwater

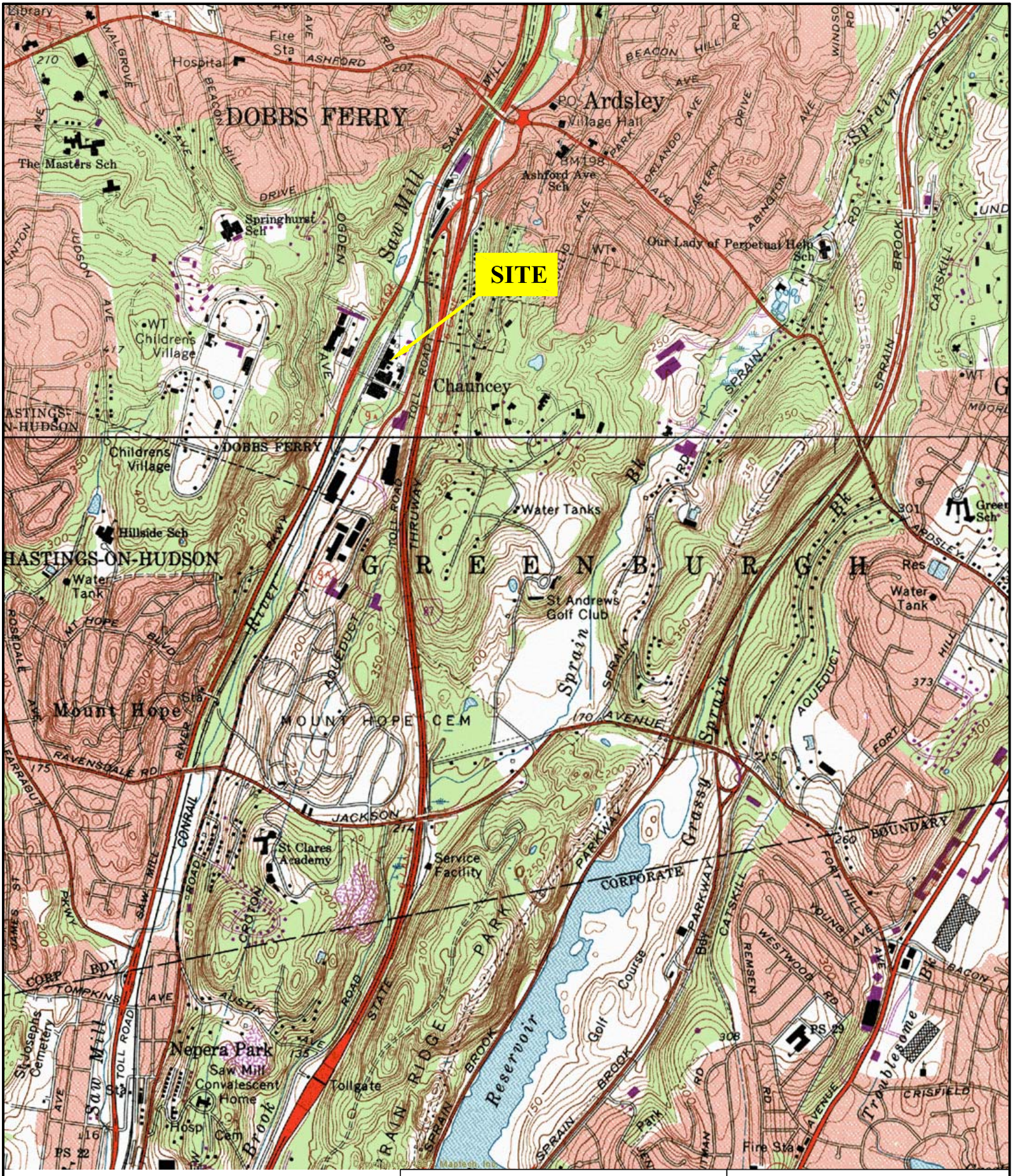
Both filtered and unfiltered groundwater samples were collected from the on-site monitoring wells. The unfiltered samples were submitted for PP+40 analyses while the filtered samples were analyzed for priority pollutant metals only.

Priority pollutant metals were not detected in the filtered groundwater samples at concentrations exceeding the NYSDEC Ambient Water Quality Standards and Guidance Values. The metals concentrations from the unfiltered samples were generally higher and the detected compounds were similar as those detected throughout the site soils. Only the unfiltered sample from MW-3 contained several metals concentrations (arsenic, chromium, and lead) at concentrations slightly above the state standards.

VOC and/or SVOC groundwater impacts at concentrations marginally above the NYSDEC Ambient Water Quality Standards and Guidance Values were detected at monitoring wells MW2 and MW3. Specifically, tetrachloroethene at MW-2 and cis-1,2-dichloroethene, vinyl chloride, and bis(2-ethylhexyl)phthalate at MW-3 were slightly above the state standards. These wells are located in the southern portion of the site, downgradient of historic site structures and operations. The VOC impacts (tetrachloroethene and its daughter compounds cis-1,2-dichloroethene and vinyl chloride) may be attributable to the tetrachloroethene soil impacts observed at upgradient borings SB-16, SB-38, and SB-49. However, bis(2-ethylhexyl)phthalate was not detected in soil at concentrations above the NYSDEC Soil Cleanup Objectives; therefore the source of the concentration of this compound in groundwater at MW-3 is unknown.

The groundwater impacts above the state standards are relatively low. As previously mentioned, regional groundwater contamination is present in the site area. This condition likely caused the 1983 shutdown of the plant's non-contact cooling water supply well due

to the presence of 1,1,1-TCA in concentrations that exceeded NYSDEC standards. Further groundwater monitoring at the site may be considered.



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APPROXIMATE SCALE IN FEET

Sovereign Consulting Inc.
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Robbinsville, NJ 08691
(609) 259-8200 Fax (609) 259-8288

Project: AN016 File: AKZO\TOPO.dwg Date: 10\24\08

FIGURE 1
SITE LOCATION MAP

AKZO NOBEL - PILOT PLANT
1 LAWRENCE STREET
ARDSLEY, NEW YORK

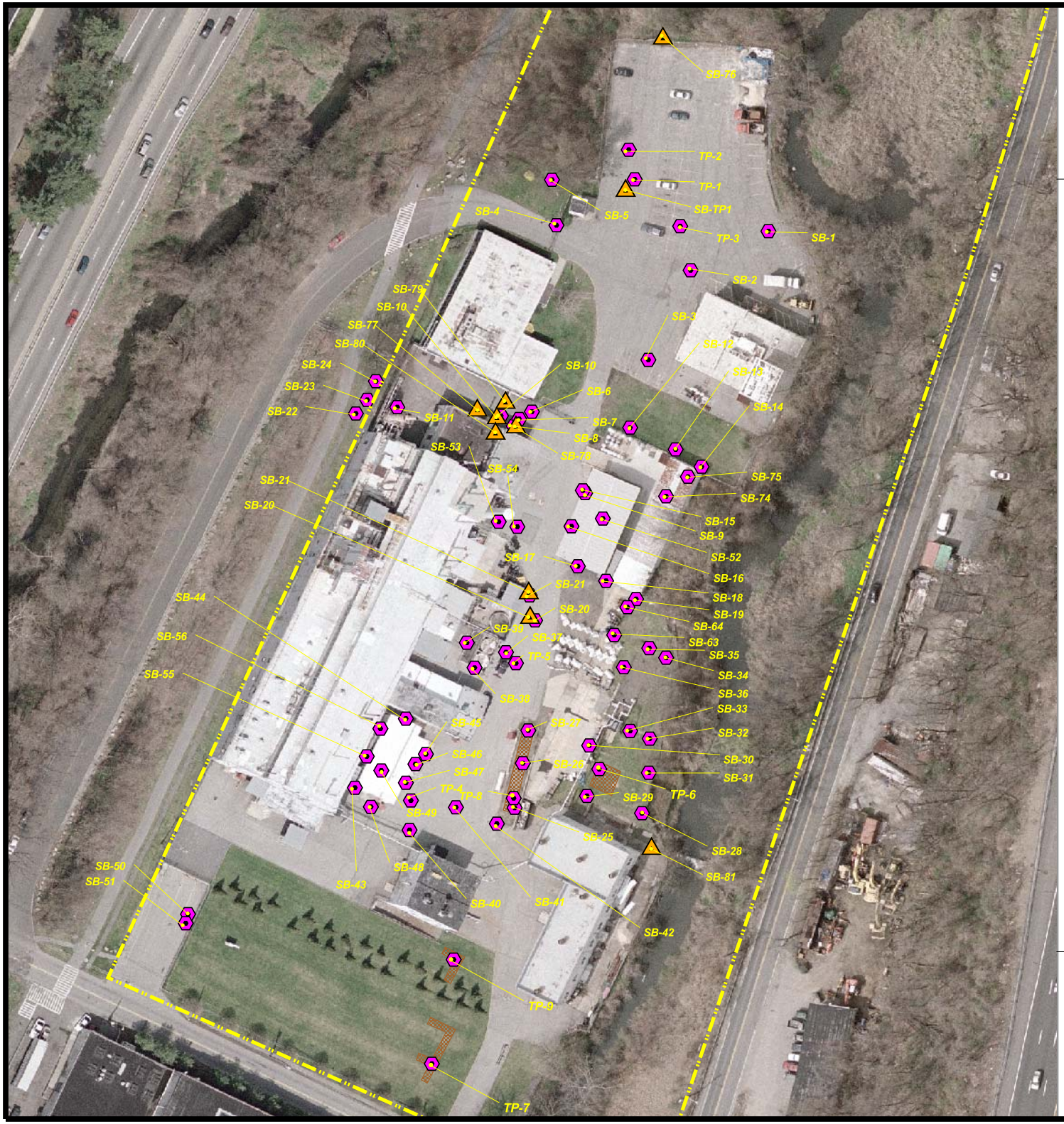

Figure 2 - Soil Sample / Boring Locations 2006 & 2009 (Excluding Pilot Plant Building Interior) Akzo Pilot Plant Dobbs Ferry, New York

Legend

- Site Boundary (Approximate)
- Soil Boring - 2009
- Soil Boring - 2006
- Test Pit Location

N

Scale

50 0 50 Feet

Notes:

NYS Office of Cyber Security & Critical Infrastructure Coordination - Westchester County 6-inch Resolution Natural Color Orthoimagery - Spring 2004

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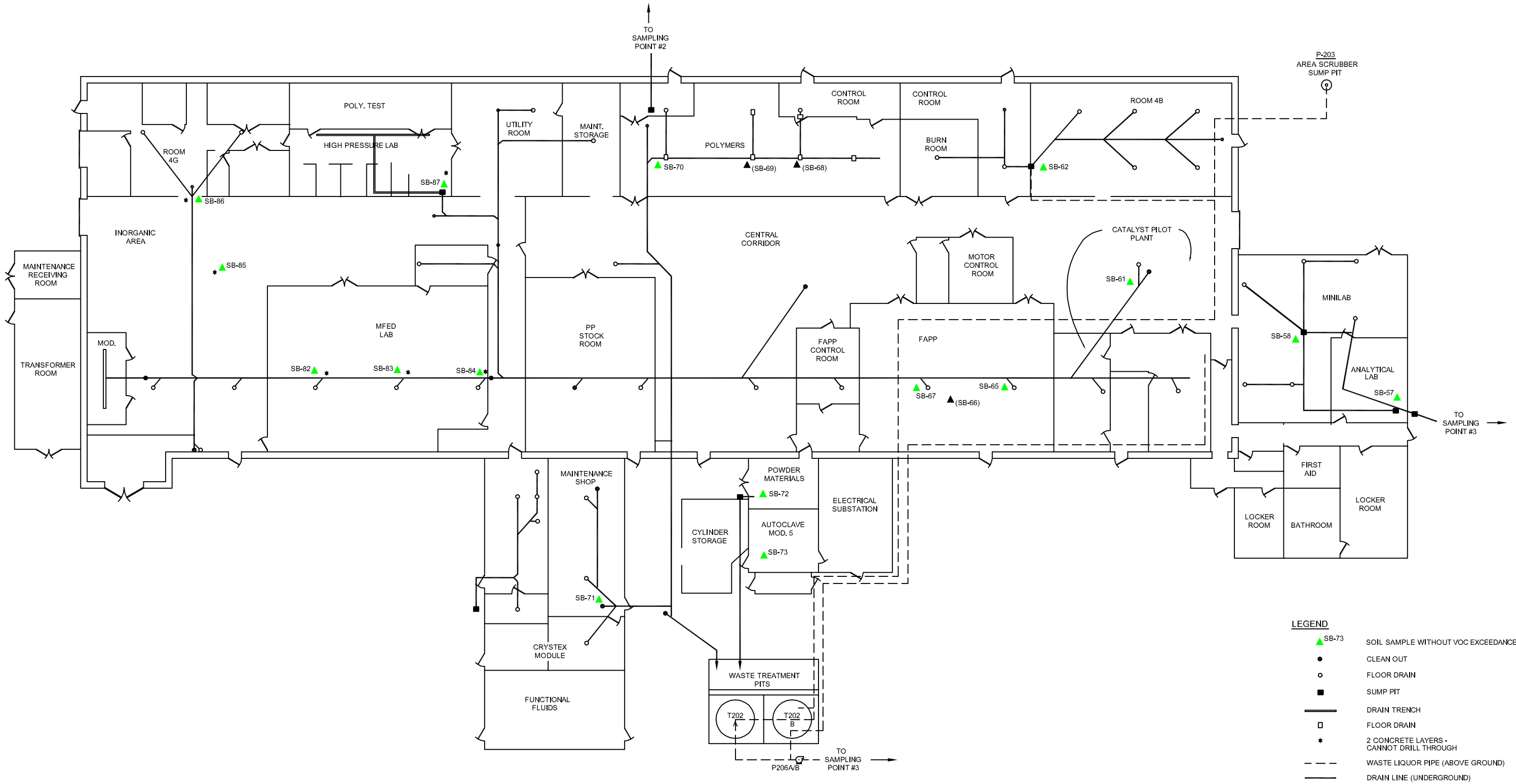

LEGEND

▲SB-73	SOIL SAMPLE WITHOUT VOC EXCEEDANCE
●	CLEAN OUT
○	FLOOR DRAIN
■	SUMP PIT
═══	DRAIN TRENCH
□	FLOOR DRAIN
*	2 CONCRETE LAYERS - CANNOT DRILL THROUGH
- - -	WASTE LIQUOR PIPE (ABOVE GROUND)
———	DRAIN LINE (UNDERGROUND)

NOTE: (SB-66), (SB-68) & (SB-69) NOT SAMPLED

0 12
APPROXIMATE SCALE IN FEET

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Project No. AN017-001-02 File: Pointmap/DW-Fig3-VOCs.dwg Date: 08/31/09

VOC SAMPLING LOCATIONS
SHALLOW SOIL SAMPLES

AKZO NOBEL CHEMICALS INC.
ARDSLEY (DOBBS FERRY), NEW YORK

FIGURE 3

Figure 4
VOC Sampling Locations
Shallow Soil Samples
Akzo Pilot Plant
Dobbs Ferry, New York

Legend

- Site Boundary
- Soil Sample w/ VOC Exceedance
- Soil Sample w/o VOC Exceedance

N

Scale

70 0 70 Feet

Notes:

Base Map Source: Westchester County 6-inch Resolution Natural Color Orthoimagery 2004

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Figure 5
VOC Sampling Locations
Deep Soil Samples
Akzo Pilot Plant
Dobbs Ferry, New York

Legend

- Side Boundary
- Soil Sample Location w/ VOC Exceedance
- Soil Sample w/o VOC Exceedance

N

Scale

70 0 70 Feet

Notes:

Base Map Source: Westchester County 6-inch Resolution Natural Color Orthoimagery 2004

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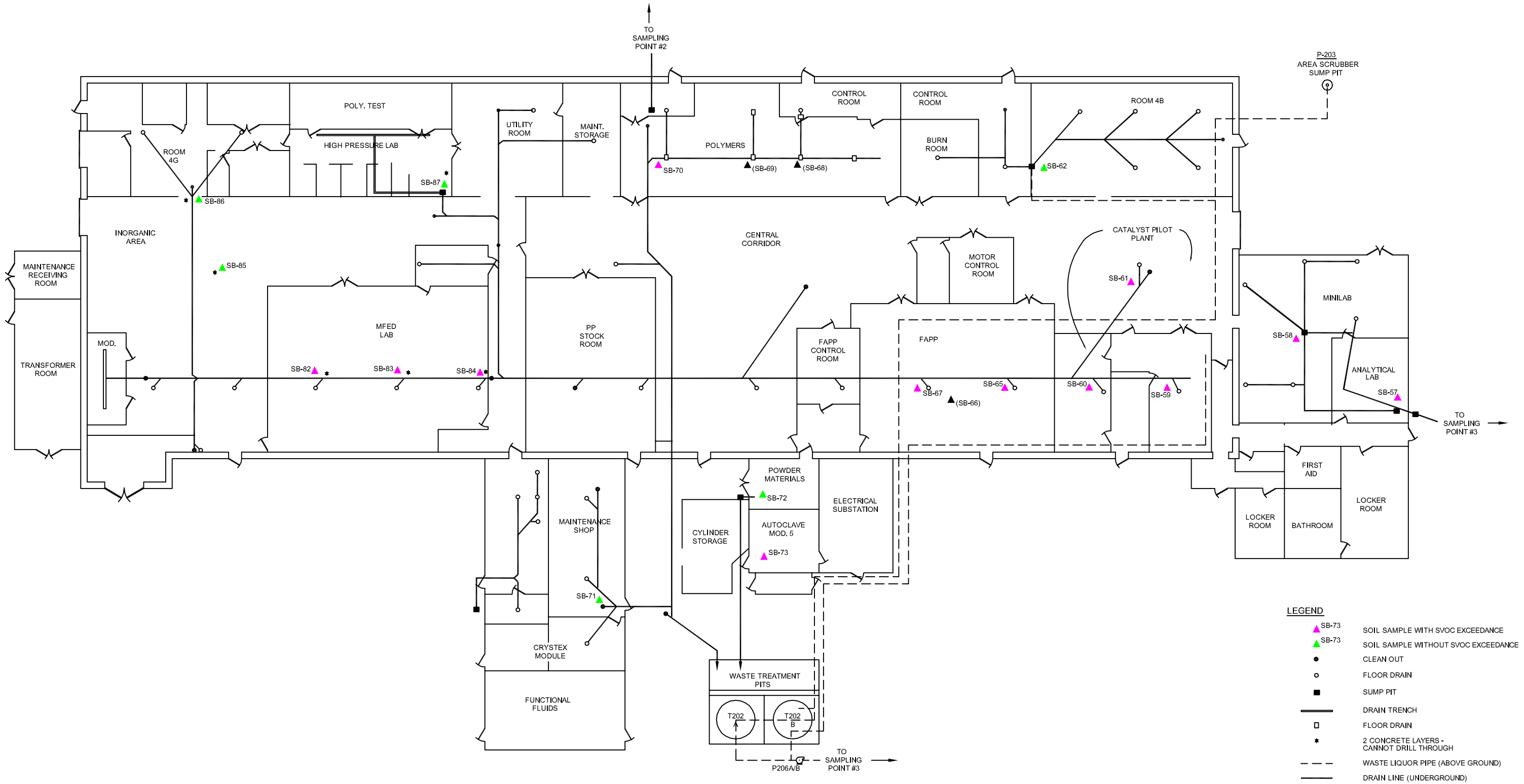

LEGEND

- SB-73 — SOIL SAMPLE WITH SVOC EXCEEDANCE
- SB-73 — SOIL SAMPLE WITHOUT SVOC EXCEEDANCE
- CLEAN OUT
- FLOOR DRAIN
- SUMP PIT
- DRAIN TRENCH
- FLOOR DRAIN
- 2 CONCRETE LAYERS - CANNOT DRILL THROUGH
- WASTE LIQUOR PIPE (ABOVE GROUND)
- DRAIN LINE (UNDERGROUND)

NOTE: (SB-66), (SB-68) & (SB-69) NOT SAMPLED

0 12
APPROXIMATE SCALE IN FEET

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Project No. AN017-001-02 File: Pointmap/DW-High-SVOCs.dwg Date: 08/31/09

SVOC SAMPLING LOCATIONS
SHALLOW SOIL SAMPLES

AKZO NOBEL CHEMICALS INC.
ARDSLEY (DOBBS FERRY), NEW YORK

FIGURE 6

Figure 7
SVOC Sampling Locations
Shallow Soil Samples
Akzo Pilot Plant
Dobbs Ferry, New York

Legend

- Site Boundary
- Soil Sample w/o SVOC Exceedance
- Soil Sample Location w/ SVOC Exceedance

N

Scale

50 0 50 Feet

Notes:

Base Map Source: Westchester County 6-inch Resolution Natural Color Orthoimagery 2004

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Figure 8
SVOC Sampling Locations
Deep Soil Samples
Akzo Pilot Plant
Dobbs Ferry, New York

Legend

- Site Boundary
- Soil Sample Location w/ SVOC Exceedance
- Soil Sample w/o SVOC Exceedance

N

Scale

60 0 60 Feet

Notes:

Base Map Source: Westchester County 6-inch Resolution Natural Color Orthoimagery 2004

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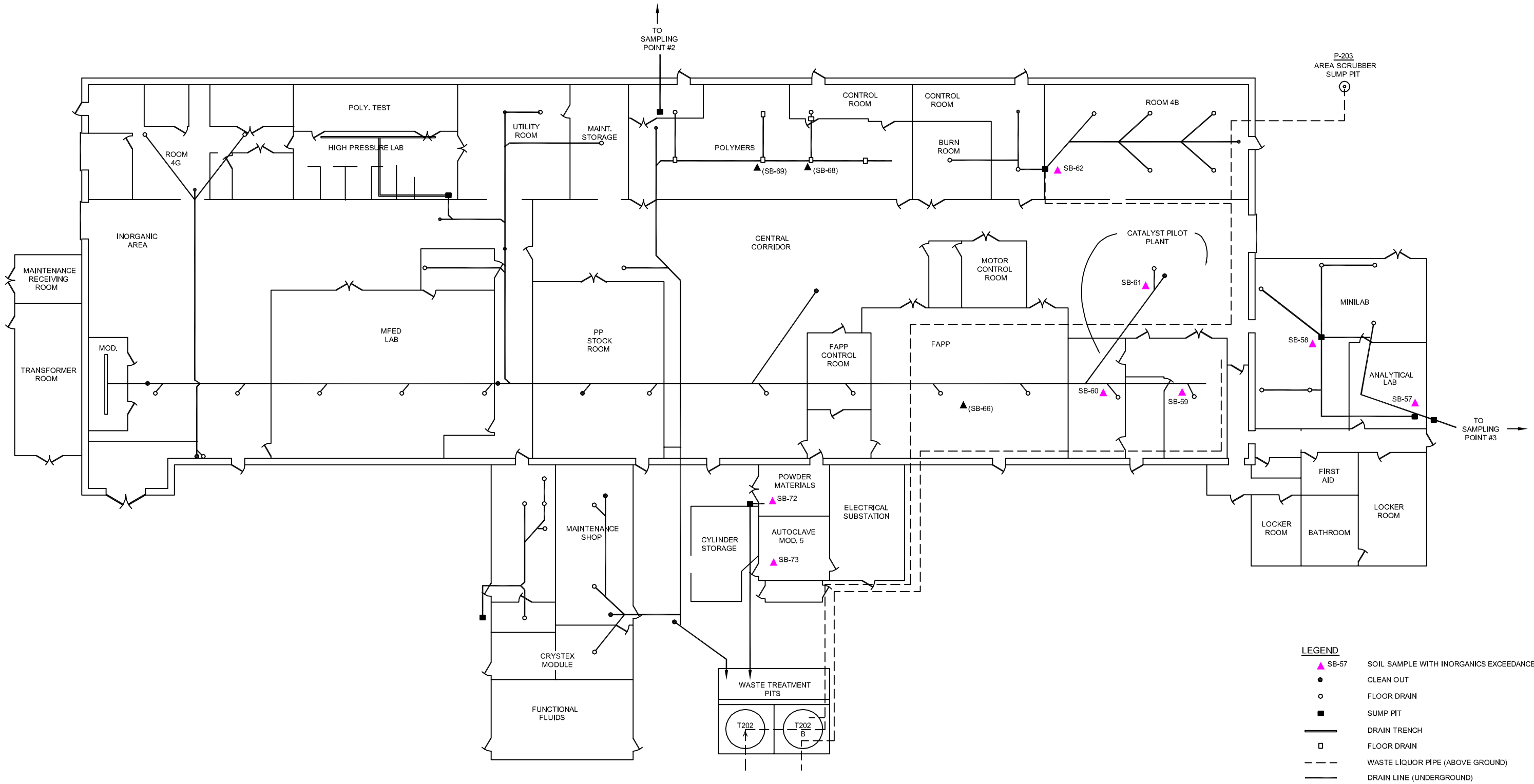

LEGEND

▲ SB-57	SOIL SAMPLE WITH INORGANICS EXCEEDANCE
●	CLEAN OUT
○	FLOOR DRAIN
■	SUMP PIT
▬	DRAIN TRENCH
▯	FLOOR DRAIN
– – –	WASTE LIQUOR PIPE (ABOVE GROUND)
———	DRAIN LINE (UNDERGROUND)

NOTE: (SB-66), (SB-68) & (SB-69) NOT SAMPLED

0 12
APPROXIMATE SCALE IN FEET

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Project No. AN017-001-02 File: Pointmap/DF-Fig9-3D.dwg Date: 08/31/09

INORGANICS SAMPLING LOCATIONS
SHALLOW SOIL SAMPLES

AKZO NOBEL CHEMICALS INC.
ARDSLEY (DOBBS FERRY), NEW YORK

FIGURE 9

Figure 10
Inorganic Sampling Locations
Shallow Soil Samples
Akzo Pilot Plant
Dobbs Ferry, New York

Legend

- Site Boundary
- Soil Sample Location w/ Inorganic Exceedance
- Sample Location w/o Inorganic Exceedance

N

Scale

60 0 60 Feet

Notes:

Base Map Source: Westchester County 6-inch Resolution Natural Color Orthoimagery 2004

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Figure 11
Inorganic Sampling Locations
Deep Soil Samples
Akzo Pilot Plant
Dobbs Ferry, New York

Legend

- Site Boundary
- Soil Sample w/ Inorganic Exceedance
- Soil Sample w/o Inorganic Exceedance

N

Scale

90 0 90 Feet

Notes:

Base Map Source: Westchester County 6-inch Resolution Natural Color Orthoimagery 2004

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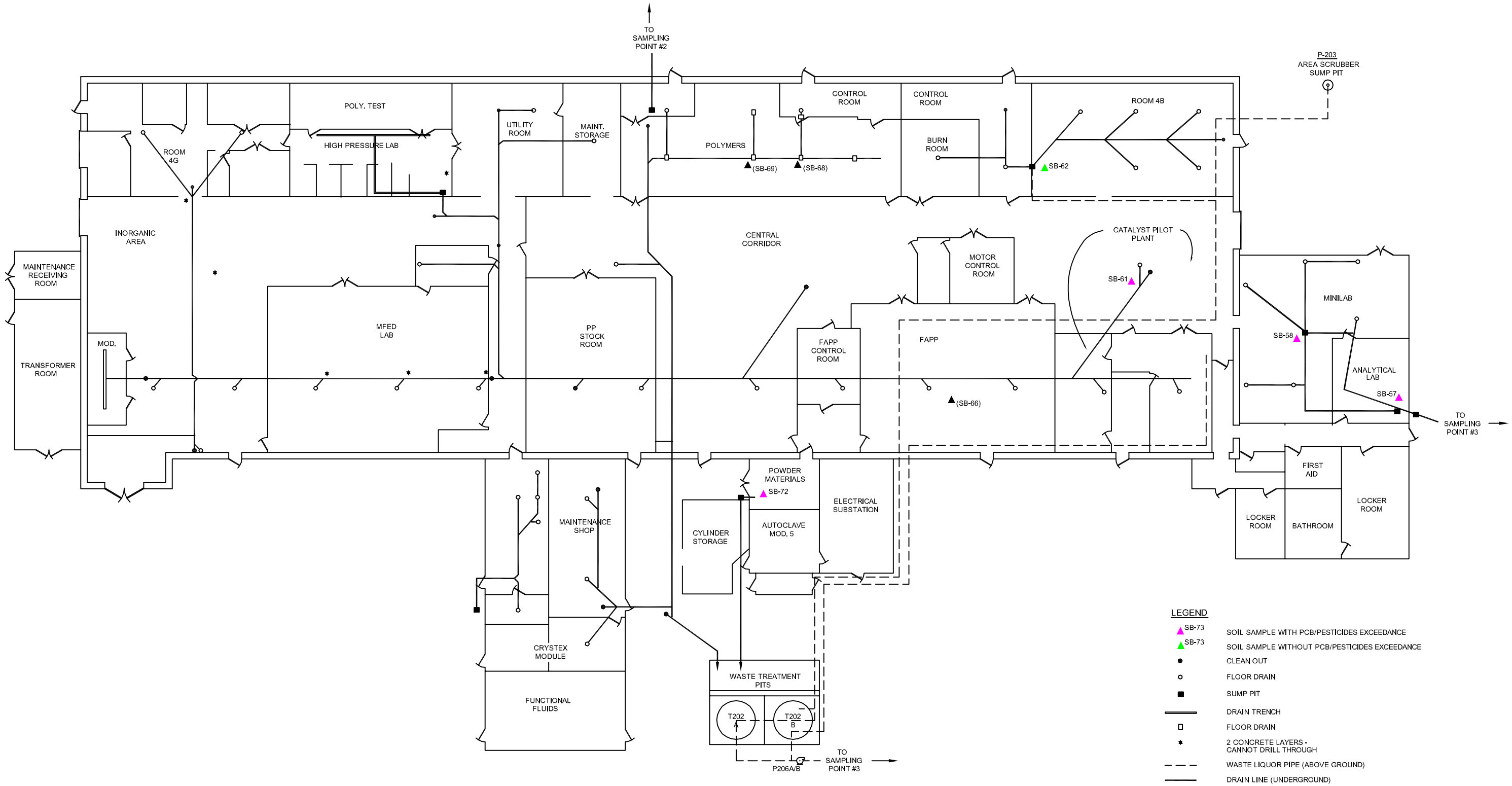

LEGEND

- SB-73 — SOIL SAMPLE WITH PCB/PESTICIDES EXCEEDANCE
- SB-73 — SOIL SAMPLE WITHOUT PCB/PESTICIDES EXCEEDANCE
- CLEAN OUT
- FLOOR DRAIN
- SUMP PIT
- DRAIN TRENCH
- FLOOR DRAIN
- 2 CONCRETE LAYERS - CANNOT DRILL THROUGH
- WASTE LIQUOR PIPE (ABOVE GROUND)
- DRAIN LINE (UNDERGROUND)

NOTE: (SB-66), (SB-68) & (SB-69) NOT SAMPLED

0 12
APPROXIMATE SCALE IN FEET

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Project No. AN017-001-02 File: Pointmap/DW-Fig12-PCB.dwg Date: 08/31/09

PCB/PESTICIDES SAMPLING LOCATIONS
SHALLOW SOIL SAMPLES

AKZO NOBEL CHEMICALS INC.
ARDSLEY (DOBBS FERRY), NEW YORK

FIGURE 12

Figure 13
PCB/Pesticide Sampling Locations
Shallow Soil Samples
Akzo Pilot Plant
Dobbs Ferry, New York

Legend

- Site Boundary
- Soil Sample w/ PCB/Pesticide Exceedance
- Soil Sample w/o PCB/Pesticide Exceedance

N

Scale

40 0 40 Feet

Notes:

Base Map Source: Westchester County 6-inch Resolution Natural Color Orthoimagery 2004

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Figure 14
PCB/Pesticide Sampling Locations
Deep Soil Samples
Akzo Pilot Plant
Dobbs Ferry, New York

Legend

- Site Boundary
- Soil Sample w/ PCB/Pesticide Exceedance
- Soil Sample w/o PCB/Pesticide Exceedance

N

Scale

70 0 70 Feet

Notes:

Base Map Source: Westchester County 6-inch Resolution Natural Color Orthoimagery 2004

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Figure 15 - Background Sediment/ Surface Water Sample Location
7 September 2006
Akzo Pilot Plant
Dobbs Ferry, New York

Legend

- Site Boundary
- Sediment Sample

N

Scale

100 0 100 Feet

Notes:

Base Map Source: Westchester County 6-inch Resolution Natural Color Orthoimagery 2004

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NY STATE PLANE COORDINATE GRID NAD 1983

SAW MILL RIVER PARKWAY

LAWRENCE STREET

SAW MILL RIVER ROAD

MW-1

MW-2

MW-3

GRAVEL AREA

ASPHALT PAVEMENT

CONC.

EDGE OF PAVEMENT

FENCE

119.0

118.8

118.6

118.4

118.2

118.0

117.8

LEGEND

- INLET
- MANHOLE
- MONITORING WELL
- FENCE
- GROUNDWATER CONTOUR

SCALE
1 INCH = 33 FEET

NOTES:

1. VERTICAL DATUM NAVD 1988.
2. FIELD WORK PERFORMED ON JUNE 11, 2009.

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Project No. AN016.001 File: AKZO\GWEC.dwg Date: 8/11/09

FIGURE 16
GROUNDWATER CONTOUR MAP
JUNE 11, 2009

AKZO NOBEL CHEMICALS INC. PILOT PLANT
1 LAWRENCE STREET
ARDSLEY(DOBBS FERRY), NEW YORK

NY STATE PLANE COORDINATES GRID NAD 1983

MW-2	
CCl4	0.32J
CCl3	0.6J
PCE	**7.4**
TCFM	1.3J
BEHP	2.2

MW-1	
CCl3	0.38J
VO TICS	10J
BEHP	3.1
BN TICS	644.8J
Cu	10.4

MW-3	
B	0.81J
CB	3.1
1,2-DCB	0.64J
cis-1,2-DCE	**5.6**
PCE	1.6
TCE	2.1
VC	**5.4**
AN	0.55J
DENP	7.6
BEHP	**29.0**
BN TICS	9.4J
As	4.1
Be	1.1

SAW MILL RIVER PARKWAY

LAWRENCE STREET

SAW MILL RIVER ROAD

MW-1 MW-2 MW-3

GRAVEL AREA ASPHALT PAVEMENT CONC. EDGE OF PAVEMENT FENCE

119.4 119.2 119.0 118.8 118.6 118.4 118.2 118.0

LEGEND

- INLET
- MANHOLE
- MONITORING WELL
- FENCE
- GROUNDWATER CONTOUR

DETECTED COMPOUNDS ONLY

B	BENZENE
CB	CHLOROBENZENE
1,2-DCB	1,2-DICHLOROBENZNE
cis-1,2-DCE	cis-1,2-DICHLOROETHENE
PCE	TETRACHLOROETHENE
TCE	TRICHLOROETHENE
VC	VINYL CHLORIDE
AN	ACENAPTHENE
DENP	DI-N-OCTYLPHTHALATE
BEHP	BIS(2-ETHYLHEXYL) PHTHALATE
BN TICS	BN TICS
As	ARSENIC
Cu	COPPER
CCl4	CARBON TETRACHLORIDE
CCl3	CHLOROFORM
TCFM	TRICHLOROFLUOROMETHANE
Be	BERYLLIUM

Results in micrograms per liter (ug/L)
J : Indicates an estimated value
BOLD: Results exceed New York state ambient water quality standards/guidance values

SCALE
1 INCH = 33 FEET

NOTES:

1. VERTICAL DATUM NAVD 1988.
2. FIELD WORK PERFORMED ON JUNE 29, 2009.

Sovereign Consulting Inc.
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Project No. AN016.001 File: AKZO\GWEC.dwg Date: 9/16/09

FIGURE 17
GROUNDWATER CONTOUR MAP
JUNE 29, 2009

AKZO NOBEL CHEMICALS INC. PILOT PLANT
1 LAWRENCE STREET
ARDSLEY(DOBBS FERRY), NEW YORK

TABLES

Table 1
VOCs - Shallow
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID	NYSDEC	SB-6	SB-7	SB-8	SB-12	SB-13	SB-14	SB-15	SB-16	SB-17	SB-18	SB-19
LAB ID	Soil Cleanup	J42667-4	J42667-5	J42667-6	J42667-8	J42667-9	J42667-10	J42667-11	J42667-12	J42667-13	J42667-14	J42667-15
DEPTH (FEET)	Objectives	2.5-3	2-2.5	2-2.5	1.5-4	3-4	1-4	3-4	2.5-4	1.5-4	2-4	2-4
SAMPLE DATE	(ppm)	10/2/06	10/2/06	10/2/06	10/2/06	10/2/06	10/2/06	10/2/06	10/2/06	10/2/06	10/2/06	10/2/06
VOCs (ppm)												
Acetone	**0.11**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrolein	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	**0.06**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	**NS**	ND	ND	ND	0.0025 J	ND	ND	ND	ND	ND	ND	ND
Bromoform	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	**0.3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	**2.7**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	**0.6**	ND	0.0027 J	ND	ND	ND	ND	0.0013 J	ND	0.0036 J	ND	ND
Chlorobenzene	**1.7**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	**1.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl vinyl ether	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	**0.30**	ND	0.003 J	0.0023 J	0.0223	0.0075 J	ND	0.002 J	0.0024 J	0.0029 J	ND	ND
Chloromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	**7.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	**1.55**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	**8.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	**0.2**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	**0.1**	ND	ND	ND	0.0011 J	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	**0.4**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	**0.3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	**5.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone(MIBK)	**1.0**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	**0.1**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	**0.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	**1.4**	0.0066	0.0027 J	0.014	0.228	0.0021 J	ND	0.159	98.8	1.02	0.0051 J	0.0332
Toluene	**1.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	**0.76**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	**0.70**	ND	ND	ND	ND	ND	ND	ND	0.0017 J	0.0027 J	ND	ND
Trichlorofluoromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	**0.12**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (total)	**1.2**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs (ppm)	**10**	0.0066	0.0084	0.0163	0.2539	0.0096	0	0.1623	98.804	1.0292	0.0051	0.0332
VOC TICs (ppm)		0	0	0	0	0	0	0	0	0	0	0

Table 1
VOCs - Shallow
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID	NYSDEC	SB-27	SB-49A	SB-57	SB-58	SB-61	SB-62	SB-63	SB-64	SB-65	SB-67	SB-70
LAB ID	Soil Cleanup	J42758-3	J43018-28	J43018-10	J43018-12	J43018-15	J43018-16	J43018-17	J43018-18	J43018-19	J43194-1	J43194-2
DEPTH (FEET)	Objectives	2.8-4	0-4	0-2	0-2	0-2	0-2	0-1.5	0-1.5	0-2	0-2	0-2
SAMPLE DATE	(ppm)	10/3/06	10/4/06	10/5/06	10/5/06	10/5/06	10/5/06	10/5/06	10/5/06	10/5/06	10/5/06	10/5/06
VOCs (ppm)												
Acetone	0.11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrolein	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	0.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	2.7	ND	0.0018 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0155
Chlorobenzene	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl vinyl ether	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	0.30	ND	ND	0.0041 J	ND	ND	ND	ND	ND	0.0018 J	ND	0.0057
Chloromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	7.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	1.55	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0019
1,1-Dichloroethene	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone(MIBK)	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	0.1	ND	0.0027 J	0.0057 J	0.0052 J	0.0077	0.0078	ND	ND	ND	ND	ND
Styrene	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.4	0.0649	ND	0.0572	0.0153	ND	0.0015 J	ND	0.002 J	0.121	0.009	0.0032 J
Toluene	1.5	ND	ND	ND	ND	0.0077	0.0012	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.76	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.70	ND	ND	ND	ND	ND	ND	ND	ND	0.0024 J	ND	ND
Trichlorofluoromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (total)	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs (ppm)	10	0.0649	0.0045	0.067	0.0205	0.0154	0.0105	0	0.002	0.1252	0.009	0.0263
VOC TICs (ppm)		0	0	0	0	0	0	0	0	0.0014 J	0.006 J	0

Table 1
VOCs - Shallow
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID	NYSDEC	SB-71	SB-72	SB-73	SB-74	SB-75	SB-82B	SB-83B	SB-84B	SB-85B	SB-86B	SB-87B
LAB ID	Soil Cleanup	J43194-3	J43194-4	J43194-5	J43194-6	J43194-7	JA19809-17	JA19809-19	JA19809-21	JA19809-23	JA19809-25	JA19809-27
DEPTH (FEET)	Objectives	0-2	0-2	0-2	0-2	0-2	3.5-4	2.5-3	2.5-3	3.5-4	2.5-3	2.5-3
SAMPLE DATE	(ppm)	10/6/06	10/6/06	10/6/06	10/6/06	10/6/06	5/28/09	5/28/09	5/28/09	5/28/09	5/28/09	5/28/09
VOCs (ppm)												
Acetone	**0.11**	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
Acrolein	**NS**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
Acrylonitrile	**NS**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
Benzene	**0.06**	0.0006 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	**0.3**	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
Carbon disulfide	**2.7**	0.0009 J	0.0012 J	ND	ND	0.0013 J	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	**0.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	**1.7**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	**1.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl vinyl ether	**NS**	ND	ND	NA	ND	ND	NA	NA	NA	NA	NA	NA
Chloroform	**0.30**	ND	ND	0.0087 J	0.0107	0.0013 J	ND	ND	ND	ND	ND	ND
Chloromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	**7.9**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	**1.55**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	**8.5**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	**NS**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	**0.2**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	**0.1**	ND	ND	0.0016	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	**0.4**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	**0.3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	**5.5**	ND	ND	ND	ND	ND	ND	ND	0.00094 J	0.0014	ND	0.00049 J
2-Hexanone	**NS**	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone(MIBK)	**1.0**	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
Methylene chloride	**0.1**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	**NS**	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	**0.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	**1.4**	0.0022 J	0.0017 J	0.0065	ND	ND	ND	ND	ND	0.0021 J	ND	ND
Toluene	**1.5**	0.0008 J	ND	ND	0.0011 J	0.0111	ND	ND	0.00041 J	0.0013 J	ND	ND
1,1,1-Trichloroethane	**0.76**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	**0.70**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	**NS**	ND	ND	0.0076	ND	ND	NA	NA	NA	NA	NA	NA
Vinyl chloride	**0.12**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (total)	**1.2**	ND	ND	ND	ND	0.0019 J	ND	0.001 J	0.0045	0.0055	ND	0.0044
TOTAL VOCs (ppm)	**10**	0.0045	0.0029	0.0244	0.0118	0.0156	ND	0.001	0.00585	0.0103	ND	0.00489
VOC TICs (ppm)		0	0	0.0072 J	0	0	NA	NA	NA	NA	NA	NA

Table 2
SVOCs - Shallow
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID	NYSDEC	SB-1	SB-2	SB-3	SB-22	SB-23	SB-24	SB-27	SB-49A	SB-57	SB-58
LAB ID	Soil Cleanup	J42667-1	J42667-2	J42667-3	J42667-18	J42667-19	J42667-20	J42758-3	J43018-28	J43018-10	J43018-12
DEPTH (FEET)	Objectives	.5-1	1.5-2	.5-2	.5-1	.5-1	.5-1	2.8-4	0-4	0-2	0-2
SAMPLE DATE	(ppm)	10/2/06	10/2/06	10/2/06	10/2/06	10/2/06	10/2/06	10/3/06	10/4/06	10/5/06	10/5/06
SVOCs (ppm)											
2-Chlorophenol	0.8	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
4-Chloro-3-methyl phenol	0.240	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
2,4-Dichlorophenol	0.4	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
2,4-Dimethylphenol	50*	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
2,4-Dinitrophenol	0.200	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
4,6-Dinitro-o-cresol	50*	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
2-Methylphenol	0.100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	0.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	0.330	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
4-Nitrophenol	0.100	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
Pentachlorophenol	1.0	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
Phenol	0.03	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	50*	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
Acenaphthene	50.0	0.0435 J	1.360	0.0419 J	0.0227 J	0.454	ND	ND	ND	ND	0.0343 J
Acenaphthylene	41.0	0.0662 J	0.0197 J	0.0546 J	0.639	6.310	0.111	0.199 J	ND	0.0572 J	0.197
Anthracene	50.0	0.206	1.610	0.14	0.339	4.290	0.0626 J	0.214 J	ND	0.115	0.153
Benzidine	50*	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND
Benzo(a)anthracene	0.224	0.480	2.470	0.640	0.938	13.30	0.227	0.628	ND	0.574	0.454
Benzo(a)pyrene	0.061	0.299	1.880	0.539	1.060	16.20	0.225	0.644	ND	0.563	0.308
Benzo(b)fluoranthene	1.1	0.338	2.590	0.740	2.180	25.90	0.357	0.767	ND	0.617	0.341
Benzo(g,h,i)perylene	50.0	0.0695 J	0.384	0.139	0.488	7.05	0.111	0.617	ND	0.215	0.0901
Benzo(k)fluoranthene	1.1	0.412	1.720	0.752	1.570	17.9	0.248	0.666	ND	0.572	0.471
4-Bromophenyl phenyl ether	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	50.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	0.220	ND	ND	ND	0.0372	0.166 J	ND	ND	ND	ND	ND
Carbazole	50*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	0.4	0.387	2.340	0.592	1.230	16.90	0.296	0.864	ND	0.602	0.369
bis(2-Chloroethoxy)methane	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	7.9	ND	ND	ND	ND	ND	ND	ND	ND	0.037 J	ND
1,2-Diphenylhydrazine	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	0.014	0.0475 J	0.235	0.0856	0.206	3.14	0.0458 J	0.199 J	ND	0.0831	0.0509 J
Dibenzofuran	6.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butyl phthalate	8.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	50.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	7.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl phthalate	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	50.0	ND	ND	ND	0.167	0.371 J	ND	ND	ND	0.233	0.164
Fluoranthene	50.0	0.698	5.330	0.674	1.250	15.4	0.412	0.991	ND	0.744	0.817
Fluorene	50.0	0.105	0.980	0.0581 J	0.0261 J	1.33	ND	ND	ND	ND	0.0989
Hexachlorobenzene	0.41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	3.2	0.110	0.519	0.196	0.585	8.39	0.129	0.630	ND	0.238	0.126
Isophorone	4.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	36.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	0.430	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	0.500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	50*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	13.0	0.0313 J	0.522	0.0378 J	0.0527 J	0.478	0.0451 J	ND	ND	ND	ND
Nitrobenzene	0.200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Nitrosodimethylamine	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-di-n-propylamine	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	50.0	0.540	5.110	0.376	0.392	9.41	0.119	0.408	ND	0.301	0.558
Pyrene	50.0	0.532	5.140	0.605	1.280	18.10	0.351	0.929	ND	0.737	0.563
1,2,4-Trichlorobenzene	3.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL SVOCs (ppm)	500	4.365	32.2097	5.72	12.5157	165.089	2.7395	7.76	0	5.6883	4.7952
SVOC TICs (ppm)		3.41 J	9.13 J	4.95 J	14.09 J	63.2 J	0.24 J	7.60	0.97 J	137.2 J	81.83 J

* TAGM 4046 Standard for Individual SVOCs

Table 2
SVOCs - Shallow
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID	NYSDEC	SB-59	SB-60	SB-61	SB-62	SB-63	SB-64	SB-65	SB-67	SB-70	SB-71
LAB ID	Soil Cleanup	J43018-13	J43018-14	J43018-15	J43018-16	J43018-17	J43018-18	J43018-19	J43194-1	J43194-2	J43194-3
DEPTH (FEET)	Objectives	0-0.5	0-0.5	0-2	0-2	0-1.5	0-1.5	0-2	0-2	0-2	0-2
SAMPLE DATE	(ppm)	10/5/06	10/5/06	10/5/06	10/5/06	10/5/06	10/5/06	10/5/06	10/5/06	10/5/06	10/6/06
SVOCs (ppm)											
2-Chlorophenol	0.8	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
4-Chloro-3-methyl phenol	0.240	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
2,4-Dichlorophenol	0.4	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
2,4-Dimethylphenol	50*	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
2,4-Dinitrophenol	0.200	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
4,6-Dinitro-o-cresol	50*	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
2-Methylphenol	0.100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	0.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	0.330	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
4-Nitrophenol	0.100	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
Pentachlorophenol	1.0	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
Phenol	0.03	0.0587 J	ND	ND	ND	0.232	0.843	ND	NA	NA	NA
2,4,5-Trichlorophenol	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	50*	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
Acenaphthene	50.0	0.304	ND	ND	ND	0.0504 J	0.0233 J	0.0528 J	ND	ND	ND
Acenaphthylene	41.0	1.13	0.0679 J	0.0298 J	ND	0.0444 J	0.0934	0.0938	0.0403 J	0.0631 J	ND
Anthracene	50.0	1.95	0.0846	0.192	ND	0.13	0.107	0.253	0.0829	0.113	ND
Benzidine	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	0.224	8.07	0.554	1.2	ND	0.483	0.425	1.14	0.54	0.244	0.047 J
Benzo(a)pyrene	0.061	7.28	0.559	0.652	0.0155 J	0.487	0.384	1.04	0.484	0.146	0.0501 J
Benzo(b)fluoranthene	1.1	8.32	0.662	0.94	0.0214 J	0.743	0.617	1.01	0.524	0.18	0.0594 J
Benzo(g,h,i)perylene	50.0	2.64	0.261	0.183	ND	0.181	0.16	0.564	0.359	0.0885	0.0408 J
Benzo(k)fluoranthene	1.1	6.47	0.563	0.955	ND	0.613	0.55	0.916	0.432	0.148	0.0578 J
4-Bromophenyl phenyl ether	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	50.0	ND	ND	ND	ND	0.2	ND	ND	ND	ND	ND
2-Chloronaphthalene	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	0.220	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	50*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	0.4	7.61	0.575	1.04	0.0169 J	0.637	0.517	1.17	0.604	0.222	0.0631 J
bis(2-Chloroethoxy)methane	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	7.9	0.032 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	0.014	1.06	0.0986	0.103	ND	0.0688 J	0.0738 J	0.243	0.136	0.0434 J	ND
Dibenzofuran	6.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butyl phthalate	8.1	ND	ND	ND	ND	0.274	0.0536 J	ND	ND	ND	ND
Di-n-octyl phthalate	50.0	ND	ND	ND	ND	0.866	0.0716 J	ND	ND	ND	ND
Diethyl phthalate	7.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl phthalate	2.0	ND	ND	ND	ND	0.279	0.129	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	50.0	0.335	0.0915	ND	ND	2.07	0.37	0.174	0.0944	0.0945	0.0606 J
Fluoranthene	50.0	11.4	0.731	1.46	ND	0.974	0.668	1.62	0.832	0.401	0.109
Fluorene	50.0	0.611	ND	ND	ND	0.0437 J	0.0433 J	0.0537 J	ND	0.0501 J	ND
Hexachlorobenzene	0.41	ND	ND	ND	ND	ND	ND	ND	ND	0.0568 J	ND
Hexachlorobutadiene	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	50*	0.0777 J	ND	ND	ND	0.0233 J	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	3.2	2.88	0.302	0.265	ND	0.195	0.201	0.608	0.341	0.101	0.037 J
Isophorone	4.40	ND	ND	ND	ND	0.0208 J	ND	ND	ND	ND	ND
2-Methylnaphthalene	36.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	0.430	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	0.500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	50*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	13.0	0.042 J	ND	ND	ND	0.0739 J	0.054 J	ND	ND	ND	ND
Nitrobenzene	0.200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Nitrosodimethylamine	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-di-n-propylamine	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	50.0	7.06	0.238	0.541	ND	0.599	0.378	0.933	0.261	0.327	0.0453 J
Pyrene	50.0	12.6	0.663	1.34	ND	1.13	0.662	1.51	0.751	0.293	0.106
1,2,4-Trichlorobenzene	3.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL SVOCs (ppm)	500	79.9304	5.4506	8.9008	0.0538	10.2883	6.424	11.3813	5.4816	2.1704	0.6761
SVOC TICs (ppm)		341.3 J	2.32 J	100.5 J	4.43 J	29.12 J	5.58 J	6.77 J	1.51 J	1.28 J	2.43 J

* TAGM 4046 Standard for Individual SVOCs

Table 2
SVOCs - Shallow
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID	NYSDEC	SB-72	SB-73	SB-74	SB-75	SB-82A	SB-83A	SB-84A	SB-85A	SB-86A	SB-87A
LAB ID	Soil Cleanup	J43194-4	J43194-5	J43194-6	J43194-7	JA19809-17	JA19809-19	JA19809-21	JA19809-23	JA19809-25	JA19809-27
DEPTH (FEET)	Objectives	0-2	0-2	0-2	0-2	1-1.5	1-1.5	1-1.5	0.5-1	1-1.5	1-1.5
SAMPLE DATE	(ppm)	10/6/06	10/6/06	10/6/06	10/6/06	5/28/2009	5/28/2009	5/28/2009	5/28/2009	5/28/2009	5/28/2009
SVOCs (ppm)											
2-Chlorophenol	0.8	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methyl phenol	0.240	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	0.4	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	50*	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	0.200	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	50*	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	0.100	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
3&4-Methylphenol	0.9	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
2-Nitrophenol	0.330	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	0.100	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1.0	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	0.03	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.1	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	50*	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	50.0	ND	ND	ND	0.104	0.0306	ND	ND	ND	ND	ND
Acenaphthylene	41.0	ND	0.0588 J	ND	0.138	0.0519	ND	0.0347 J	ND	ND	ND
Anthracene	50.0	0.015 J	0.0404 J	0.0305 J	0.53	0.125	ND	0.0756	ND	ND	ND
Benzidine	50*	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	0.224	0.0469 J	0.288	0.145	0.984	0.698	0.043	0.634	ND	ND	ND
Benzo(a)pyrene	0.061	0.0478 J	0.283	0.11	0.692	0.612	0.399	0.746	ND	0.0162 J	ND
Benzo(b)fluoranthene	1.1	0.0468 J	0.443	0.132	0.64	0.674	0.129	0.731	ND	0.114	ND
Benzo(g,h,i)perylene	50.0	0.0294 J	0.26	0.0643 J	0.399	0.465	0.0313 J	0.612	ND	ND	ND
Benzo(k)fluoranthene	1.1	0.0324 J	0.308	0.12	0.623	0.562	0.0222 J	0.579	ND	ND	ND
4-Bromophenyl phenyl ether	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	50.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	0.220	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	50*	NA	NA	NA	NA	0.0786	ND	0.0499 J	ND	ND	ND
Chrysene	0.4	0.0469 J	0.448	0.148	0.924	0.73	0.0382	0.659	ND	ND	ND
bis(2-Chloroethoxy)methane	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	7.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	50*	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	0.014	ND	0.1	ND	0.0459	0.17	ND	0.212	ND	ND	ND
Dibenzofuran	6.2	NA	NA	NA	NA	0.0391 J	ND	ND	ND	ND	ND
Di-n-butyl phthalate	8.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	50.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	7.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl phthalate	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	50.0	ND	0.17	0.178	0.122	0.0518 J	0.0696 J	0.0627 J	ND	ND	ND
Fluoranthene	50.0	0.0839	0.542	0.145	2.26	1.12 J	0.0633	0.814	ND	0.0181 J	ND
Fluorene	50.0	ND	ND	ND	0.157	0.0755	ND	ND	ND	ND	ND
Hexachlorobenzene	0.41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	3.2	0.0281 J	0.278	0.0749 J	0.401	0.471	0.0294 J	0.6	ND	ND	ND
Isophorone	4.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	36.4	NA	NA	NA	NA	0.0459 J	ND	ND	ND	ND	ND
2-Nitroaniline	0.430	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
3-Nitroaniline	0.500	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
4-Nitroaniline	50*	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
Naphthalene	13.0	ND	0.0318 J	0.0519 J	0.0918	ND	ND	ND	ND	ND	ND
Nitrobenzene	0.200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Nitrosodimethylamine	50*	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	50.0	0.0455 J	0.2	0.167	2.17	0.49	0.0403	0.17	ND	ND	ND
Pyrene	50.0	0.0693 J	0.38	0.12	1.68	0.838	0.0489	0.682	ND	ND	ND
1,2,4-Trichlorobenzene	3.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL SVOCs (ppm)	500	0.492	3.831	1.4866	11.9617	7.3284	0.9142	6.6619	ND	0.1483	ND
SVOC TICs (ppm)		7.24 J	2.08 J	6.39 J	6.11 J	NA	NA	NA	NA	NA	NA

* TAGM 4046 Standard for Individual SVOCs

Table 3
Inorganics - Shallow
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID	NYSDEC	SB-1	SB-2	SB-3	SB-22	SB-23	SB-24	SB-27	SB-49A	SB-57	SB-58	SB-59	SB-60	SB-61	SB-62	SB-63	SB-64	SB-72
LAB ID	Soil Cleanup	J42667-1	J42667-2	J42667-3	J42667-18	J42667-19	J42667-20	J42758-3	J43018-28	J43018-10	J43018-12	J43018-13	J43018-14	J43018-15	J43018-16	J43018-17	J43018-18	J43194-4
DEPTH (FEET)	Objectives	.5-1	1.5-2	.5-2	.5-1	.5-1	.5-1	2.8-4	0-4	0-2	0-2	0-0.5	0-0.5	0-2	0-2	0-1.5	0-1.5	0-2
SAMPLE DATE	(mg/kg)	10/2/06	10/2/06	10/2/06	10/2/06	10/2/06	10/2/06	10/3/06	10/4/06	10/5/06	10/5/06	10/5/06	10/5/06	10/5/06	10/5/06	10/5/06	10/5/06	10/6/06
Inorganics (ppm)																		
Antimony	SB	ND	ND	ND	5.5	9.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	29.5	ND	ND
Arsenic	7.5	4.9	7.7	8.0	2.6	2.4	2.3	8.5	ND	9.4	15.5	7.8	3.6	ND	ND	37.0	12.3	4.5
Beryllium	0.16	ND	ND	ND	1.2	5.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	1	ND	ND	ND	ND	0.64	ND	ND	ND	1.1	0.95	ND	0.76	ND	1.0	21.8	3.2	1.3
Chromium	10	31.3	7.2	16.9	58.9	189	34.6	14.6	25.2	25.8	15.3	26.4	25.4	10.9	25.1	511	60.9	50.8
Copper	25	39.0	17.9	58.2	295	842	48.9	44.7	26.7	74.3	35.9	36.3	32.1	11.6	32.9	393	72.1	43.1
Lead	SB	31.4	44.3	45.0	172	584	28.5	90.6	2.7	62.1	10.9	281	136	14.9	37.0	1450	106	108
Mercury	0.1	0.34	1.5	0.48	1.6	9.0	0.088	1.1	ND	1.9	2.6	0.72	0.51	0.17	0.35	39.5	0.23	0.064
Nickel	13	38.4	ND	13.2	160	494	27.0	7.9	17.8	21.6	11.3	20.3	21.5	8.5	15.1	135	27.5	96.5
Selenium	2	ND	ND	ND	2.9	4.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	SB	ND	ND	ND	ND	1.6	ND	ND	ND	11.0	ND	ND	ND	ND	ND	ND	ND	3.2
Thallium	SB	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	20	113	26.1	42.5	509	1970	101	30.6	39.9	136	131	197	144	33.1	157	1190	295	130
Cyanide	SB	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	0.52	0.40	ND

SAMPLE ID	NYSDEC	SB-73	SB-74	SB-75	SB-76A	SB-81A
LAB ID	Soil Cleanup	J43194-5	J43194-6	J43194-7	JA19809-1	JA19809-15
DEPTH (FEET)	Objectives	0-2	0-2	0-2	2-2.5	2.5-3
SAMPLE DATE	(mg/kg)	10/6/06	10/6/06	10/6/06	5/27/09	5/27/09
Inorganics (ppm)						
Antimony	SB	ND	ND	ND	ND	NA
Arsenic	7.5	3.4	5.5	24.2	4.4	NA
Beryllium	0.16	ND	ND	ND	ND	NA
Cadmium	1	ND	ND	ND	ND	NA
Chromium	10	7.6	10.5	15.1	30.3	NA
Copper	25	11.4	18.8	28.3	18.7	NA
Lead	SB	39.8	17.8	13.7	8.8	9.6
Mercury	0.1	0.21	0.18	0.47	ND	NA
Nickel	13	ND	10.5	13.7	26.0	NA
Selenium	2	ND	ND	ND	ND	NA
Silver	SB	ND	ND	ND	ND	NA
Thallium	SB	ND	ND	ND	ND	NA
Zinc	20	10.6	22.6	29.7	48.5	NA
Cyanide	SB	NA	ND	ND	NA	NA

SB - Site Background

Table 4
Pesticides, PCBs - Shallow
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID	NYSDEC	SB-27	SB-49A	SB-57	SB-58	SB-61	SB-62	SB-63	SB-64	SB-72	SB-74	SB-75
LAB ID	Soil Cleanup	J42758-3	J43018-28	J43018-10	J43018-12	J43018-15	J43018-16	J43018-17	J43018-18	J43194-4	J43194-6	J43194-7
DEPTH (FEET)	Objectives	2.8-4	0-4	0-2	0-2	0-2	0-2	0-1.5	0-1.5	0-2	0-2	0-2
SAMPLE DATE	(ppm)	10/3/06	10/4/06	10/5/06	10/5/06	10/5/06	10/5/06	10/5/06	10/5/06	10/6/06	10/6/06	10/6/06
Pesticides/PCBs (ppm)												
Aldrin	**0.041**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
alpha-BHC	**0.11**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
beta-BHC	**0.2**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
delta-BHC	**0.3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
gamma-BHC (Lindane)	**0.06**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	**0.54**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	**0.044**	ND	ND	ND	4.56	ND	ND	0.107	ND	ND	ND	0.0532
4,4'-DDD	**2.9**	ND	ND	ND	0.178	ND	ND	ND	ND	ND	ND	0.129
4,4'-DDE	**2.1**	ND	ND	ND	0.315	ND	ND	ND	ND	ND	ND	0.109
4,4'-DDT	**2.1**	ND	ND	ND	0.569	ND	ND	0.135	0.13	ND	ND	0.367
Endrin	**0.10**	ND	ND	ND	0.036	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	**1.0**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan-I	**0.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan-II	**0.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	**0.10**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	**0.02**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	**10**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	**NS**	5.42	ND	ND	ND	ND	ND	ND	ND	1.3	ND	ND
Aroclor 1016	**1.0***	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1221	**1.0***	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1232	**1.0***	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1242	**1.0***	ND	ND	5.25	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	**1.0***	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1254	**1.0***	ND	ND	ND	ND	1.94	0.271	0.997	1.68	ND	3.44	ND
Aroclor 1260	**1.0***	ND	ND	ND	ND	ND	ND	0.755	ND	ND	ND	ND
TOTAL Pest./PCBs (ppm)		5.42	0	5.25	5.658	1.94	0.271	1.994	1.81	1.3	3.44	0.6582

* TAGM 4046 Standard for surface PCBs

Table 5
VOCs - Deep
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID	NYSDEC	SB-9	SB-10	SB-11	SB-25	SB-26	SB-29	SB-30	SB-32	SB-33	SB-34	SB-35
LAB ID	Soil Cleanup	J43018-4	J42667-7	J43018-3	J42758-1	J42758-2	J42758-5	J42758-9	J42758-7	J42758-8	J42758-10	J42758-11
DEPTH (FEET)	Objectives	6.5-7	7-8	7-8	7-8	7.5-8	11.5-12	12.5-13	11.5-12	12.5-13	13-13.5	14-16
SAMPLE DATE	(ppm)	10/5/06	10/2/06	10/5/06	10/3/06	10/3/06	10/3/06	10/3/06	10/3/06	10/3/06	10/3/06	10/3/06
VOCs (ppm)												
Acetone	**0.11**	NA	NA	NA	NA	NA	0.284	0.0446	0.0616	0.0317	0.132	ND
Acrolein	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	**0.06**	ND	ND	ND	ND	ND	ND	ND	ND	0.00085 J	ND	ND
Bromodichloromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	**0.3**	NA	NA	NA	NA	NA	0.0372	ND	ND	ND	0.0186	ND
Carbon disulfide	**2.7**	0.0037 J	ND	ND	ND	ND	0.0023 J	0.035	0.009	0.0351	0.0108	ND
Carbon tetrachloride	**0.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	**1.7**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	**1.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl vinyl ether	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	**0.30**	0.0025 J	ND	ND	ND	ND	ND	ND	ND	0.0011 J	ND	ND
Chloromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	**7.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	**1.55**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	**8.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	**0.2**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	**0.1**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	**0.4**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	**0.3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	**5.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	**NS**	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone(MIBK)	**1.0**	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
Methylene chloride	**0.1**	0.0069	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	**NS**	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	**0.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	**1.4**	0.0927	ND	ND	0.0136	0.0015 J	ND	0.0036 J	ND	0.0156	ND	ND
Toluene	**1.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	**0.76**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	**0.7**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Vinyl chloride	**0.12**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (total)	**1.2**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs (ppm)	**10**	0.1058	0	0	0.0136	0.0015 J	0.3235	0.0832	0.0706	0.08435	0.1614	0
VOC TICs (ppm)		0	0	0	0	0	0	0	0	0	0	0

Table 5
VOCs - Deep
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID	NYSDEC	SB-36	SB-37	SB-38	SB-39	SB-40	SB-41	SB-42	SB-43	SB-44	SB-45
LAB ID	Soil Cleanup	J42758-12	J42758-13	J42758-14	J42758-15	J42758-16	J43018-21	J43018-20	J43018-22	J43018-23	J43018-24
DEPTH (FEET)	Objectives	13-16	9-10	11-12	9-10	10-12	6.5-8	6-8	15-15.5	12.5-13	13-13.5
SAMPLE DATE	(ppm)	10/3/06	10/3/06	10/3/06	10/3/06	10/3/06	10/4/06	10/4/06	10/4/06	10/4/06	10/4/06
VOCs (ppm)											
Acetone	0.11	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA
Acrolein	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	0.06	ND	0.0192	0.0032	0.0099	ND	ND	ND	ND	ND	ND
Bromodichloromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	0.3	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA
Carbon disulfide	2.7	0.0044 J	0.0755	0.708 J	0.179	0.0011 J	0.137	0.113	ND	0.106	0.0194
Carbon tetrachloride	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	1.7	ND	0.0291	0.0594	0.0352	ND	ND	ND	ND	ND	ND
Chloroethane	1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl vinyl ether	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	0.30	0.00087 J	0.0019 J	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	7.9	ND	ND	0.0129	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	1.55	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	8.5	ND	ND	0.0093	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	NS	ND	0.0352	0.0956	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	0.3	ND	0.0027 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.5	ND	ND	0.0059	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	NS	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA
4-Methyl-2-pentanone(MIBK)	1.0	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA
Methylene chloride	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	NS	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.4	0.0082	0.0261	7.83	0.0051 J	ND	ND	ND	ND	0.0012 J	ND
Toluene	1.5	ND	0.0024	0.0071	0.0015 J	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.76	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.7	ND	0.0249	0.192	0.0013 J	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (total)	1.2	ND	ND	0.0166	0.0017 J	ND	ND	ND	ND	ND	ND
TOTAL VOCs (ppm)	10	0.01347	0.217	8.94	0.2337	0.0011	0.137	0.113	0	0.1072	0.0194
VOC TICs (ppm)		0	0.0015 J	0.195 J	0.27 J	0	0.0029 J	0	0	0.0021 J	0

Table 5
VOCs - Deep
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID	NYSDEC	SB-46	SB-47	SB-48	SB-49B	SB-50	SB-51	SB-52	SB-53	SB-54	SB-55
LAB ID	Soil Cleanup	J43018-25	J43018-26	J43018-27	J43018-29	J43018-1	J43018-2	J43018-5	J43018-6	J43018-7	J43018-8
DEPTH (FEET)	Objectives	14-14.5	15-15.5	14-14.5	5-5.5	11-11.5	11-11.5	6.5-7	13-14	12-14	15.5-16
SAMPLE DATE	(ppm)	10/4/06	10/4/06	10/4/06	10/4/06	10/4/06	10/4/06	10/5/06	10/5/06	10/5/06	10/5/06
VOCs (ppm)											
Acetone	**0.11**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrolein	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	**0.06**	ND	ND	ND	1.46	ND	ND	ND	0.128	0.0777 J	ND
Bromodichloromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	**0.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	**2.7**	0.0235	0.103	0.0017 J	1.150 E	ND	ND	ND	1.42	0.0982 J	NA
Carbon tetrachloride	**0.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	**1.7**	ND	ND	ND	ND	ND	ND	ND	0.0805 J	0.798	ND
Chloroethane	**1.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl vinyl ether	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	**0.30**	ND	ND	ND	ND	ND	ND	0.0137	ND	ND	ND
Chloromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	**7.9**	ND	ND	ND	ND	ND	ND	ND	ND	0.0436 J	ND
1,3-Dichlorobenzene	**1.55**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	**8.5**	ND	ND	ND	ND	ND	ND	ND	ND	0.0788 J	ND
Dichlorodifluoromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	**0.2**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	**0.1**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	**0.4**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	**0.3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	**5.5**	ND	ND	ND	2.99	6.67	15.2	ND	1.17	0.67	ND
2-Hexanone	**NS**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone(MIBK)	**1.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	**0.1**	ND	ND	ND	ND	ND	ND	0.0044 J	ND	ND	0.0075 J
Styrene	**NS**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	**0.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	**1.4**	ND	ND	ND	23.9	0.171 J	0.246 J	0.0747	ND	0.477	ND
Toluene	**1.5**	ND	ND	ND	3.68	ND	0.767	ND	ND	0.0473 J	ND
1,1,1-Trichloroethane	**0.76**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	**0.7**	ND	ND	ND	0.317 J	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	**NS**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	**0.12**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (total)	**1.2**	ND	ND	ND	173	53	199	ND	1.98	1.66	ND
TOTAL VOCs (ppm)	**10**	0.0235	0.103	0.0017	1,355.35	59.841	215.213	0.0928	4.7785	3.9506	0.0075
VOC TICs (ppm)		0.0381 J	0.0021 J	0	619 J	231 J	535 J	0	66.2 J	58.7 J	0.0038 J

Table 5
VOCs - Deep
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID	NYSDEC	SB-56	TP-1	TP-2	TP-3	TP-6	TP-8
LAB ID	Soil Cleanup	J43018-9	J43750-1	J43750-2	J43750-3	J43750-4	J43750-7
DEPTH (FEET)	Objectives	14-14.5	6.5-7	6.5-7		8-8.5	8.5-9
SAMPLE DATE	(ppm)	10/5/06	10/12/06	10/12/06	10/12/06	10/13/06	10/13/06
VOCs (ppm)							
Acetone	**0.11**	NA	NA	NA	NA	NA	NA
Acrolein	**NS**	ND	ND	ND	ND	ND	ND
Acrylonitrile	**NS**	ND	ND	ND	ND	ND	ND
Benzene	**0.06**	ND	ND	ND	ND	ND	ND
Bromodichloromethane	**NS**	ND	ND	ND	ND	ND	ND
Bromoform	**NS**	ND	ND	ND	ND	ND	ND
Bromomethane	**NS**	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	**0.3**	NA	NA	NA	NA	NA	NA
Carbon disulfide	**2.7**	0.114	ND	ND	ND	0.0188	ND
Carbon tetrachloride	**0.6**	ND	ND	ND	ND	ND	ND
Chlorobenzene	**1.7**	ND	ND	ND	ND	ND	ND
Chloroethane	**1.9**	ND	ND	ND	ND	ND	ND
2-Chloroethyl vinyl ether	**NS**	ND	ND	ND	ND	ND	ND
Chloroform	**0.30**	ND	ND	ND	ND	ND	ND
Chloromethane	**NS**	ND	ND	ND	ND	ND	ND
Dibromochloromethane	**NS**	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	**7.9**	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	**1.55**	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	**8.5**	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	**NS**	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	**0.2**	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	**0.1**	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	**0.4**	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	**NS**	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	**0.3**	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	**NS**	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	**NS**	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	**NS**	ND	ND	ND	ND	ND	ND
Ethylbenzene	**5.5**	ND	ND	ND	ND	ND	ND
2-Hexanone	**NS**	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone(MIBK)	**1.0**	NA	NA	NA	NA	NA	NA
Methylene chloride	**0.1**	0.0061 J	ND	ND	ND	ND	ND
Styrene	**NS**	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	**0.6**	ND	ND	ND	ND	ND	ND
Tetrachloroethene	**1.4**	ND	ND	ND	0.0014 J	0.0038 J	ND
Toluene	**1.5**	ND	ND	ND	ND	ND	0.0011
1,1,1-Trichloroethane	**0.76**	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	**NS**	ND	ND	ND	ND	ND	ND
Trichloroethene	**0.7**	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	**NS**	ND	ND	ND	ND	ND	ND
Vinyl chloride	**0.12**	ND	ND	ND	ND	ND	ND
Xylene (total)	**1.2**	ND	ND	ND	ND	ND	ND
TOTAL VOCs (ppm)	**10**	0.1201	0	0	0.0014	0.0226	0.0011
VOC TICs (ppm)		0	0	0	0	0	0

Table 6
SVOCs/TPH - Deep
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID	NYSDEC	SB-10	SB-11	SB-20	SB-20A	SB-21	SB-21A	SB-25	SB-26	SB-35	SB-36
LAB ID	Soil Cleanup	J42667-7	J43018-3	J42667-16	JA19809-13	J42667-17	JA19809-11	J42758-1	J42758-2	J42758-11	J42758-12
DEPTH (FEET)	Objectives	7-8	7-8	8-11.5	15.5-16	11.5-12	15.5-16	7-8	7.5-8	14-16	13-16
SAMPLE DATE	(ppm)	10/2/06	10/5/06	10/2/06	5/27/09	10/2/06	5/27/09	10/3/06	10/3/06	10/3/06	10/3/06
SVOCs (ppm)											
2-Chlorophenol	**0.8**	ND	ND	NA	NA	NA	NA	ND	ND	NA	NA
4-Chloro-3-methyl phenol	**0.240**	ND	ND	NA	NA	NA	NA	ND	ND	NA	NA
2,4-Dichlorophenol	**0.4**	ND	ND	NA	NA	NA	NA	ND	ND	NA	NA
2,4-Dimethylphenol	**50***	ND	ND	NA	NA	NA	NA	ND	ND	NA	NA
2,4-Dinitrophenol	**0.2**	ND	ND	NA	NA	NA	NA	ND	ND	NA	NA
4,6-Dinitro-o-cresol	**50***	ND	ND	NA	NA	NA	NA	ND	ND	NA	NA
2-Nitrophenol	**0.330**	ND	ND	NA	NA	NA	NA	ND	ND	NA	NA
4-Nitrophenol	**0.100**	ND	ND	NA	NA	NA	NA	ND	ND	NA	NA
Pentachlorophenol	**1.0**	ND	ND	NA	NA	NA	NA	ND	ND	NA	NA
Phenol	**0.03**	ND	ND	NA	NA	NA	NA	ND	ND	NA	NA
2,4,6-Trichlorophenol	**50***	ND	ND	NA	NA	NA	NA	ND	ND	NA	NA
Acenaphthene	**50.0**	ND	ND	ND	NA	9.82	NA	0.0299 J	0.0807 J	ND	ND
Acenaphthylene	**41.0**	ND	ND	ND	NA	ND	NA	0.417	0.119	ND	0.0324 J
Anthracene	**50.0**	ND	ND	ND	NA	2.02	NA	0.639	0.230	0.0324 J	0.0414 J
Benzidine	**50***	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
Benzo(a)anthracene	**0.224**	0.0844	ND	0.168 J	NA	0.169 J	NA	2.22	0.673	0.0781 J	0.242
Benzo(a)pyrene	**0.061**	0.0718 J	ND	0.135 J	NA	ND	NA	1.70	0.604	0.076 J	0.217
Benzo(b)fluoranthene	**1.1**	0.0941	ND	0.295 J	NA	0.225 J	NA	2.30	0.741	0.091	0.276
Benzo(g,h,i)perylene	**50.0**	0.0338 J	ND	ND	NA	ND	NA	1.43	0.393	0.0612 J	0.174
Benzo(k)fluoranthene	**1.1**	0.0844	ND	0.208 J	NA	ND	NA	1.680	0.418	0.0666 J	0.199
4-Bromophenyl phenyl ether	**50***	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
Butyl benzyl phthalate	**50.0**	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
2-Chloronaphthalene	**50***	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
4-Chloroaniline	**0.220**	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
Carbazole	**50***	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.0182 J
Chrysene	**0.4**	0.114	ND	0.255 J	NA	0.192 J	NA	2.63	0.823	0.0996	0.276
bis(2-Chloroethoxy)methane	**50***	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
bis(2-Chloroethyl)ether	**50***	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	**50***	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	**50***	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
1,2-Dichlorobenzene	**7.9**	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
1,2-Diphenylhydrazine	**50***	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
1,3-Dichlorobenzene	**1.6**	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
1,4-Dichlorobenzene	**8.5**	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
2,4-Dinitrotoluene	**50***	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
2,6-Dinitrotoluene	**1.0**	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
3,3'-Dichlorobenzidine	**50***	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
Dibenzo(a,h)anthracene	**0.014**	ND	ND	ND	NA	ND	NA	0.477	0.12	ND	0.0595 J
Dibenzofuran	**6.2**	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.0264 J
Di-n-butyl phthalate	**8.1**	ND	ND	ND	NA	ND	NA	ND	ND	ND	0.0634 J
Di-n-octyl phthalate	**50.0**	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
Diethyl phthalate	**7.1**	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
Dimethyl phthalate	**2.0**	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	**50.0**	ND	ND	ND	NA	ND	NA	ND	ND	ND	1.43
Fluoranthene	**50.0**	0.149	ND	0.238 J	NA	1.01	NA	3.56	1.670	0.134	0.296
Fluorene	**50.0**	ND	ND	ND	NA	8.61	NA	0.0475 J	0.0888	ND	ND
Hexachlorobenzene	**0.41**	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
Hexachlorobutadiene	**50***	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
Hexachlorocyclopentadiene	**50***	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
Hexachloroethane	**50***	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	**3.2**	0.0361 J	ND	ND	NA	ND	NA	1.43	0.383	0.0577 J	0.165
Isophorone	**4.40**	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
2-Methylnaphthalene	**36.4**	NA	NA	NA	NA	NA	NA	NA	NA	0.0503 J	0.0672 J
2-Nitroaniline	**0.430**	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
3-Nitroaniline	**0.500**	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
4-Nitroaniline	**50***	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Naphthalene	**13.0**	ND	ND	ND	NA	36.4	NA	ND	0.122	0.0274 J	0.0435 J
Nitrobenzene	**0.200**	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
n-Nitrosodimethylamine	**50***	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
N-Nitroso-di-n-propylamine	**50***	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
N-Nitrosodiphenylamine	**50***	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
Phenanthrene	**50.0**	0.0809	ND	0.375 J	NA	16.4	NA	1.23	1.03	0.125	0.175
Pyrene	**50.0**	0.128	ND	0.366 J	NA	0.888	NA	3.55	1.51	0.122	0.26
1,2,4-Trichlorobenzene	**3.4**	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND
TOTAL SVOCs (ppm)	**500**	0.8765	0	2.04	NA	64.531	NA	23.34	9.01	1.02	4.062
SVOC TICs (ppm)		10.7 J	0	99.6 J	NA	925 J	NA	139.5 J	7.76J	123..5 J	8.7 J
TPH (ppm)		NA	NA	11,900	ND	20,800	ND	NA	NA	52.5	261

* TAGM 4046 Standard for Individual SVOCs

Table 6
SVOCs/TPH - Deep
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID	NYSDEC	SB-37	SB-38	SB-39	SB-40	SB-41	SB-42	SB-53	SB-54	TP-1
LAB ID	Soil Cleanup	J42758-13	J42758-14	J42758-15	J42758-16	J43018-21	J43018-20	J43018-6	J43018-7	J43750-1
DEPTH (FEET)	Objectives	9-10	11-12	11-12	10-12	6.5-8	6-8	13-14	12-14	6.5-7
SAMPLE DATE	(ppm)	10/3/06	10/3/06	10/3/06	10/3/06	10/4/06	10/4/06	10/5/06	10/5/06	10/12/06
SVOCs (ppm)										
2-Chlorophenol	**0.8**	ND	ND	ND	NA	ND	ND	ND	ND	ND
4-Chloro-3-methyl phenol	**0.240**	ND	ND	ND	NA	ND	ND	ND	ND	ND
2,4-Dichlorophenol	**0.4**	ND	ND	ND	NA	ND	ND	ND	ND	ND
2,4-Dimethylphenol	**50***	ND	ND	ND	NA	ND	ND	ND	ND	ND
2,4-Dinitrophenol	**0.2**	ND	ND	ND	NA	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	**50***	ND	ND	ND	NA	ND	ND	ND	ND	ND
2-Nitrophenol	**0.330**	ND	ND	ND	NA	ND	ND	ND	ND	ND
4-Nitrophenol	**0.100**	ND	ND	ND	NA	ND	ND	ND	ND	ND
Pentachlorophenol	**1.0**	ND	ND	ND	NA	ND	ND	ND	ND	ND
Phenol	**0.03**	ND	ND	ND	NA	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	**50***	ND	ND	ND	NA	ND	ND	ND	ND	ND
Acenaphthene	**50.0**	ND	ND	ND	ND	0.78	ND	ND	ND	0.0338 J
Acenaphthylene	**41.0**	ND	ND	0.0294 J	ND	0.599	ND	ND	ND	0.0277 J
Anthracene	**50.0**	ND	ND	0.0335 J	ND	2.700	0.0635 J	ND	ND	0.0842
Benzidine	**50***	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	**0.224**	ND	ND	0.125	ND	7.780	0.161	ND	ND	0.366
Benzo(a)pyrene	**0.061**	0.0167 J	ND	0.117	ND	7.460	0.139	ND	ND	0.33
Benzo(b)fluoranthene	**1.1**	0.0269 J	0.0246 J	0.137	ND	6.510	0.277	ND	ND	0.433
Benzo(g,h,i)perylene	**50.0**	ND	ND	0.111	ND	2.100	0.0941	ND	ND	0.107
Benzo(k)fluoranthene	**1.1**	ND	ND	0.0952	ND	3.770	0.174	ND	ND	0.43
4-Bromophenyl phenyl ether	**50***	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	**50.0**	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	**50***	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	**0.220**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	**50***	NA	NA	NA	ND	NA	NA	NA	NA	NA
Chrysene	**0.4**	0.025 J	0.0363 J	0.163	ND	7.510	0.215	ND	ND	0.397
bis(2-Chloroethoxy)methane	**50***	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	**50***	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	**50***	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	**50***	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	**7.9**	ND	ND	0.256	ND	ND	0.0506 J	ND	ND	ND
1,2-Diphenylhydrazine	**50***	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	**1.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	**8.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	**50***	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	**1.0**	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	**50***	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	**0.014**	ND	ND	0.0403 J	ND	0.727	0.0393 J	ND	ND	0.044 J
Dibenzofuran	**6.2**	NA	NA	NA	ND	NA	NA	NA	NA	NA
Di-n-butyl phthalate	**8.1**	ND	ND	ND	ND	ND	0.0559 J	ND	ND	ND
Di-n-octyl phthalate	**50.0**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	**7.1**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl phthalate	**2.0**	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	**50.0**	ND	ND	0.111	ND	ND	1.62	ND	ND	ND
Fluoranthene	**50.0**	0.0202 J	0.0727 J	0.225	ND	16.2	0.288	ND	ND	0.577
Fluorene	**50.0**	ND	ND	ND	ND	1.37	0.114	ND	ND	0.0358 J
Hexachlorobenzene	**0.41**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	**50***	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	**50***	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	**50***	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	**3.2**	ND	ND	0.0997	ND	2.200	0.0931	ND	ND	0.134
Isophorone	**4.40**	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	**36.4**	NA	NA	NA	ND	NA	NA	NA	NA	NA
2-Nitroaniline	**0.430**	NA	NA	NA	ND	NA	NA	NA	NA	NA
3-Nitroaniline	**0.500**	NA	NA	NA	ND	NA	NA	NA	NA	NA
4-Nitroaniline	**50***	NA	NA	NA	ND	NA	NA	NA	NA	NA
Naphthalene	**13.0**	ND	ND	0.0424 J	ND	0.0378 J	0.129	ND	ND	0.0596 J
Nitrobenzene	**0.200**	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Nitrosodimethylamine	**50***	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-di-n-propylamine	**50***	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	**50***	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	**50.0**	ND	0.0365 J	0.122	ND	13.8	0.418	0.0194 J	ND	0.35
Pyrene	**50.0**	ND	0.0486 J	0.166	ND	14.3	0.275	ND	ND	0.538
1,2,4-Trichlorobenzene	**3.4**	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL SVOCs (ppm)	**500**	0.0888	0.2187	1.8735	0	87.844	4.2065	0.0194	0	3.9471
SVOC TICs (ppm)		5.8 J	107.71 J	220.08 J	2.48 J	14.0 J	35.05 J	1.41 J	0.19 J	2.17 J
TPH (ppm)		NA	NA	NA	83.2	NA	NA	39.7	73.7	NA

* TAGM 4046 Standard for Individual SVOCs

Table 6
SVOCs/TPH - Deep
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID	NYSDEC	TP-2	TP-3	TP-6	TP-7	TP-8	TP-9
LAB ID	Soil Cleanup	J43750-2	J43750-3	J43750-4	J43750-6	J43750-7	J43750-8
DEPTH (FEET)	Objectives	6.5-7		8-8.5	7.5-8	8.5-9	7.5-8
SAMPLE DATE	(ppm)	10/12/06	10/12/06	10/13/06	10/13/06	10/13/06	10/13/06
SVOCs (ppm)							
2-Chlorophenol	**0.8**	ND	ND	ND	NA	ND	NA
4-Chloro-3-methyl phenol	**0.240**	ND	ND	ND	NA	ND	NA
2,4-Dichlorophenol	**0.4**	ND	ND	ND	NA	ND	NA
2,4-Dimethylphenol	**50***	ND	ND	ND	NA	ND	NA
2,4-Dinitrophenol	**0.2**	ND	ND	ND	NA	ND	NA
4,6-Dinitro-o-cresol	**50***	ND	ND	ND	NA	ND	NA
2-Nitrophenol	**0.330**	ND	ND	ND	NA	ND	NA
4-Nitrophenol	**0.100**	ND	ND	ND	NA	ND	NA
Pentachlorophenol	**1.0**	ND	ND	ND	NA	ND	NA
Phenol	**0.03**	ND	ND	ND	NA	ND	NA
2,4,6-Trichlorophenol	**50***	ND	ND	ND	NA	ND	NA
Acenaphthene	**50.0**	ND	ND	0.0899	0.0848	1.59 J	0.306 J
Acenaphthylene	**41.0**	ND	ND	0.0544 J	0.0825	ND	0.355 J
Anthracene	**50.0**	ND	ND	0.21	0.303	4.59	1.06
Benzidine	**50***	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	**0.224**	ND	0.0578 J	0.603	1.240	15.4	4.95
Benzo(a)pyrene	**0.061**	ND	0.0473 J	0.525	1.390	14.5	5.73
Benzo(b)fluoranthene	**1.1**	ND	0.0477 J	0.626	1.330	12.8	5.62
Benzo(g,h,i)perylene	**50.0**	ND	0.0294 J	0.185	0.506	5.24	2.67
Benzo(k)fluoranthene	**1.1**	ND	0.0638 J	0.701	1.340	15.4	4.9
4-Bromophenyl phenyl ether	**50***	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	**50.0**	ND	ND	0.341	ND	ND	ND
2-Chloronaphthalene	**50***	ND	ND	ND	ND	ND	ND
4-Chloroaniline	**0.220**	ND	ND	ND	ND	ND	ND
Carbazole	**50***	NA	NA	NA	NA	NA	NA
Chrysene	**0.4**	ND	0.0662 J	0.629	1.220	14.9	4.83
bis(2-Chloroethoxy)methane	**50***	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	**50***	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	**50***	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	**50***	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	**7.9**	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	**50***	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	**1.6**	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	**8.5**	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	**50***	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	**1.0**	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	**50***	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	**0.014**	ND	ND	0.0809	0.166	2.1	0.802
Dibenzofuran	**6.2**	NA	NA	NA	NA	NA	NA
Di-n-butyl phthalate	**8.1**	ND	ND	0.218	ND	ND	ND
Di-n-octyl phthalate	**50.0**	ND	ND	ND	ND	ND	ND
Diethyl phthalate	**7.1**	ND	ND	ND	ND	ND	ND
Dimethyl phthalate	**2.0**	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	**50.0**	ND	ND	0.684	0.0512 J	ND	ND
Fluoranthene	**50.0**	ND	0.123	1.09	2.00	30.6	8.06
Fluorene	**50.0**	ND	ND	0.0884	0.0735 J	1.04 J	0.207 J
Hexachlorobenzene	**0.41**	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	**50***	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	**50***	ND	ND	ND	ND	ND	ND
Hexachloroethane	**50***	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	**3.2**	ND	0.0287 J	0.201	0.506	5.05	2.53
Isophorone	**4.40**	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	**36.4**	NA	NA	NA	NA	NA	NA
2-Nitroaniline	**0.430**	NA	NA	NA	NA	NA	NA
3-Nitroaniline	**0.500**	NA	NA	NA	NA	NA	NA
4-Nitroaniline	**50***	NA	NA	NA	NA	NA	NA
Naphthalene	**13.0**	ND	ND	0.0501 J	ND	ND	ND
Nitrobenzene	**0.200**	ND	ND	ND	ND	ND	ND
n-Nitrosodimethylamine	**50***	ND	ND	ND	ND	ND	ND
N-Nitroso-di-n-propylamine	**50***	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	**50***	ND	ND	ND	ND	ND	ND
Phenanthrene	**50.0**	ND	0.0444 J	0.714	0.895	14.1	3.16
Pyrene	**50.0**	ND	0.0862	1.21	2.53	31.3	9.55
1,2,4-Trichlorobenzene	**3.4**	ND	ND	ND	ND	ND	ND
TOTAL SVOCs (ppm)	**500**	0	0.5945	8.3007	13.718	168.61	54.73
SVOC TICs (ppm)		0.27 J	0	4.12 J	6.74 J	36.1 J	28.96 J
TPH (ppm)		NA	NA	NA	NA	NA	NA

* TAGM 4046 Standard for Individual SVOCs

Table 7
Inorganics - Deep
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID LAB ID DEPTH (FEET) SAMPLE DATE	NYSDEC Soil Cleanup Objectives (mg/kg)	SB-10 J42667-7 7-8 10/2/06	SB-11 J43018-3 7-8 10/5/06	SB-25 J42758-1 7-8 10/3/06	SB-26 J42758-2 7.5-8 10/3/06	SB-37 J42758-13 9-10 10/3/06	SB-38 J42758-14 11-12 10/3/06	SB-39 J42758-15 11-12 10/3/06	SB-53 J43018-6 13-14 10/5/06	SB-54 J43018-7 12-14 10/5/06	SB-76B JA19809-2 10-10.5 5/27/09	SB-81B JA19809-16 7.5-8 5/27/09	TP-1 J43750-1 10/12/06	TP-2 J43750-2 10/12/06	TP-3 J43750-3 10/12/06	TP-6 J43750-4 8-8.5 10/13/06
Inorganics (ppm)																
Antimony	SB	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	2.6
Arsenic	7.5	31.5	ND	ND	ND	3.7	ND	19.9	ND	ND	ND	NA	4.8	ND	6.9	11.4
Beryllium	0.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND
Cadmium	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	0.75	ND	ND	1.7
Chromium	10	20.8	17.6	3.9	6.3	23.1	42.7	42.8	19.1	20.6	22.4	NA	36.7	19.4	27.4	31.6
Copper	25	22.0	18.1	17.1	11.1	31.5	33.3	72.6	12.8	21.4	18.1	NA	39.9	16.9	30.5	100
Lead	SB	78.3	3.3	12.5	11.0	14.0	21.8	31.0	ND	3.0	4.4	38.5	54.0	9.1	20.2	10,200
Mercury	0.1	0.66	ND	0.15	0.81	0.14	0.17	2.2	ND	ND	ND	NA	0.78	0.084	0.89	0.74
Nickel	13	10.1	13.5	6.2	6.4	15.1	15.0	14.1	24.0	34.5	23.8	NA	40.8	47.5	30.7	44.0
Selenium	2	3.3	ND	ND	ND	ND	ND	8.4	ND	ND	ND	NA	ND	ND	ND	ND
Silver	SB	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND
Thallium	SB	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND
Zinc	20	31.1	36.1	6.1	19.8	85.1	180	170	52.9	83.9	37.0	NA	100	39.6	59.9	287
Cyanide	SB	ND	ND	ND	ND	ND	ND	19.7	ND	ND	NA	NA	ND	ND	ND	ND

SAMPLE ID LAB ID DEPTH (FEET) SAMPLE DATE	NYSDEC Soil Cleanup Objectives (mg/kg)	TP-7 J43750-6 7.5-8 10/13/06	TP-8 J43750-7 8.5-9 10/13/06	TP-9 J43750-8 7.5-8 10/13/06
Inorganics (ppm)				
Antimony	SB	ND	ND	ND
Arsenic	7.5	2.5	4.8	3.7
Beryllium	0.16	ND	ND	ND
Cadmium	1	0.55	3.2	ND
Chromium	10	26.0	22.6	20.7
Copper	25	23.8	27.0	25.1
Lead	SB	28.1	145	29.3
Mercury	0.1	0.11	1.5	0.065
Nickel	13	16.3	14.4	15.7
Selenium	2	ND	ND	ND
Silver	SB	ND	ND	ND
Thallium	SB	ND	ND	ND
Zinc	20	81.5	216	65.4
Cyanide	SB	NA	0.41	NA

SB - Site Background

Table 8
Pesticides, PCBs - Deep
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID LAB ID DEPTH (FEET) SAMPLE DATE	NYSDEC Soil Cleanup Objectives (ppm)	SB-10 J42667-7 7-8 10/2/06	SB-10A JA19809-6 12-12.5 5/27/09	SB-11 J43018-3 7-8 10/5/06	SB-25 J42758-1 7-8 10/3/06	SB-26 J42758-2 7.5-8 10/3/06	SB-37 J42758-13 9-10 10/3/06	SB-38 J42758-14 11-12 10/3/06	SB-39 J42758-15 11-12 10/3/06	SB-53 J43018-6 13-14 10/5/06	SB-54 J43018-7 12-14 10/5/06	SB-77 JA19809-5 7.5-8 5/27/09	SB-78 JA19809-8 7.5-8 5/27/09	SB-79 JA19809-9 7.5-8 5/27/09	SB-80 JA19809-10 7.5-8 5/27/09
Pest./PCBs (ppm)															
Aldrin	**0.041**	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
alpha-BHC	**0.11**	0.0034	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
beta-BHC	**0.2**	0.0427	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
delta-BHC	**0.3**	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
gamma-BHC (Lindane)	**0.06**	0.0044	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Chlordane	**0.54**	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Dieldrin	**0.044**	6.47	0.0035	ND	ND	0.0039	ND	0.451	ND	ND	0.0239	0.0228	ND	0.129	0.0191
4,4'-DDD	**2.9**	1.87	NA	ND	0.0077	0.0067	ND	ND	ND	ND	ND	NA	NA	NA	NA
4,4'-DDE	**2.1**	7.06	0.0021	ND	ND	ND	ND	0.0871	ND	ND	0.0089	ND	ND	0.0078	ND
4,4'-DDT	**2.1**	35.5	0.0129	ND	ND	0.0194	ND	ND	ND	ND	0.0043	ND	ND	0.0146	ND
Endrin	**0.10**	ND	NA	ND	ND	ND	ND	0.043	ND	ND	ND	NA	NA	NA	NA
Endosulfan sulfate	**1.0**	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Endrin aldehyde	**NS**	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Endosulfan-I	**0.9**	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Endosulfan-II	**0.9**	0.399	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Heptachlor	**0.10**	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Heptachlor epoxide	**0.02**	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Methoxychlor	**10**	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Toxaphene	**NS**	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Aroclor 1016	**10***	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Aroclor 1221	**10***	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Aroclor 1232	**10***	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Aroclor 1242	**10***	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Aroclor 1248	**10***	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Aroclor 1254	**10***	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Aroclor 1260	**10***	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
TOTAL (ppm)		52.226	0.0185	0	0.0077	0.030	0	0.5811	0	0	0.0371	0.0228	0	0.1514	0.0191

* TAGM 4046 Standard for Subsurface PCBs

Table 8
Pesticides, PCBs - Deep
Akzo Nobel Chemicals, Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID LAB ID DEPTH (FEET) SAMPLE DATE	NYSDEC Soil Cleanup Objectives (ppm)	TP-1 J43750-1 6.5-7 10/12/06	SB-TP1 JA19809-3 7.5-8 5/27/09	TP-2 J43750-2 6.5-7 10/12/06	TP-3 J43750-3 10/12/06	TP-6 J43750-4 8-8.5 10/13/06	TP-8 J43750-7 8.5-9 10/13/06
Pest./PCBs (ppm)							
Aldrin	**0.041**	ND	NA	ND	ND	ND	ND
alpha-BHC	**0.11**	ND	NA	ND	ND	ND	ND
beta-BHC	**0.2**	ND	NA	ND	ND	ND	ND
delta-BHC	**0.3**	ND	NA	ND	ND	ND	ND
gamma-BHC (Lindane)	**0.06**	ND	NA	ND	ND	ND	ND
Chlordane	**0.54**	ND	NA	ND	ND	ND	ND
Dieldrin	**0.044**	ND	NA	ND	0.0155	0.0044	ND
4,4'-DDD	**2.9**	ND	NA	0.0019	0.0058	ND	ND
4,4'-DDE	**2.1**	ND	NA	ND	0.0142	ND	ND
4,4'-DDT	**2.1**	ND	NA	ND	0.0371	0.0121	ND
Endrin	**0.10**	ND	NA	ND	ND	ND	ND
Endosulfan sulfate	**1.0**	ND	NA	ND	ND	ND	0.0535
Endrin aldehyde	**NS**	ND	NA	ND	ND	ND	ND
Endosulfan-I	**0.9**	ND	NA	ND	ND	ND	ND
Endosulfan-II	**0.9**	ND	NA	ND	ND	ND	ND
Heptachlor	**0.10**	ND	NA	ND	ND	ND	ND
Heptachlor epoxide	**0.02**	ND	NA	ND	ND	ND	ND
Methoxychlor	**10**	ND	NA	ND	ND	ND	ND
Toxaphene	**NS**	22.2	ND	ND	0.307	ND	ND
Aroclor 1016	**10***	ND	NA	ND	ND	ND	ND
Aroclor 1221	**10***	ND	NA	ND	ND	ND	ND
Aroclor 1232	**10***	ND	NA	ND	ND	ND	ND
Aroclor 1242	**10***	ND	NA	ND	ND	ND	ND
Aroclor 1248	**10***	ND	NA	ND	ND	ND	ND
Aroclor 1254	**10***	ND	NA	ND	ND	ND	ND
Aroclor 1260	**10***	ND	NA	ND	ND	ND	ND
TOTAL (ppm)		22.2	0	0.0019	0.3796	0.0165	0.0535

* TAGM 4046 Standard for Subsurface PCBs

TABLE 9
SEDIMENT SAMPLING ANALYTICAL SUMMARY DATA
Akzo Nobel Chemicals Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

SAMPLE ID	SED1		Levels of Protection - Non-Polar Organic Compounds [1]		
LAB ID	J40542-2		Benthic Aquatic Life Acute Toxicity Sediment Criteria	Benthic Aquatic Life Chronic Toxicity Sediment Criteria	Wildlife Bioaccumulation Sediment Criteria
SAMPLE DEPTH (FEET)	0-0.5				
SAMPLE DATE	9/7/2006				
	µg/kg	µg/gOC	µg/gOC	µg/gOC	µg/gOC
Semi-Volatile Compounds (µg/Kg)					
Acenaphthene	31.4J	2.93	--	140	--
Acenaphthylene	80.0J	7.48	--	--	--
Anthracene	192	17.94	986	107	--
Benzo(a)anthracene	**739**	**69.07**	94	12	--
Benzo(a)pyrene	657	61.40	--	--	--
Benzo(b)fluoranthene	681	63.64	--	--	--
Benzo(g,h,i)perylene	423	39.53	--	--	--
Benzo(k)fluoranthene	568	53.08	--	--	--
Carbazole	66.0J	6.17	--	--	--
Chrysene	906	84.67	--	--	--
Dibenzo(a,h)anthracene	149	13.93	--	--	--
Diethyl phthalate	137B	12.80	--	--	--
bis(2-Ethylhexyl)phthalate	1,170	109.35	--	199.5	--
Fluoranthene	1,400	130.84	--	1,020	--
Fluorene	46.4J	4.34	73	8	--
Indeno(1,2,3-cd)pyrene	415	38.79	--	--	--
Phenanthrene	649	60.65	--	120	--
Pyrene	1,690	157.94	8,775	961	--
General Chemistry (ppm)					
Total Organic Carbon	10,700	--	--	--	--

SAMPLE ID	SED1	Sediment Criteria for Metals [1]	
LAB ID	J40542-2	Lowest Effect Level	Severe Effect Level
SAMPLE DEPTH (FEET)	0-0.5		
SAMPLE DATE	9/7/2006		
	(µg/g)	µg/g	µg/g
Metals (µg/g)			
Chromium	25.9	26	110
Copper	**36.9**	16	110
Lead	**67.5**	31	110
Mercury	**0.24**	0.15	1.3
Nickel	**19.7**	16	50
Zinc	**162**	120	270

Notes:
[1] = New York State Department of Environmental Conservation. 1999. *Technical Guidance for Screening Contaminated Sediment.*
µg/g = micrograms per gram.
µg/gOC = micrograms per gram of Organic Carbon
µg/kg = micrograms per kilogram
ppm = parts per million
-- = Criterea not published in NYDEC *Technical Guidance for Screening Contaminated Sediment.*

TABLE 10
SURFACE WATER SAMPLING ANALYTICAL SUMMARY DATA
Akzo Nobel Chemicals Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

Sample ID: Lab Sample ID: Date Sampled:	SW1 J40542-1 9/7/2006	NYSDEC Surface Water Standard µg/l Class A
Volatile Organic Compounds (µg/l)		
Benzene	0.21ND	0.7
Ethylbenzene	0.20ND	--
Tetrachloroethene	0.28ND	--
Toluene	0.20ND	--
Trichloroethene	0.29ND	--
Total Xylenes	0.31ND	--
Base Neutral Compounds (µg/l)		
Acenaphthene	0.35ND	20
Anthracene	0.40ND	--
Benzo(a)anthracene	0.36ND	--
Benzo(a)pyrene	0.37ND	--
Benzo(b)fluoranthene	0.59ND	--
Benzo(k)fluoranthene	0.42ND	--
Chrysene	0.25ND	--
Diethy phthalate	3.7 B	--
Fluoranthene	0.25ND	--
Fluorene	0.45ND	--
Indeno(1,2,3-cd)pyrene	0.30ND	--
Naphthalene	0.32ND	10
Phenanthrene	0.36ND	--
Pyrene	0.34ND	--
Metals (µg/l)		
Antimony	<6.0	--
Arsenic	<8.0	50
Beryllium	<1.0	11*
Cadmium	<4.0	10
Chromium	<10	50
Copper	<25	200
Lead	<3.0	50
Mercury	<0.2	2
Selenium	<10	10
Silver	<10	50
Thallium	<10	8
Zinc	<20	300

Notes:
[1] = New York State Department of Environmental Conservation. 1994. *Water Quality Regulatio Surface Water and Groundwater Classifications and Standards.*
B = Compound also detected in method blank
#ND = Not detected at method detection limit indicated
* = when hardness is <= 75 ppm
µg/l = micrograms per liter
-- = Criteria not published in NYDEC *Water Quality Regulations - Surface Water and Groundwater Classifications and Standards.*

TABLE 11

GROUNDWATER ANALYTICAL SUMMARY DATA

Akzo Nobel Chemicals Inc. Pilot Plant

Ardsley (Dobbs Ferry), New York

Client ID:	New York State	MW-1			MW-2			MW-3		
Sample Depth:	Ambient Water	N/A			N/A			N/A		
Lab ID:	Quality Standards/	JA22109-1			JA22109-2			JA22109-3		
Date Sampled:	Guidance Value	06/29/2009			06/29/2009			06/29/2009		
Matrix:	(June 1998)	Aqueous			Aqueous			Aqueous		
		Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Volatiles (ppb)										
Acrolein	5*	ND		6.3	ND		6.3	ND		6.3
Acrylonitrile	5*	ND		5.3	ND		5.3	ND		5.3
Benzene	1	ND		0.15	ND		0.15	0.81	J	0.15
Bromodichloromethane	50	ND		0.18	ND		0.18	ND		0.18
Bromoform	50	ND		0.26	ND		0.26	ND		0.26
Bromomethane	5*	ND		0.43	ND		0.43	ND		0.43
Carbon tetrachloride	5	ND		0.18	0.32	J	0.18	ND		0.18
Chlorobenzene	5*	ND		0.21	ND		0.21	3.1		0.21
Chloroethane	5*	ND		0.48	ND		0.48	ND		0.48
2-Chloroethyl vinyl ether	NS	ND		0.65	ND		0.65	ND		0.65
Chloroform	7	0.38	J	0.18	0.60	J	0.18	ND		0.18
Chloromethane	5*	ND		0.34	ND		0.34	ND		0.34
Dibromochloromethane	50	ND		0.26	ND		0.26	ND		0.26
1,2-Dichlorobenzene	3	ND		0.57	ND		0.57	0.64	J	0.57
1,3-Dichlorobenzene	3	ND		0.26	ND		0.26	ND		0.26
1,4-Dichlorobenzene	3	ND		0.32	ND		0.32	ND		0.32
Dichlorodifluoromethane	5*	ND		1.3	ND		1.3	ND		1.3
1,1-Dichloroethane	5*	ND		0.26	ND		0.26	ND		0.26
1,2-Dichloroethane	0.6	ND		0.43	ND		0.43	ND		0.43
1,1-Dichloroethene	5*	ND		0.38	ND		0.38	ND		0.38
cis-1,2-Dichloroethene	5*	ND		0.22	ND		0.22	5.6		0.22
trans-1,2-Dichloroethene	5*	ND		0.20	ND		0.20	ND		0.20
1,2-Dichloropropane	1	ND		0.40	ND		0.40	ND		0.40
cis-1,3-Dichloropropene	0.4	ND		0.20	ND		0.20	ND		0.20
trans-1,3-Dichloropropene	0.4	ND		0.31	ND		0.31	ND		0.31
Ethylbenzene	5*	ND		0.15	ND		0.15	ND		0.15
Methylene Chloride	5*	ND		0.30	ND		0.30	ND		0.30
1,1,2,2-Tetrachloroethane	5*	ND		0.13	ND		0.13	ND		0.13
Tetrachloroethene	5*	ND		0.18	7.4		0.18	1.6		0.18
Toluene	5*	ND		0.19	ND		0.19	ND		0.19
1,1,1-Trichloroethane	5*	ND		0.21	ND		0.21	ND		0.21
1,1,2-Trichloroethane	1	ND		0.46	ND		0.46	ND		0.46
Trichloroethene	5*	ND		0.14	ND		0.14	2.1		0.14
Trichlorofluoromethane	5*	ND		0.46	1.3	J	0.46	ND		0.46
Vinyl chloride	2	ND		0.21	ND		0.21	5.4		0.21
Xylenes (total)	5*	ND		0.27	ND		0.27	ND		0.27
TOTAL VOs:		0.38	J		9.62	J		19.25	J	
TOTAL TICs:		10	J		0			0		
TOTAL VOs & TICs:		10.38	J		9.62	J		19.25	J	

TABLE 11
GROUNDWATER ANALYTICAL SUMMARY DATA
Akzo Nobel Chemicals Inc. Pilot Plant
Ardsley (Dobbs Ferry), New York

Client ID:	New York State	MW-1			MW-2			MW-3		
Sample Depth:	Ambient Water	N/A			N/A			N/A		
Lab ID:	Quality Standards/	JA22109-1			JA22109-2			JA22109-3		
Date Sampled:	Guidance Value	06/29/2009			06/29/2009			06/29/2009		
Matrix:	(June 1998)	Aqueous			Aqueous			Aqueous		
		Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Semivolatiles - BNs (ppb)										
2-Chlorophenol	**	ND		1.0	ND		0.95	ND		0.97
4-Chloro-3-methyl phenol	**	ND		1.3	ND		1.2	ND		1.2
2,4-Dichlorophenol	**	ND		1.7	ND		1.6	ND		1.6
2,4-Dimethylphenol	**	ND		1.8	ND		1.6	ND		1.7
2,4-Dinitrophenol	**	ND		0.97	ND		0.89	ND		0.91
4,6-Dinitro-o-cresol	**	ND		0.78	ND		0.72	ND		0.74
2-Nitrophenol	**	ND		2.0	ND		1.8	ND		1.8
4-Nitrophenol	**	ND		0.92	ND		0.84	ND		0.86
Pentachlorophenol	**	ND		2.1	ND		1.9	ND		1.9
Phenol	**	ND		0.54	ND		0.50	ND		0.51
2,4,6-Trichlorophenol	**	ND		1.4	ND		1.3	ND		1.3
Acenapthene	20	ND		0.38	ND		0.35	0.55	J	0.36
Acenapthylene	NS	ND		0.41	ND		0.38	ND		0.39
Anthracene	50	ND		0.43	ND		0.40	ND		0.41
Benzidine	5*	ND		0.30	ND		0.28	ND		0.29
Benzo(a)anthracene	0.002	ND		0.39	ND		0.36	ND		0.36
Benzo(a)pyrene	ND	ND		0.40	ND		0.37	ND		0.37
Benzo(b)fluoranthene	0.002	ND		0.64	ND		0.59	ND		0.60
Benzo(g,h,i)perylene	NS	ND		0.46	ND		0.42	ND		0.43
Benzo(k)fluoranthene	0.002	ND		0.46	ND		0.42	ND		0.43
4-Bromophenyl phenyl ether	NS	ND		0.33	ND		0.30	ND		0.31
Butyl benzyl phthalate	50	ND		0.64	ND		0.59	ND		0.61
2-Chloronaphthalene	10	ND		1.1	ND		0.98	ND		1.0
4-Chloroaniline	5*	ND		0.43	ND		0.40	ND		0.41
Chrysene	0.002	ND		0.27	ND		0.25	ND		0.26
bis(2-Chloroethoxy)methane	5*	ND		0.71	ND		0.65	ND		0.67
bis(2-Chloroethyl)ether	1	ND		0.58	ND		0.53	ND		0.54
bis(2-Chloroisopropyl)ether	5*	ND		0.80	ND		0.74	ND		0.75
4-Chlorophenyl phenyl ether	NS	ND		0.47	ND		0.43	ND		0.44
1,2-Dichlorobenzene	3	ND		0.23	ND		0.21	ND		0.21
1,2-Diphenylhydrazine	ND	ND		0.49	ND		0.45	ND		0.46
1,3-Dichlorobenzene	3	ND		0.17	ND		0.16	ND		0.16
1,4-Dichlorobenzene	3	ND		0.20	ND		0.18	ND		0.18
2,4-Dinitrotoluene	5*	ND		0.93	ND		0.86	ND		0.88
2,6-Dinitrotoluene	5*	ND		0.61	ND		0.56	ND		0.57
3,3'-Dichlorobenzidine	5*	ND		1.3	ND		1.2	ND		1.2
Dibenzo(a,h)anthracene	NS	ND		0.59	ND		0.54	ND		0.56
Di-n-butyl phthalate	50	ND		0.64	ND		0.59	ND		0.60
Di-n-octyl phthalate	50	ND		0.62	ND		0.57	7.6		0.58
Diethyl phthalate	50	ND		0.42	ND		0.39	ND		0.40

TABLE 11

GROUNDWATER ANALYTICAL SUMMARY DATA

Akzo Nobel Chemicals Inc. Pilot Plant

Ardsley (Dobbs Ferry), New York

Client ID:	New York State	MW-1			MW-2			MW-3		
Sample Depth:	Ambient Water	N/A			N/A			N/A		
Lab ID:	Quality Standards/	JA22109-1			JA22109-2			JA22109-3		
Date Sampled:	Guidance Value	06/29/2009			06/29/2009			06/29/2009		
Matrix:	(June 1998)	Aqueous			Aqueous			Aqueous		
		Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Dimethyl phthalate	50	ND		0.36	ND		0.33	ND		0.33
Bis(2-ethylhexyl) phthalate	5	3.1		0.72	2.2		0.66	29.0		0.67
Fluoranthene	50	ND		0.27	ND		0.25	ND		0.25
Fluorene	50	ND		0.49	ND		0.45	ND		0.46
Hexachlorobenzene	0.04	ND		0.58	ND		0.54	ND		0.55
Hexachlorobutadiene	0.5	ND		0.19	ND		0.18	ND		0.18
Hexachlorocyclopentadiene	5*	ND		0.44	ND		0.41	ND		0.42
Hexachloroethane	5*	ND		0.31	ND		0.28	ND		0.29
Indeno[1,2,3-cd]pyrene	0.002	ND		0.33	ND		0.30	ND		0.31
Isophorone	50	ND		0.64	ND		0.59	ND		0.60
Naphthalene	10	ND		0.35	ND		0.32	ND		0.33
Nitrobenzene	0.4	ND		0.46	ND		0.42	ND		0.43
n-Nitrosodimethylamine	50	ND		0.50	ND		0.46	ND		0.47
N-Nitroso-di-n-propylamine	NS	ND		0.51	ND		0.47	ND		0.48
N-Nitrosodiphenylamine	50	ND		0.56	ND		0.52	ND		0.53
Phenanthrene	50	ND		0.39	ND		0.36	ND		0.37
Pyrene	50	ND		0.36	ND		0.34	ND		0.34
1,2,4-Trichlorobenzene	5*	ND		0.37	ND		0.34	ND		0.35
TOTAL BNs:		3.1			2.2			37.15	J	
TOTAL TICs:		644.8	J		0			9.4	J	
TOTAL BNs & TICs:		647.9	J		2.2			46.55	J	

TABLE 11

GROUNDWATER ANALYTICAL SUMMARY DATA

Akzo Nobel Chemicals Inc. Pilot Plant

Ardsley (Dobbs Ferry), New York

Client ID:	New York State	MW-1			MW-2			MW-3		
Sample Depth:	Ambient Water	N/A			N/A			N/A		
Lab ID:	Quality Standards/	JA22109-1			JA22109-2			JA22109-3		
Date Sampled:	Guidance Value	06/29/2009			06/29/2009			06/29/2009		
Matrix:	(June 1998)	Aqueous			Aqueous			Aqueous		
		Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
PCBs (ppb)										
Aroclor-1016	***	ND		0.094	ND		0.094	ND		0.094
Aroclor-1221	***	ND		0.47	ND		0.47	ND		0.47
Aroclor-1232	***	ND		0.39	ND		0.39	ND		0.39
Aroclor-1242	***	ND		0.16	ND		0.16	ND		0.16
Aroclor-1248	***	ND		0.15	ND		0.15	ND		0.15
Aroclor-1254	***	ND		0.11	ND		0.11	ND		0.11
Aroclor-1260	***	ND		0.12	ND		0.12	ND		0.12
TOTAL PCBs:	0.09	ND			ND			ND		
Pesticides (ppb)										
Aldrin	ND	ND		0.0033	ND		0.0033	ND		0.0033
alpha-BHC	0.01	ND		0.0026	ND		0.0026	ND		0.0026
beta - BHC	0.04	ND		0.0062	ND		0.0062	ND		0.0062
delta - BHC	0.04	ND		0.0031	ND		0.0031	ND		0.0031
gamma - BHC (Lindane)	0.05	ND		0.0017	ND		0.0017	ND		0.0017
Chlordane	0.05	ND		0.067	ND		0.067	ND		0.067
Dieldrin	0.004	ND		0.0017	ND		0.0017	ND		0.0017
4,4'-DDD	0.3	ND		0.0024	ND		0.0024	ND		0.0024
4,4'-DDE	0.2	ND		0.0017	ND		0.0017	ND		0.0017
4,4'-DDT	0.2	ND		0.0049	ND		0.0049	ND		0.0049
Endrin	ND	ND		0.003	ND		0.003	ND		0.003
Endosulfan sulfate	NS	ND		0.0046	ND		0.0046	ND		0.0046
Endrin aldehyde	5*	ND		0.0064	ND		0.0064	ND		0.0064
Endosulfan-I	NS	ND		0.0021	ND		0.0021	ND		0.0021
Endosulfan-II	NS	ND		0.0032	ND		0.0032	ND		0.0032
Heptachlor	0.04	ND		0.0026	ND		0.0026	ND		0.0026
Heptachlor epoxide	0.03	ND		0.0015	ND		0.0015	ND		0.0015
Methoxychlor	35	ND		0.0068	ND		0.0068	ND		0.0068
Toxaphene	0.06	ND		0.094	ND		0.094	ND		0.094

TABLE 11

GROUNDWATER ANALYTICAL SUMMARY DATA

Akzo Nobel Chemicals Inc. Pilot Plant

Ardsley (Dobbs Ferry), New York

Client ID:	New York State	MW-1			MW-2			MW-3		
Sample Depth:	Ambient Water	N/A			N/A			N/A		
Lab ID:	Quality Standards/	JA22109-1			JA22109-2			JA22109-3		
Date Sampled:	Guidance Value	06/29/2009			06/29/2009			06/29/2009		
Matrix:	(June 1998)	Aqueous			Aqueous			Aqueous		
		Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Metals (ppb)[1]										
Antimony	**3**	ND		6.0	ND		6.0	ND		6.0
Arsenic	**25**	ND		3.0	ND		3.0	4.1		3.0
Beryllium	**3**	ND		1.0	ND		1.0	1.1		1.0
Cadmium	**5**	ND		3.0	ND		3.0	ND		3.0
Chromium	**50**	ND		10	ND		10	ND		10
Copper	**200**	10.4		10	ND		10	ND		10
Lead	**25**	ND		3.0	ND		3.0	ND		3.0
Mercury	**0.7**	ND		0.20	ND		0.20	ND		0.20
Nickel	**100**	ND		10	ND		10	ND		10
Selenium	**10**	ND		10	ND		10	ND		10
Silver	**50**	ND		10	ND		10	ND		10
Thallium	**0.5**	ND		2.0	ND		2.0	ND		2.0
Zinc	**2,000**	ND		20	ND		20	ND		20

Notes:

NYSDEC = New York State Department of Environmental Conservation

N/A = Not Applicable

MDL = Method Detection Limit

NS = No Standard available

ND = Analyzed for but Not Detected at the MDL

J = Estimated concentration

[1] = Metals results from filtered samples

* = Principal Organic Contaminant standard for groundwater.

** = No individual standard. Total phenolic compound standard (1.0 ppb) applies to the sum of these compounds.

*** = No individual standard. Total PCB standard (0.09 ppb) applies to the sum of these substances.

APPENDIX II:

WESTCHESTER COUNTY NO FURTHER ACTION LETTER DATED APRIL 27, 2009

Westchester gov.com

RECEIVED 4/29/09

Andrew J. Spano
County Executive

Department of Health

Joshua Lipsman, M.D., J.D., M.P.H.
Commissioner

April 27, 2009

Akzo-Nobel Inc
120 White Plains Road
Suite 300
Tarrytown, NY 10591

re: Akzo-Nobel, 1 Lawrence Street, Ardsley
PBS# 3-800132
DEC Spill # 0804121

Dear Sir/Madam:

The closure report, for the removal of the petroleum storage tanks at the above referenced site was received and reviewed by this Department:

Although residual semi-volatile organic compound (SVOC) contamination exceeding guidelines was detected in each of the four excavations, the results of the soil samples taken were generally satisfactory when compared with the New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum #4046. The remaining SVOC contamination may be attributable to the historic fill material used at the site.

At this time, this Department requires **no further action** as per the Westchester County Sanitary Code.

Information regarding this spill is being forwarded to the New York State Department of Environmental Conservation (NYSDEC) for appropriate action. Please note that in order to address and resolve this open spill case:
1) This Department acts pursuant to the Westchester County Sanitary Code,
2) The NYSDEC will act pursuant to New York State Laws and regulations (Article 12 of the Navigation Law/Environmental Conservation Law and implementing regulations).

If you have any further questions, please call me at (914) 813-5168.

Sincerely,

Stefan Goreau

Stefan Goreau
Sanitarian
Office of Environmental Health Risk Control
shg1@westchestergov.com

cc: File, WCDOH
J. O'Dee, NYSDEC
Sovereign Consulting Inc

Don't waste a drop!
Save water

APPENDIX III:

SOIL BORING AND MONITORING WELL LOGS

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	VES-1		
PROJECT:	Site Investigation	PROJECT NO.:	28366
LOCATION:	1 Lawrence St. Ardsley, NY	DRILLER:	Hawk
		INSPECTOR:	P. Crosby
INSTALLATION DATES	3/1/2014	PAGE	1 of 1

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	AMS	TYPE	Plastic	BARREL TYPE	NA	ELEVATION INFORMATION		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	DATUM:	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	TOC:	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			GS:	NA	ELEVATION (Ft):	

SAMPLE INFORMATION						SOIL DESCRIPTION	WELL CONST	PID (PPM)
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)			Background/ Actual
	0-5'	60/48"				0-36" FILL: Gravel with gray to black fine sand		0.00
								0.00
1								0.00
						36-42" FILL: Gravel with gray to black fine sand with wood debris, moist		0.00
2								0.00
						Soil Sample VES-1(2.5-4) collected at 2.5-4' for TCLP VOCs		0.00
3								0.00
								0.00
4						42-48" Black SANDY SILT with Gravel, moist		0.00
								0.00
5	5-10'	60/60"				0-48" M Light tan SAND with Gravel, moist		0.00
								0.00
6								0.00
								0.00
7						48-60" Dark Gray to blank SANDY SILT, moist		0.00
								0.00
8								0.00
								0.00
9								0.00
								0.00
10	10-15'	60/36				0-42" Dark Gray to blank SANDY SILT, moist		0.00
								0.00
11								0.00
						DTW: 11.5 feet BGS		0.00
12								0.00
								0.00
13								0.00
						42-48" Medium to large GRAVEL		0.00
14						Soil Sample VES-1(13-13.5) Collected at 13-13.5' for VOC+15		0.00
						48-60" Black SILTY CLAY with root material , Organic odor		0.00
15								
						VES-1GW - 1" Temp Well set at 15' BGS. 10' of Screen and 5' Riser		
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		SAND AND GRAVEL		SILT AND CLAY	
1 - 10%	Trace	Density	Blows (N)	Consistency	Blows (N)
10 - 20%	Little	Very loose	0 - 4	Very soft	<2
20 - 35%	Some	Loose	4 - 10	Soft	2 - 4
35 - 50%	And	Medium Dense	10 - 30	Medium Stiff	4 - 8
		Dense	30 - 50	Stiff	8 - 15
		Very Dense	>50	Very Stiff	15 - 30
				Hard	>30

LOCATION:	NA			WELL CONSTRUCTION
MONITORING WELL CONSTRUCTION DATA				Screen
DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	VES-2		
PROJECT:	Site Investigation	PROJECT NO.:	28366
LOCATION:	1 Lawrence St. Ardsley, NY	DRILLER:	Hawk
		INSPECTOR:	P. Crosby
INSTALLATION DATES	3/1/2014	PAGE	1 of 1

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	AMS	TYPE	Plastic	BARREL TYPE	NA	ELEVATION INFORMATION		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	DATUM:	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	TOC:	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			GS:	NA	ELEVATION (Ft):	

SAMPLE INFORMATION							
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	SOIL DESCRIPTION	WELL CONST	PID (PPM) Background/ Actual
	0-5'	60/42"				0-24" FILL: Red-orange fine sand, brick debris		0.00
								0.00
1								0.00
						24-30" FILL: Brown fine sand with concrete debris, moist		0.00
2						30-33" Red-orange fine sand, brick debris		0.00
								0.00
3						33-36" Black fine SAND with little SILT and small black gravel, moist		0.00
								0.00
4						36-39" White fine SAND with Gravel, moist		0.00
						39-42" Gray to black SILTY fine SAND with trace small GRAVEL, moist		0.00
5	5-10'	60/36"				0-12" Gray to black SILTY fine SAND with trace small GRAVEL, moist		0.00
								0.00
6								0.00
								0.00
7						12-36"Brown fine to medium SAND, micaceous, moist		0.00
								0.00
8								0.00
								0.00
9								0.00
								0.00
10	10-15'	60/36				0-24" Black SILT with trace fine SAND, wet		0.00
								0.00
11								0.00
						DTW: 11.8 feet BGS		0.00
12								0.00
								0.00
13								0.00
						24-36" Black SILTY CLAY, moist		0.00
14								0.00
								0.00
15								
						VES-2GW - 1" Temp Well set at 15' BGS. 10' of Screen and 5' Riser		
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		SAND AND GRAVEL		SILT AND CLAY	
1 - 10%	Trace	Density	Blows (N)	Consistency	Blows (N)
10 - 20%	Little	Very loose	0 - 4	Very soft	<2
20 - 35%	Some	Loose	4 - 10	Soft	2 - 4
35 - 50%	And	Medium Dense	10 - 30	Medium Stiff	4 - 8
		Dense	30 - 50	Stiff	8 - 15
		Very Dense	>50	Very Stiff	15 - 30
				Hard	>30

LOCATION:	NA		
MONITORING WELL CONSTRUCTION DATA			
DEPTH:	NA	DEPTH/TYPE PACK:	NA
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA
MATERIAL:	NA	BACKFILL MATERIAL:	NA
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA
LENGTH OF RISER:	NA		

WELL CONSTRUCTION

Screen
Riser
Concrete
Bentonite
Native
Sand
Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG				DESIGNATION	VES-3
VERTEX®	PROJECT:	**Site Investigation**		PROJECT NO.:	28366
	LOCATION:	**1 Lawrence St. Ardsley, NY**		DRILLER:	Hawk
				INSPECTOR:	P. Crosby
	INSTALLATION DATES	3/1/2014		PAGE	1 of 1

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS				
TYPE	AMS	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA	
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA	
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA	
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):		

SAMPLE INFORMATION						SOIL DESCRIPTION	WELL CONST	PID (PPM)
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)			Background/ Actual
	0-5'	60/36"				0-30" Gray to black SILTY fine SAND with trace small GRAVEL, moist		0.00
								0.00
1								0.00
						30-33" Browk SILTY CLAY, moist		0.00
2								0.00
								0.00
3						33-36" Brown fine SAND with trace medium GRAVEL		0.00
								0.00
4								0.00
								0.00
5	5-10'	60/30"				0-30" Brown fine SAND with trace medium GRAVEL		0.00
								0.00
6								0.00
								0.00
7								0.00
								0.00
8								0.00
								0.00
9								0.00
								0.00
10	10-15'	60/30"				0-24" Small to medium round GRAVEL with brown find SAND		0.00
								0.00
11								0.00
								0.00
12								0.00
						24-30" Brown fine SAND, wet		0.00
13								0.00
								0.00
14						DTW: 14 feet BGS		0.00
								0.00
15								
						VES-3GW - 1" Temp Well set at 15' BGS. 10' of Screen and 5' Riser		
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		SAND AND GRAVEL		SILT AND CLAY		LOCATION:	NA			WELL CONSTRUCTION
		Density	**Blows (N)**	**Consistency**	**Blows (N)**	MONITORING WELL CONSTRUCTION DATA				Screen
1 - 10%	**Trace**	**Very loose**	**0 - 4**	**Very soft**	**<2**	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
10 - 20%	**Little**	**Loose**	**4 - 10**	**Soft**	**2 - 4**	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
20 - 35%	**Some**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
35 - 50%	**And**	**Dense**	**30 - 50**	**Stiff**	**8 - 15**	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	**>50**	**Very Stiff**	**15 - 30**	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	**>30**	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VES-4**		
PROJECT:	**Site Investigation**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	Hawk
		INSPECTOR:	P. Crosby
INSTALLATION DATES	3/1/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	AMS	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/18"				0-18" FILL: Gravel with tank fine sand		0.00
								0.00
1								0.00
								0.00
2								0.00
								0.00
3								0.00
								0.00
4								0.00
								0.00
5	5-10'	60/0"				No Recovery, sample sleeve filled with water		0.00
								0.00
6								0.00
								0.00
7								0.00
						DTW 7.7 feet bgs		0.00
8								0.00
								0.00
9								0.00
								0.00
10						Refusal at 10' bgs		0.00
								0.00
11						VES-4GW - 1" Temp Well set at 10' BGS with 10' of Screen		0.00
								0.00
12								0.00
								0.00
13								0.00
								0.00
14								0.00
								0.00
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**	
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**
		Dense	**30 - 50**	**Stiff**	**8 - 15**
		Very Dense	**>50**	**Very Stiff**	**15 - 30**
				Hard	**>30**

LOCATION:	NA			**WELL CONSTRUCTION**
MONITORING WELL CONSTRUCTION DATA				Screen
DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	VES-5		
PROJECT:	Site Investigation	PROJECT NO.:	28366
LOCATION:	1 Lawrence St. Ardsley, NY	DRILLER:	Hawk
		INSPECTOR:	P. Crosby
INSTALLATION DATES	3/1/2014	PAGE	1 of 1

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	AMS	TYPE	Plastic	BARREL TYPE	NA	ELEVATION INFORMATION		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	DATUM:	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	TOC:	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			GS:	NA	ELEVATION (Ft):	

SAMPLE INFORMATION						SOIL DESCRIPTION	WELL CONST	PID (PPM)
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)			Background/ Actual
	0-5'	60/48"				0-36" Brown to light brown fine SAND with trace SILT and GRAVEL		0.00
								0.00
1								0.00
								0.00
2								0.00
								0.00
3						36-48"FILL Red to orange-red fine SAND with brick debris		0.00
						Soil sample VES-5 (PCBs, pesticides. SVOCs, metals aliquot) collected		0.00
4						from 3.25 to 4' bgs		0.00
								0.00
5	5-10'	60/30"				0-12" Brown medium to coarse SAND with trace fine GRAVEL		0.00
						VOC Fraction of soil sample VES-5 collected at 5.5-6' bgs		0.00
6						12-18" Brown fine SAND with trace SILT, wet @ 6' bgs		0.00
								0.00
7								0.00
								0.00
8						DTW 7.99 feet bgs		0.00
								0.00
9								0.00
								0.00
10	10-15'	60/48"						0.00
								0.00
11								0.00
						0-48" Brown fine SAND with trace SILT, wet		0.00
12								0.00
								0.00
13								0.00
								0.00
14								0.00
								0.00
15								
						VES-5GW - 1" Temp Well set at 15' BGS. 10' of Screen and 5' Riser		
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		SAND AND GRAVEL		SILT AND CLAY	
1 - 10%	Trace	Density	Blows (N)	Consistency	Blows (N)
10 - 20%	Little	Very loose	0 - 4	Very soft	<2
20 - 35%	Some	Loose	4 - 10	Soft	2 - 4
35 - 50%	And	Medium Dense	10 - 30	Medium Stiff	4 - 8
		Dense	30 - 50	Stiff	8 - 15
		Very Dense	>50	Very Stiff	15 - 30
				Hard	>30

LOCATION:	NA			WELL CONSTRUCTION
MONITORING WELL CONSTRUCTION DATA				Screen
DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	VES-6		
PROJECT:	Site Investigation	PROJECT NO.:	28366
LOCATION:	1 Lawrence St. Ardsley, NY	DRILLER:	Hawk
		INSPECTOR:	P. Crosby
INSTALLATION DATES	3/1/2014	PAGE	1 of 1

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	AMS	TYPE	Plastic	BARREL TYPE	NA	ELEVATION INFORMATION		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	DATUM:	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	TOC:	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			GS:	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	SOIL DESCRIPTION	WELL CONST	PID (PPM) Background/ Actual
	0-5'	60/36"				0-12" FILL Red to orange-red fine SAND with brick debris		0.00
								0.00
1								0.00
								0.00
2						24-32"FILL Gray to brown fine to medium sand with SILT and GRAVEL		0.00
						Soil sample VES-6 collected from 2-4' bgs, soil sample collected for waste class		0.00
3						composite		0.00
								0.00
4						32-36" Wood debris		0.00
								0.00
5	5-10'	60/36"						0.00
								0.00
6						0-36" Brown to tan fineSAND with fine GRAVEL		0.00
								0.00
7								0.00
						30-36" Black fine SAND with trace SILT, wet		0.00
8								0.00
								0.00
9								0.00
								0.00
10	10-15'	60/36"						0.00
						0-36" Black fine SAND with trace SILT, wet		0.00
11								0.00
								0.00
12								0.00
								0.00
13								0.00
								0.00
14								0.00
								0.00
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		SAND AND GRAVEL		SILT AND CLAY	
1 - 10%	Trace	Density	Blows (N)	Consistency	Blows (N)
10 - 20%	Little	Very loose	0 - 4	Very soft	<2
20 - 35%	Some	Loose	4 - 10	Soft	2 - 4
35 - 50%	And	Medium Dense	10 - 30	Medium Stiff	4 - 8
		Dense	30 - 50	Stiff	8 - 15
		Very Dense	>50	Very Stiff	15 - 30
				Hard	>30

LOCATION:	NA			WELL CONSTRUCTION
MONITORING WELL CONSTRUCTION DATA				Screen
DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	VES-7		
PROJECT:	Site Investigation	PROJECT NO.:	28366
LOCATION:	1 Lawrence St. Ardsley, NY	DRILLER:	Hawk
		INSPECTOR:	P. Crosby
INSTALLATION DATES	3/1/2014	PAGE	1 of 1

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	AMS	TYPE	Plastic	BARREL TYPE	NA	ELEVATION INFORMATION		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	DATUM:	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	TOC:	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			GS:	NA	ELEVATION (Ft):	

SAMPLE INFORMATION						SOIL DESCRIPTION	WELL CONST	PID (PPM)
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)			Background/ Actual
	0-5'	60/36"				0-6" CONCRETE		0.00
								0.00
1								0.00
								0.00
2						6-36"FILL Gray to brown fine to medium sand with SILT and GRAVEL		0.00
						Soil sample VES-7 collected from 2-36' bgs, soil sample collected for waste class		0.00
3						composite		0.00
								0.00
4								0.00
								0.00
5	5-10'	60/36"						0.00
								0.00
6						0-36" Brown to tan fine to medium SAND with fine GRAVEL		0.00
								0.00
7								0.00
								0.00
8								0.00
								0.00
9								0.00
								0.00
10	10-15'	60/24"						0.00
						0-12" Brown to tan fine to medium SAND with fine GRAVEL, moist		0.00
11						Collect VOC fraction of soil sample VES-7 from 10' bgs		0.00
								0.00
12						12-24" Black fine, micaceous SAND, wet		0.00
								0.00
13								0.00
								0.00
14								0.00
								0.00
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		SAND AND GRAVEL		SILT AND CLAY		LOCATION:	NA			WELL CONSTRUCTION
1 - 10%	Trace	Density	Blows (N)	Consistency	Blows (N)	MONITORING WELL CONSTRUCTION DATA				Screen
10 - 20%	Little	Very loose	0 - 4	Very soft	<2	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
20 - 35%	Some	Loose	4 - 10	Soft	2 - 4	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
35 - 50%	And	Medium Dense	10 - 30	Medium Stiff	4 - 8	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
		Dense	30 - 50	Stiff	8 - 15	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	>50	Very Stiff	15 - 30	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	>30	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	VES-8		
PROJECT:	Site Investigation	PROJECT NO.:	28366
LOCATION:	1 Lawrence St. Ardsley, NY	DRILLER:	Hawk
		INSPECTOR:	P. Crosby
INSTALLATION DATES	3/1/2014	PAGE	1 of 1

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	AMS	TYPE	Plastic	BARREL TYPE	NA	ELEVATION INFORMATION		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	DATUM:	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	TOC:	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			GS:	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	SOIL DESCRIPTION	WELL CONST	PID (PPM) Background/ Actual
	0-5'	60/36"				0-10" CONCRETE		0.00
								0.00
1								0.00
						Soil sample VES-8 for PCB / TPHC / SVOC analysis collected from 1-2' bgs interval		0.00
2						10-36"FILL Gray to brown fine to medium sand with SILT and GRAVEL		0.00
						Soil sample for waste class composite collected from 1-3 bgs		0.00
3								0.00
								0.00
4								0.00
								0.00
5	5-10'	60/24"						0.00
								0.00
6						0-24" Brown fine SAND with fine GRAVEL		0.00
								0.00
7								0.00
						30-36" Black fine SAND with trace SILT, wet		0.00
8								0.00
								0.00
9								0.00
								0.00
10	10-15'	60/36"						0.00
								0.00
11								0.00
								0.00
12						0-36" Brown fine to medium sand with trace fine GRAVEL, wet at 14 feet bgs		0.00
								0.00
13								0.00
								0.00
14								0.00
								0.00
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		SAND AND GRAVEL		SILT AND CLAY	
1 - 10%	Trace	Density	Blows (N)	Consistency	Blows (N)
10 - 20%	Little	Very loose	0 - 4	Very soft	<2
20 - 35%	Some	Loose	4 - 10	Soft	2 - 4
35 - 50%	And	Medium Dense	10 - 30	Medium Stiff	4 - 8
		Dense	30 - 50	Stiff	8 - 15
		Very Dense	>50	Very Stiff	15 - 30
				Hard	>30

LOCATION:	NA			WELL CONSTRUCTION
MONITORING WELL CONSTRUCTION DATA				Screen
DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-1**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/16/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/24"				0-12" Crushed CONCRETE		0.00
						12-24" M to F Light Brown SAND, Trace Gravel		0.00
1								
2								
3								
4								
5	5-10'	60/30"				0-24" M Light tan SAND with Gravel		0.00
						24-30" Coarse grey SAND with Gravel		0.00
6								
7								
8								
9								
10	10-15'	60/42				0-18" Light grey SANDY SILT, Moist		0.00
						18-42" Dark grey SANDY SILT,Wet		0.00
11						Sample Collected at 11.5-12' for VOC+15		0.00
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
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26								
27								
28								
29								

MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**	
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**
		Dense	**30 - 50**	**Stiff**	**8 - 15**
		Very Dense	**>50**	**Very Stiff**	**15 - 30**
				Hard	**>30**

LOCATION:	NA			**WELL CONSTRUCTION**
MONITORING WELL CONSTRUCTION DATA				Screen
DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-2**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/16/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION						**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)**
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)			Background/ Actual
	0-5'	60/30"				0-6" Organic TOPSOIL, roots, no odor, no staining, moist		0.00
						6-18" Brown M SAND with Gravel		0.00
1						18-30" Reddish Brown M SAND with Gravel		0.00
2								
3								
4								
5	5-10'	60/18"				0-12" Crushed CONCRETE		0.00
						12-18" GRAVEL and trace Sandy Silt, wet		0.00
6								
7								
8								
9								
10	10-15'	60/48				0-18" F tan SAND, Moist		0.00
						18-48" Dark grey SANDY SILT,Wet		7.70
11						Sample Collected at 11.5-12' for VOC+15		7.70
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**	
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**
		Dense	**30 - 50**	**Stiff**	**8 - 15**
		Very Dense	**>50**	**Very Stiff**	**15 - 30**
				Hard	**>30**

LOCATION:	NA			**WELL CONSTRUCTION**
MONITORING WELL CONSTRUCTION DATA				Screen
DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

VERTEX®			DESIGNATION	VB-3	
	PROJECT:	Soil Disposal Pre-Characterization	PROJECT NO.:	28366	
	LOCATION:	1 Lawrence St. Ardsley, NY	DRILLER:	PAL	
			INSPECTOR:	R.Dowling	
	INSTALLATION DATES	4/16/2014	PAGE	1 of 1	

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	ELEVATION INFORMATION		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	DATUM:	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	TOC:	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			GS:	NA	ELEVATION (Ft):	

SAMPLE INFORMATION						SOIL DESCRIPTION	WELL CONST	PID (PPM)
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)			Background/ Actual
	0-5'	60/12"				0-6" Organic TOPSOIL, Roots, Moist		0.00
						6-12" Brown M SAND		0.00
1								
2								
3								
4								
5	5-10'	60/36"				0-18" Brown M SAND & Gravel		0.00
						18-36" Light Tan M to F SAND, some small Gravel		0.00
6								
7								
8								
9								
10	10-15'	60/60"				0-24" Light Grey SANDY SILT, Moist		0.00
						24-60" Dark Grey SANDY SILT,Wet		0.00
11						Sample Collected at 11.5 - 12' for VOC+15		0.00
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		SAND AND GRAVEL		SILT AND CLAY		LOCATION:	NA			WELL CONSTRUCTION
1 - 10%	Trace	Density	Blows (N)	Consistency	Blows (N)	MONITORING WELL CONSTRUCTION DATA				Screen
10 - 20%	Little	Very loose	0 - 4	Very soft	<2	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
20 - 35%	Some	Loose	4 - 10	Soft	2 - 4	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
35 - 50%	And	Medium Dense	10 - 30	Medium Stiff	4 - 8	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
		Dense	30 - 50	Stiff	8 - 15	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	>50	Very Stiff	15 - 30	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	>30	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-4**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/17/2014	PAGE	1 of 1

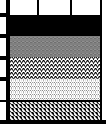
SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/12"				0-12" Light Tan M Coarse SAND		0.00
1								
2								
3								
4								
5	5-10'	60/30"				0-30" Light Tan M Coarse SAND, Some Gravel		0.00
6								
7								
8								
9								
10	10-15'	60/36"				0-6" Light Tan M SAND		0.00
						6-18" Light Grey F SAND and Gravel, Moist		0.00
11						18-24" Dark Grey F SAND, Wet		0.00
						24-26" Tan FSAND, Wet		0.10
12								
13								
						Sample Collected at 13.5 0-14 for VOC+15		
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**	
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**
		Dense	**30 - 50**	**Stiff**	**8 - 15**
		Very Dense	**>50**	**Very Stiff**	**15 - 30**
				Hard	**>30**

LOCATION:	NA		
MONITORING WELL CONSTRUCTION DATA			
DEPTH:	NA	DEPTH/TYPE PACK:	NA
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA
MATERIAL:	NA	BACKFILL MATERIAL:	NA
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA
LENGTH OF RISER:	NA		

WELL CONSTRUCTION



NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-5**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/16/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/18"				0-6" Dark Brown M SAND, Vegetation		0.00
						6-18" Crushed CONCRETE and brick material		0.00
1								
2								
3								
4								
5	5-10'	60/12"				0-12" Crushed CONCRETE		0.00
6								
7								
8								
9								
10	10-15'	60/24				0-24" Dark grey F SANDY SILT, Moist, Sheet and petroluem odor		16.20
						Sample Collected at 13.5 0-14 for VOC+15		
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**		**LOCATION:**	NA			**WELL CONSTRUCTION**
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**	**MONITORING WELL CONSTRUCTION DATA**				Screen
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
		Dense	**30 - 50**	**Stiff**	**8 - 15**	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	**>50**	**Very Stiff**	**15 - 30**	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	**>30**	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-6**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/16/2014	PAGE	1 of 1

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	ELEVATION INFORMATION		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	SOIL DESCRIPTION	WELL CONST	PID (PPM) Background/ Actual
	0-5'	60/24"				0-12" Dark Brown M SAND, Some gravel		0.00
						12-24" Crushed CONCRETE		0.00
1								
2								
3								
4								
5	5-10'	60/24"				0-12" Light Tan M SAND, Trace Gravel		0.00
						12-24" Dark Brown M SAND		0.00
6								
7								
8								
9								
10	10-15'	60/30				0-12" Dark Brown M to F SAND and Gravel, Moist, Sheen and Petroleum Odor		
						12-30" Dark Grey F SAND, Wet		102.10
11						Sample Collected at 13.5-14' for VOC+15, TPH DRO		
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		SAND AND GRAVEL		SILT AND CLAY	
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**
		Dense	**30 - 50**	**Stiff**	**8 - 15**
		Very Dense	**>50**	**Very Stiff**	**15 - 30**
				Hard	**>30**

LOCATION:	NA			WELL CONSTRUCTION
MONITORING WELL CONSTRUCTION DATA				Screen
DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-7**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/16/2014	PAGE	1 of 1

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	ELEVATION INFORMATION		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								PID (PPM)
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	SOIL DESCRIPTION	WELL CONST	Background/ Actual
	0-5'	60/30"				0-6" Organic TOPSOIL, Moist		0.00
						6-18" Crushed CONCRETE and Gravel, Some Brick		0.00
1						18-30" WOOD debris and Brick		0.00
2								
3								
4								
5	5-10'	60/24"				0-6" 3/4" GRAVEL and Wood Debris		0.00
						6-20" Crushed CONCRETE		0.00
6						20-24" M Tan SAND		0.00
7								
8								
9								
10	10-15'	60/48				0-12" Dark Brown SAND and Gravel		0.00
						12-18" Light Grey F SAND		0.00
11						18-36" Brown F SAND , Moist		0.00
						36-48" Dark Grey SANDY SILT		0.00
12						Sample Collected at 13.5-14' for VOC + 15		0.00
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		SAND AND GRAVEL		SILT AND CLAY	
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**
		Dense	**30 - 50**	**Stiff**	**8 - 15**
		Very Dense	**>50**	**Very Stiff**	**15 - 30**
				Hard	**>30**

LOCATION:	NA			WELL CONSTRUCTION
MONITORING WELL CONSTRUCTION DATA				Screen
DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-8**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/17/2014	PAGE	1 of 1

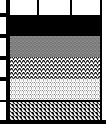
SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/30"				0-4" Crushed Concrete		
						4-10" Dark Brown SAND with Gravel		
1						10-12" Crushed CONCRETE		
						12-30"Dark Brown & Brown Coarse SAND		
2						Sample Collected at 0-2' for PCBs		0.30
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**	
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**
		Dense	**30 - 50**	**Stiff**	**8 - 15**
		Very Dense	**>50**	**Very Stiff**	**15 - 30**
				Hard	**>30**

LOCATION:	NA		
MONITORING WELL CONSTRUCTION DATA			
DEPTH:	NA	DEPTH/TYPE PACK:	NA
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA
MATERIAL:	NA	BACKFILL MATERIAL:	NA
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA
LENGTH OF RISER:	NA		

WELL CONSTRUCTION



NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-9**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/17/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**	DATE:	NA	
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:** NA	TIME:	NA	
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:** NA	DEPTH (Ft):	NA	
FALL (IN.)	NA	LENGTH	5'			**GS:** NA	ELEVATION (Ft):		

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/30"				0-12" Brown F SAND,Vegetation, Moist		
						12-30" Dark Brown SAND with Gravel, Some Concrete		
1						Sample Collected at 0-2' for Pesticides		0.20
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**		**LOCATION:**	NA			**WELL CONSTRUCTION**
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**	**MONITORING WELL CONSTRUCTION DATA**				Screen
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
		Dense	**30 - 50**	**Stiff**	**8 - 15**	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	**>50**	**Very Stiff**	**15 - 30**	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	**>30**	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

VERTEX®

DESIGNATION	VB-10		
PROJECT:	Soil Disposal Pre-Characterization	PROJECT NO.:	28366
LOCATION:	1 Lawrence St. Ardsley, NY	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/17/2014	PAGE	1 of 1

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	ELEVATION INFORMATION		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	DATUM:	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	TOC:	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			GS:	NA	ELEVATION (Ft):	

SAMPLE INFORMATION						SOIL DESCRIPTION	WELL CONST	PID (PPM)
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)			Background/ Actual
	0-5'	60/24"				0-6" Crushed CONRETE		
						6-24" Dark Brown M to F Sand, Some Gravel		
1						Sample Collected at 0-2' for PCBs		0.00
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
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MODIFIER		SAND AND GRAVEL		SILT AND CLAY		LOCATION:	NA			WELL CONSTRUCTION
1 - 10%	Trace	Density	Blows (N)	Consistency	Blows (N)	MONITORING WELL CONSTRUCTION DATA				Screen
10 - 20%	Little	Very loose	0 - 4	Very soft	<2	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
20 - 35%	Some	Loose	4 - 10	Soft	2 - 4	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
35 - 50%	And	Medium Dense	10 - 30	Medium Stiff	4 - 8	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
		Dense	30 - 50	Stiff	8 - 15	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	>50	Very Stiff	15 - 30	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	>30	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-11**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/17/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/30"				0-6" Crushed CONCRETE		
						6-12" GRAVEL and Dark Brown Sand		
1						12-30" Tan M SAND with Gravel		
						Sample Collected at 0-2' for PCBs		0.00
2								
3								
4								
5								
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7								
8								
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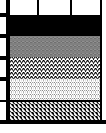
MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**	
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**
		Dense	**30 - 50**	**Stiff**	**8 - 15**
		Very Dense	**>50**	**Very Stiff**	**15 - 30**
				Hard	**>30**

LOCATION:	NA		
MONITORING WELL CONSTRUCTION DATA			
DEPTH:	NA	DEPTH/TYPE PACK:	NA
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA
MATERIAL:	NA	BACKFILL MATERIAL:	NA
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA
LENGTH OF RISER:	NA		

WELL CONSTRUCTION



NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-12**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/18/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/30"				0-3" Brown M SAND with Brick		
						3-21" Dark Brown M SAND with Gravel, Some Coal		
1						21-30" Brown M SAND, Some Gravel		
						Sample Collected from 0-1.5' for PCBs		0.00
2						Sample Collected from 2.5-4' for VOC+15		0.00
3								
4								
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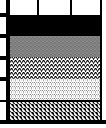
MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**	
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**
		Dense	**30 - 50**	**Stiff**	**8 - 15**
		Very Dense	**>50**	**Very Stiff**	**15 - 30**
				Hard	**>30**

LOCATION:	NA		
MONITORING WELL CONSTRUCTION DATA			
DEPTH:	NA	DEPTH/TYPE PACK:	NA
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA
MATERIAL:	NA	BACKFILL MATERIAL:	NA
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA
LENGTH OF RISER:	NA		

WELL CONSTRUCTION



NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-13**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/17/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/18"				0-6" Crushed CONcRETE		
						6-12" Brown M to F SaND		
1						12-18" Brown M SAND		
						Sample Collected at 0-1.5' for PCBs		0.80
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3								
4								
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MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**		**LOCATION:**	NA			**WELL CONSTRUCTION**
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**	**MONITORING WELL CONSTRUCTION DATA**				Screen
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
		Dense	**30 - 50**	**Stiff**	**8 - 15**	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	**>50**	**Very Stiff**	**15 - 30**	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	**>30**	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-14**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/17/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/18"				0-6" Brown M SAND with Gravel		
						6-9" Dark Brown SAND with Gravel		
1						12-15" Coal or Carbon Material		
						15-18" Light Tan M SAND		0.00
2						Sample Collected at 0-1.5' for PCBs		
3						VES-9 GW - 1" Temp Well set at 20' BGS. 10' of Screen and 10' Riser		
						No soil samples collected from 5' bgs to 20 bgs. Temp well installed via direct		
4						push		
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
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22								
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MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**		**LOCATION:**	NA			**WELL CONSTRUCTION**
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**	**MONITORING WELL CONSTRUCTION DATA**				Screen
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
		Dense	**30 - 50**	**Stiff**	**8 - 15**	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	**>50**	**Very Stiff**	**15 - 30**	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	**>30**	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VES-14**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/17/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	4/17/2014
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	8:35
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	20'
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION							
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/36"				0-4" Asphalt		
						4-28" Light tan F SAND, Moist		
1						28-36" Tan M SAND, Some Gravel		0.00
2								
3								
4								
5	5-10'	60/30"				0-30" Tan M SAND, Some Gravel		0.00
6								
7								
8								
9								
10	10-15'	60/42"				0-6" Tan M SAND, Moist		0.00
						6-42" Light Tan F SAND, Moist		0.00
11						1" Temp Well set at 20' BGS. 10' of Screen and 10' Riser		
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**	
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**
		Dense	**30 - 50**	**Stiff**	**8 - 15**
		Very Dense	**>50**	**Very Stiff**	**15 - 30**
				Hard	**>30**

LOCATION:	NA			**WELL CONSTRUCTION**
MONITORING WELL CONSTRUCTION DATA				Screen
DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VES-1 GWA**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/18/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/30"				0-12" Brown F SAND, Trace Gravel		
						12-30" Dark Brown M SAND with Gravel, Some Brick, Trace Coal or Carbon		
1								
						Sample Collected at 0-2' for PCBs		25.20
2								
						VES-1 - 1" Temp Well set at 45' BGS. 20' of Screen and 20' Riser		
3						No soil samples collected from 5-45' bgs. Temp well installed via direct push		
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
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29								

MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**		**LOCATION:**	NA			**WELL CONSTRUCTION**
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**	**MONITORING WELL CONSTRUCTION DATA**				Screen
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
		Dense	**30 - 50**	**Stiff**	**8 - 15**	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	**>50**	**Very Stiff**	**15 - 30**	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	**>30**	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-15**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/18/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/30"				0-6" Reddish Brown SAND and Gravel, Some Crushed Concrete		
						6-24" Dark Brown Coarse SAND with Carbon Material		
1						24-30" Tan M SAND with Gravel		
						28-36" Grey M to F SAND, Some Gravel		
2						Sample Collected from 0-1.5' for Pesticides		0.00
3								
4								
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7								
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MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**		**LOCATION:**	NA			**WELL CONSTRUCTION**
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**	**MONITORING WELL CONSTRUCTION DATA**				Screen
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
		Dense	**30 - 50**	**Stiff**	**8 - 15**	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	**>50**	**Very Stiff**	**15 - 30**	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	**>30**	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-16**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/18/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/36"				0-12" Brown & Red M SAND and Crushed Brick		
						12-24" Grey M SAND and Gravel		
1						24-36" Dark Brown M to F SAND, Some Gravel		
						Sample Collected from 0-1.5' for Pesticides		0.00
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**		**LOCATION:**	NA			**WELL CONSTRUCTION**
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**	**MONITORING WELL CONSTRUCTION DATA**				Screen
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
		Dense	**30 - 50**	**Stiff**	**8 - 15**	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	**>50**	**Very Stiff**	**15 - 30**	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	**>30**	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

VERTEX®

DESIGNATION	VB-17		
PROJECT:	Soil Disposal Pre-Characterization	PROJECT NO.:	28366
LOCATION:	1 Lawrence St. Ardsley, NY	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/17/2014	PAGE	1 of 1

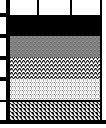
SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	ELEVATION INFORMATION		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	DATUM:	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	TOC:	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			GS:	NA	ELEVATION (Ft):	

SAMPLE INFORMATION						SOIL DESCRIPTION	WELL CONST	PID (PPM)
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)			Background/ Actual
	0-5'	60/18"				0-8" Brown M SAND and Gravel		
						8-10" M Coarse SAND, Some Gravel		103.10
1								
2								
3								
4								
5	5-10'	60/36"				0-36" M to F SAND, Some Gravel		25.90
6								
7								
8								
9								
10	10-15'	60/36				0-6" Tan M to F SAND, Moist		
						6-30" Tan F SAND, Trace Gravel, Wet		
11						Sample Collected at 13.5-14' for VOC+15		26.80
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		SAND AND GRAVEL		SILT AND CLAY	
1 - 10%	Trace	Density	Blows (N)	Consistency	Blows (N)
10 - 20%	Little	Very loose	0 - 4	Very soft	<2
20 - 35%	Some	Loose	4 - 10	Soft	2 - 4
35 - 50%	And	Medium Dense	10 - 30	Medium Stiff	4 - 8
		Dense	30 - 50	Stiff	8 - 15
		Very Dense	>50	Very Stiff	15 - 30
				Hard	>30

LOCATION:	NA		
MONITORING WELL CONSTRUCTION DATA			
DEPTH:	NA	DEPTH/TYPE PACK:	NA
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA
MATERIAL:	NA	BACKFILL MATERIAL:	NA
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA
LENGTH OF RISER:	NA		

WELL CONSTRUCTION



NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-18**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/17/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/42"				0-6" Asphalt		
						6-12" Crushed CONCRETE		
1						12-30" Urban Fill containing Dark Brown SAND and COAL		
						30-42" Light Tan M to F SAND, Some Gravel		0.00
2						Sample Collected at 0-2' for PCBs		
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**		**LOCATION:**	NA			**WELL CONSTRUCTION**
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**	**MONITORING WELL CONSTRUCTION DATA**				Screen
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
		Dense	**30 - 50**	**Stiff**	**8 - 15**	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	**>50**	**Very Stiff**	**15 - 30**	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	**>30**	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-20**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/16/2014	PAGE	1 of 1

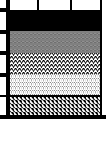
SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/36"				0-12" Crushed BRICK and Concrete		0.00
						12-36" Dark Brown and Light Tan M SAND, Some Concrete		0.00
1						18-30" M Reddish Brown SAND with Gravel		0.00
2								
3								
4								
5	5-10'	60/18"				0-18" Light Grey SANDY SILT, Moist		0.00
6								
7								
8								
9								
10	10-15'	60/42				0-12" Light Grey SANDY SILT, Moist		
						12-30" Dark Grey SANDY SILT, Moist		17.60
11						Sample Collected at 11.5-12' for VOC+15		17.60
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**	
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**
		Dense	**30 - 50**	**Stiff**	**8 - 15**
		Very Dense	**>50**	**Very Stiff**	**15 - 30**
				Hard	**>30**

LOCATION:	NA		
MONITORING WELL CONSTRUCTION DATA			
DEPTH:	NA	DEPTH/TYPE PACK:	NA
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA
MATERIAL:	NA	BACKFILL MATERIAL:	NA
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA
LENGTH OF RISER:	NA		

WELL CONSTRUCTION



NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-21**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/16/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/18"				0-18" Light Grey and Tan SAND, some Gravel, trace Coal		0.00
1								
2								
3								
4								
5	5-10'	60/30"				0-30" Light Brown SAND with Gravel		0.00
6								
7								
8								
9								
10	10-15'	60/36"				0-15" Light Grey SANDY SILT, Moist		0.00
						15-36" Dark Grey SsANDY SILT,Wet		0.00
11						Sample Collected at 11.5 - 12' for VOC+15		0.00
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**	
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**
		Dense	**30 - 50**	**Stiff**	**8 - 15**
		Very Dense	**>50**	**Very Stiff**	**15 - 30**
				Hard	**>30**

LOCATION:	NA			**WELL CONSTRUCTION**
MONITORING WELL CONSTRUCTION DATA				Screen
DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VB-22**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/18/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/36"				0-12" Brown Coarse SAND and Brick		
						12-16" Light Grey M to F SAND		
1						16-28" Light Grey SAND and Crushed Concrete		
						28-36" Grey M to F SAND, Some Gravel		
2						Sample Collected from 0-1.5' for Pesticides		0.00
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**		**LOCATION:**	NA			**WELL CONSTRUCTION**
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**	**MONITORING WELL CONSTRUCTION DATA**				Screen
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
		Dense	**30 - 50**	**Stiff**	**8 - 15**	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	**>50**	**Very Stiff**	**15 - 30**	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	**>30**	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

VERTEX®

DESIGNATION	SB-38A		
PROJECT:	Soil Disposal Pre-Characterization	PROJECT NO.:	28366
LOCATION:	1 Lawrence St. Ardsley, NY	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/16/2014	PAGE	1 of 1

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	ELEVATION INFORMATION		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	DATUM:	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	TOC:	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			GS:	NA	ELEVATION (Ft):	

SAMPLE INFORMATION						SOIL DESCRIPTION	WELL CONST	PID (PPM)
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)			Background/ Actual
	0-5'	60/12"				0-6" Organic TOPSOIL, Moist		0.00
						6-12" M Tan SAND		0.00
1								
2								
3								
4								
5	5-10'	60/30"				0-30" Light Grey M SAND with Gravel		0.00
6								
7								
8								
9								
10	10-15'	60/60				0-60" Dark Grey SANDY SILT		0.00
11								
12								
13								
14								
15	15-20'	60/60				0-60" Dark Grey SANDY SILT		0.00
						Sample Collected at 15-15.5' for VOC+15		0.00
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		SAND AND GRAVEL		SILT AND CLAY	
1 - 10%	Trace	Density	Blows (N)	Consistency	Blows (N)
10 - 20%	Little	Very loose	0 - 4	Very soft	<2
20 - 35%	Some	Loose	4 - 10	Soft	2 - 4
35 - 50%	And	Medium Dense	10 - 30	Medium Stiff	4 - 8
		Dense	30 - 50	Stiff	8 - 15
		Very Dense	>50	Very Stiff	15 - 30
				Hard	>30

LOCATION:	NA			WELL CONSTRUCTION
MONITORING WELL CONSTRUCTION DATA				Screen
DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**SB-53A**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/16/2014	PAGE	1 of 1

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	ELEVATION INFORMATION		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								PID (PPM)
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	SOIL DESCRIPTION	WELL CONST	Background/ Actual
	0-5'	60/30"				0-6" BRICK, Some M Grey Sand		0.00
						6-18" Light Tan M SAND and Gravel		0.00
1						18-30" Light Grey M SAND and Gravel		0.00
						Sample Collected at 2.5-4' for VOC+15		
2								
3								
4								
5	5-10'	60/18"				0-12" Crushed CONCRETE, Trace Coal		0.00
						12-18" M Tan SAND, Moist		0.00
6								
7								
8								
9								
10	10-15'	60/30				0-12" Light Tan F SAND, Moist		0.00
						12-30" Dark Grey SANDY Silt, Wet		0.00
11								
12								
13								
14								
15	15-20'	60/48				0-48" Dark grey SANDY SILT		
						Sample Collected 16.5-17' for VOC+15		6.30
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

MODIFIER		SAND AND GRAVEL		SILT AND CLAY	
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**
		Dense	**30 - 50**	**Stiff**	**8 - 15**
		Very Dense	**>50**	**Very Stiff**	**15 - 30**
				Hard	**>30**

LOCATION:	NA			WELL CONSTRUCTION
MONITORING WELL CONSTRUCTION DATA				Screen
DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**SB-74A**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/17/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION								
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)	**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)** Background/ Actual
	0-5'	60/36"				0-6" Crushed CONCRETE and Gravel		
						6-36" Dark Brown Coarse SAND, Some Gravel, Trace Coal		
1						Sample Collected at 3.5-4 for PCBs		0.00
2								
3								
4								
5	5-10'	60/24"				0-8" Light Tan M SAND		
						8-14" Dark Brown M to F SAND, Moist		
6						14-24" Dark Brown M to F SAND, Wet		
						Sample Collected at 5.5-6' for PCBs		0.00
7								
						SB-74 GW - 1" Temp Well set at 20' BGS. 10' of Screen and 10' Riser		
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MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**		**LOCATION:**	NA			**WELL CONSTRUCTION**
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**	**MONITORING WELL CONSTRUCTION DATA**				Screen
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
		Dense	**30 - 50**	**Stiff**	**8 - 15**	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	**>50**	**Very Stiff**	**15 - 30**	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	**>30**	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

VERTEX®

DESIGNATION	SB-64		
PROJECT:	Soil Disposal Pre-Characterization	PROJECT NO.:	28366
LOCATION:	1 Lawrence St. Ardsley, NY	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/18/2014	PAGE	1 of 1

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	ELEVATION INFORMATION		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	DATUM:	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	TOC:	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			GS:	NA	ELEVATION (Ft):	

SAMPLE INFORMATION						SOIL DESCRIPTION	WELL CONST	PID (PPM)
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)			Background/ Actual
	0-5'	60/42"				0-6" BRICK and Gravel		
						6-12" Brown F SAND, Some Gravel		
1						12-18" Dark Brown Coarse SAND, Some Carbon Material		
						18-30" Reddish Brown F SAND, Trace Gravel		
2						30-42" Brown Silty SAND, Moist		
						Sample Collected from 2.5-4' for VOC+15		0.00
3						Sample Collected from 3.5-4' for PCBs		0.00
4								
5								
6								
7								
8								
9								
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MODIFIER		SAND AND GRAVEL		SILT AND CLAY		LOCATION:	NA			WELL CONSTRUCTION
1 - 10%	Trace	Density	Blows (N)	Consistency	Blows (N)	MONITORING WELL CONSTRUCTION DATA				Screen
10 - 20%	Little	Very loose	0 - 4	Very soft	<2	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
20 - 35%	Some	Loose	4 - 10	Soft	2 - 4	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
35 - 50%	And	Medium Dense	10 - 30	Medium Stiff	4 - 8	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
		Dense	30 - 50	Stiff	8 - 15	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	>50	Very Stiff	15 - 30	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	>30	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VES-10 GW**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/17/2014	PAGE	1 of 1

SAMPLER		**CASING**		**CORE**		**GROUNDWATER DEPTH MEASUREMENTS**			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION						**SOIL DESCRIPTION**	**WELL CONST**	**PID (PPM)**
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)			Background/ Actual
						Temporary well installed via direct push. No soil samples collected		
1								0.00
2						VES-10 GW - 1" Temp Well set at 20' BGS. 10' of Screen and 10' Riser		
3								
4								
5								
6								
								0.00
7								
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MODIFIER		**SAND AND GRAVEL**		**SILT AND CLAY**		**LOCATION:**	NA			**WELL CONSTRUCTION**
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**	**MONITORING WELL CONSTRUCTION DATA**				Screen
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
		Dense	**30 - 50**	**Stiff**	**8 - 15**	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	**>50**	**Very Stiff**	**15 - 30**	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	**>30**	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	**VES-11 GW**		
PROJECT:	**Soil Disposal Pre-Characterization**	PROJECT NO.:	28366
LOCATION:	**1 Lawrence St. Ardsley, NY**	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/17/2014	PAGE	1 of 1

VERTEX®

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	**ELEVATION INFORMATION**		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	**DATUM:**	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	**TOC:**	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			**GS:**	NA	ELEVATION (Ft):	

SAMPLE INFORMATION						SOIL DESCRIPTION	WELL CONST	PID (PPM)
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)			Background/ Actual
						Temporary well installed via direct push. No soil samples collected		
1								0.00
2						VES-11 GW - 1" Temp Well set at 20' BGS. 10' of Screen and 10' Riser		
3								
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6								
								0.00
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MODIFIER		SAND AND GRAVEL		SILT AND CLAY		LOCATION:	NA			WELL CONSTRUCTION
1 - 10%	**Trace**	**Density**	**Blows (N)**	**Consistency**	**Blows (N)**	**MONITORING WELL CONSTRUCTION DATA**				Screen
10 - 20%	**Little**	**Very loose**	**0 - 4**	**Very soft**	**<2**	DEPTH:	NA	DEPTH/TYPE PACK:	NA	Riser
20 - 35%	**Some**	**Loose**	**4 - 10**	**Soft**	**2 - 4**	DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA	Concrete
35 - 50%	**And**	**Medium Dense**	**10 - 30**	**Medium Stiff**	**4 - 8**	MATERIAL:	NA	BACKFILL MATERIAL:	NA	Bentonite
		Dense	**30 - 50**	**Stiff**	**8 - 15**	SLOT SIZE (inches):	NA	SURFACE SEAL:	NA	Native
		Very Dense	**>50**	**Very Stiff**	**15 - 30**	SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA	Sand
				Hard	**>30**	LENGTH OF RISER:	NA			Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	VES-12 GW		
PROJECT:	Soil Disposal Pre-Characterization	PROJECT NO.:	28366
LOCATION:	1 Lawrence St. Ardsley, NY	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/17/2014	PAGE	1 of 1

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	ELEVATION INFORMATION		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	DATUM:	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	TOC:	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			GS:	NA	ELEVATION (Ft):	

SAMPLE INFORMATION						SOIL DESCRIPTION	WELL CONST	PID (PPM)
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)			Background/ Actual
						Temporary well installed via direct push. No soil samples collected		
1								0.00
2						VES-12 GW - 1" Temp Well set at 20' BGS. 10' of Screen and 10' Riser		
3								
4								
5								
6								
								0.00
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9								
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MODIFIER		SAND AND GRAVEL		SILT AND CLAY	
1 - 10%	Trace	Density	Blows (N)	Consistency	Blows (N)
10 - 20%	Little	Very loose	0 - 4	Very soft	<2
20 - 35%	Some	Loose	4 - 10	Soft	2 - 4
35 - 50%	And	Medium Dense	10 - 30	Medium Stiff	4 - 8
		Dense	30 - 50	Stiff	8 - 15
		Very Dense	>50	Very Stiff	15 - 30
				Hard	>30

LOCATION:	NA		
MONITORING WELL CONSTRUCTION DATA			
DEPTH:	NA	DEPTH/TYPE PACK:	NA
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA
MATERIAL:	NA	BACKFILL MATERIAL:	NA
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA
LENGTH OF RISER:	NA		

WELL CONSTRUCTION: Screen, Riser, Concrete, Bentonite, Native, Sand, Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

DESIGNATION	VES-13 GW		
PROJECT:	Soil Disposal Pre-Characterization	PROJECT NO.:	28366
LOCATION:	1 Lawrence St. Ardsley, NY	DRILLER:	PAL
		INSPECTOR:	R.Dowling
INSTALLATION DATES	4/17/2014	PAGE	1 of 1

SAMPLER		CASING		CORE		GROUNDWATER DEPTH MEASUREMENTS			
TYPE	Geo-probe	TYPE	Plastic	BARREL TYPE	NA	ELEVATION INFORMATION		DATE:	NA
SIZE (ID)	2"	MATERIAL	NA	SIZE (ID)	NA	DATUM:	NA	TIME:	NA
HAMMER (LB.)	NA	DIAMETER	2"	DIAMETER	NA	TOC:	NA	DEPTH (Ft):	NA
FALL (IN.)	NA	LENGTH	5'			GS:	NA	ELEVATION (Ft):	

SAMPLE INFORMATION						SOIL DESCRIPTION	WELL CONST	PID (PPM)
DEPTH ELEVATION	INTERVAL	PEN / REC	BLOWS / 6"	SPT	STRATA CHANGE (Ft/El.)			Background/ Actual
						Temporary well installed via direct push. No soil samples collected		
1								0.00
2						VES-13 GW - 1" Temp Well set at 20' BGS. 10' of Screen and 10' Riser		
3								
4								
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6								
								0.00
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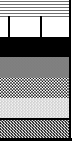
29								

MODIFIER		SAND AND GRAVEL		SILT AND CLAY	
1 - 10%	Trace	Density	Blows (N)	Consistency	Blows (N)
10 - 20%	Little	Very loose	0 - 4	Very soft	<2
20 - 35%	Some	Loose	4 - 10	Soft	2 - 4
35 - 50%	And	Medium Dense	10 - 30	Medium Stiff	4 - 8
		Dense	30 - 50	Stiff	8 - 15
		Very Dense	>50	Very Stiff	15 - 30
				Hard	>30

LOCATION:	NA		
MONITORING WELL CONSTRUCTION DATA			
DEPTH:	NA	DEPTH/TYPE PACK:	NA
DIAMETER (inches):	NA	DEPTH/TYPE SEAL:	NA
MATERIAL:	NA	BACKFILL MATERIAL:	NA
SLOT SIZE (inches):	NA	SURFACE SEAL:	NA
SCREEN INTERVAL:	NA	ROADBOX DESC.:	NA
LENGTH OF RISER:	NA		

WELL CONSTRUCTION



Screen
Riser
Concrete
Bentonite
Native
Sand
Grout

NOTES:

1. Soil are visually classified in general accordance with the Modified Burmeister Soil Classification System.

APPENDIX IV:

LABORATORY ANALYTICAL DATA REPORTS