Contract No: EP-W-09-002
WA #: 029-SION-0200

Region 2 RAC2
Remedial Action Contract

Final Phase II Environmental Site Assessment

77 Westchester Avenue, Pound Ridge/Scotts Corners Site

Targeted Brownfields Assessment

Pound Ridge, New York

July 18, 2017

CDM Smith

CDM Smith
14 Wall Street, Suite 1702
New York, New York 10005
tel: 212-785-9123
fax: 212-227-1692

July 18, 2017

Ms. Alison Devine
Remedial Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007-1866

PROJECT: RAC 2, Region 2 Contract No.: EP-W-09-002
Work Assignment: 029-SION-0200

DOCUMENT NO.: 3323-029-03294

SUBJECT: Final Phase II Environmental Site Assessment
77 Westchester Avenue, Pound Ridge/Scotts Corners Site
Targeted Brownfields Assessments
Pound Ridge, New York

Dear Ms. Devine:

CDM Federal Programs Corporation (CDM Smith) is pleased to submit the Final Phase II Environmental Site Assessment conducted at the 77 Westchester Avenue, Pound Ridge/Scotts Corner Site Targeted Brownfields Assessment in Pound Ridge, New York.

If you have any questions regarding this report, please contact me at your earliest convenience at (212) 377-4527.

Very truly yours,

CDM SMITH FEDERAL PROGRAMS CORPORATION

Brendan MacDonald, P.E., LEED® AP
Site Manager

PSO: EG

Attachment
cc: F. Rosado, EPA Region 2 (letter only)
R. Lyman, Town of Pound Ridge
J. Litwin, CDM Smith (letter only)
T. Tomaselli, CDM Smith (electronic copy)
RAC2 Region 2 Document Control

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Acronyms

AAI	All Appropriate Inquiries
AGVs	Air Guideline Values
AWQS	ambient water quality standards
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylene
CCV	Continuing Calibration Verification
CDM Smith	CDM Federal Programs Corporation
CIH	Certified Industrial Hygienist
CRQL	Contract required quantitation limit
Delta	Delta Geophysics Inc.
DER	Division of Environmental Remediation
DPT	direct push technology
DRO	diesel range organics
EES JV	Engineering and Environmental Solutions Joint Venture
EM	Electromagnetic
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
GC/MS	gas chromatography/mass spectrometry
GPR	ground penetrating radar
GRO	gasoline range organics
GPS	Global Positioning System
HASP	health and safety plan
IDW	Investigative derived waste
J	estimated value
J+	biased high estimated value
J-	biased low estimated value
LTR	Land Tech Remedial, Inc.
mg/kg	milligram per kilogram
MS/MSD	matrix spike/matrix spike duplicate
MTBE	methyl tert-butyl ether
No.	number
NYCRR	New York Codes Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OSWER	Office of Solid Waste and Emergency Response
PAL	Project Action Limit
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PID	photoionization detector
ppm	part per million
PVC	polyvinyl chloride
QAPP	Quality Assurance Project Plan
QC	quality control
REC	recognized environmental condition
RSL	Regional Screening Levels
SCG	Soil Cleanup Guidance

SCO	Soil Cleanup Objectives
SVE/AS	soil vapor extraction/air sparge
SVOC	semi-volatile organic compound
TAL	Target Analyte List
TBA	Targeted Brownfields Assessment
TCL	Target Compound List
TOGS	Technical & Operational Guidance Series
TPH	total petroleum hydrocarbons
µg/L	microgram per liter
µg/m^3	micrograms per cubic meter
U	undetected
UJ	undetected estimated
UST	underground storage tank
VOC	volatile organic compound
WCDOH	Westchester County Department of Health
%	percent

Executive Summary

This report presents the results of CDM Federal Programs Corporation's (CDM Smith) Phase II Environmental Site Assessment (ESA) for 77 Westchester Avenue, Pound Ridge/Scotts Corners site (the "subject property") located in Pound Ridge, New York. This Phase II ESA was conducted on behalf of the United States Environmental Protection Agency (EPA)to support a Targeted Brownfields Assessment (TBA) request from the Town of Pound Ridge, Contract Number (No.): EP-W-09-002, WA No.: 029-SION-0200. The results of this Phase II ESA will assist the Town of Pound Ridge in identifying areas or contaminants of concern on the property and appropriate options for future commercial use redevelopment.

The subject property is approximately 0.343 acres and is comprised of one tax parcel (parcel No. 9454-9). The subject property is currently owned by John DiFulvio and is improved with a 4,864-square foot, two-story, mixed use building occupied by Pound Ridge Auto Body, Town and Country Auto Repair, with vacant apartments on the second floor. Historically, the property was occupied by a gasoline fueling station from the 1940s or 1950s that closed prior to 2002.

The 2016 Phase II ESA was performed by CDM Smith to investigate and confirm the recognized environmental conditions (RECs) identified by the Phase I ESA conducted by Engineering and Environmental Solutions Joint Venture (EES JV) in March 2016.

The March 2016 Phase I ESA was performed to support the potential redevelopment of the subject property. The Phase I ESA identified three recognized environmental conditions (RECs) for the subject property as detailed below.

- ***REC-1 – Spill #9412600/9507568****:* From 1993 to 1995, the property was investigated in association with a petroleum spill (New York State Department of Environmental Conservation (NYSDEC) Spill #9412600) that originated at a Shell station located downgradient at 66 Westchester Avenue. The subject property was not ruled out as a contributor to the contamination that had been detected in local potable wells. This spill is still open. In 1995, sampling related to Spill #9412600, on the subject property identified six inches of free product in monitoring well (MW-3), and was reported to the (NYSDEC) Spill Hotline. Spill #9507568 was assigned. A soil vapor extraction/air sparge (SVE)/AS system was installed to address the contamination, but was removed based on the reduction of contaminant levels. This spill was closed on March 27, 2013.

- ***REC-2 – On-Site Dry Wells:*** A concealed dry well (eastern dry well) exists in the parking lot to the east of Pound Ridge Auto Body. Floor drains in the garage bay of Pound Ridge Auto Body formerly discharged into the dry well. It is unknown what repair shop chemicals may have been discharged into the dry well. An additional drywell (western dry well) was identified to the northwest of the building during the Phase II ESA and was added to the REC-2 investigation. The subject property owner claimed this well was used for discharge from the laundry machine in the former apartment.

- ***HREC – Spill #020451****:* Three gasoline USTs and one diesel UST associated with the former fueling station operations were removed in August 2002; one fuel oil UST was abandoned in place. During excavation activities, gasoline contamination was observed in the tank graves. A total of 176 tons of contaminated soil was removed. The spill was closed on November 12, 2002.

To investigate the RECs identified by the Phase I ESA, the following Phase II ESA activities were completed by CDM Smith and their subcontractors in 2016 at the subject property:

- *Site Reconnaissance*: Existing site features (monitoring wells, septic tanks, etc.) including evidence of former site features (dry wells and soil vapor extraction/air sparge (SVE/AS) system) previously discussed in the Phase I ESA were confirmed during the site reconnaissance.

- *Geophysical Survey:* The survey was conducted using electromagnetic conductivity, GPR and utility detection equipment to identify any subsurface anomalies including underground storage tanks (USTs), septic tanks, buried drums, and utilities. The survey identified an additional dry well on the northwestern side of the site property building.

- *Soil Borings*: 20 subsurface soil samples were collected from 10 soil boring. Subsurface soil was analyzed for TCL VOCs, semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH) diesel range organics (DRO), TPH gasoline range organics (GRO), polychlorinated biphenyls (PCBs), and Target Analyte List (TAL) Metals, based on the requirements of each REC.

- *Existing Monitoring Well Sampling*: Two existing monitoring wells (MW-01 and MW-02), set adjacent to the former USTs located in the southeastern portion of the property, were sampled via low flow sample methodology. The analysis for each groundwater sample was based on the goals of the REC and sample volume available, with TCL VOCs, SVOCs, TPH DRO, TPH GRO, PCBs and TAL metals being the full suite of analysis.

- *Installation and Sampling of Temporary Monitoring Wells*: Groundwater samples were collected from five temporary monitoring wells. The analysis for each groundwater sample was based on the goals of the REC and sample volume available, with TCL VOCs, SVOCs, TPH DRO, TPH GRO, PCBs and TAL metals being the full suite of analysis.

- *Potable Water Sampling*: The onsite potable water well was sampled from the tap of a sink within the subject property building. The potable water sample was analyzed for TCL VOCs, SVOCs and TAL metals.

- *Soil Vapor and Ambient Air Sampling*: Two soil vapor samples and one outdoor ambient air sample were collected within the parking lot adjacent to the subject property building. Soil vapor samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs)

Phase II ESA Conclusions

CDM Smith's conclusions, based on analytical results, historic information, and visual observations are summarized below.

- There is no significant evidence of impacts from the former USTs or other petroleum related sources at the site (REC-1 and HREC). There are low concentrations of TPH GRO and DRO across the subject property in soil and on the southwestern half of the site in groundwater. There are no exceedances of VOCs above 6 NYCRR Part 375-6(b) Restricted Use – Commercial, NYSDEC CP-51 supplemental soil cleanup objectives (SCOs) or soil cleanup levels for gasoline or fuel oil contaminated soils.

- The subject property potable water well had exceedances of the NYSDEC ambient water quality standards (AWQS) and EPA RSLs for sodium and antimony, respectively. The potable water well is not currently used for drinking water. Therefore, the exceedances do not present concern.

- Soil and groundwater associated with the eastern former dry well contain TPH DRO and GRO, BTEX (benzene, toluene, ethylbenzene, xylenes), chlorinated benzene compounds, PAHs, PCBs, and metals. These compounds are consistent with the former use of the dry well as the discharge for the rinse sink in the automotive garage. There are no exceedances in soil, but compounds from all analyte groups exceed NYSDEC AWQS in groundwater.

- Soil associated with the western dry well contains TPH DRO and GRO, toluene, PAHs, PCBs, and metals, although the only exceedance of NYSDEC Commercial Use SCOs was barium in one sample, which may be related to the laundry wastewater that discharged into the dry well. There were no exceedances in groundwater associated with this dry well.

- The limitation of groundwater recovery in the temporary wells and MW-2 prevented the characterization of DRO, SVOCs, PCBs, and metals across the site.

- Groundwater samples collected downgradient of former USTs (HREC) indicate that petroleum contamination is still present in low concentrations, however no BTEX or methyl tert-butyl ether (MTBE) was detected in these samples.

- Detections of PCE at concentrations in soil vapor above New York State Department of Health Air Guidance Values (NYSDOH AGVs) suggests there is a potential for soil vapor intrusion of PCE into the building located at 77 Westchester Avenue. Soil and groundwater samples collected throughout the subject property did not yield any detections for PCE. Therefore, PCE impacted soil vapor on the subject property is likely a result of off-site activities.

Recommendations

Based on the results of the Phase II ESA activities and an evaluation of subject property information based on previous environmental investigations, the following recommendations are made:

- The exceedances in MW-1 indicate an impact to groundwater associated with the eastern dry well. It is recommended that this groundwater contamination be further characterized to better understand the risks associated with the contamination. CDM Smith recommends groundwater samples be collected on all sides of the dry well and a soil sample be collected through the bottom of the dry well. Insufficient sample volume from MW-2 and temporary wells were a result of poor groundwater volume recovery. Larger diameter permanent

monitoring wells should be installed on the subject property to allow for greater recovery volume and therefore sufficient volume for a full suite of analyses (VOCs, SVOCs, PCBs, Metals, TPH DRO and GRO). This is necessary for a more comprehensive characterization of groundwater impacts associated with the dry wells and the fuel oil UST.

- Should the potable water well on the subject property be used for drinking water in the future, sampling and treatment would be required to ensure water quality meets EPA RSLs and NYSDEC AWQS. Presently a deed restriction should be employed limiting the use of the well to non-potable.

- Shallow soil in the area of the dry well northwest of the building did exhibit barium contamination at levels exceeding Commercial Use SCOs. It is recommended that this covered dry well be excavated or formally abandoned.

- *NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (NYSDOH 2006) does not warrant further vapor intrusion investigation. However, if the current use of the building remains and no means of vapor mitigation is employed, the indoor air quality could be confirmed via an indoor air/sub-slab vapor sampling investigation. In the event that the results of such an investigation warrant mitigation, potential exposure could likely be mitigated via installation of a sub-slab depressurization system or retrofitted vapor barrier.

When undertaking subject property development, it is recommended that the developer enlist a professional engineer or scientist to prepare a health and safety plan, construction contingency plans, and a soils management plan, in order to safely and appropriately remove (and control) impacted materials. It is recommended that any work performed at the subject property be performed by an environmental professional (or if necessary a professional engineer) following approved plans and a site-specific health safety plan approved by a certified industrial hygienist (CIH).

In the absence of the limited remediation suggested above, engineering controls should be implemented, requiring that any construction involving the disturbance of soils within the subject property (including non-emergency excavation, which may be part of utility repair or maintenance, or construction) be performed with the involvement of a professional engineer, and be conducted in accordance with local state and federal rules and regulations, providing adequate engineering controls and worker protection. In the absence of remediation, the values of adjacent and surrounding properties may be (and currently be) negatively impacted. The loss of property value may represent some risk to public welfare, yet this risk may not be considered significant risk.

Section 1
Introduction

This report presents the results of CDM Federal Programs Corporation's (CDM Smith) Phase II Environmental Site Assessment (ESA) for the Targeted Brownfield Assessment (TBA) at the 77 Westchester Avenue, Pound Ridge/Scotts Corners site (the "subject property") located in Pound Ridge, New York (**Figure 1-1**). This Phase II ESA was conducted on behalf of the United States Environmental Protection Agency (EPA) as a result of a TBA request from the Town of Pound Ridge.

The subject property is approximately 0.343 acres and is comprised of one tax parcel (parcel No. 9454-9). The subject property is currently improved with a 4,864-square foot, two-story, mixed use building occupied by Pound Ridge Auto Body, Town and Country Auto Repair, with vacant apartments on the second floor. Historically, the property was occupied by a gasoline fueling station from the 1940s or 1950s that closed prior to 2002.

1.1 Purpose

This Phase II ESA was conducted to investigate the potential for contamination associated with the recognized environmental conditions (RECs) identified during the Phase I ESA (March 2016), in addition to site conditions identified during the site reconnaissance performed by CDM Smith (June 2016). The objective of this Phase II ESA was to:

- confirm the presence/absence of previously identified underground storage tanks (USTs) and identify additional potential anomalies on the subject property
- determine if onsite soil and groundwater contamination exists above applicable criteria in areas not previously investigated and confirm the results of previous sampling events
- determine if the potential for soil vapor intrusion into the building on the subject property exists
- determine if conditions at the subject property impacted the potable water well present within the building
- collect hydrogeological information

The Town of Pound Ridge intends to redevelop the property for commercial use, therefore the remediation goal for the property is Restricted Use Commercial.

1.2 Special Terms and Conditions

Special terms and conditions in relation to this project have been addressed throughout various sections of this assessment.

1.3 Limitations, Methodology and Exceptions of Investigation

The Phase II investigation conducted by CDM Smith in September of 2016 was executed in accordance with the following documents:

- *"U.S. EPA Region 2 Brownfields Project Planning Guidance" (EPA 2000)*
- *"Generic Brownfields Quality Assurance Project Plan" (CDM Smith 2008)*
- *Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites, May 2016 (EPA 2016)*
- *NYSDEC Division Environmental Remediation (DER)-10 Technical Guidance for Site Investigations and Remediation, May 2010 (DER-10)*
- *6 New York Codes Rules and Regulations (NYCRR) Part 375 Environmental Remediation Programs*
- *NYSDEC Technical & Operational Guidance Series (TOGS), Section 1.1.1 Ambient Water Quality Standards & Guidance Values and Groundwater Effluent, June 1998, 2000 and 2004 addendum*
- *6 NYCRR Part 703 – Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations*
- *"Final Site-Specific Quality Assurance Project Plan (QAPP), 77 Westchester Avenue, Pound Ridge/Scotts Corners Site, Targeted Brownfields Assessment, Pound Ridge, New York" (CDM Smith 2016)*
- *"Site-Specific Health and Safety Plan (HASP), 77 Westchester Avenue, Pound Ridge/Scotts Corners Site, Targeted Brownfields Assessment, Pound Ridge, New York" (CDM Smith 2016)*
- *"Final Work Plan, Targeted Brownfields Assessments for Selected Region 2 Brownfields Initiative Sites" (CDM Smith 2010)*
- *"Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process, Designation: E 1903-11" (ASTM International 2000) (Reapproved 2002)*
- *"Quality Assurance Guidance for Conducting Brownfields Site Assessments" (EPA 1998)*

Site assessment activities, including reporting of findings and conclusions, were conducted in accordance with ASTM International site assessment guidance to the extent practicable.

The results for this TBA Phase II ESA are based on a review of available information obtained through a review of historic records, reported spill records, a Phase I ESA report, a site reconnaissance, a geophysical survey, and field sampling analytical data. The Phase II ESA was completed to identify, locate, and characterize contamination present at the subject property. To meet this objective, sample locations were chosen based on the subject property history obtained by CDM Smith. The results of the Phase II ESA only characterize the nature of contamination at the subject property; the ESA has not fully characterized the extent of contamination.

This assessment has been prepared and conducted under the guidance of a qualified environmental professional as defined in New York State Department of Environmental Conservation (NYSDEC)'s DER-10, 40 CFR Part 312, Standards and Practices for All Appropriate Inquiries (AAI) and ASTM E1903-11. The conclusions represent CDM Smith's professional opinions based on these aforementioned sources of information. A Phase II investigation is not a comprehensive site characterization or regulatory compliance audit, and should not be construed as such. CDM Smith cannot represent that the subject property contains no hazardous or toxic materials, products, or other latent conditions beyond those observed during the ESA. Further, the services herein shall not be construed, designed or intended to be relied upon as legal interpretation or advice. This report was prepared for the exclusive use by EPA, and is not intended for use by any other parties. Use of this report by any other party is at their sole risk without liability to CDM Smith.

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Section 2

Site Description

2.1 Site Description

The subject property is currently owned by Mr. John DiFulvio and is located at 77 Westchester Avenue in the Town of Pound Ridge, Westchester County, New York. The subject property is 0.343 acres with the south side of the parcel bordered by Westchester Avenue. The subject property is identified as tax parcel 9454-9. The subject property is zoned as PB-A, which is maintained as "planned business" zoning. **Figure 3-1** depicts the Site Plan.

2.2 Site History and Land Use

The subject property is mainly comprised of a single 4,864-square foot, two-story, mixed use building. The first floor of the building has two automobile repair garages maintained by Pound Ridge Auto Body and Town and Country Auto Repair. The second floor of the building contains a vacant three-bedroom apartment. Historically, the property was occupied by a gasoline fueling station from the 1940s or 1950s and closed prior to 2002 when the last of the USTs were removed/decommissioned.

From 1993-1995, the property was investigated in association with a petroleum spill (#9412600) that originated at a Shell station located downgradient at 66 Westchester Avenue. The subject property was not ruled out as a contributor to the contamination that had been detected in local potable wells. This spill is still open.

In 1995, six inches of free product were observed in an existing monitoring well (MW-3) at the subject property. The presence of separate phase product in the well was reported to the NYSDEC Spill Hotline and Spill #9507568 was assigned. A soil vapor extraction/air sparge (SVE/AS) system was installed to address onsite contamination. The system operated for an unknown length of time and was removed based on the reduction of contaminant levels. No documentation of the contaminant levels reached was available. This spill was closed on March 27, 2013.

Three gasoline USTs (two 6,000 and one 4,000 gallon) and one diesel UST (one 4,000 gallon) associated with former fueling station operations were removed in August 2002; in addition, one fuel oil UST was abandoned in place in the garage attached to the back of Pound Ridge Auto Body. During excavation activities, gasoline contamination was observed in the tank graves and NYSDEC Spill #020451 was assigned. 176 tons of contaminated soil were removed. This spill was closed on November 12, 2002.

A dry well exists in the parking lot to the east of Pound Ridge Auto Body, which has been abandoned and sealed with concrete. According to the subject property owner, floor drains in the garage bays of Town and Country Repair Shop and Pound Ridge Auto Body formerly discharged into the dry well. It is unknown what repair shop chemicals may have discharged into the dry well.

The property utilizes a potable well which currently only supplies water to a single sink in Pound Ridge Auto Body. This sink is only used for handwashing. The operator of Pound Ridge Auto Body indicated that it is not used for drinking water.

2.3 Physical Setting

The property is flat and mostly paved, however, the local topography slopes to the southwest. From the subsurface investigations, soil types at the subject property were generally consistent. The first few feet of soil encountered at the subject property is generally brown silty sand and gravel fill material. Underlying the fill material to the water table, at approximately 10 feet bgs (below ground surface), the soil is gray to brown silt and sand. Soil encountered below the water table to the top of bedrock generally remains silt and sand, and becomes more gravel-rich with depth. Bedrock is situated approximately 15 feet bgs. Due to the shallow water table it is estimated that groundwater flows to the west-southwest in the direction of local topography.

2.3 Adjacent Property Land Use

The subject property is primarily surrounded by mixed use residential and some commercial parcels in a downtown area. This area is referred to as Scotts Corners. The immediate surrounding area is a small downtown retail strip in a rural residential community. The subject property is bordered by Westchester Avenue to the south, a vacant commercial building to the east, a Town of Pound Ridge owned parking lot to the north, and residential properties to the west. Subject property access is unrestricted and can be gained from the south via Westchester Avenue and from the north by the Town-owned parking lot.

2.4 Summary of Previous Assessments

In February 1995, Land Tech Remedial, Inc. (LTR) performed a subsurface investigation on behalf of NYSDEC for the properties at 66 Westchester Avenue and the subject property (77 Westchester Avenue). The investigation was meant to determine the source(s) of gasoline constituents detected in various potable water wells located within the area. During the investigation three overburden monitoring wells (MW-1, MW-2, and MW-3), and two bedrock monitoring wells (MW-A and BR-1) were installed and 33 groundwater screening borings were advanced in the vicinity of the subject property. All samples were analyzed for volatile organic compounds (VOCs).

As a result of benzene, toluene, ethylbenzene, and xylene(BTEX) and methyl tert-butyl ether (MTBE) contamination in overburden groundwater identified during the subsurface investigation, LTR installed and provided the operations and maintenance of a soil SVE/AS system. The system, installed in 1995, consisted of five soil vapor extraction points and five air sparge points to remediate petroleum contamination at the subject property. It is unknown when the system was decommissioned.

The March 2016 Phase I ESA was performed to support the potential redevelopment of the subject property. The Phase I ESA identified three RECs for the subject property as detailed below.

- ***REC-1 – Spill #9412600/9507568****:* From 1993 to 1995, the property was investigated in association with a petroleum spill (NYSDEC Spill #9412600) that originated at a Shell station located downgradient at 66 Westchester Avenue. The subject property was not ruled out as a contributor to the contamination that had been detected in local potable wells. This spill is still open. In 1995, sampling on the subject property related to Spill #9412600 identified six inches of free product in monitoring well (MW-3). This finding was reported to the NYSDEC Spill Hotline. Spill #9507568 was assigned. A soil SVE/AS system was installed to address the contamination but was removed based on the reduction of contaminant levels. This spill was closed on March 27, 2013.

- ***REC-2 – On-Site Dry Wells:*** A concealed dry well (eastern dry well) exists in the parking lot to the east of Pound Ridge Auto Body. Rinse water from cleaning with degreasers was discharged to this dry well. Westchester County Health Department notified NYSDEC in a letter on July 1, 2002. The letter required ceasing discharge to the dry well and sealing the sink. The property owner reported that the sink and associated piping were removed and the dry well was plugged on July 10th. Floor drains in the garage bay of Pound Ridge Auto Body formerly discharged into the dry well; it is unknown what repair shop chemicals may have been discharged into the dry well. An additional drywell (western dry well) was identified to the northwest of the building during the Phase II ESA and was added to the REC-2 investigation. The subject property owner claimed this well was used for discharge from the laundry machine in the former apartment.

- ***Historical Recognized Environmental Condition (HREC) – Spill #020451****:* Three gasoline USTs and one diesel UST associated with the former fueling station operations were removed in August 2002; one fuel oil UST was abandoned in place. During excavation activities, gasoline contamination was observed in the tank graves. A total of 176 tons of contaminated soil was removed. The spill was closed on November 12, 2002.

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Section 3
Phase II Activities

3.1 Scope

CDM Smith performed a Phase II ESA at the subject property in September 2016 to investigate the RECs identified during the Phase I ESA. The activities performed as part of this Phase II ESA included:

- Preparing of a Site-Specific quality assurance project plan (QAPP)
- Preparing of a Site-Specific health and safety plan (HASP)
- Conducting a field planning meeting on September 2, 2016
- Site Reconnaissance
- Site Investigation:
    - *Geophysical Survey*: An Electromagnetic (EM) 31 and Ground Penetrating Radar (GPR) survey was performed by Delta Geophysics Inc. (Delta) of the property to identify any subsurface anomalies including USTs, buried pipes, utilities and to clear soil boring locations. The survey was conducted using electromagnetic conductivity, GPR and utility detection equipment.
    - *Soil Vapor and Ambient Air Sampling*: Two soil vapor samples (SV-01 and SV-02) and one outdoor air sample (AO-01) were collected within the parking lot adjacent to the subject property building. All air samples were collected via Summa Canister. Soil vapor samples were collected at a depth of approximately 8 feet bgs (2 feet above the water table).
    - *Soil Borings*: Ten direct push technology (DPT) soil borings (SB-01, SB-03 through SB-11) were advanced by Talon Drilling Company and sampled by CDM Smith. Borings were advanced to a maximum depth of 15 feet. A total of 20 subsurface soil samples were collected from the 10 soil boring locations. Each soil boring had one sample collected from 0 to 2 feet bgs and one sample collected from the interval immediately above the groundwater table. The locations selected for soil sampling were based on RECs and field observations. Lithologic logging, visual and olfactory observations, and photoionization (PID) field screening of subsurface soil samples were used to characterize environmental media and aid in the determination of sample collection and depth..
    - *Existing Monitoring Well Sampling*: Two existing monitoring wells (MW-1 and MW-2), set adjacent to the former USTs located in the southeastern portion of the property, were sampled via low flow and grab sample methodology. The existing monitoring wells ranged in depth from 12 to 20 feet bgs.

- *Installation and Sampling of Temporary Groundwater Monitoring Wells*: Four temporary groundwater monitoring wells (GW-01, GW-05, GW-09, and GW-11) were advanced and installed by Talon Drilling Company while CDM Smith provided oversight. The temporary monitoring wells ranged in depths from 12.3 to 13.4 feet bgs. Groundwater samples were collected via low flow and grab sample methodology.

- *Potable Water Sampling*: The onsite potable water well was sampled from the tap of a sink present within the subject property building. Prior to sampling water was allowed to flow from the sink until the water tank volume was replaced.

All samples were analyzed by RTI Laboratories, a subcontractor laboratory. Soil vapor samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs). Subsurface soil was analyzed for TCL VOCs, semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH) diesel range organics (DRO), TPH gasoline range organics (GRO), polychlorinated biphenyls (PCBs), and Target Analyte List (TAL) Metals. Groundwater samples were analyzed for TCL VOCs, SVOCs, PCBs, TPH DRO, TPH GRO, and TAL metals, with exceptions due to lack of volume from slow recharge. The potable water sample (PW-01) was analyzed for TCL VOCs, and SVOCs and TAL metals.

3.2 Site Access and Reconnaissance

A site reconnaissance was performed by CDM Smith in June 2016. During the reconnaissance, CDM Smith observed the following:

- The subject property building, at 77 Westchester Avenue is currently in use by two businesses, Pound Ridge Auto Body and Town & Country Auto Repair.

- A diagonal pavement cut/patch, observed in the front parking lot, is most likely from the former SVE/AS system.

- Topography is generally flat with the surrounding area sloping to the southwest.

- There is a private well on the subject property located on the southwest corner of the building. The plumbing from the well leads to a pressure tank in a rear utility room. The pressure tank is not filtered and supplies the sink in the business in the building. The sink is used for handwashing only and not drinking water. There is also a sump pump in the utility room.

- MW-1, MW-2, MW-3, MW-4, BR-2, and MW-A wells were located.

- The location of the former dry well and floor drains in Pound Ridge Auto Body were located.

- The abandoned-in-place fuel oil UST in the rear garage was located as an L-shaped patch.

- A private septic tank is located at the rear (northeast) corner of the building

3.3 Geophysical Survey

A geophysical survey was performed by Delta Geophysics on August 16, 2016 to identify subsurface anomalies including USTs, buried pipes, and utilities. The survey is presented in **Appendix A** and is summarized below:

- A GPR survey was conducted using a Geophysical Survey System Inc. SIR-3000 cart-mounted GPR unit, a Radiodetection RD7000 precision utility detector, a Fisher M-Scope TW-6 magnetic locator, a Genomics EM-61 Mark II-time domain metal detector, and a Trimble Global Positioning System (GPS) Pathfinder Pro XRS.
- GPR anomalies identified disturbed soil in the parking lot in the area of the former UST graves.
- Two magnetic anomalies were identified to the west of the building. One of these anomalies revealed an additional drywell under a metal plate. The subject property owner claimed this was used for discharge from the laundry machine in the former apartment. This dry well was investigated using additional borings added to the sampling program and will be discussed as a part of REC-2 in Section 4.6.2.
- The floor drain in Pound Ridge Auto Body and the associated dry well to the east of the building were identified. No floor drain was identified in Town & County Auto Repair.
- The abandoned-in-place UST was identified as a former excavation but removal/in-place abandonment was not confirmed due to the disturbance from the reinforced concrete floor.
- All accessible areas within the survey areas were examined during this investigation. Based on the data gathered, the following utilities were detected: water, gas, sanitary sewer and storm sewer. All detected utilities were marked onsite with appropriate colors. Anomalous features and unknown utilities were marked onsite in pink.

3.4 Sampling Activities and Sample Analysis

Field log book notes and sampling information recorded during investigation activities are provided in **Appendix B**. Sample locations are shown on **Figure 3-1** and a summary of the samples collected and sample parameters are presented in **Table 3-1**. Sampling locations and analytical parameters were selected based on the potential contaminants of concern in the RECs identified during the Phase I ESA, previous environmental sample locations, and evidence of staining. Analytical results are discussed in Section 4.

3.4.1 Soil Vapor and Ambient Air Sampling

Two soil vapor samples (SV-01 and SV-02) and one outdoor air sample (AO-01) were collected according to the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (New York State Department of Health (NYSDOH) 2006) on September 12, 2016 to determine if the potential for soil vapor intrusion into the onsite building exists. The samples were collected using 1.4 liter Summa canisters over 30 minutes, and helium tracer tests were performed at both locations. The soil vapor samples were taken at a depth of eight feet bgs (approximately two feet above the water table). Soil vapor samples were collected within the parking lot adjacent to the

subject property building at a distance of approximately six feet from the building. An outdoor ambient air sample was collected in close proximity to the soil vapor samples in order to monitor ambient air conditions.

3.4.2 Soil Borings and Subsurface Soil Samples

Ten soil borings (SB-01, SB-03 through SB-11) were advanced on September 7 and 8, 2016 by Talon Drilling Company, via DPT drilling methods, to characterize environmental media and to screen for potential impacts. The soil borings were advanced to a maximum depth of 15 feet bgs. Bedrock was not encountered. Lithologic logging, visual and olfactory observations, and PID field screening were performed at all 10 locations. A description of the soil encountered during drilling was provided in Section 2.3. **Appendix C** presents the soil boring logs. The locations of the soil borings that were sampled are shown in **Figure 3-1**. Two soil samples were collected from each boring. A shallow sample was collected from 0 to 2 feet bgs in all borings, with the exception of SB-05, where a four-foot interval was used due to limited recovery during advance of the macro-core in the building. The shallow sample at SB-07 was collected from 0 to 1 foot bgs to most accurately characterize the material at the top of the former dry well, since the dry well was accessible. A second sample was collected from each boring based on RECs and field observations. PID readings across the subject property varied by location. At 7 of the 10 boring locations VOCs were detected with the PID. The intervals with PID readings ranged in depth from 1.5 to 12.5 feet bgs. The highest PID reading was recorded at 450 parts per million (ppm) at 12.5 feet bgs from SB-10 located in the southeast corner of the subject property. Subsurface soil samples were analyzed by a subcontract laboratory (RTI Laboratories). Analyses for each sample are presented in **Table 3-1**.

3.4.3 Existing and Temporary Monitoring Well Installation and Sampling

Temporary monitoring wells were installed via DPT drilling methods at four of the subsurface borings (SB-01/GW-01, SB-05/GW-05, SB-09/GW-09, and SB-11/GW-11). Locations were determined based on the RECs and field observations. The temporary wells were constructed of one-inch diameter polyvinyl chloride (PVC) with five feet of 0.010-inch slot screen. The total depth of the temporary wells ranged from 12.4 to 13.4 feet bgs. Each temporary well was screened across the water table. Groundwater was encountered at approximately 10 feet bgs in each well.

Groundwater samples were collected from the two existing monitoring wells (MW-1 and MW-2) and the four temporary well points. A water level from all well locations was recorded prior to sampling, ranging from 9.57 to 11.13 feet bgs. **Figure 3-1** shows the existing well locations and the temporary well point locations. The direction of groundwater flow is assumed to be toward the southwest based on the local topography, however, the lack of surveyed monitoring wells and intact casings prevented an analysis of these water levels.

Groundwater samples were collected using ¼-inch inner diameter Teflon™-lined polyethylene tubing and a peristaltic pump. Due to limited recovery, wells were not developed. Temporary wells GW-01, GW-05, and GW-11 had low recharge and were pumped dry even when purging at a low rate. Field personnel waited 24 hours to return to the well prior to sample collection. GW-09 was able to be purged using low-flow methodology. The groundwater sample from MW-2 was collected as a grab sample following purging the well dry, due to slow recharge. The groundwater

sample from MW-1 was collected via low-flow methodology. Prior to sample collection, water quality parameters (pH, specific conductivity, turbidity, dissolved oxygen, temperature and redox potential) were collected at five minute intervals where possible. Where recovery was poor, water quality parameters were not collected. Groundwater samples were collected once water quality parameters stabilized or when wells were able to produce sufficient volume. Groundwater sampling logs can be found in **Appendix D**.

The groundwater samples were submitted to a subcontract laboratory (RTI Laboratories). Analyses for each sample are presented in **Table 3-1**.

3.4.4 Potable Water Sampling

One sample (PW-01) was taken from the onsite potable water well. The screened depth of the well is unknown. A direct sample from the potable water well was not able to be taken. The sample was collected from the tap of a sink within the Pound Ridge Auto Body section of the subject property building. The sink was allowed to run until the water tank (inline after the potable water well) volume was replaced, prior to sample collection.

3.4.5 Investigative Derived Waste Sampling and Disposal

All soil cuttings and purge water were collected and containerized in 55-gallon drums and stored on the subject property. Seacoast Environmental Services, Inc. collected investigative derived waste (IDW) soil and groundwater samples on September 21, 2016. Following receipt of the data and waste profiling, the drums were removed for off-site disposal on November 3, 2016. Waste manifests are provided in **Appendix E**.

3.5 Deviations from the QAPP

Based on field conditions, the following changes were implemented during the investigation:

- A total of ten locations were installed; however, several of the boring locations were moved and the proposed SB-02/GW-02 location was eliminated due to the inability to access the garage for that location. Location SB-11/GW-11 was installed as the tenth location.
- The groundwater sample planned for location SB-02/GW-02 was relocated and collected at SB-05/GW-05. This allowed the groundwater sample to represent contamination downgradient of both the former drain and the abandoned UST in the garage.
- Temporary wells were allowed to sit for over 24 hours to equilibrate, but were not developed due to poor recovery.
- Groundwater quality parameters were not collected from temporary wells due to poor recovery, as well.
- As a result of limited groundwater volume in the wells, the proposed sample volume for certain temporary wells was not collected for some analyte groups. VOCs and TPH GRO were collected for GW-01, however insufficient volume was available for TPH DRO, SVOCs, PCBs, and metals. VOCs and TPH GRO was collected for GW-02, GW-10 and GW-11 however, insufficient volume was available for TPH DRO.

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Section 4
Summary and Evaluation of Data

This section describes the selection of evaluation criteria and summarizes the analytical results of the Phase II ESA samples. The results of this Phase II ESA will assist the Town of Pound Ridge in identifying areas and media of concern, determine if there is a need for additional delineation, and identify some appropriate options for remediation, if necessary, based on future use.

The Data Validation Reports for all data are included in **Appendix F**.

4.1 Selection of Evaluation Criteria

Except as noted, the data were evaluated in accordance with the site-specific QAPP, analytical results are compared to both federal and state project action limits (PALs) presented in Worksheet #15 and listed below.

Vapor Intrusion Criteria

- Office of Solid Waste and Emergency Response (OSWER) Vapor Intrusion Assessment, Vapor Intrusion Screening Level Calculator Version 3.5.1 (May 2016)
- New York State Department of Health (NYSDOH) Center for Environmental Health Bureau of Environmental Exposure Investigation (CEH BEEI) Soil Vapor Intrusion Guidance (October 2016), Air Guidelines Values (AGVs) Table 3.1

Soil Criteria

The soil evaluation criteria were revised subsequent to the finalization of the site-specific QAPP based on information provided by the Town of Pound Ridge indicating that the future use of the site is intended to be commercial use. As such the unrestricted and restricted residential soil cleanup objectives were no longer deemed appropriate. The following PALs were used for soil:

- NYSDEC Subpart 375-6: Table 375-6.8(b): Restricted Use Commercial Soil Cleanup Objectives (SCOs), supplemented with CP-51 Soil Cleanup Guidance (SCG) Table 1 (Commercial) (October 21, 2010)
- NYSDEC CP-51 SCG Table 2 (Soil Cleanup Levels for Gasoline Contaminated Soils) supplemented with CP-51 SCG Table 1 (Protection of Groundwater) (October 21, 2010)

Groundwater Criteria

- NYSDEC Part 703.5 Ambient Water Quality Standards (AWQS) for Class GA Groundwater (TOGS 1.1.1. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations)
- EPA Regional Screening Levels (RSLs) for Tap Water (November 2015)

PALs are based on federal and state groundwater guidance values (referenced as "evaluation criteria" in this report), however the federal regulations are less stringent than the remediation goals established for the subject property; therefore, groundwater analytical results are compared to NYSDEC evaluation criteria. EPA RSLs for Tap Water criteria were included for the evaluation of the PW-01-A sample collected from a tap in Pound Ridge Auto Body.

4.2 Soil Sample Results

4.2.1 Subsurface Soil Analytical Results

Table 4-1a through **Table 4-1e** present the results of the analytes detected in subsurface soil samples collected during this Phase II ESA. Section 4.6 – Evaluation of Results provides a discussion of the sample results. The soil sample exceedances are presented on **Figure 4-1**.

4.2.1.1 VOCs

No VOCs exceeded the NYSDEC Commercial Use SCOs or the CP-51 SCG values. Thirteen VOCs were detected in subsurface soil samples below the NYSDEC Commercial Use SCOs or the CP-51 SCG values.

4.2.1.2 TPH DRO and GRO

TPH DRO was detected in 19 of the 20 subsurface soil samples. The concentrations ranged from 0.48 J- milligrams per kilogram (mg/kg) (SB-11-B, 8 to 10 feet bgs) to 250 J- mg/kg (SB-07-A, 0 to 1 feet bgs). TPH GRO was detected in 4 of the 20 subsurface soil samples. The concentrations ranged from 3.7 mg/kg (SB-04-B, 9 to 11 feet bgs) to 14 J+ mg/kg (SB-07-A, 0 to 1 feet bgs). Due to the lack of state and federal guidance for TPH DRO and GRO, no exceedances were recognized.

4.2.1.3 SVOCs

No SVOCs exceeded the NYSDEC Commercial Use SCOs or the CP-51 SCG values. Twenty-three SVOCs were detected below screening criteria in subsurface soil samples at levels that did not exceed either the NYSDEC Commercial Use SCOs or the CP-51 SCG values.

4.2.1.4 PCBs

No PCBs exceeded the NYSDEC Commercial Use SCOs. One PCB (Aroclor 1260) was detected in four subsurface soil samples at levels that did not exceed NYSDEC Commercial Use SCOs.

4.2.1.5 Metals

One metal (barium) exceeded the NYSDEC Commercial Use SCOs in one subsurface soil sample, SB-07-A. The concentration of barium at SB-07-A (0 to 1 foot bgs) is 2,000 J mg/kg, which exceeds the NYSDEC Commercial Use SCO of 400 mg/kg. Nineteen metals were detected in most of the subsurface soil samples at levels that did not exceed NYSDEC Commercial Use SCOs.

4.3 Groundwater and Potable Water Sample Results

4.3.1 Existing Monitoring Well and Temporary Well Point Sample Analytical Results

Tables 4-2a through **4-2e** present the results of the analytes detected in the existing (MW-1 and MW-2) and temporary monitoring well samples (GW-01, GW-05, GW-09, and GW-11) collected

during this Phase II ESA. Section 4.6 – Evaluation of Results provides a discussion of the sample results. The exceedances for groundwater are presented on **Figure 4-1**.

4.3.1.1 VOCs

Three chlorinated benzenes were detected at concentrations that exceeded the NYSDEC AWQS in groundwater in sample (MW-1-A). VOC concentrations that exceed the AWQS in MW-1-A are listed below:

- *1,2-Dichlorobenzene* – detected above the NYSDEC AWQS of 3 microgram per Liter (µg/L) in MW-1-A (3.2 µg/L)
- *1,3-Dichlorobenzene* – detected above the NYSDEC AWQS of 3 µg/L in MW-1-A (15 µg/L)
- *Chlorobenzene* – detected above the NYSDEC AWQS of 5 µg/L in MW-1-A (79 µg/L).

Nine other VOCs were detected in groundwater samples at levels that did not exceed AWQS. No VOCs were detected in GW-09-A.

4.3.1.2 TPH

TPH DRO was detected in two locations where enough sample volume was available for analysis. The concentrations ranged from 140 J µg/L (GW-09-A, 11.13 to 13.4 feet bgs) to 270 J µg/L (MW-91-A (non-detect in parent sample MW-1-A at 10.6 to 20 feet bgs). TPH GRO was detected in two of the six groundwater samples. The concentrations ranged from 120 µg/L (MW-1-A, 10.6 to 20 feet bgs) to 390 µg/L (MW-2-A, 10.79 to 12 feet bgs). Due to lack of state and federal guidance for TPH DRO and GRO, no exceedances were recognized.

4.3.1.3 SVOCs

At MW-1, five SVOCs were detected at concentrations that exceeded the NYSDEC AWQS in the duplicate sample, MW-91-A (but not the parent sample, MW-1-A). Five SVOCs were detected in the same duplicate sample at levels that did not exceed AWQS. SVOC concentrations that exceed the AWQS of 0.002 µg/L at MW-1 are listed below:

- *1,2-Benzphenanthracene* – MW-91-A (0.41 µg/L)
- *Benzo(a)anthracene* – MW-91-A (0.28 µg/L)
- *Benzo(b)fluoranthene* – MW-91-A (0.52 µg/L)
- *Benzo(k)fluoranthene* – MW-91-A (0.14 µg/L)
- *Indeno(1,2,3-cd)pyrene* – MW-91-A (0.24 µg/L)

4.3.1.4 PCBs

One PCB (Aroclor 1260) was detected at a concentration that exceeded the NYSDEC AWQS in the only sample analyzed for PCBs (MW-1-A). The concentration of Aroclor 1260 in this sample was 0.11 J µg/L which is above the NYSDEC AWQS of 0.09 µg/L.

4.3.1.4 Metals

Three metals were detected at concentrations that exceeded the NYSDEC AWQS in groundwater in the only groundwater sample for which metals were analyzed (MW-1-A). Ten metals were detected in the groundwater at levels that did not exceed the NYSDEC AWQS. Metal concentrations detected in MW-1 that exceed the AWQS are listed below:

- *Iron* – MW-1-A (2,200 J µg/L), above NYSDEC AWQS of 300 µg/L.
- *Manganese* – MW-1-A (440 µg/L), above NYSDEC AWQS of 300 µg/L.
- *Sodium* – MW-1-A (120,000 µg/L), above NYSDEC AWQS of 20,000 µg/L.

4.3.2 Potable Water Sample Analytical Results

Tables 4-3a through **4-3c** present the results of the analytes detected in the potable water sample (PW-01). Section 4.6 – Evaluation of Results provides a discussion of the sample results. The potable water sample exceedances are presented on **Figure 4-1**.

4.3.2.1 VOCs

Two VOCs (methyl acetate and toluene) were detected in the potable water sample (PW-01-A) at levels that did not exceed NYSDEC AWQS or the EPA RSLs.

4.3.2.2 SVOCs

No SVOCs were detected in the potable water sample.

4.3.2.3 Metals

Sodium exceeded the NYSDEC AWQS (but not the EPA RSL) in the potable water sample. Antimony exceeded the EPA RSL for Tap Water (but not the NYSDEC AWQS) in the potable water sample. Fourteen metals were detected at levels that did not exceed the NYSDEC AWQS or the EPA RSLs in the potable water sample. Metal concentrations that exceed the AWQS or EPA RSLs are listed below for the potable water sample.

- *Antimony* – PW-01-A (2.4 J µg/L), detected above the EPA RSLs for Tap Water of 0.78 µg/L.
- *Sodium* – PW-01-A (67,000 µg/L), detected above the NYSDEC AWQS of 20,000 µg/L.

4.4 Soil Vapor and Ambient Air Sample Results

4.4.1 Soil Vapor Analytical Results

Table 4-4 presents the results of the analytes detected in soil vapor and ambient air samples collected during this Phase II ESA. Section 4.6 – Evaluation of Results provides a discussion of the sample results. The soil vapor exceedances are presented on **Figure 4-2.**

4.4.1.1 VOCs

There are no NYSDOH criteria for soil vapor; however results can be compared to AGV for indoor air as a means of evaluating the potential for vapor intrusion. Tetrachloroethene (PCE) concentrations exceeded the NYSDOH AGV at both soil vapor locations. Six VOCs (2-butanone, acetone, carbon disulfide, chloroform, m,p-xylene, and toluene) were also detected in soil vapor

samples. There are no NYSDOH AGVs for these compounds. **Table 4-4** presents detections and exceedances. VOC concentrations that exceed the NYSDOH AGVs are listed below for all soil vapor locations.

- *PCE* – Concentrations above the NYSDOH AGV of 30 micrograms per cubic meter (µg/m^3) were detected in SV-01-A at eight feet bgs (64 J µg/m^3) and SV-02-A at eight feet bgs (67 J µg/m^3).

4.4.2 Outdoor Air Analytical Results

Table 4-4 presents the results of the analytes detected in the outdoor air sample collected during this Phase II ESA.

4.4.2.1 VOCs

No VOCs exceeded the NYSDOH AGVs. One VOC, acetone was detected at a level that did not exceed NYSDOH AGVs.

4.5 Quality Assurance/Quality Control

Two field rinsate blanks were collected, one by pouring deionized water over dedicated soil sampling equipment, and the other by pouring deionized water over dedicated groundwater sampling equipment and into sample bottles. Field rinsate blanks were submitted with the environmental samples and analyzed for the same parameters. The field rinsate blank associated with soil and groundwater collection has detections of VOCs (acetone, 2-butanone and methylene chloride), SVOC (naphthalene), and metals below the contract reporting quantitation limit (CRQL), and metals, GRO and DRO above the CRQL. Two trip blanks were collected, shipped with the aqueous field samples and analyzed for VOCs. Acetone, 2-butanone, chloromethane and methylene chloride was detected in the trip blank.

All data were validated by CDM Smith and have been reviewed to assess whether data quality is sufficient to support the project objectives. All laboratory analyses were method compliant. Some quality control (QC) parameters were outside criteria; associated sample results were qualified accordingly. Data qualified as estimated J, J+, J-, U, or UJ are usable for project decisions; rejected data (R) are not considered usable for project purposes. Data validation reports are included in **Appendix F**. QC outliers noted within the EPA validation reports are described below.

- *Analytical Blanks* - Laboratory method blanks that had detections include VOCs and TPH. Associated sample results were appropriately qualified as estimated non-detect U.
- *Field Rinsate Blanks* – Field rinsate blanks that had detections include VOCs and metals. Associated sample results were appropriately qualified as estimated non-detect (U).
- *Trip Blanks* – Trip blanks had detections for VOCs. Associated sample results were appropriately qualified as estimated non-detect (U).
- *Surrogate Recoveries* – Several surrogates exceeded QC criteria. This affected sample results for VOCs, SVOCs and TPHs which were estimated (J/J+/J-/UJ) by the data validator.

- *Matrix Spike/Matrix Spike Duplicate (MS/MSD)* – These QC data were generated to determine the long-term precision and accuracy of the analytical method in various matrices. Several MS/MSDs did not meet QC criteria. The MS/MSD results affected VOC, SVOC, TPH and metal sample results, which were qualified as estimated (J/J-/UJ) by the data validator. In addition, seven SVOC compounds in sample SB-01-A and three SVOC compounds in sample MW-1-A were qualified as rejected by the validator.
- *Initial Calibration* - The initial calibration for air VOCs exceeded QC criteria. The affected sample results were estimated (J) by the data validator.
- *Continuing Calibration Verification (CCV)* – Several CCVs exceeded QC criteria. This affected sample results for VOCs, SVOCs and PCB which were estimated (J/UJ) by the data validator.
- *Field Duplicate* – One analyte had a relative percent difference above the validation criteria in the field duplicate sample pairs. This metal result was qualified estimated (J) by the data validator for the parent sample and field duplicate sample.
- *Canister Pressure Criteria* – Several canister pressures exceeded QC criteria. This affected sample results for air VOCs which were estimated (J/UJ) by the data validator.
- *Target Compound Identification* – One target compound identification percent difference exceeded QC criteria. This affected one PCB sample result which was estimated (U) by the data validator.
- *Laboratory Control Sample* - Several laboratory control samples exceeded criteria and were qualified as estimated (J/UJ) for VOC and SVOC. In addition, one SVOC compound in two samples (MW-1-A and MW-91-A) was rejected by the validator.
- *Internal Standards* - Internal standards performance criteria ensure that gas chromatography (GC)/ mass spectrometry (MS) sensitivity and response are stable during every analytical run. Some SVOCs internal standards results were outside criteria. Associated sample results were estimated (J/J+/UJ).

The final percentages of valid data are 99.26 percent (%) for groundwater, 99.72% for soil and 100% for air. The rejected data should not be used for project decisions. The ninety percent completeness goal for usable data has been met.

Data failing QC criteria were appropriately qualified as estimated, non-detect or rejected during data validation. All data reported herein are usable with the data validation qualifiers added except for rejected data.

4.6 Evaluation of Recognized Environmental Conditions

4.6.1 Evaluation of Historic Spills (REC-1 – Spill #9412600/9507568, HREC – Spill #020451)

Four subsurface soil borings (SB-01, -08, -09, and -10), three temporary wells (GW-01, GW-05, and GW-09), one permanent monitoring well (MW-2), one potable water well (PW-01), two soil vapor samples (SV-01 and SV-02) and one outdoor air sample (OA-01) were used to evaluate

potential impacts associated with the historical offsite spill. Analytical exceedances are presented on **Figure 4-1**. There were no exceedances of Commercial Use or CP-51 SCOs in subsurface soil, including petroleum related compounds toluene, ethylbenzene, xylene, and MTBE. BTEX constituents toluene, ethylbenzene, and xylenes were detected in SB-08-A, although at low concentrations. TPH GRO was not detected and the highest TPH DRO concentration was identified at the upgradient background location (9.6 J- mg/kg in SB-01-A). Therefore, it is likely that minimal residual petroleum in soil is present on the subject property, related to these spills.

There were also no exceedances in groundwater and no detections specifically of petroleum-related compounds (including BTEX, MTBE, and TPH GRO), and only one detection of TPH DRO (140 J µg/L at GW-09-A). Therefore, it is likely that minimal residual petroleum in groundwater is present on the subject property, related to these spills.

One temporary well (GW-05) and one existing monitoring well (MW-2) were used to evaluate the spill associated with the historic UST removal. Monitoring well MW-2 was sampled to characterize groundwater contamination associated with this spill, downgradient of the former gasoline and diesel USTs. Due to a limited groundwater recharge, there was only enough sample volume for VOC and TPH GRO analysis. There were no exceedances of VOCs, and only a few detections. TPH GRO was detected at 390 µg/L, which is a low concentration, but the highest detected during this investigation. Therefore, there is still a small impact to groundwater from the former USTs.

Temporary well GW-05 was used to characterize the abandoned fuel oil UST in the garage on the north side of the building. VOCs and TPH GRO were the only analyses collected from this sample due to poor recovery. TPH GRO was not detected and no VOCs were detected with the exception of trace levels of methyl acetate. Therefore, there is no evidence of impacts to groundwater from the abandonment of this UST based on the samples collected from this area. Since data was not collected for TPH DRO, it is uncertain whether diesel impacted media within this REC.

4.6.2 On-Site Dry Wells (REC-2)

Data from six soil borings (SB-03, -04, -05, -06, -07, -11), two temporary wells (GW-05 and GW-11), and one existing monitoring well (MW-1) are being used to evaluate the onsite dry wells. Analytical exceedances are presented on **Figure 4-1**.

4.6.2.1 Eastern Dry Well

The soil samples associated with the eastern dry well contained no exceedances above Commercial Use or CP-51 SCOs. Low concentrations of TPH DRO and TPH GRO, toluene, ethylbenzene, and chlorinated benzene compounds were detected in SB-03-B (5 to 7 feet bgs), just north of the dry well. Low concentrations of numerous SVOCs and polyaromatic hydrocarbons (PAHs) were also identified in soil. One PCB, Aroclor 1260 was detected with a low concentration at SB-03-A (0 to 2 feet bgs). Numerous metals were detected in all soil samples but all below Commercial Use SCOs.

GW-05, located downgradient of the former floor drain was only analyzed for VOCs and TPH GRO due to sample volume limitations and contained only trace levels of VOCs. Due to the lack in sample recovery at the subject property, SVOCs, PCBs, TPH DRO, and metals were not collected at all proposed locations. Therefore, the characterization of groundwater contamination at the

eastern dry well is primarily based on existing monitoring well MW-1. The well is located downgradient from the former dry well and had exceedances above NYSDEC AWQS for VOCs, SVOCs, PCBs, and metals. The only VOC exceedances in MW-1 are chlorinated benzene compounds, commonly found in solvents. The Phase I ESA reports that degreasers were historically used in the sink that lead to the dry well, which could account for these detections. TPH DRO and TPH GRO were detected in low concentrations in this well as well. PAHs associated with petroleum, including benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and indeno(1,2,3-cd) pyrene exceeded NYSDEC AWQS. Aroclor 1260 was detected in this well and exceeded the NYSDEC AWQS. Iron, manganese, and sodium were detected above the NYSDEC AWQS, however these are likely naturally occurring metals.

4.6.2.2 Western Dry Well

The soil samples associated with the western dry well contained no exceedances above Commercial Use or CP-51 SCOs exception for barium at SB-07-A (0 to 1 foot bgs); its concentration was 2,000 J mg/kg. This soil boring was installed from the surface soil within the former dry well. The subject property owner stated that the laundry facilities within the building drained to this dry well. Barium compounds are known to be used in laundry detergents and soaps. Barium is also naturally occurring in both soil and water. A barium concentration of 48 J mg/kg was detected in the second subsurface soil sample, SB-07 (9 to 11 feet bgs), similar to the other subsurface soil samples. It is likely that the barium exceedance seen in SB-07 from 0 to 1 feet bgs is not associated with background levels and was a result of materials drained to that dry well. Soil samples related to the western dry well contained trace levels of VOCs and TPH, consistent with the rest of the site, although the highest TPH DRO concentration was found in SB-07-A (0 to 1 foot bgs), which was 250 J- mg/kg. This indicates that diesel fuel or wastewater containing diesel fuel may have been disposed in this location in the past. Low concentrations of PCB Aroclor 1260 were found in the shallow soil samples in this area. Numerous SVOCs and PAHs were detected in this area, with highest concentrations in shallow samples. These compounds are likely related to the current operations of the auto repair and auto body shops, since the concentrations are significantly lower in the dry well (SB-07) than in the location downgradient (SB-11) and lower still in the deeper samples.

Due to limited groundwater recharge observed in the temporary wells during the investigation, SVOCs, PCBs, TPH DRO, and metals were not analyzed in the sample collected at GW-11. Therefore, the only characterization of groundwater downgradient of the western dry well is that TPH GRO was not detected and no VOCs were detected with the exception of trace levels of carbon tetrachloride.

4.6.3 Potable Water Well Evaluation

Historically, potable water wells in the area have contained BTEX and MTBE. The potable well on the subject property contained 7.9 µg/L of MTBE and no BTEX in 1995. The potable water well sample collected from the tap within the subject property building contained 0.98 J µg/L of toluene and no MTBE. This detection of toluene is below both the EPA RSL and NYSDEC AWQS. Based on these results, the potable water well is minimally impacted by the spills associated with this REC. Furthermore, the Town of Pound Ridge Supervisor stated that adjacent properties' potable water wells had recently been sampled with no detections of VOCs, as a part of routine Westchester County Department of Health(WCDOH)-mandated testing. While unsubstantiated,

this information suggests contamination associated with the RECs at the subject property is not impacting the bedrock aquifer. The potable well sample did have an exceedance of the AWQS for sodium. No EPA RSL for tap water exists for sodium. The owner of the subject property confirmed with the field team that the potable water onsite was not used for drinking. If the tap water is used as a future drinking source, a level of sodium greater than 20 milligrams per liter (mg/L) (the NYSDEC AWQS for sodium) is not recommended by NYSDOH for those on a sodium restricted diet or those with high blood pressure. However, the concentration in the potable water well (67 mg/L) is well within the range of someone on a moderately restricted sodium diet (maximum of 270 mg/L).

The potable water sample also had an exceedance of the EPA RSL for antimony, the result value did not exceed the NYSDEC AWQS. Antimony can be leached from fixtures and plumbing. Although skin contact with antimony in solution is safe, the ingestion of antimony at this concentration can pose a concern. There was one detection of toluene below both the EPA RSL and NYSDEC AWQS. Analytical exceedances are presented on **Figure 4-1**.

4.6.4 Evaluation of Soil Vapor Intrusion Potential

Soil vapor was investigated due to the potential for petroleum-related compounds or PCE to impact air quality at the subject property building. Analytical exceedances are presented on **Figure 4-2**. PCE was detected at low concentrations historically in tap water at a dry cleaner at 72 Westchester Avenue. There were detections for seven VOCs within soil vapor samples collected from 8 feet bgs outside the subject property building. These VOCs include both BTEX compounds and PCE. New York State does not have any standards, criteria or guidance values for concentrations of compounds in soil vapor. There are also no available background levels for soil vapor but soil vapor results can be compared to background outdoor air levels or the NYSDOH AGVs. The outdoor air sample (AO-01) collected for reference did not have any detections except for acetone. All VOC detections were observed to be below EPA criteria, however PCE was detected above the NYSDOH AGV of 30 µg/m^3 in both soil vapor samples. This lends to the possibility of soil vapor intrusion into the subject property building.

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Section 5
Conclusions and Recommendations

5.1 Conclusions

CDM Smith's conclusions are based on analytical results, historic information, and visual observations summarized below.

- There is no significant evidence of impacts from the former USTs or other petroleum related sources at the site (REC-1 and HREC). There are low concentrations of TPH GRO and DRO across the subject property in soil and on the southwestern half of the site in groundwater. There are no exceedances of VOCs above 6 NYCRR Part 375-6(b) Restricted Use – Commercial, NYSDEC CP-51 supplemental soil cleanup objectives (SCOs) or soil cleanup levels for gasoline or fuel oil contaminated soils.
- The subject property potable water well had exceedances of the NYSDEC ambient water quality standards (AWQS) and EPA RSLs for sodium and antimony, respectively. The potable water well is not currently used for drinking water. Therefore, the exceedances do not present concern.
- Soil and groundwater associated with the eastern former dry well contain TPH DRO and GRO, BTEX (benzene, toluene, ethylbenzene, xylenes), chlorinated benzene compounds, PAHs, PCBs, and metals. These compounds are consistent with the former use of the dry well as the discharge for the rinse sink in the automotive garage. There are no exceedances in soil, but compounds from all analyte groups exceed NYSDEC AWQS in groundwater.
- Soil associated with the western dry well contains TPH DRO and GRO, toluene, PAHs, PCBs, and metals, although the only exceedance of NYSDEC Commercial Use SCOs was barium in one sample, which may be related to the laundry wastewater that discharged into the dry well. There were no exceedances in groundwater associated with this dry well.
- The limitation of groundwater recovery in the temporary wells and MW-2 prevented the characterization of DRO, SVOCs, PCBs, and metals across the site.
- Groundwater samples collected downgradient of former USTs (HREC) indicate that petroleum contamination is still present in low concentrations, however no BTEX or methyl tert-butyl ether (MTBE) was detected in these samples.
- Detections of PCE at concentrations in soil vapor above New York State Department of Health Air Guidance Values (NYSDOH AGVs) suggests there is a potential for soil vapor intrusion of PCE into the building located at 77 Westchester Avenue. Soil and groundwater samples collected throughout the subject property did not yield any detections for PCE. Therefore, PCE impacted soil vapor on the subject property is likely a result of off-site activities.

5.2 Recommendations

Based on the results of the Phase II ESA activities and an evaluation of subject property information based on previous environmental investigations, the following recommendations are made:

- The exceedances in MW-1 indicate an impact to groundwater associated with the eastern dry well. It is recommended that this groundwater contamination be further characterized to better understand the risks associated with the contamination. CDM Smith recommends groundwater samples be collected on all sides of the dry well and a soil sample be collected through the bottom of the dry well. Insufficient sample volume from MW-2 and temporary wells were a result of poor groundwater volume recovery. Larger diameter permanent monitoring wells should be installed on the subject property to allow for greater recovery volume and therefore sufficient volume for a full suite of analyses (VOCs, SVOCs, PCBs, Metals, TPH DRO and GRO). This is necessary for a more comprehensive characterization of groundwater impacts associated with the dry wells and the fuel oil UST.

- Should the potable water well on the subject property be used for drinking water in the future, sampling and treatment would be required to ensure water quality meets EPA RSLs and NYSDEC AWQS. Presently a deed restriction should be employed limiting the use of the well to non-potable.

- Shallow soil in the area of the dry well northwest of the building did exhibit barium contamination at levels exceeding Commercial Use SCOs. It is recommended that this covered dry well be excavated or formally abandoned.

- *NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (NYSDOH 2006) does not warrant further vapor intrusion investigation. However, if the current use of the building remains and no means of vapor mitigation is employed, the indoor air quality could be confirmed via an indoor air/sub-slab vapor sampling investigation. In the event that the results of such an investigation warrant mitigation, potential exposure could likely be mitigated via installation of a sub-slab depressurization system or retrofitted vapor barrier.

When undertaking subject property development, it is recommended that the developer enlist a professional engineer or scientist to prepare a health and safety plan, construction contingency plans, and a soils management plan, in order to safely and appropriately remove (and control) impacted materials. It is recommended that any work performed at the subject property be performed by an environmental professional (or if necessary a professional engineer) following approved plans and a site-specific health safety plan approved by a certified industrial hygienist (CIH).

In the absence of the limited remediation suggested above, engineering controls should be implemented, requiring that any construction involving the disturbance of soils within the subject property (including non-emergency excavation, which may be part of utility repair or maintenance, or construction) be performed with the involvement of a professional engineer, and be conducted in accordance with local state and federal rules and regulations, providing

adequate engineering controls and worker protection. In the absence of remediation, the values of adjacent and surrounding properties may be (and currently be) negatively impacted. The loss of property value may represent some risk to public welfare, yet this risk may not be considered significant risk.

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Section 6
References

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Tables

Table 3-1
Sample Summary
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

REC	Location	Sample ID	Collection Date-Time	Depth Interval (feet)	PID Response (ppm)		Analyses				
						QA/QC	VOCs	SVOCs	TPH	PCBs	Metals
Soil Samples											
1 - Investigation relating to offsite spill and product observed at MW-3	SB-01	SB-01-A	9/7/2016 9:20	0 - 2	0.0	MS/MSD	x	x	x	x	x
	SB-01	SB-01-B	9/7/2016 10:00	6 - 8	0.0		x	x	x	x	x
	SB-08	SB-08-A	9/7/2016 15:30	0 - 2	5.3		x		x		
	SB-08	SB-08-B	9/7/2016 15:40	5 - 7	0.0		x		x		
	SB-09	SB-09-A	9/7/2016 14:20	0 - 2	0.0		x		x		
	SB-09	SB-09-B	9/7/2016 14:40	8 - 10	0.0		x		x		
	SB-10	SB-10-A	9/7/2016 16:30	0 - 2	0.0		x		x		
	SB-10	SB-10-B	9/7/2016 16:45	8 - 10	0.0		x		x		
2 - Investigation of onsite dry wells and magnetic anomaly	SB-03	SB-03-A	9/7/2016 10:40	0 - 2	0.0		x	x	x	x	x
	SB-03	SB-03-B	9/7/2016 12:35	5 - 7	62.0		x	x	x	x	x
	SB-04	SB-04-A	9/7/2016 12:55	0 - 2	0.0		x	x	x	x	x
	SB-04	SB-04-B	9/7/2016 13:40	9 - 11	0.0		x	x	x	x	x
	SB-05	SB-05-A	9/8/2016 9:55	0 - 4	0.0		x	x	x	x	x
	SB-05	SB-05-B	9/8/2016 10:30	5.5 - 9.5	0.0		x	x	x	x	x
	SB-06	SB-06-A	9/8/2016 8:25	0 - 2	0.0		x	x	x	x	x
	SB-06	SB-06-B	9/8/2016 9:00	7 - 9	0.2		x	x	x	x	x
	SB-06	SB-906-B	9/8/2016 9:00	7 - 9	0.2	Field Duplicate	x	x	x	x	x
	SB-07	SB-07-A	9/8/2016 11:20	0 - 1	0.1		x	x	x	x	x
	SB-07	SB-07-B	9/8/2016 11:55	9 - 11	0.3		x	x	x	x	x
	SB-11	SB-11-A	9/8/2016 12:30	0 - 2	0.3		x	x	x	x	x
	SB-11	SB-11-B	9/8/2016 12:45	8 - 10	0.0		x	x	x	x	x

Table 3-1
Sample Summary
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

REC	Location	Sample ID	Collection Date-Time	Depth Interval (feet)	PID Response (ppm)	QA/QC	Analyses				
							VOCs	SVOCs	TPH	PCBs	Metals
Aqueous Samples											
1 - Investigation relating to offsite spill and product observed at MW-3	GW-01	GW-01-A	9/9/2016 14:00	8 - 13	NS		x		x*		
	GW-09	GW-09-A	9/12/2016 11:00	11.13 - 12.3	NS		x		x		
	PW-01	PW-01-A	9/12/2016 12:15	N/A	NS		x	x			x
2 - Investigation of onsite dry wells and magnetic anomaly	MW-1	MW-1-A	9/9/2016 11:45	10.6 - 20	NS	MS/MSD	x	x	x	x	x
	MW-1	MW-91-A	9/9/2016 11:45	10.6 - 20	NS	Field Duplicate	x	x	x	x	x
	GW-11	GW-11-A	9/12/2016 10:00	10.5 - 12.6	NS		x				
2/HREC	GW-05	GW-05-A	9/9/2016 14:30	11 - 12.3	NS		x				
2/HREC	GW-05	GW-05-B	9/12/2016 11:30	11 - 12.3	NS		x		x*		
HREC - Investigation relating to historical UST removal	MW-2	MW-2-A	9/12/2016 12:35	10.79-12	NS		x		x*		
Air Samples											
1 - Investigation relating to offsite spill and product observed at MW-3	SV-01	SV-01-A	9/12/2016 15:57	8	NS		x				
	SV-02	SV-02-A	9/12/2016 16:07	8	NS		x				
	SV-02	SV-902-A	9/12/2016 16:07	8	NS	Field Duplicate	x				
	AO-01	AO-01-A	9/12/2016 16:04	N/A	NS	Outdoor Ambient	x				

Acronyms

ID - identification
QA/QC - quality assurance/quality control
MS/MSD - matrix spike/matrix spike duplicate
N/A - not applicable
NS - not sampled
ppm - parts per million
VOCs - volatile organic compounds
SVOCs - semi-volatile organic compounds
PCBs - polychlorinated biphenyls
PID - photoionization detector
REC - recognized environmental condition
TPH - total petroluem hydrocarbons
HREC - historical recognized environmental condition
* - gasoline-range organics only

Table 4-1a
Soil Sample Detections – VOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

					Sample ID		SB-01-A		SB-01-B		SB-03-A		SB-03-B		SB-04-A		SB-04-B		SB-05-A		SB-05-B		SB-06-A		SB-06-B		SB-906-B	
					Location ID		SB-01		SB-01		SB-03		SB-03		SB-04		SB-04		SB-05		SB-05		SB-06		SB-06		SB-06	
					Sample Date		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016	
					Sample Type		N		N		N		N		N		N		N		N		N		N		FD	
					Parent Sample Code																						SB-06-B	
					Depth (feet bgs)		0-2		6-8		0-2		5-7		0-2		9-11		0-4		5.5-9.5		0-2		7-9		7-9	
CAS No.	Chemical	NYSDEC Commercial Use SCOs	NYSDEC CP-51 Soil Cleanup Guidance	Unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
71-55-6	1,1,1-TRICHLOROETHANE	500000	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	NL	600	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETH	NL	6000	µg/kg	0.89	UJ	0.8	UJ	0.87	UJ	0.84	UJ	1.1	UJ	0.8	UJ	0.89	U	0.94	U	1	UJ	0.92	UJ	0.94	UJ
79-00-5	1,1,2-TRICHLOROETHANE	NL	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
75-34-3	1,1-DICHLOROETHANE	240000	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
75-35-4	1,1-DICHLOROETHENE	500000	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
87-61-6	1,2,3-TRICHLOROBENZENE	NL	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
120-82-1	1,2,4-TRICHLOROBENZENE	NL	3400	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	NL	NL	µg/kg	4.5	U	4	U	4.3	U	4.2	U	5.4	U	4	U	4.5	U	4.7	U	5	U	4.6	U	4.7	U
106-93-4	1,2-DIBROMOETHANE	NL	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
95-50-1	1,2-DICHLOROBENZENE	500000	NL	µg/kg	0.89	U	0.8	U	0.87	U	**0.98**	J+	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
107-06-2	1,2-DICHLOROETHANE	30000	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
78-87-5	1,2-DICHLOROPROPANE	NL	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
541-73-1	1,3-DICHLOROBENZENE	280000	NL	µg/kg	0.89	U	0.8	U	0.87	U	**59**	J+	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
106-46-7	1,4-DICHLOROBENZENE	130000	NL	µg/kg	0.89	U	0.8	U	0.87	U	**120**	J+	1.1	U	**0.58**	J	0.89	U	0.94	U	1	U	0.92	U	0.94	U
78-93-3	2-BUTANONE (MEK)	500000	300	µg/kg	**6.6**	J	16	U	17	U	**21**		22	U	16	U	18	U	19	U	20	U	18	U	19	U
591-78-6	2-HEXANONE	NL	NL	µg/kg	4.5	U	4	U	4.3	U	4.2	U	5.4	U	4	U	4.5	U	4.7	U	5	U	4.6	U	4.7	U
108-10-1	4-METHYL-2-PENTANONE (MIBK)	NL	1000	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
67-64-1	ACETONE	500000	NL	µg/kg	**83**	J	**26**	J	**62**	J	**89**	J	**53**	J	**5**	J	8.9	UJ	**1.8**	J	**60**	J	**61**	J	**49**	J
71-43-2	BENZENE	44000	60	µg/kg	0.54	U	0.48	U	0.52	U	0.5	U	0.65	U	0.48	U	0.53	U	0.56	U	0.6	U	0.55	U	0.56	U
74-97-5	BROMOCHLOROMETHANE	NL	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
75-27-4	BROMODICHLOROMETHANE	NL	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
75-25-2	BROMOFORM	NL	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
74-83-9	BROMOMETHANE	NL	NL	µg/kg	8.9	U	8	U	8.7	U	8.4	U	11	U	8	U	8.9	U	9.4	U	10	U	9.2	U	9.4	U
75-15-0	CARBON DISULFIDE	NL	2700	µg/kg	0.89	U	**0.58**	J	0.87	U	**18**		1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
56-23-5	CARBON TETRACHLORIDE	22000	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
108-90-7	CHLOROBENZENE	500000	NL	µg/kg	0.89	U	0.8	U	0.87	U	**41**	J+	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
75-00-3	CHLOROETHANE	NL	1900	µg/kg	1.8	U	1.6	U	1.7	U	1.7	U	2.2	U	1.6	U	1.8	U	1.9	U	2	U	1.8	U	1.9	U
67-66-3	CHLOROFORM	350000	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
74-87-3	CHLOROMETHANE	NL	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
156-59-2	CIS-1,2-DICHLOROETHENE	500000	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	NL	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
110-82-7	CYCLOHEXANE	NL	NL	µg/kg	1.8	U	1.6	U	1.7	U	1.7	U	2.2	U	1.6	U	1.8	U	1.9	U	2	U	1.8	U	1.9	U
124-48-1	DIBROMOCHLOROMETHANE	NL	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
75-71-8	DICHLORODIFLUOROMETHANE	NL	NL	µg/kg	0.89	UJ	0.8	UJ	0.87	UJ	0.84	UJ	1.1	UJ	0.8	UJ	0.89	U	0.94	U	1	UJ	0.92	UJ	0.94	UJ
100-41-4	ETHYLBENZENE	390000	1000	µg/kg	0.89	U	0.8	U	0.87	U	**4.3**		1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
98-82-8	ISOPROPYLBENZENE	NL	2300	µg/kg	0.89	U	0.8	U	0.87	U	**11**	J+	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U

Table 4-1a
Soil Sample Detections – VOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

					Sample ID	SB-01-A		SB-01-B		SB-03-A		SB-03-B		SB-04-A		SB-04-B		SB-05-A		SB-05-B		SB-06-A		SB-06-B		SB-906-B	
					Location ID	SB-01		SB-01		SB-03		SB-03		SB-04		SB-04		SB-05		SB-05		SB-06		SB-06		SB-06	
					Sample Date	9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016	
					Sample Type	N		N		N		N		N		N		N		N		N		N		FD	
					Parent Sample Code																					SB-06-B	
					Depth (feet bgs)	0-2		6-8		0-2		5-7		0-2		9-11		0-4		5.5-9.5		0-2		7-9		7-9	
CAS No.	Chemical	NYSDEC Commercial Use SCOs	NYSDEC CP-51 Soil Cleanup Guidance	Unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
179601-23-1	M,P-XYLENE	500000	260	µg/kg	1.8	U	1.6	U	1.7	U	**6.4**	J+	2.2	U	1.6	U	1.8	U	1.9	U	2	U	1.8	U	1.9	U
79-20-9	METHYL ACETATE	NL	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
1634-04-4	METHYL TERT-BUTYL ETHER	500000	930	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
108-87-2	METHYLCYLOHEXANE	NL	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
75-09-2	METHYLENE CHLORIDE	500000	NL	µg/kg	4.5	U	4	U	4.3	U	4.2	U	5.4	U	4	U	4.5	U	4.7	U	5	U	**4.9**	J	**4.8**	J
95-47-6	O-XYLENE	500000	260	µg/kg	0.89	U	0.8	U	0.87	U	**1.7**	J+	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
100-42-5	STYRENE	NL	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
127-18-4	TETRACHLOROETHENE	150000	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
108-88-3	TOLUENE	500000	700	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
156-60-5	TRANS-1,2-DICHLOROETHENE	500000	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	NL	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
79-01-6	TRICHLOROETHENE	200000	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
75-69-4	TRICHLOROFLUOROMETHANE	NL	NL	µg/kg	0.89	U	0.8	U	0.87	U	0.84	U	1.1	U	0.8	U	0.89	U	0.94	U	1	U	0.92	U	0.94	U
75-01-4	VINYL CHLORIDE	13000	NL	µg/kg	0.72	U	0.64	U	0.69	U	0.67	U	0.86	U	0.64	U	0.71	U	0.75	U	0.8	U	0.74	U	0.75	U

Bolded - detected
all results are in µg/kg except blanks are in µg/L
µg/kg - microgram per kilogram
µg/L - micrograms per liter
bgs - below ground surface
FD - field duplicate
RB - rinsate blank
TB - trip blank
ID - identification
N - normal
No. - number
NL - not listed
NYSDEC - New York State Department of Environmental Conservation
Q - qualifier
RSLs - regional screening levels
SCO - soil cleanup objective
J - estimated result
J+ - estimated result, biased high
U - non-detect
ethylbenzene not reported for trip blank and rinsate blank

Table 4-1a
Soil Sample Detections – VOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

					Sample ID	SB-07-A	SB-07-B	SB-08-A	SB-08-B	SB-09-A	SB-09-B	SB-10-A	SB-10-B	SB-11-A	SB-11-B	RB-01	TB-01
					Location ID	SB-07	SB-07	SB-08	SB-08	SB-09	SB-09	SB-10	SB-10	SB-11	SB-11		
					Sample Date	9/8/2016	9/8/2016	9/7/2016	9/7/2016	9/7/2016	9/7/2016	9/7/2016	9/7/2016	9/8/2016	9/8/2016	9/9/2016	9/9/2016
					Sample Type	N	N	N	N	N	N	N	N	N	N	RB	TB
					Parent Sample Code												
					Depth (feet bgs)	0-1	9-11	0-2	5-7	0-2	8-10	0-2	8-10	0-2	8-10		
CAS No.	Chemical	NYSDEC Commercial Use SCOs	NYSDEC CP-51 Soil Cleanup Guidance	Unit	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
71-55-6	1,1,1-TRICHLOROETHANE	500000	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
79-34-5	1,1,2,2-TETRACHLOROETHANE	NL	600	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETH	NL	6000	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 UJ	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
79-00-5	1,1,2-TRICHLOROETHANE	NL	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
75-34-3	1,1-DICHLOROETHANE	240000	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	1 U	1 U
75-35-4	1,1-DICHLOROETHENE	500000	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
87-61-6	1,2,3-TRICHLOROBENZENE	NL	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
120-82-1	1,2,4-TRICHLOROBENZENE	NL	3400	µg/kg	1.2 UJ	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	NL	NL	µg/kg	6 U	4.4 U	5.2 U	4.8 U	5.3 U	4.9 U	4.4 U	4.4 U	4.6 U	4.3 U	2 U	2 U
106-93-4	1,2-DIBROMOETHANE	NL	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
95-50-1	1,2-DICHLOROBENZENE	500000	NL	µg/kg	1.2 UJ	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
107-06-2	1,2-DICHLOROETHANE	30000	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
78-87-5	1,2-DICHLOROPROPANE	NL	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
541-73-1	1,3-DICHLOROBENZENE	280000	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
106-46-7	1,4-DICHLOROBENZENE	130000	NL	µg/kg	1.2 UJ	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
78-93-3	2-BUTANONE (MEK)	500000	300	µg/kg	24 U	17 U	21 U	19 U	21 U	20 U	18 U	18 U	19 U	17 U	**3.1** J	**2.5** J
591-78-6	2-HEXANONE	NL	NL	µg/kg	6 U	4.4 U	5.2 U	4.8 U	5.3 U	4.9 U	4.4 U	4.4 U	4.6 U	4.3 U	1 U	1 U
108-10-1	4-METHYL-2-PENTANONE (MIBK)	NL	1000	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
67-64-1	ACETONE	500000	NL	µg/kg	**7.6** J	**2.2** J	**5.6** J	9.6 UJ	**3.9** J	**5.5** J	**64** J	8.8 UJ	**18** J	**0.84** J	**16**	**13**
71-43-2	BENZENE	44000	60	µg/kg	0.72 U	0.52 U	0.62 U	0.57 U	0.63 U	0.59 U	0.53 U	0.53 U	0.56 U	0.51 U	0.6 U	0.6 U
74-97-5	BROMOCHLOROMETHANE	NL	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
75-27-4	BROMODICHLOROMETHANE	NL	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
75-25-2	BROMOFORM	NL	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
74-83-9	BROMOMETHANE	NL	NL	µg/kg	12 U	8.7 U	10 U	9.6 U	11 U	9.8 U	8.8 U	8.8 U	9.3 U	8.5 U	1 U	1 U
75-15-0	CARBON DISULFIDE	NL	2700	µg/kg	1.2 U	**0.65** J	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
56-23-5	CARBON TETRACHLORIDE	22000	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
108-90-7	CHLOROBENZENE	500000	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
75-00-3	CHLOROETHANE	NL	1900	µg/kg	2.4 U	1.7 U	2.1 U	1.9 U	2.1 U	2 U	1.8 U	1.8 U	1.9 U	1.7 U	1 U	1 U
67-66-3	CHLOROFORM	350000	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
74-87-3	CHLOROMETHANE	NL	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	**0.82** J
156-59-2	CIS-1,2-DICHLOROETHENE	500000	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
10061-01-5	CIS-1,3-DICHLOROPROPENE	NL	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
110-82-7	CYCLOHEXANE	NL	NL	µg/kg	2.4 U	1.7 U	2.1 U	1.9 U	2.1 U	2 U	1.8 U	1.8 U	1.9 U	1.7 U	0.6 U	0.6 U
124-48-1	DIBROMOCHLOROMETHANE	NL	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
75-71-8	DICHLORODIFLUOROMETHANE	NL	NL	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 UJ	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U
100-41-4	ETHYLBENZENE	390000	1000	µg/kg	1.2 U	0.87 U	**0.89** J	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U		
98-82-8	ISOPROPYLBENZENE	NL	2300	µg/kg	1.2 U	0.87 U	1 U	0.96 U	1.1 U	0.98 U	0.88 U	0.88 U	0.93 U	0.85 U	0.6 U	0.6 U

Table 4-1a
Soil Sample Detections – VOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

					Sample ID		SB-07-A		SB-07-B		SB-08-A		SB-08-B		SB-09-A		SB-09-B		SB-10-A		SB-10-B		SB-11-A		SB-11-B		RB-01		TB-01	
					Location ID		SB-07		SB-07		SB-08		SB-08		SB-09		SB-09		SB-10		SB-10		SB-11		SB-11						
					Sample Date		9/8/2016		9/8/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/8/2016		9/8/2016		9/9/2016		9/9/2016	
					Sample Type		N		N		N		N		N		N		N		N		N		N		RB		TB	
					Parent Sample Code																									
					Depth (feet bgs)		0-1		9-11		0-2		5-7		0-2		8-10		0-2		8-10		0-2		8-10					
CAS No.	Chemical	NYSDEC Commercial Use SCOs	NYSDEC CP-51 Soil Cleanup Guidance	Unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
179601-23-1	M,P-XYLENE	500000	260	µg/kg	2.4	U	1.7	U	**3.6**		1.9	U	2.1	U	2	U	1.8	U	1.8	U	1.9	U	1.7	U	1.2	U	1.2	U
79-20-9	METHYL ACETATE	NL	NL	µg/kg	1.2	U	0.87	U	1	U	0.96	U	1.1	U	0.98	U	0.88	U	0.88	U	0.93	U	0.85	U	1	U	1	U
1634-04-4	METHYL TERT-BUTYL ETHER	500000	930	µg/kg	1.2	U	0.87	U	1	U	0.96	U	1.1	U	0.98	U	0.88	U	0.88	U	0.93	U	0.85	U	0.6	U	0.6	U
108-87-2	METHYLCYLOHEXANE	NL	NL	µg/kg	1.2	U	0.87	U	**1.3**		0.96	U	1.1	U	0.98	U	0.88	U	0.88	U	0.93	U	0.85	U	0.6	U	0.6	U
75-09-2	METHYLENE CHLORIDE	500000	NL	µg/kg	6	U	4.4	U	5.2	U	4.8	U	5.3	U	4.9	U	4.4	U	4.4	U	4.6	U	4.3	U	0.6	U	**0.34**	J
95-47-6	O-XYLENE	500000	260	µg/kg	1.2	U	0.87	U	**2.4**		0.96	U	1.1	U	0.98	U	0.88	U	0.88	U	0.93	U	0.85	U	0.6	U	0.6	U
100-42-5	STYRENE	NL	NL	µg/kg	1.2	U	0.87	U	1	U	0.96	U	1.1	U	0.98	U	0.88	U	0.88	U	0.93	U	0.85	U	0.6	U	0.6	U
127-18-4	TETRACHLOROETHENE	150000	NL	µg/kg	1.2	U	0.87	U	1	U	0.96	U	1.1	U	0.98	U	0.88	U	0.88	U	0.93	U	0.85	U	0.6	U	0.6	U
108-88-3	TOLUENE	500000	700	µg/kg	**1.2**		0.87	U	**2.4**		0.96	U	1.1	U	0.98	U	0.88	U	0.88	U	**0.65**	J	0.85	U	0.6	U	0.6	U
156-60-5	TRANS-1,2-DICHLOROETHENE	500000	NL	µg/kg	1.2	U	0.87	U	1	U	0.96	U	1.1	U	0.98	U	0.88	U	0.88	U	0.93	U	0.85	U	0.6	U	0.6	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	NL	NL	µg/kg	1.2	U	0.87	U	1	U	0.96	U	1.1	U	0.98	U	0.88	U	0.88	U	0.93	U	0.85	U	0.6	U	0.6	U
79-01-6	TRICHLOROETHENE	200000	NL	µg/kg	1.2	U	0.87	U	1	U	0.96	U	1.1	U	0.98	U	0.88	U	0.88	U	0.93	U	0.85	U	0.6	U	0.6	U
75-69-4	TRICHLOROFLUOROMETHANE	NL	NL	µg/kg	1.2	U	0.87	U	1	U	0.96	U	1.1	U	0.98	U	0.88	U	0.88	U	0.93	U	0.85	U	0.6	U	0.6	U
75-01-4	VINYL CHLORIDE	13000	NL	µg/kg	0.96	U	0.7	U	0.83	U	0.77	U	0.84	U	0.79	U	0.71	U	0.7	U	0.74	U	0.68	U	0.6	U	0.6	U

Bolded - detected
all results are in µg/kg except blanks are in µg/L
µg/kg - microgram per kilogram
µg/L - micrograms per liter
bgs - below ground surface
FD - field duplicate
RB - rinsate blank
TB - trip blank
ID - identification
N - normal
No. - number
NL - not listed
NYSDEC - New York State Department of Environmental Conservation
Q - qualifier
RSLs - regional screening levels
SCO - soil cleanup objective
J - estimated result
J+ - estimated result, biased high
U - non-detect
ethylbenzene not reported for trip blank and rinsate blank

Table 4-1b
Soil Sample Detections – TPH
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

			Sample ID	SB-01-A		SB-01-B		SB-03-A		SB-03-B		SB-04-A		SB-04-B		SB-05-A		SB-05-B		SB-06-A		SB-06-B	
			Sample Date	9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016	
			Location ID	SB-01		SB-01		SB-03		SB-03		SB-04		SB-04		SB-05		SB-05		SB-06		SB-06	
			Sample Type	N		N		N		N		N		N		N		N		N		N	
			Parent Sample Code																				
			Depth (feet bgs)	0-2		6-8		0-2		5-7		0-2		9-11		0-4		5.5-9.5		0-2		7-9	
CAS No.	Chemical	NYSDEC Commercial Use SCOs	Unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
68334-30-5	DIESEL RANGE ORGANICS	NL	mg/kg	**9.6**	J-	1.8	U	**0.92**	J	**28**		**4.5**	J+	**0.98**	J	**1.7**	J	**0.72**	J-	**1.1**	J	**1.3**	J
8006-61-9	GASOLINE RANGE ORGANICS	NL	mg/kg	4.1	UJ	3.8	UJ	4.1	UJ	**12**		3.7	UJ	**3.7**		4.4	UJ	3.6	UJ	2.6	UJ	4.7	UJ

Bolded - detected
all results are in mg/kg except rinsate blank is in µg/L
mg/kg - milligram per kilogram
µg/L - microgram per liter
bgs - below ground surface
ID - identification
N - normal
FD - field duplicate
RB - rinsate blank
No. - number
NL - not listed
NYSDEC - New York StateDepartment of Environmental Conservation
Q - qualifier
SCO - soil cleanup objective
J - estimated result
J+ - estimated result, biased high
J- = estimated result, biased low
U - non-detect
UJ - estimated non detect

Table 4-1b
Soil Sample Detections – TPH
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

				Sample ID		SB-906-B		SB-07-A		SB-07-B		SB-08-A		SB-08-B		SB-09-A		SB-09-B		SB-10-A		SB-10-B		SB-11-A		SB-11-B		RB-01	
				Sample Date		9/8/2016		9/8/2016		9/8/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/8/2016		9/8/2016		9/9/2016	
				Location ID		SB-06		SB-07		SB-07		SB-08		SB-08		SB-09		SB-09		SB-10		SB-10		SB-11		SB-11			
				Sample Type		FD		N		N		N		N		N		N		N		N		N		N		RB	
				Parent Sample Code		SB-06-B																							
				Depth (feet bgs)		7-9		0-1		9-11		0-2		5-7		0-2		8-10		0-2		8-10		0-2		8-10			
CAS No.	Chemical	NYSDEC Commercial Use SCOs	Unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
68334-30-5	DIESEL RANGE ORGANICS	NL	mg/kg	**1.6**	J-	**250**	J-	**1.8**	J-	**1.4**	J	**1.8**		**5.4**	J-	**0.92**	J	**1.9**	J-	**1.7**	J	**14**	J+	**0.48**	J-	**64**	J
8006-61-9	GASOLINE RANGE ORGANICS	NL	mg/kg	4.3	UJ	**14**	J+	3.4	UJ	4.2	UJ	4.3	UJ	3.9	UJ	4.5	UJ	3.8	UJ	4.1	UJ	**5.7**		3.5	UJ	**23**	J

Bolded - detected
all results are in mg/kg except rinsate blank is in µg/L
mg/kg - milligram per kilogram
µg/L - microgram per liter
bgs - below ground surface
ID - identification
N - normal
FD - field duplicate
RB - rinsate blank
No. - number
NL - not listed
NYSDEC - New York StateDepartment of Environmental Conservation
Q - qualifier
SCO - soil cleanup objective
J - estimated result
J+ - estimated result, biased high
J- = estimated result, biased low
U - non-detect
UJ - estimated non detect

Table 4-1c
Soil Sample Detections – SVOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

				Sample ID	SB-01-A		SB-01-B		SB-03-A		SB-03-B		SB-04-A		SB-04-B		SB-05-A		SB-05-B	
				Location ID	SB-01		SB-01		SB-03		SB-03		SB-04		SB-04		SB-05		SB-05	
				Sample Date	9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/8/2016		9/8/2016	
				Sample Type	N		N		N		N		N		N		N		N	
				Parent Sample Code																
				Depth (feet bgs)	0-2		6-8		0-2		5-7		0-2		9-11		0-4		5.5-9.5	
CAS No.	Chemical	NYSDEC Commercial Use SCOs	NYSDEC CP-51 Soil Cleanup Guidance	Unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
92-52-4	1,1'-BIPHENYL	NL	NL	µg/kg	180	R	170	U	180	U	170	U	170	U	180	U	180	U	170	U
95-94-3	1,2,4,5-TETRACHLOROBENZENE	NL	NL	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
218-01-9	1,2-BENZPHENANTHRACENE	56000	NL	µg/kg	**400**	J	7.2	U	**65**		**3.3**	J	**260**		7.3	U	**75**		**15**	
123-91-1	1,4-DIOXANE	130000	NL	µg/kg	190	U	180	U	190	U	180	U	180	U	180	U	180	U	180	U
58-90-2	2,3,4,6-TETRACHLOROPHENOL	NL	NL	µg/kg	950	U	900	U	930	U	900	U	900	U	910	U	920	U	880	U
95-95-4	2,4,5-TRICHLOROPHENOL	NL	100	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
88-06-2	2,4,6-TRICHLOROPHENOL	NL	NL	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
120-83-2	2,4-DICHLOROPHENOL	NL	400	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
105-67-9	2,4-DIMETHYLPHENOL	NL	NL	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
51-28-5	2,4-DINITROPHENOL	NL	200	µg/kg	950	UJ	900	U	930	U	900	U	900	U	910	U	920	U	880	U
121-14-2	2,4-DINITROTOLUENE	NL	NL	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
606-20-2	2,6-DINITROTOLUENE	NL	1000	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
91-58-7	2-CHLORONAPHTHALENE	NL	NL	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
95-57-8	2-CHLOROPHENOL	NL	NL	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
91-57-6	2-METHYLNAPHTHALENE	NL	36400	µg/kg	**13**	J	7.2	U	**1.5**	J	**37**		**6.1**	J	7.3	U	**1.5**	J	7.1	U
95-48-7	2-METHYLPHENOL	500000	NL	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
88-74-4	2-NITROANILINE	NL	400	µg/kg	360	U	350	U	360	U	350	U	350	U	350	U	360	U	340	U
88-75-5	2-NITROPHENOL	NL	300	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
91-94-1	3,3'-DICHLOROBENZIDINE	NL	NL	µg/kg	1100	R	1100	U	1100	U	1100	U	1100	U	1100	U	1100	U	1100	U
78-59-1	3,5,5-TRIMETHYL-2-CYCLOHEXENE-1-ONE	NL	4400	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
99-09-2	3-NITROANILINE	NL	NL	µg/kg	360	U	350	U	360	U	350	U	350	U	350	U	360	U	340	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	NL	NL	µg/kg	360	U	350	U	360	U	350	U	350	U	350	U	360	U	340	U
101-55-3	4-BROMOPHENYL PHENYL ETHER	NL	NL	µg/kg	230	U	220	U	220	U	220	U	220	U	220	U	220	U	210	U
59-50-7	4-CHLORO-3-METHYLPHENOL	NL	NL	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	NL	NL	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
106-44-5	4-METHYLPHENOL	500000	NL	µg/kg	360	U	350	U	360	U	350	U	350	U	350	U	360	U	340	U
100-02-7	4-NITROPHENOL	NL	100	µg/kg	950	U	900	U	930	U	900	U	900	U	910	U	920	U	880	U
83-32-9	ACENAPHTHENE	500000	NL	µg/kg	**12**	J	7.2	U	7.5	U	7.2	U	**4.7**	J	7.3	U	**7.4**	J	**2.8**	J
208-96-8	ACENAPHTHYLENE	500000	NL	µg/kg	**110**		7.2	U	**22**		7.2	U	**100**		7.3	U	**5.6**	J	7.1	U
98-86-2	ACETOPHENONE	NL	NL	µg/kg	180	R	170	U	180	U	170	U	170	U	180	U	180	U	170	U
120-12-7	ANTHRACENE	500000	NL	µg/kg	**65**		7.2	U	**8.2**		7.2	U	**44**		7.3	U	**20**		**4.6**	J
1912-24-9	ATRAZINE	NL	NL	µg/kg	180	R	170	U	180	U	170	U	170	U	180	U	180	U	170	U
100-52-7	BENZALDEHYDE	NL	NL	µg/kg	180	R	170	U	180	U	170	U	170	U	180	U	180	U	170	U
56-55-3	BENZO(A)ANTHRACENE	5600	NL	µg/kg	**350**	J	7.2	U	**69**		7.2	U	**260**		7.3	U	**83**		**16**	
50-32-8	BENZO(A)PYRENE	1000	NL	µg/kg	**380**	J	7.2	UJ	**72**	J+	**2.5**	J+	**280**	J+	**1.8**	J+	**62**		**15**	
205-99-2	BENZO(B)FLUORANTHENE	5600	NL	µg/kg	**660**	J	7.2	UJ	**140**	J+	7.2	UJ	**460**	J+	7.3	UJ	**120**		**23**	
191-24-2	BENZO(G,H,I)PERYLENE	500000	NL	µg/kg	**150**	J	7.2	UJ	**32**	J+	7.2	UJ	**130**	J+	7.3	UJ	**21**		**6**	J
207-08-9	BENZO(K)FLUORANTHENE	56000	NL	µg/kg	**190**	J	7.2	UJ	**35**	J+	7.2	UJ	**160**	J+	7.3	UJ	**30**		**8.5**	
85-68-7	BENZYL BUTYL PHTHALATE	NL	122000	µg/kg	180	UJ	170	UJ	180	UJ	170	UJ	170	UJ	180	UJ	180	U	170	U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	NL	NL	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
111-44-4	BIS(2-CHLOROETHYL) ETHER	NL	NL	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	NL	435000	µg/kg	**72**	J	170	UJ	180	UJ	170	UJ	170	UJ	180	UJ	180	U	170	U
108-60-1	BIS-CHLOROISOPROPYL ETHER	NL	NL	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
105-60-2	CAPROLACTAM	NL	NL	µg/kg	180	R	170	U	180	U	**500**		170	U	180	U	180	U	170	U
86-74-8	CARBAZOLE	NL	NL	µg/kg	**29**	J	170	U	180	U	170	U	170	U	180	U	**13**	J	170	U

Table 4-1c
Soil Sample Detections – SVOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

					Sample ID		SB-01-A		SB-01-B		SB-03-A		SB-03-B		SB-04-A		SB-04-B		SB-05-A		SB-05-B	
					Location ID		SB-01		SB-01		SB-03		SB-03		SB-04		SB-04		SB-05		SB-05	
					Sample Date		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/8/2016		9/8/2016	
					Sample Type		N		N		N		N		N		N		N		N	
					Parent Sample Code																	
					Depth (feet bgs)		0-2		6-8		0-2		5-7		0-2		9-11		0-4		5.5-9.5	
CAS No.	Chemical	NYSDEC Commercial Use SCOs	NYSDEC CP-51 Soil Cleanup Guidance	Unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
53-70-3	DIBENZO(A,H)ANTHRACENE	560	NL	µg/kg	**49**		7.2	UJ	**10**	J+	7.2	UJ	**41**	J+	7.3	UJ	**7.4**	J	7.1	U
132-64-9	DIBENZOFURAN	350000	6200	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
84-66-2	DIETHYL PHTHALATE	NL	7100	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
131-11-3	DIMETHYL PHTHALATE	NL	27000	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
84-74-2	DI-N-BUTYLPHTHALATE	NL	8100	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
117-84-0	DI-N-OCTYLPHTHALATE	NL	120000	µg/kg	180	U	170	UJ	180	UJ	170	UJ	170	UJ	180	UJ	180	U	170	U
206-44-0	FLUORANTHENE	500000	NL	µg/kg	**610**		7.2	U	**75**	J+	**8**		**320**		**1.8**	J	**150**		**37**	
86-73-7	FLUORENE	500000	NL	µg/kg	**23**	J	7.2	U	**2.2**	J+	7.2	U	**6.8**	J	7.3	U	**5.9**	J	**1.8**	J
87-68-3	HEXACHLORO-1,3-BUTADIENE	NL	NL	µg/kg	57	U	54	U	56	U	54	U	54	U	55	U	56	U	53	U
118-74-1	HEXACHLOROBENZENE	6000	1400	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
77-47-4	HEXACHLOROCYCLOPENTADIENE	NL	NL	µg/kg	180	R	170	UJ	180	UJ	170	UJ	170	UJ	180	UJ	180	U	170	U
67-72-1	HEXACHLOROETHANE	NL	NL	µg/kg	180	UJ	170	UJ	180	UJ	170	UJ	170	UJ	180	UJ	180	U	170	U
193-39-5	INDENO(1,2,3-CD)PYRENE	5600	NL	µg/kg	**140**	J	7.2	UJ	**30**	J+	7.2	UJ	**120**	J+	7.3	UJ	**20**		**5.3**	J
65794-96-9	M-CRESOL & P-CRESOL	NL	NL																	
91-20-3	NAPHTHALENE	500000	12000	µg/kg	**18**	J	7.2	U	**3**	J+	**22**	J+	**14**		7.3	U	**1.9**	J	7.1	U
98-95-3	NITROBENZENE	69000	170	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	NL	NL	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
86-30-6	N-NITROSODIPHENYLAMINE	NL	NL	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
106-47-8	P-CHLOROANILINE	NL	220	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
87-86-5	PENTACHLOROPHENOL	6700	NL	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
85-01-8	PHENANTHRENE	500000	NL	µg/kg	**300**	J	7.2	U	**17**	J+	**10**		**110**		7.3	U	**99**		**26**	
108-95-2	PHENOL	500000	NL	µg/kg	180	U	170	U	180	U	170	U	170	U	180	U	180	U	170	U
100-01-6	P-NITROANILINE	NL	NL	µg/kg	360	UJ	350	U	360	U	350	U	350	U	350	U	360	U	340	U
129-00-0	PYRENE	500000	NL	µg/kg	**760**	J	7.2	U	**110**	J+	7.2	U	**530**		7.3	U	**190**		**39**	

Bolded - detected
all results are in µg/kg except rinsate blank is in µg/L
µg/kg - microgram per kilogram
µg/L - microgram per kilogram
bgs - below ground surface
FD - field duplicate
RB - rinsate blank
ID - identification
N - normal
No. - number
NL - not listed
NYSDEC - New York State Department of Environmental Conservation
Q - qualifier
R - rejected result
SCO - soil cleanup objective
J - estimated result
J+ - estimated result, biased high
U - non-detect
2-methylnaphthalene, 2-methylphenol, 4-methylphenol, and phenanthrene
not reported for rinsate blank
m-cresol and p-cresol not reported for soil samples

Table 4-1c
Soil Sample Detections – SVOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

					Sample ID		SB-06-A		SB-06-B		SB-906-B		SB-07-A		SB-07-B		SB-11-A		SB-11-B		RB-01	
					Location ID		SB-06		SB-06		SB-06		SB-07		SB-07		SB-11		SB-11			
					Sample Date		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/9/2016	
					Sample Type		N		N		FD		N		N		N		N		RB	
					Parent Sample Code						SB-06-B											
					Depth (feet bgs)		0-2		7-9		7-9		0-1		9-11		0-2		8-10			
CAS No.	Chemical	NYSDEC Commercial Use SCOs	NYSDEC CP-51 Soil Cleanup Guidance	Unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
92-52-4	1,1'-BIPHENYL	NL	NL	µg/kg	180	U	200	U	190	U	170	U	170	U	170	U	170	U	2.1	U
95-94-3	1,2,4,5-TETRACHLOROBENZENE	NL	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	1	U
218-01-9	1,2-BENZPHENANTHRACENE	56000	NL	µg/kg	**43**		**2**	J	**12**		**610**	J-	**58**		**1100**		7.2	U	0.15	U
123-91-1	1,4-DIOXANE	130000	NL	µg/kg	180	U	200	U	200	U	180	UJ	180	U	170	U	180	U	0.21	U
58-90-2	2,3,4,6-TETRACHLOROPHENOL	NL	NL	µg/kg	920	U	1000	U	1000	U	900	UJ	880	U	870	U	890	U	2.6	U
95-95-4	2,4,5-TRICHLOROPHENOL	NL	100	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	2.6	U
88-06-2	2,4,6-TRICHLOROPHENOL	NL	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	1	U
120-83-2	2,4-DICHLOROPHENOL	NL	400	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	2.6	U
105-67-9	2,4-DIMETHYLPHENOL	NL	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	2.6	U
51-28-5	2,4-DINITROPHENOL	NL	200	µg/kg	920	U	1000	U	1000	U	900	UJ	880	U	870	U	890	U	10	U
121-14-2	2,4-DINITROTOLUENE	NL	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	1	U
606-20-2	2,6-DINITROTOLUENE	NL	1000	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	1	U
91-58-7	2-CHLORONAPHTHALENE	NL	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	1	U
95-57-8	2-CHLOROPHENOL	NL	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	1	U
91-57-6	2-METHYLNAPHTHALENE	NL	36400	µg/kg	7.4	U	8.1	U	8.1	U	**36**	J-	**1.8**	J	7	U	7.2	U		
95-48-7	2-METHYLPHENOL	500000	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U		
88-74-4	2-NITROANILINE	NL	400	µg/kg	350	U	390	U	390	U	350	UJ	340	U	340	U	340	U	1	U
88-75-5	2-NITROPHENOL	NL	300	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	2.6	U
91-94-1	3,3'-DICHLOROBENZIDINE	NL	NL	µg/kg	1100	U	1200	U	1200	U	1100	U	1100	U	1100	U	1100	U	2.6	U
78-59-1	3,5,5-TRIMETHYL-2-CYCLOHEXENE-1-ONE	NL	4400	µg/kg	180	U	200	U	190	U	170	U	170	U	170	U	170	U	1	U
99-09-2	3-NITROANILINE	NL	NL	µg/kg	350	U	390	U	390	U	350	UJ	340	U	340	U	340	U	1	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	NL	NL	µg/kg	350	U	390	U	390	U	350	UJ	340	U	340	U	340	U	1	U
101-55-3	4-BROMOPHENYL PHENYL ETHER	NL	NL	µg/kg	220	U	240	U	240	U	220	UJ	210	U	210	U	210	U	1	U
59-50-7	4-CHLORO-3-METHYLPHENOL	NL	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	2.6	U
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	NL	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	1	U
106-44-5	4-METHYLPHENOL	500000	NL	µg/kg	350	U	390	U	390	U	**69**	J	340	U	340	U	340	U		
100-02-7	4-NITROPHENOL	NL	100	µg/kg	920	U	1000	U	1000	U	900	UJ	880	U	870	U	890	U	2.6	U
83-32-9	ACENAPHTHENE	500000	NL	µg/kg	**2.6**	J	8.1	U	**2.4**	J	**39**	J-	**4.3**	J	**150**		7.2	U	0.15	U
208-96-8	ACENAPHTHYLENE	500000	NL	µg/kg	**2.9**	J	8.1	U	8.1	U	**97**	J-	**15**		**33**		7.2	U	0.15	U
98-86-2	ACETOPHENONE	NL	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	2.1	U
120-12-7	ANTHRACENE	500000	NL	µg/kg	**5.5**	J	8.1	U	**4.8**	J	**130**	J-	**13**		**330**		7.2	U	0.15	U
1912-24-9	ATRAZINE	NL	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	UJ	170	U	2.1	U
100-52-7	BENZALDEHYDE	NL	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	2.1	U
56-55-3	BENZO(A)ANTHRACENE	5600	NL	µg/kg	**50**		8.1	U	**10**		**550**	J-	**63**		**1100**		7.2	U	0.15	U
50-32-8	BENZO(A)PYRENE	1000	NL	µg/kg	**43**	J+	**2**	J+	**11**	J+	**640**	J+	**59**	J+	**1000**		7.2	U	0.15	U
205-99-2	BENZO(B)FLUORANTHENE	5600	NL	µg/kg	**90**	J+	8.1	UJ	**17**	J+	**930**	J+	**120**	J+	**1400**		7.2	U	0.15	U
191-24-2	BENZO(G,H,I)PERYLENE	500000	NL	µg/kg	**18**	J+	8.1	UJ	**5.6**	J+	**260**	J+	**22**	J+	**380**		7.2	U	0.15	U
207-08-9	BENZO(K)FLUORANTHENE	56000	NL	µg/kg	**25**	J+	8.1	UJ	**8.9**	J+	**480**	J+	**28**	J+	**610**		7.2	U	0.15	U
85-68-7	BENZYL BUTYL PHTHALATE	NL	122000	µg/kg	180	UJ	200	UJ	190	UJ	**8800**	J-	170	U	**4000**	J-	170	U	2.6	U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	NL	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	2.6	U
111-44-4	BIS(2-CHLOROETHYL) ETHER	NL	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	2.6	U
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	NL	435000	µg/kg	180	UJ	200	UJ	190	UJ	**5600**	J-	170	U	**220**	J-	170	U	1	U
108-60-1	BIS-CHLOROISOPROPYL ETHER	NL	NL	µg/kg	180	U	200	U	190	U	170	U	170	U	170	U	170	U	2.6	U
105-60-2	CAPROLACTAM	NL	NL	µg/kg	180	U	200	U	190	U	170	U	170	U	170	U	170	U	2.1	U
86-74-8	CARBAZOLE	NL	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	**250**		170	U	1	U

Table 4-1c
Soil Sample Detections – SVOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

					Sample ID		SB-06-A		SB-06-B		SB-906-B		SB-07-A		SB-07-B		SB-11-A		SB-11-B		RB-01	
					Location ID		SB-06		SB-06		SB-06		SB-07		SB-07		SB-11		SB-11			
					Sample Date		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/9/2016	
					Sample Type		N		N		FD		N		N		N		N		RB	
					Parent Sample Code						SB-06-B											
					Depth (feet bgs)		0-2		7-9		7-9		0-1		9-11		0-2		8-10			
CAS No.	Chemical	NYSDEC Commercial Use SCOs	NYSDEC CP-51 Soil Cleanup Guidance	Unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
53-70-3	DIBENZO(A,H)ANTHRACENE	560	NL	µg/kg	**6.3**	J+	8.1	UJ	8.1	UJ	**75**	J+	**7.1**	J+	**110**		7.2	U	0.15	U
132-64-9	DIBENZOFURAN	350000	6200	µg/kg	180	U	200	U	190	U	170	U	170	U	**68**	J	170	U	1	U
84-66-2	DIETHYL PHTHALATE	NL	7100	µg/kg	180	U	200	U	190	U	170	U	170	U	170	U	170	U	1	U
131-11-3	DIMETHYL PHTHALATE	NL	27000	µg/kg	180	U	200	U	190	U	170	U	170	U	170	U	170	U	1	U
84-74-2	DI-N-BUTYLPHTHALATE	NL	8100	µg/kg	180	U	200	U	190	U	**190**		170	U	**52**	J	170	U	1	U
117-84-0	DI-N-OCTYLPHTHALATE	NL	120000	µg/kg	180	UJ	200	UJ	190	UJ	170	UJ	170	UJ	**18**	J	170	U	2.6	U
206-44-0	FLUORANTHENE	500000	NL	µg/kg	**81**	J+	**4.5**	J	**29**		**710**		**100**		**2800**		7.2	U	0.15	U
86-73-7	FLUORENE	500000	NL	µg/kg	7.4	U	8.1	U	**1.6**	J	**53**		**4.6**	J	**140**		7.2	U	0.15	U
87-68-3	HEXACHLORO-1,3-BUTADIENE	NL	NL	µg/kg	55	U	61	U	60	U	54	U	53	U	53	U	54	U	1	U
118-74-1	HEXACHLOROBENZENE	6000	1400	µg/kg	180	U	200	U	190	U	170	U	170	U	170	U	170	U	1	U
77-47-4	HEXACHLOROCYCLOPENTADIENE	NL	NL	µg/kg	180	UJ	200	UJ	190	UJ	170	U	170	U	170	U	170	U	1	U
67-72-1	HEXACHLOROETHANE	NL	NL	µg/kg	180	UJ	200	UJ	190	UJ	170	U	170	U	170	U	170	U	1	U
193-39-5	INDENO(1,2,3-CD)PYRENE	5600	NL	µg/kg	**17**	J+	8.1	UJ	**5.2**	J+	**240**	J+	**21**	J+	**350**		7.2	U	0.15	U
65794-96-9	M-CRESOL & P-CRESOL	NL	NL																		5.2	U
91-20-3	NAPHTHALENE	500000	12000	µg/kg	7.4	U	8.1	U	8.1	U	**26**		**2.8**	J	**45**		7.2	U	0.15	U
98-95-3	NITROBENZENE	69000	170	µg/kg	180	U	200	U	190	U	170	U	170	U	170	U	170	U	2.6	U
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	NL	NL	µg/kg	180	U	200	U	190	U	170	U	170	U	170	U	170	U	2.6	U
86-30-6	N-NITROSODIPHENYLAMINE	NL	NL	µg/kg	180	U	200	U	190	U	170	U	170	U	170	U	170	U	1	U
106-47-8	P-CHLOROANILINE	NL	220	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	1	U
87-86-5	PENTACHLOROPHENOL	6700	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	1	U
85-01-8	PHENANTHRENE	500000	NL	µg/kg	**23**	J+	**2.8**	J	**19**		**570**		**58**		**1700**		7.2	U		
108-95-2	PHENOL	500000	NL	µg/kg	180	U	200	U	190	U	170	UJ	170	U	170	U	170	U	1	U
100-01-6	P-NITROANILINE	NL	NL	µg/kg	350	U	390	U	390	U	350	UJ	340	U	340	U	340	U	2.6	U
129-00-0	PYRENE	500000	NL	µg/kg	**110**	J+	**5.7**	J	8.1	U	**1200**		**140**		**2900**		7.2	U	0.15	U

Bolded - detected
all results are in µg/kg except rinsate blank is in µg/L
µg/kg - microgram per kilogram
µg/L - microgram per kilogram
bgs - below ground surface
FD - field duplicate
RB - rinsate blank
ID - identification
N - normal
No. - number
NL - not listed
NYSDEC - New York State Department of Environmental Conservation
Q - qualifier
R - rejected result
SCO - soil cleanup objective
J - estimated result
J+ - estimated result, biased high
U - non-detect
2-methylnaphthalene, 2-methylphenol, 4-methylphenol, and phenanthrene
not reported for rinsate blank
m-cresol and p-cresol not reported for soil samples

Table 4-1d
Soil Sample Detections – PCBs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

				Sample ID		SB-01-A		SB-01-B		SB-03-A		SB-03-B		SB-04-A		SB-04-B		SB-05-A		SB-05-B		SB-06-A		SB-06-B		SB-906-B		SB-07-A		SB-07-B		SB-11-A		SB-11-B		RB-01	
				Location ID		SB-01		SB-01		SB-03		SB-03		SB-04		SB-04		SB-05		SB-05		SB-06		SB-06		SB-06		SB-07		SB-07		SB-11		SB-11			
				Sample Date		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/9/2016	
				Sample Type		N		N		N		N		N		N		N		N		N		N		FD		N		N		N		N		RB	
				Parent Sample Code																						SB-06-B											
				Depth (feet bgs)		0-2		6-8		0-2		5-7		0-2		9-11		0-4		5.5-9.5		0-2		7-9		7-9		0-1		9-11		0-2		8-10			
CAS No.	Chemical	NYSDEC Commercial Use SCOs	Unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
12674-11-2	AROCLOR 1016	1000	µg/kg	38	U	36	U	38	U	36	U	36	U	36	U	36	U	36	U	35	U	36	U	40	U	39	U	36	U	36	U	35	U	35	U	0.17	U
11104-28-2	AROCLOR 1221	1000	µg/kg	38	U	36	U	38	U	36	U	36	U	36	U	36	U	36	U	35	U	36	U	40	U	39	U	36	U	36	U	35	U	35	U	0.17	U
11141-16-5	AROCLOR 1232	1000	µg/kg	38	U	36	U	38	U	36	U	36	U	36	U	36	U	36	U	35	U	36	U	40	U	39	U	36	U	36	U	35	U	35	U	0.17	U
53469-21-9	AROCLOR 1242	1000	µg/kg	38	U	36	U	38	U	36	U	36	U	36	U	36	U	36	U	35	U	36	U	40	U	39	U	36	U	36	U	35	U	35	U	0.17	U
12672-29-6	AROCLOR 1248	1000	µg/kg	38	U	36	U	38	U	36	U	36	U	36	U	36	U	36	U	35	U	36	U	40	U	39	U	36	U	36	U	35	U	35	U	0.17	U
11097-69-1	AROCLOR 1254	1000	µg/kg	38	U	36	U	38	U	36	U	36	U	36	U	36	U	36	U	35	U	36	U	40	U	39	U	36	U	36	U	35	U	35	U	0.17	U
11096-82-5	AROCLOR 1260	1000	µg/kg	**12**	J	36	U	**15**	J	36	U	36	U	36	U	36	U	36	U	35	U	36	U	40	U	39	U	**35**	J	36	U	**27**	J	35	U	0.17	U
37324-23-5	AROCLOR 1262	1000	µg/kg	38	U	36	U	38	U	36	U	36	U	36	U	36	U	36	U	35	U	36	U	40	U	39	U	36	U	36	U	35	U	35	U	0.43	U
11100-14-4	AROCLOR 1268	1000	µg/kg	38	U	36	U	38	U	36	U	36	U	36	U	36	U	36	U	35	U	36	U	40	U	39	U	36	U	36	U	35	U	35	U	0.17	U
1336-36-3	TOTAL PCBS	1000	µg/kg	**12**	J	36	U	**15**	J	36	U	36	U	36	U	36	U	36	U	35	U	36	U	40	U	39	U	**35**	J	36	U	**27**	J	35	U	0.43	U

Bolded - detected
all results are in µg/kg except rinsate blank is in µg/L
µg/kg - microgram per kilogram
µg/L - microgram per liter
bgs - below ground surface
FD - field duplicate
RB - rinsate blank
ID - identification
N - normal
No. - number
NL - not listed
NYSDEC - New York State Department of Environmental Conservation
Q - qualifier
RSLs - regional screening levels
SCO - soil cleanup objective
J - estimated result
U - non-detect

Table 4-1e
Soil Sample Detections – Metals
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

				Sample ID		SB-01-A		SB-01-B		SB-03-A		SB-03-B		SB-04-A		SB-04-B		SB-05-A		SB-05-B		SB-06-A		SB-06-B		SB-906-B		SB-07-A		SB-07-B		SB-11-A		SB-11-B		RB-01	
				Location ID		SB-01		SB-01		SB-03		SB-03		SB-04		SB-04		SB-05		SB-05		SB-06		SB-06		SB-06		SB-07		SB-07		SB-11		SB-11			
				Sample Date		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/7/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/8/2016		9/9/2016	
				Sample Type		N		N		N		N		N		N		N		N		N		N		FD		N		N		N		N		RB	
				Parent Sample ID																						SB-06-B											
				Depth (feet bgs)		0-2		6-8		0-2		5-7		0-2		9-11		0-4		5.5-9.5		0-2		7-9		7-9		0-1		9-11		0-2		8-10			
CAS No.	Chemical	NYSDEC Commercial Use SCOs	Unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
7429-90-5	ALUMINUM	NL	mg/kg	**12000**		**8900**		**11000**		**8700**		**15000**		**10000**		**12000**		**11000**		**13000**		**15000**		**12000**		**12000**		**11000**		**14000**		**11000**		**6.1**	J
7440-36-0	ANTIMONY	NL	mg/kg	**5.4**		**2.7**		**3.3**		**2.5**		**7.8**		**4.4**		**3.6**		**3.3**		**6.2**		**3.1**		**2.7**		**4.4**		**4.5**		**6.6**		**2.1**		0.5	U
7440-38-2	ARSENIC	16	mg/kg	**2.2**		**1.8**		**1.8**		**2.1**		**2**		**2**		**2**		**1.1**	J	**1.8**		**2.4**		**2**		**2**		**2**		**4.1**		**1.4**	J	2	U
7440-39-3	BARIUM	400	mg/kg	**77**	J	**25**	J	**38**	J	**32**	J	**73**	J	**42**	J	**31**	J	**35**	J	**46**	J	**36**	J	**32**	J	**2000**	J	**48**	J	**97**	J	**33**	J	1	U
7440-41-7	BERYLLIUM	590	mg/kg	**0.047**	J	**0.077**	J	**0.13**	J	**0.083**	J	**0.094**	J	**0.057**	J	**0.12**	J	**0.17**	J	**0.11**	J	**0.19**	J	**0.16**	J	**0.13**	J	**0.17**	J	**0.16**	J	**0.2**		1	U
7440-43-9	CADMIUM	9.3	mg/kg	**0.25**		**0.043**	J	**0.19**		**0.058**	J	**0.53**		**0.075**	J	**0.032**	J	0.18	U	**0.039**	J	**0.085**	J	**0.088**	J	**0.75**		**0.049**	J	**1.2**		**0.028**	J	1	U
7440-70-2	CALCIUM METAL	NL	mg/kg	**5500**	J	**1500**	J	**1600**	J	**1200**	J	**1700**	J	**1800**	J	**2800**	J	**1600**	J	**1400**	J	**1500**	J	**1400**	J	**2500**	J	**1400**	J	**2400**	J	**1300**	J	250	U
7440-47-3	CHROMIUM	NL	mg/kg	**18**		**7**		**11**		**6.1**		**20**		**12**		**12**		**7.7**		**15**		**9.4**		**7.9**		**34**		**12**		**24**		**5.2**		**0.62**	J
7440-48-4	COBALT	NL	mg/kg	**5.9**		**3**		**3.7**		**2.8**		**8.4**		**4.8**		**3.9**		**3.6**		**6.7**		**3.4**		**3**		**4.9**		**5**		**7.3**		**2.3**		1	U
7440-50-8	COPPER	270	mg/kg	**58**	J	**30**	J	**38**	J	**23**	J	**67**	J	**35**	J	**33**	J	**32**	J	**48**	J	**27**	J	**25**	J	**240**	J	**45**	J	**96**	J	**28**	J	**1**	J
7439-89-6	IRON	NL	mg/kg	**16000**	J	**11000**	J	**13000**	J	**9100**	J	**21000**	J	**13000**	J	**13000**	J	**12000**	J	**17000**	J	**10000**	J	**8800**	J	**12000**	J	**15000**	J	**27000**	J	**10000**	J	**110**	J
7439-92-1	LEAD	1000	mg/kg	**34**		**3**	J	**53**		**3.9**		**76**		**3.9**		**5.9**		**2.9**	J	**4.7**		**6.9**		**6.8**		**570**		**8.2**		**490**		**2.9**	J	1	U
7439-95-4	MAGNESIUM	NL	mg/kg	**4700**	J	**2400**	J	**2600**	J	**1700**	J	**5300**	J	**3000**	J	**2700**	J	**3100**	J	**4000**	J	**1800**	J	**1600**	J	**4000**	J	**3300**	J	**4300**	J	**2200**	J	250	U
7439-96-5	MANGANESE	10000	mg/kg	**330**		**130**		**240**		**140**		**310**		**360**		**160**		**140**		**270**		**160**		**160**		**160**		**310**		**490**		**210**		**1.5**	J
7440-02-0	NICKEL	310	mg/kg	**16**		**5.5**		**9.3**		**4.7**		**18**		**11**		**8.4**		**9.3**		**14**		**7.4**		**5.9**		**23**		**11**		**19**		**4.8**		**6.7**	J
7440-09-7	POTASSIUM	NL	mg/kg	**1600**		**2800**		**1400**		**2100**		**3000**		**2500**		**1700**		**2500**		**2400**		**1700**		**1600**		**1700**		**2700**		**2600**		**2900**		250	U
7782-49-2	SELENIUM	1500	mg/kg	1.5	UJ	1.4	UJ	1.4	UJ	1.4	UJ	1.4	UJ	1.5	UJ	1.5	UJ	1.4	UJ	1.4	UJ	1.6	UJ	1.5	UJ	1.4	UJ	1.4	UJ	1.4	UJ	1.4	UJ	5	U
7440-22-4	SILVER	1500	mg/kg	0.73	U	0.7	U	0.72	U	0.7	U	0.71	U	0.73	U	0.73	U	0.71	U	0.71	U	0.78	U	0.76	U	0.71	U	0.71	U	0.69	U	0.71	U	**0.28**	J
7440-23-5	SODIUM	NL	mg/kg	**250**	J	**190**	J	**170**	J	**130**	J	**220**	J	**170**	J	**220**	J	**140**	J	**110**	J	**180**	J	**140**	J	**210**	J	**140**	J	**120**	J	**100**	J	250	U
7440-28-0	THALLIUM	NL	mg/kg	1.5	UJ	1.4	UJ	1.4	UJ	1.4	UJ	1.4	UJ	1.5	UJ	1.5	UJ	1.4	UJ	1.4	UJ	1.6	UJ	1.5	UJ	1.4	UJ	1.4	UJ	1.4	UJ	1.4	UJ	1	U
7440-62-2	VANADIUM	NL	mg/kg	**28**	J	**12**	J	**15**	J	**10**	J	**29**	J	**17**	J	**16**	J	**11**	J	**22**	J	**17**	J	**13**	J	**18**	J	**17**	J	**28**	J	**9.1**	J	1	U
7440-66-6	ZINC	10000	mg/kg	**62**	J	**34**	J	**150**	J	**31**	J	**56**	J	**41**	J	**32**	J	**31**	J	**48**	J	**48**	J	**38**	J	**2200**	J	**44**	J	**160**	J	**32**	J	**9.6**	J

Bolded - detected
exceeds NYSDEC Commercial Use SCOs
all results are in mg/kg except rinsate blank is in µg/L
mg/kg - milligram per kilogram
µg/L - microgram per liter
bgs - below ground surface
FD - field duplicate
RB - rinsate blank
ID - identification
N - normal
No. - number
NL - not listed
NYSDEC - New York State Department of Environmental Conservation
Q - qualifier
SCO - soil cleanup objective
J- = estimated result, biased low
U - non-detect
UJ - estimated non detect

Table 4-2a
Groundwater Sample Detections – VOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

				Sample ID	MW-1-A		MW-91-A		MW-2-A		GW-01-A		GW-05-A		GW-09-A		GW-11-A		PW-01-A		RB-02		TB-02	
				Location ID	MW-1		MW-1		MW-2		GW-01		GW-05		GW-09		GW-11		PW-01					
				Sample Date	9/9/2016		9/9/2016		9/12/2016		9/9/2016		9/9/2016		9/12/2016		9/12/2016		9/12/2016		9/9/2016		9/12/2016	
				Sample Type	N		FD		N		N		N		N		N		N		RB		TB	
				Parent Sample Code			MW-1-A																	
				Depth (feet bgs)	10.6-20		10.6-20		10.79-12		9.57-13		11-12.3		11.13-13.4		10.5-12.6		N/A					
CAS No.	Chemical	NYSDEC Standards and Guidance Values for Class GA Groundwater (AWQS)	Unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q			Result	Q	Result	Q
71-55-6	1,1,1-TRICHLOROETHANE	5	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	5	µg/L	0.6	UJ	0.6	UJ	0.6	UJ	0.6	UJ	0.6	UJ	0.6	UJ	0.6	UJ	0.6	UJ	0.6	U	0.6	U
79-00-5	1,1,2-TRICHLOROETHANE	1	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
75-34-3	1,1-DICHLOROETHANE	5	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
75-35-4	1,1-DICHLOROETHENE	5	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
87-61-6	1,2,3-TRICHLOROBENZENE	5	µg/L	0.6	UJ	0.6	UJ	0.6	UJ	0.6	U	0.6	U	0.6	UJ	0.6	UJ	0.6	UJ	0.6	U	0.6	U
120-82-1	1,2,4-TRICHLOROBENZENE	5	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.04	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
106-93-4	1,2-DIBROMOETHANE	0.0006	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
95-50-1	1,2-DICHLOROBENZENE	3	µg/L	**3.2**		**3.1**		0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
107-06-2	1,2-DICHLOROETHANE	0.6	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
78-87-5	1,2-DICHLOROPROPANE	1	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
541-73-1	1,3-DICHLOROBENZENE	3	µg/L	**0.73**	J	**0.74**	J	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
106-46-7	1,4-DICHLOROBENZENE	3	µg/L	**15**		**14**		0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
78-93-3	2-Butanone (MEK)	50	µg/L	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	**2.4**	J	**2.8**	J
591-78-6	2-Hexanone	50	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	NL	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
67-64-1	ACETONE	50	µg/L	10	UJ	10	UJ	**17**		10	UJ	**19**		10	U	10	U	10	U	**14**		**13**	
71-43-2	BENZENE	1	µg/L	**0.75**	J	**0.74**	J	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
74-97-5	BROMOCHLOROMETHANE	5	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
75-27-4	BROMODICHLOROMETHANE	50	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
75-25-2	BROMOFORM	50	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
74-83-9	BROMOMETHANE	5	µg/L	1	UJ	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
75-15-0	CARBON DISULFIDE	60	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	**0.87**	J	0.6	U	0.6	U	0.6	U
56-23-5	CARBON TETRACHLORIDE	5	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U

Table 4-2a
Groundwater Sample Detections – VOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

				Sample ID		MW-1-A		MW-91-A		MW-2-A		GW-01-A		GW-05-A		GW-09-A		GW-11-A		PW-01-A		RB-02		TB-02	
				Location ID		MW-1		MW-1		MW-2		GW-01		GW-05		GW-09		GW-11		PW-01					
				Sample Date		9/9/2016		9/9/2016		9/12/2016		9/9/2016		9/9/2016		9/12/2016		9/12/2016		9/12/2016		9/9/2016		9/12/2016	
				Sample Type		N		FD		N		N		N		N		N		N		RB		TB	
				Parent Sample Code				MW-1-A																	
				Depth (feet bgs)		10.6-20		10.6-20		10.79-12		9.57-13		11-12.3		11.13-13.4		10.5-12.6		N/A					
108-90-7	CHLOROBENZENE	5	µg/L	**79**		**76**		0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
75-00-3	CHLOROETHANE	5	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
67-66-3	CHLOROFORM	7	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
74-87-3	CHLOROMETHANE	5	µg/L	1	UJ	1	UJ	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	**0.65**	J
156-59-2	CIS-1,2-DICHLOROETHENE	5	µg/L	**0.5**	J	**0.46**	J	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	0.4	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
110-82-7	CYCLOHEXANE	NL	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
124-48-1	DIBROMOCHLOROMETHANE	50	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
75-71-8	DICHLORODIFLUOROMETHANE	5	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
98-82-8	ISOPROPYLBENZENE	5	µg/L	0.6	U	0.6	U	**3.6**		0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
179601-23-1	M,P-XYLENE	5	µg/L	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
79-20-9	METHYL ACETATE	NL	µg/L	1	U	1	U	1	U	1	U	**1.2**	J	1	U	1	U	1	U	**5.5**		1	U	1	U
1634-04-4	METHYL TERT-BUTYL ETHER	10	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
108-87-2	METHYLCYLOHEXANE	NL	µg/L	0.6	U	0.6	U	**1.6**		0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
75-09-2	METHYLENE CHLORIDE	5	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	**0.29**	J	**0.3**	J
95-47-6	O-XYLENE	5	µg/L	0.6	UJ	0.6	UJ	0.6	UJ	0.6	UJ	0.6	UJ	0.6	UJ	0.6	UJ	0.6	UJ	0.6	UJ	0.6	U	0.6	U
100-42-5	STYRENE	5	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	UJ	0.6	UJ	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
127-18-4	TETRACHLOROETHENE	5	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
108-88-3	TOLUENE	5	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	**0.98**	J	0.6	U	0.6	U
156-60-5	TRANS-1,2-DICHLOROETHENE	5	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	0.4	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
79-01-6	TRICHLOROETHENE	5	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
75-69-4	TRICHLOROFLUOROMETHANE	5	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
75-01-4	VINYL CHLORIDE	2	µg/L	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U

Bolded - detection
exceeds NYSDEC AWQS

µg/L - microgram per liter
AWQS - Ambient Water Quality Standards
bgs - below ground surface
FD - field duplicate
ID - identification
N - normal
N/A - not available
No. - number
RB - rinsate blank
NYSDEC - New York State Department of Environmental Conservation
Q - qualifier
J - estimated result
TB - trip blank
UJ - estimated non-detect
U - non-detect
NL - not listed

Table 4-2b
Groundwater Sample Detections – TPH
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

			Sample ID	MW-1-A		MW-91-A		GW-01-A		GW-11-A		GW-09-A		GW-05-B		MW-2-A		RB-02	
			Location ID	MW-1		MW-1		GW-01		GW-11		GW-09		GW-05		MW-2			
			Sample Date	9/9/2016		9/9/2016		9/9/2016		9/12/2016		9/12/2016		9/12/2016		9/12/2016		9/9/2016	
			Sample Type	N		FD		N		N		N		N		N		RB	
			Parent Sample Code			MW-1-A													
			Depth (feet bgs)	10.6-20		10.6-20		9.57-13		10.5-12.6		11.13-13.4		11-12.3		10.79-12			
CAS No.	Chemical	Unit		Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
68334-30-5	DIESEL RANGE ORGANICS	µg/L		190	UJ	**270**	J	NA		NA		**140**	J	NA		NA		**50**	J
8006-61-9	GASOLINE RANGE ORGANICS	µg/L		**120**		**120**		100	UJ	100	U	100	U	100	U	**390**		**23**	J

µg/L - microgram per liter
AWQS - Ambient Water Quality Standards
bgs - below ground surface
FD - field duplicate
RB - rinsate blank
ID - identification
N - normal
NA - not analyzed
No. - number
Q - qualifier
J - estimated result
UJ - estimated non-detect

Table 4-2c
Groundwater Sample Detections – SVOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

		Sample ID		MW-1-A		MW-91-A		PW-01-A		RB-02	
		Location ID		MW-1		MW-1		PW-01			
		Sample Date		9/9/2016		9/9/2016		9/12/2016		9/9/2016	
		Sample Type		N		FD		N		RB	
		Parent Sample Code				MW-1-A					
		Depth (feet bgs)		10.6-20		10.6-20					
CAS No.	Chemical	NYSDEC Standards and Guidance Values for Class GA Groundwater (AWQS)	Unit	Result	Q	Result	Q	Result	Q	Result	Q
95-52-4	1,1-BIPHENYL	NL	µg/L	1.9	R	1.9	U	2.1	UJ	2	U
95-94-3	1,2,4,5-TETRACHLOROBENZENE	5	µg/L	0.96	U	0.94	U	1.1	U	1	U
218-01-9	1,2-BENZPHENANTHRACENE	0.002	µg/L	0.14	U	**0.41**		0.16	U	0.15	U
123-91-1	1,4-DIOXANE	NL	µg/L	0.19	U	0.19	U	0.21	U	0.2	U
58-90-2	2,3,4,6-TETRACHLOROPHENOL	NL	µg/L	2.4	U	2.4	U	2.6	U	2.5	U
95-95-4	2,4,5-TRICHLOROPHENOL	NL	µg/L	2.4	U	2.4	U	2.6	U	2.5	U
88-06-2	2,4,6-TRICHLOROPHENOL	NL	µg/L	0.96	U	0.94	U	1.1	U	1	U
120-83-2	2,4-DICHLOROPHENOL	5	µg/L	2.4	U	2.4	U	2.6	U	2.5	U
105-67-9	2,4-DIMETHYLPHENOL	50	µg/L	2.4	U	2.4	U	2.6	U	2.5	U
51-28-5	2,4-DINITROPHENOL	10	µg/L	9.6	U	9.4	U	11	U	10	U
121-14-2	2,4-DINITROTOLUENE	5	µg/L	0.96	U	0.94	U	1.1	U	1	U
606-20-2	2,6-DINITROTOLUENE	5	µg/L	0.96	U	0.94	U	1.1	U	1	U
91-58-7	2-CHLORONAPHTHALENE	NL	µg/L	0.96	U	0.94	U	1.1	U	1	U
95-57-8	2-CHLOROPHENOL	NL	µg/L	0.96	U	0.94	U	1.1	U	1	U
88-74-4	2-NITROANILINE	5	µg/L	0.96	U	0.94	U	1.1	U	1	U
88-75-5	2-NITROPHENOL	NL	µg/L	2.4	U	2.4	U	2.6	U	2.5	U
91-94-1	3,3'-DICHLOROBENZIDINE	5	µg/L	2.4	R	2.4	U	2.6	U	2.5	U
78-59-1	3,5,5-TRIMETHYL-2-CYCLOHEXENE-1-ONE	50	µg/L	0.96	U	0.94	U	1.1	U	1	U
99-09-2	3-NITROANILINE	5	µg/L	0.96	U	0.94	U	1.1	U	1	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	NL	µg/L	0.96	U	0.94	U	1.1	UJ	1	U
101-55-3	4-BROMOPHENYL PHENYL ETHER	NL	µg/L	0.96	U	0.94	U	1.1	U	1	U
59-50-7	4-CHLORO-3-METHYLPHENOL	NL	µg/L	2.4	U	2.4	U	2.6	U	2.5	U
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	NL	µg/L	0.96	U	0.94	U	1.1	U	1	U
100-02-7	4-NITROPHENOL	NL	µg/L	2.4	U	2.4	U	5.3	U	2.5	U
83-32-9	ACENAPHTHENE	NL	µg/L	0.14	U	0.14	U	2.6	U	0.15	U
208-96-8	ACENAPHTHYLENE	NL	µg/L	0.14	U	0.14	U	0.16	U	0.15	U
98-86-2	ACETOPHENONE	NL	µg/L	1.9	U	1.9	U	0.16	U	2	U
120-12-7	ANTHRACENE	50	µg/L	0.14	U	0.14	U	2.1	UJ	0.15	U
1912-24-9	ATRAZINE	7.5	µg/L	1.9	R	1.9	UJ	0.16	U	2	U
100-52-7	BENZALDEHYDE	NL	µg/L	1.9	UJ	1.9	UJ	2.1	UJ	2	U
56-55-3	BENZO(A)ANTHRACENE	0.002	µg/L	0.14	U	**0.28**		2.1	UJ	0.15	U

Table 4-2c
Groundwater Sample Detections – SVOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

		Sample ID		MW-1-A		MW-91-A		PW-01-A		RB-02	
		Location ID		MW-1		MW-1		PW-01			
		Sample Date		9/9/2016		9/9/2016		9/12/2016		9/9/2016	
		Sample Type		N		FD		N		RB	
		Parent Sample Code				MW-1-A					
		Depth (feet bgs)		10.6-20		10.6-20					
CAS No.	Chemical	NYSDEC Standards and Guidance Values for Class GA Groundwater (AWQS)	Unit	Result	Q	Result	Q	Result	Q	Result	Q
50-32-8	BENZO(A)PYRENE	NL	µg/L	0.14	U	**0.34**		0.16	U	0.15	U
205-99-2	BENZO(B)FLUORANTHENE	0.002	µg/L	0.14	U	**0.52**		0.16	U	0.15	U
191-24-2	BENZO(G,H,I)PERYLENE	NL	µg/L	0.14	U	**0.28**		0.16	U	0.15	U
207-08-9	BENZO(K)FLUORANTHENE	0.002	µg/L	0.14	U	**0.14**	J	0.16	U	0.15	U
85-68-7	BENZYL BUTYL PHTHALATE	50	µg/L	2.4	U	2.4	U	0.16	U	2.5	U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	5	µg/L	2.4	U	2.4	U	2.6	U	2.5	U
111-44-4	BIS(2-CHLOROETHYL) ETHER	1	µg/L	2.4	U	2.4	U	2.6	U	2.5	U
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	5	µg/L	0.96	U	0.94	U	2.6	U	1	U
108-60-1	BIS-CHLOROISOPROPYL ETHER	5	µg/L	2.4	U	2.4	U	1.1	U	2.5	U
105-60-2	CAPROLACTAM	NL	µg/L	1.9	R	1.9	R	2.6	U	2	U
86-74-8	CARBAZOLE	NL	µg/L	0.96	U	0.94	U	2.1	UJ	1	U
53-70-3	DIBENZO(A,H)ANTHRACENE	NL	µg/L	0.14	U	**0.075**	J	1.1	U	0.15	U
132-64-9	DIBENZOFURAN	NL	µg/L	0.96	U	0.94	U	0.16	U	1	U
84-66-2	DIETHYL PHTHALATE	50	µg/L	0.96	U	0.94	U	1.1	U	1	U
131-11-3	DIMETHYL PHTHALATE	50	µg/L	0.96	U	0.94	U	1.1	U	1	U
84-74-2	DI-N-BUTYLPHTHALATE	50	µg/L	0.96	U	0.94	U	1.1	U	1	U
117-84-0	DI-N-OCTYLPHTHALATE	50	µg/L	2.4	U	2.4	U	1.1	U	2.5	U
206-44-0	FLUORANTHENE	50	µg/L	0.14	U	**0.78**		2.6	U	0.15	U
86-73-7	FLUORENE	50	µg/L	0.14	U	0.14	U	0.16	U	0.15	U
87-68-3	HEXACHLORO-1,3-BUTADIENE	0.5	µg/L	0.96	U	0.94	U	0.16	U	1	U
118-74-1	HEXACHLOROBENZENE	0.04	µg/L	0.96	U	0.94	U	1.1	U	1	U
77-47-4	HEXACHLOROCYCLOPENTADIENE	5	µg/L	0.96	U	0.94	U	1.1	U	1	U
67-72-1	HEXACHLOROETHANE	5	µg/L	0.96	U	0.94	U	1.1	UJ	1	U
193-39-5	INDENO(1,2,3-CD)PYRENE	0.002	µg/L	0.14	U	**0.24**		1.1	U	0.15	U
65794-96-9	M-CRESOL & P-CRESOL	NL	µg/L	4.8	U	4.7	U	0.16	U	5	U
91-20-3	NAPHTHALENE	NL	µg/L	0.14	UJ	0.14	U	0.16	U	**0.1**	J
98-95-3	NITROBENZENE	0.4	µg/L	2.4	U	2.4	U	2.6	U	2.5	U
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	NL	µg/L	2.4	U	2.4	U	2.6	U	2.5	U
86-30-6	N-NITROSODIPHENYLAMINE	50	µg/L	0.96	UJ	0.94	U	1.1	U	1	U
106-47-8	P-CHLOROANILINE	5	µg/L	0.96	U	0.94	U	1.1	U	1	U
87-86-5	PENTACHLOROPHENOL	2	µg/L	0.96	U	0.94	U	1.1	U	1	U

Table 4-2c
Groundwater Sample Detections – SVOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

				Sample ID	MW-1-A		MW-91-A		PW-01-A		RB-02	
				Location ID	MW-1		MW-1		PW-01			
				Sample Date	9/9/2016		9/9/2016		9/12/2016		9/9/2016	
				Sample Type	N		FD		N		RB	
				Parent Sample Code			MW-1-A					
				Depth (feet bgs)	10.6-20		10.6-20					
CAS No.	Chemical	NYSDEC Standards and Guidance Values for Class GA Groundwater (AWQS)	Unit	Result	Q	Result	Q	Result	Q	Result	Q
108-95-2	PHENOL	2	µg/L	0.96	UJ	0.94	UJ	1.1	U	1	U
100-01-6	P-NITROANILINE	5	µg/L	2.4	U	2.4	U	2.6	U	2.5	U
129-00-0	PYRENE	50	µg/L	0.14	U	**0.68**		0.16	U	0.15	U

Bolded - detection
exceeds NYSDEC AWQS
µg/L - microgram per liter
AWQS - Ambient Water Quality Standards
bgs - below ground surface
FD - field duplicate
RB - rinsate blank
ID - identification
N - normal
No. - number
NL - not listed
NYSDEC - New York State Department of Environmental Conservation
Q - qualifier
R - rejected result
J - estimated result
UJ - estimated non-detect
U - non-detect

Table 4-2d
Groundwater Sample Detections – PCBs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

			Sample ID	MW-1-A		MW-91-A		RB-02	
			Location ID	MW-1		MW-1			
			Sample Date	9/9/2016		9/9/2016		9/9/2016	
			Sample Type	N		FD		RB	
			Parent Sample Code			MW-1-A			
			Depth (feet bgs)	10.6-20		10.6-20			
CAS No.	Chemical	NYSDEC Standards and Guidance Values for Class GA Groundwater (AWQS)	Unit	Result	Q	Result	Q	Result	Q
12674-11-2	AROCLOR 1016	0.09	µg/L	0.038	U	0.038	U	0.04	U
11104-28-2	AROCLOR 1221	0.09	µg/L	0.038	U	0.038	U	0.04	U
11141-16-5	AROCLOR 1232	0.09	µg/L	0.038	U	0.038	U	0.04	U
53469-21-9	AROCLOR 1242	0.09	µg/L	0.038	U	0.038	U	0.04	U
12672-29-6	AROCLOR 1248	0.09	µg/L	0.038	U	0.038	U	0.04	U
11097-69-1	AROCLOR 1254	0.09	µg/L	0.038	U	0.038	U	0.04	U
11096-82-5	AROCLOR 1260	0.09	µg/L	**0.11**	J	**0.12**	J	0.04	U
37324-23-5	AROCLOR 1262	0.09	µg/L	0.096	U	0.094	U	0.1	U
11100-14-4	AROCLOR 1268	0.09	µg/L	0.038	U	0.038	U	0.04	U
1336-36-3	TOTAL PCBS	NL	µg/L	0.11	J	0.12	UJ	0.1	U

Bolded - detection

exceeds NYSDEC AWQS

µg/L - microgram per liter

AWQS - Ambient Water Quality Standards

bgs - below ground surface

FD - field duplicate

RB - rinsate blank

ID - identification

N - normal

No. - number

NL - not listed

NYSDEC - New York State Department of Environmental Conservation

Q - qualifier

J - estimated result

UJ - estimated non-detect

U - non-detect

Table 4-2e
Groundwater Sample Detections – Metals
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

			Sample ID	MW-1-A		MW-91-A		PW-01-A		RB-02	
			Location ID	MW-1		MW-1		PW-01			
			Sample Date	9/9/2016		9/9/2016		9/12/2016		9/9/2016	
			Sample Type	N		FD		N		RB	
			Parent Sample Code			MW-1-A					
			Depth (feet bgs)	10.6-20		10.6-20					
CAS No.	Chemical	NYSDEC Standards and Guidance Values for Class GA Groundwater (AWQS)	Unit	Result	Q	Result	Q	Result	Q	Result	Q
7429-90-5	ALUMINUM	NL	µg/L	**330**	J	**720**	J	**3.5**	J	**6.5**	J
7440-36-0	ANTIMONY	3	µg/L	2.5	UJ	**2.8**		**2.4**	J	0.75	U
7440-38-2	ARSENIC	25	µg/L	**1.8**	J	**2.5**	J	2	U	2	U
7440-39-3	BARIUM	1000	µg/L	**39**	J	**42**	J	**17**	J	1	U
7440-41-7	BERYLLIUM	3	µg/L	1	U	1	U	1	U	1	U
7440-43-9	CADMIUM	5	µg/L	1	U	1	U	1	U	1	U
7440-70-2	CALCIUM METAL	NL	µg/L	**27000**		**26000**		**24000**		250	U
7440-47-3	CHROMIUM	50	µg/L	20	U	20	U	1	U	1	U
7440-48-4	COBALT	NL	µg/L	**5.1**	J	**8.2**	J	**0.39**	J	1	U
7440-50-8	COPPER	200	µg/L	10	U	10	U	**65**		3	U
7439-89-6	IRON	300	µg/L	**2200**	J	**5100**	J	**170**	J	250	U
7439-92-1	LEAD	25	µg/L	**2**	J	**2.7**		**0.85**	J	1	U
7439-95-4	MAGNESIUM	35000	µg/L	**7000**		**6700**		**9400**		250	U
7439-96-5	MANGANESE	300	µg/L	**440**		**700**		**15**		**0.57**	J
7440-02-0	NICKEL	100	µg/L	20	UJ	20	UJ	**6.1**	J	**6.4**	J
7440-09-7	POTASSIUM	NL	µg/L	**4900**		**4900**		**2400**		250	U
7782-49-2	SELENIUM	10	µg/L	5	U	5	U	5	U	5	U
7440-22-4	SILVER	50	µg/L	**0.3**	J	**1**	J	**1.3**	J	0.5	U
7440-23-5	SODIUM	20000	µg/L	**120000**		**130000**		**67000**		250	U
7440-28-0	THALLIUM	0.5	µg/L	1	U	1	U	1	U	1	U
7440-62-2	VANADIUM	NL	µg/L	**3.9**	J	**6.2**	J	**1.1**	J	1	U
7440-66-6	ZINC	2000	µg/L	100	UJ	100	UJ	**170**		**15**	J

Bolded - detection
exceeds NYSDEC AWQS
µg/L - microgram per liter
AWQS - Ambient Water Quality Standards
bgs - below ground surface
FD - field duplicate
RB - rinsate blank
ID - identification
N - normal
No. - number
NL - not listed
NYSDEC - New York State Department of Environmental Conservation
Q - qualifier
J - estimated result
UJ - estimated non-detect
U - non-detect

Table 4-3a
Potable Water Sample Detections – VOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

				Sample ID	PW-01-A	
				Location ID	PW-01	
				Sample Date	9/12/2016	
				Sample Type	N	
CAS No.	Chemical	RSLs for Tap Water	NYSDEC Standards and Guidance Values for Class GA Groundwater (AWQS)	Unit	Result	Q
71-55-6	1,1,1-TRICHLOROETHANE	800	5	µg/L	0.6	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	0.076	5	µg/L	0.6	U
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5500	5	µg/L	0.6	UJ
79-00-5	1,1,2-TRICHLOROETHANE	0.041	1	µg/L	0.6	U
75-34-3	1,1-DICHLOROETHANE	2.8	5	µg/L	1	U
75-35-4	1,1-DICHLOROETHENE	28	5	µg/L	0.6	U
87-61-6	1,2,3-TRICHLOROBENZENE	0.7	5	µg/L	0.6	UJ
120-82-1	1,2,4-TRICHLOROBENZENE	0.4	5	µg/L	0.6	U
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	0.00033	0.04	µg/L	2	U
106-93-4	1,2-DIBROMOETHANE	0.0075	0.0006	µg/L	0.6	U
95-50-1	1,2-DICHLOROBENZENE	30	3	µg/L	0.6	U
107-06-2	1,2-DICHLOROETHANE	0.17	0.6	µg/L	0.6	U
78-87-5	1,2-DICHLOROPROPANE	0.44	1	µg/L	0.6	U
541-73-1	1,3-DICHLOROBENZENE	NL	3	µg/L	0.6	U
106-46-7	1,4-DICHLOROBENZENE	0.48	3	µg/L	0.6	U
78-93-3	2-BUTANONE (MEK)	560	50	µg/L	5	U
591-78-6	2-HEXANONE	3.8	50	µg/L	1	U
108-10-1	4-METHYL-2-PENTANONE (MIBK)	630	NL	µg/L	0.6	U
67-64-1	ACETONE	1400	50	µg/L	10	U
71-43-2	BENZENE	0.46	1	µg/L	0.6	U
74-97-5	BROMOCHLOROMETHANE	8.3	5	µg/L	0.6	U
75-27-4	BROMODICHLOROMETHANE	0.13	50	µg/L	0.6	U

Table 4-3a
Potable Water Sample Detections – VOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

				Sample ID	PW-01-A	
				Location ID	PW-01	
				Sample Date	9/12/2016	
				Sample Type	N	
CAS No.	Chemical	RSLs for Tap Water	NYSDEC Standards and Guidance Values for Class GA Groundwater (AWQS)	Unit	Result	Q
75-25-2	BROMOFORM	3.3	50	µg/L	0.6	U
74-83-9	BROMOMETHANE	0.75	5	µg/L	1	U
75-15-0	CARBON DISULFIDE	81	60	µg/L	0.6	U
56-23-5	CARBON TETRACHLORIDE	0.46	5	µg/L	0.6	U
108-90-7	CHLOROBENZENE	7.8	5	µg/L	0.6	U
75-00-3	CHLOROETHANE	2100	5	µg/L	1	U
67-66-3	CHLOROFORM	0.22	7	µg/L	0.6	U
74-87-3	CHLOROMETHANE	19	5	µg/L	0.6	U
156-59-2	CIS-1,2-DICHLOROETHENE	3.6	5	µg/L	0.6	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	NL	0.4	µg/L	0.6	U
110-82-7	CYCLOHEXANE	1300	NL	µg/L	0.6	U
124-48-1	DIBROMOCHLOROMETHANE	0.87	50	µg/L	0.6	U
75-71-8	DICHLORODIFLUOROMETHANE	20	5	µg/L	0.6	U
98-82-8	ISOPROPYLBENZENE	45	5	µg/L	0.6	U
179601-23-1	M,P-XYLENE	5	5	µg/L	1.2	U
79-20-9	METHYL ACETATE	2000	NL	µg/L	**5.5**	
1634-04-4	METHYL TERT-BUTYL ETHER	14	10	µg/L	0.6	U
108-87-2	METHYLCYLOHEXANE	NL	NL	µg/L	0.6	U
75-09-2	METHYLENE CHLORIDE	11	5	µg/L	0.6	U
95-47-6	O-XYLENE	5	5	µg/L	0.6	UJ
100-42-5	STYRENE	120	5	µg/L	0.6	U
127-18-4	TETRACHLOROETHENE	4.1	5	µg/L	0.6	U

Table 4-3a
Potable Water Sample Detections – VOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

					Sample ID	PW-01-A
					Location ID	PW-01
					Sample Date	9/12/2016
					Sample Type	N
CAS No.	Chemical	RSLs for Tap Water	NYSDEC Standards and Guidance Values for Class GA Groundwater (AWQS)	Unit	Result	Q
108-88-3	TOLUENE	110	5	µg/L	**0.98**	J
156-60-5	TRANS-1,2-DICHLOROETHENE	36	5	µg/L	0.6	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	NL	0.4	µg/L	0.6	U
79-01-6	TRICHLOROETHENE	0.28	5	µg/L	0.6	U
75-69-4	TRICHLOROFLUOROMETHANE	520	5	µg/L	0.6	U
75-01-4	VINYL CHLORIDE	0.019	2	µg/L	0.6	U

µg/L - microgram per liter
AWQS - Ambient Water Quality Standards
bgs - below ground surface
EPA - Environmental Protection Agency
ID - identification
N - normal
No. - number
NL - not listed
NYSDEC - New York State Department of Environmental Conservation
Q - qualifier
RSLs - regional screen levels
J - estimated result
U - non-detect
UJ - estimated non-detect

Table 4-3b
Potable Water Sample Detections – SVOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

			Sample ID		PW-01-A	
			Location ID		PW-01	
			Sample Date		9/12/16	
			Sample Type		N	
			Parent Sample Code			
CAS No.	Chemical	EPA RSLs for Tap Water	NYSDEC Standards and Guidance Values for Class GA Groundwater (AWQS)	Unit	Result	Q
95-52-4	1,1-BIPHENYL	NL	NL	µg/L	2.1	UJ
95-94-3	1,2,4,5-TETRACHLOROBENZENE	0.17	5	µg/L	1.1	U
218-01-9	1,2-BENZPHENANTHRACENE	3.4	0.002	µg/L	0.16	U
123-91-1	1,4-DIOXANE	0.46	NL	µg/L	0.21	U
58-90-2	2,3,4,6-TETRACHLOROPHENOL	24	NL	µg/L	2.6	U
95-95-4	2,4,5-TRICHLOROPHENOL	120	NL	µg/L	2.6	U
88-06-2	2,4,6-TRICHLOROPHENOL	1.2	NL	µg/L	1.1	U
120-83-2	2,4-DICHLOROPHENOL	4.6	5	µg/L	2.6	U
105-67-9	2,4-DIMETHYLPHENOL	36	50	µg/L	2.6	U
51-28-5	2,4-DINITROPHENOL	3.9	10	µg/L	11	U
121-14-2	2,4-DINITROTOLUENE	0.24	5	µg/L	1.1	U
606-20-2	2,6-DINITROTOLUENE	0.049	5	µg/L	1.1	U
91-58-7	2-CHLORONAPHTHALENE	75	NL	µg/L	1.1	U
95-57-8	2-CHLOROPHENOL	9.1	NL	µg/L	1.1	U
88-74-4	2-NITROANILINE	19	5	µg/L	1.1	U
88-75-5	2-NITROPHENOL	NL	NL	µg/L	2.6	U
91-94-1	3,3'-DICHLOROBENZIDINE	0.13	5	µg/L	2.6	U
78-59-1	3,5,5-TRIMETHYL-2-CYCLOHEXENE-1-ONE	78	50	µg/L	1.1	U
99-09-2	3-NITROANILINE	NL	5	µg/L	1.1	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	0.15	NL	µg/L	1.1	UJ
101-55-3	4-BROMOPHENYL PHENYL ETHER	NL	NL	µg/L	1.1	U

Table 4-3b
Potable Water Sample Detections – SVOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

			Sample ID		PW-01-A	
			Location ID		PW-01	
			Sample Date		9/12/16	
			Sample Type		N	
			Parent Sample Code			
CAS No.	Chemical	EPA RSLs for Tap Water	NYSDEC Standards and Guidance Values for Class GA Groundwater (AWQS)	Unit	Result	Q
59-50-7	4-CHLORO-3-METHYLPHENOL	140	NL	µg/L	2.6	U
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	NL	NL	µg/L	1.1	U
106-44-5	4-METHYLPHENOL	190	NL	µg/L	5.3	U
100-02-7	4-NITROPHENOL	NL	NL	µg/L	2.6	U
83-32-9	ACENAPHTHENE	53	NL	µg/L	0.16	U
208-96-8	ACENAPHTHYLENE	NL	NL	µg/L	0.16	U
98-86-2	ACETOPHENONE	190	50	µg/L	2.1	UJ
120-12-7	ANTHRACENE	180	7.5	µg/L	0.16	U
1912-24-9	ATRAZINE	0.3	NL	µg/L	2.1	UJ
100-52-7	BENZALDEHYDE	190	0.002	µg/L	2.1	UJ
56-55-3	BENZO(A)ANTHRACENE	0.012	NL	µg/L	0.16	U
50-32-8	BENZO(A)PYRENE	0.0034	0.002	µg/L	0.16	U
205-99-2	BENZO(B)FLUORANTHENE	0.034	NL	µg/L	0.16	U
191-24-2	BENZO(G,H,I)PERYLENE	NL	0.002	µg/L	0.16	U
207-08-9	BENZO(K)FLUORANTHENE	0.34	50	µg/L	0.16	U
85-68-7	BENZYL BUTYL PHTHALATE	16	5	µg/L	2.6	U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	5.9	1	µg/L	2.6	U
111-44-4	BIS(2-CHLOROETHYL) ETHER	0.014	5	µg/L	2.6	U
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	5.6	5	µg/L	1.1	U
108-60-1	BIS-CHLOROISOPROPYL ETHER	71	NL	µg/L	2.6	U
105-60-2	CAPROLACTAM	990	NL	µg/L	2.1	UJ

Table 4-3b
Potable Water Sample Detections – SVOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

			Sample ID		PW-01-A	
			Location ID		PW-01	
			Sample Date		9/12/16	
			Sample Type		N	
			Parent Sample Code			
CAS No.	Chemical	EPA RSLs for Tap Water	NYSDEC Standards and Guidance Values for Class GA Groundwater (AWQS)	Unit	Result	Q
86-74-8	CARBAZOLE	NL	NL	µg/L	1.1	U
53-70-3	DIBENZO(A,H)ANTHRACENE	0.0034	NL	µg/L	0.16	U
132-64-9	DIBENZOFURAN	0.79	50	µg/L	1.1	U
84-66-2	DIETHYL PHTHALATE	1500	50	µg/L	1.1	U
131-11-3	DIMETHYL PHTHALATE	NL	50	µg/L	1.1	U
84-74-2	DI-N-BUTYLPHTHALATE	90	50	µg/L	1.1	U
117-84-0	DI-N-OCTYLPHTHALATE	20	50	µg/L	2.6	U
206-44-0	FLUORANTHENE	80	50	µg/L	0.16	U
86-73-7	FLUORENE	29	0.5	µg/L	0.16	U
87-68-3	HEXACHLORO-1,3-BUTADIENE	0.14	0.04	µg/L	1.1	U
118-74-1	HEXACHLOROBENZENE	0.0098	5	µg/L	1.1	U
77-47-4	HEXACHLOROCYCLOPENTADIENE	0.041	5	µg/L	1.1	UJ
67-72-1	HEXACHLOROETHANE	0.33	0.002	µg/L	1.1	U
193-39-5	INDENO(1,2,3-CD)PYRENE	0.034	NL	µg/L	0.16	U
91-20-3	NAPHTHALENE	0.17	NL	µg/L	0.16	U
98-95-3	NITROBENZENE	0.14	0.4	µg/L	2.6	U
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	0.011	NL	µg/L	2.6	U
86-30-6	N-NITROSODIPHENYLAMINE	12	50	µg/L	1.1	U
106-47-8	P-CHLOROANILINE	0.37	5	µg/L	1.1	U
87-86-5	PENTACHLOROPHENOL	0.041	2	µg/L	1.1	U
108-95-2	PHENOL	580	2	µg/L	1.1	U

Table 4-3b
Potable Water Sample Detections – SVOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

			Sample ID	PW-01-A	
			Location ID	PW-01	
			Sample Date	9/12/16	
			Sample Type	N	
			Parent Sample Code		
CAS No.	Chemical	EPA RSLs for Tap Water	NYSDEC Standards and Guidance Values for Class GA Groundwater (AWQS)	Unit	Result	Q
100-01-6	P-NITROANILINE	3.8	5	µg/L	2.6	U
129-00-0	PYRENE	12	50	µg/L	0.16	U

µg/L - microgram per liter
AWQS - Ambient Water Quality Standards
bgs - below ground surface
EPA - Environmental Protection Agency
ID - identification
N - normal
No. - number
NL - not listed
NYSDEC - New York State Department of Environmental Conservation
Q - qualifier
RSLs - regional screen levels
U - non-detect
UJ - estimated non-detect

Table 4-3c
Potable Water Sample Detections – Metals
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

				Sample ID	PW-01-A	
				Location ID	PW-01	
				Sample Date	9/12/2016	
				Sample Type	N	
CAS No.	Chemical	EPA RSLs for Tap Water	NYSDEC Standards and Guidance Values for Class GA Groundwater (AWQS)	Unit	Result	Q
7429-90-5	ALUMINUM	2000	NL	µg/L	**3.5**	J
7440-36-0	ANTIMONY	0.78	3	µg/L	**2.4**	J
7440-38-2	ARSENIC	0.052	25	µg/L	2	U
7440-39-3	BARIUM	380	1000	µg/L	**17**	J
7440-41-7	BERYLLIUM	2.5	3	µg/L	1	U
7440-43-9	CADMIUM	NL	5	µg/L	1	U
7440-70-2	CALCIUM METAL	NL	NL	µg/L	**24000**	
7440-47-3	CHROMIUM	NL	50	µg/L	1	U
7440-48-4	COBALT	0.6	NL	µg/L	**0.39**	J
7440-50-8	COPPER	80	200	µg/L	**65**	
7439-89-6	IRON	1400	300	µg/L	**170**	J
7439-92-1	LEAD	15	25	µg/L	**0.85**	J
7439-95-4	MAGNESIUM	NL	35000	µg/L	**9400**	
7439-96-5	MANGANESE	NL	300	µg/L	**15**	
7440-02-0	NICKEL	39	100	µg/L	**6.1**	J
7440-09-7	POTASSIUM	NL	NL	µg/L	**2400**	
7782-49-2	SELENIUM	10	10	µg/L	5	U
7440-22-4	SILVER	9.4	50	µg/L	**1.3**	J
7440-23-5	SODIUM	NL	20000	µg/L	**67000**	
7440-28-0	THALLIUM	0.02	0.5	µg/L	1	U
7440-62-2	VANADIUM	8.6	NL	µg/L	**1.1**	J
7440-66-6	ZINC	600	2000	µg/L	**170**	

Bolded - detection
exceeds NYSDEC AWQS
exceeds EPA RSL

µg/L - microgram per liter
AWQS - Ambient Water Quality Standards
bgs - below ground surface
EPA - Environmental Protection Agency
ID - identification
N - normal
No. - number
NL - not listed
NYSDEC - New York State Department of Environmental Conservation
Q - qualifier
RSLs - regional screening levels
J - estimated result
U - non-detect

Table 4-4
Air Sample Detections - VOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

				Sample ID	AO-01-A		SV-01-A		SV-02-A		SV-902-A	
				Location ID	AO-01		SV-01		SV-02		SV-02	
				Sample Date	9/12/2016		9/12/2016		9/12/2016		9/12/2016	
				Sample Type	N		N		N		FD	
				Parent Sample Code							SV-02-A	
CAS No.	Chemical	EPA VISL	NYSDOH AGVs	Unit	Result	Q	Result	Q	Result	Q	Result	Q
71-55-6	1,1,1-TRICHLOROETHANE	173809.5	NL	µg/m^3	6.5	UJ	6	UJ	6	UJ	7.6	UJ
79-34-5	1,1,2,2-TETRACHLOROETHANE	1.6	NL	µg/m^3	8.2	UJ	7.6	UJ	7.6	UJ	9.6	UJ
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1042857.1	NL	µg/m^3	9.2	UJ	8.4	UJ	8.4	UJ	11	UJ
79-00-5	1,1,2-TRICHLOROETHANE	5.8	NL	µg/m^3	6.5	UJ	6	UJ	6	UJ	7.6	UJ
75-34-3	1,1-DICHLOROETHANE	58.5	NL	µg/m^3	4.9	UJ	4.5	UJ	4.5	UJ	5.7	UJ
75-35-4	1,1-DICHLOROETHENE	6952.4	NL	µg/m^3	4.8	UJ	4.4	UJ	4.4	UJ	5.6	UJ
120-82-1	1,2,4-TRICHLOROBENZENE	69.5	NL	µg/m^3	8.9	UJ	8.2	UJ	8.2	UJ	10	UJ
95-63-6	1,2,4-TRIMETHYLBENZENE	NL	NL	µg/m^3	5.9	UJ	5.4	UJ	5.4	UJ	6.9	UJ
106-93-4	1,2-DIBROMOETHANE	0.2	NL	µg/m^3	9.2	UJ	8.5	UJ	8.5	UJ	11	UJ
95-50-1	1,2-DICHLOROBENZENE	6952.4	NL	µg/m^3	7.2	UJ	6.6	UJ	6.6	UJ	8.4	UJ
107-06-2	1,2-DICHLOROETHANE	3.6	NL	µg/m^3	4.9	UJ	4.5	UJ	4.5	UJ	5.7	UJ
78-87-5	1,2-DICHLOROPROPANE	9.4	NL	µg/m^3	5.5	UJ	5.1	UJ	5.1	UJ	6.5	UJ
76-14-2	1,2-DICHLOROTETRAFLUOROETHANE;FLUOROCARBON 114	NL	NL	µg/m^3	8.4	UJ	7.7	UJ	7.7	UJ	9.8	UJ
108-67-8	1,3,5-TRIMETHYLBENZENE	NL	NL	µg/m^3	5.9	UJ	5.4	UJ	5.4	UJ	6.9	UJ
541-73-1	1,3-DICHLOROBENZENE	NL	NL	µg/m^3	7.2	UJ	6.6	UJ	6.6	UJ	8.4	UJ
106-46-7	1,4-DICHLOROBENZENE	8.5	NL	µg/m^3	7.2	UJ	6.6	UJ	6.6	UJ	8.4	UJ
123-91-1	1,4-DIOXANE	NL	NL	µg/m^3	4.3	UJ	4	UJ	4	UJ	5	UJ
78-93-3	2-BUTANONE (MEK)	173809.5	NL	µg/m^3	3.5	UJ	**7.7**	J	**4.8**	J	4.1	UJ
591-78-6	2-HEXANONE	1042.9	NL	µg/m^3	4.9	UJ	4.5	UJ	4.5	UJ	5.7	UJ
622-96-8	4-ETHYLTOLUENE	NL	NL	µg/m^3	5.9	UJ	5.4	UJ	5.4	UJ	6.9	UJ
108-10-1	4-METHYL-2-PENTANONE (MIBK)	104285.7	NL	µg/m^3	4.9	UJ	4.5	UJ	4.5	UJ	5.7	UJ
67-64-1	ACETONE	1077619.0	NL	µg/m^3	**15**	J	**110**	J	**41**	J	**35**	J

Table 4-4
Air Sample Detections - VOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

				Sample ID	AO-01-A		SV-01-A		SV-02-A		SV-902-A	
				Location ID	AO-01		SV-01		SV-02		SV-02	
				Sample Date	9/12/2016		9/12/2016		9/12/2016		9/12/2016	
				Sample Type	N		N		N		FD	
				Parent Sample Code							SV-02-A	
CAS No.	Chemical	EPA VISL	NYSDOH AGVs	Unit	Result	Q	Result	Q	Result	Q	Result	Q
107-05-1	ALLYL CHLORIDE	NL	NL	µg/m^3	3.8	UJ	3.4	UJ	3.4	UJ	4.4	UJ
71-43-2	BENZENE	12.0	NL	µg/m^3	3.8	UJ	3.5	UJ	3.5	UJ	4.5	UJ
100-44-7	BENZYL CHLORIDE	NL	NL	µg/m^3	6.2	UJ	5.7	UJ	5.7	UJ	7.2	UJ
75-27-4	BROMODICHLOROMETHANE	2.5	NL	µg/m^3	8	UJ	7.4	UJ	7.4	UJ	9.4	UJ
75-25-2	BROMOFORM	85.1	NL	µg/m^3	12	UJ	11	UJ	11	UJ	14	UJ
74-83-9	BROMOMETHANE	173.8	NL	µg/m^3	4.7	UJ	4.3	UJ	4.3	UJ	5.4	UJ
75-15-0	CARBON DISULFIDE	24333.3	NL	µg/m^3	3.7	UJ	**25**	J	**86**	J	**85**	J
56-23-5	CARBON TETRACHLORIDE	15.6	NL	µg/m^3	7.5	UJ	6.9	UJ	6.9	UJ	8.8	UJ
108-90-7	CHLOROBENZENE	1738.1	NL	µg/m^3	5.5	UJ	5.1	UJ	5.1	UJ	6.4	UJ
75-00-3	CHLOROETHANE	347619.0	NL	µg/m^3	3.2	UJ	2.9	UJ	2.9	UJ	3.7	UJ
67-66-3	CHLOROFORM	4.1	NL	µg/m^3	5.9	UJ	**5.3**	J	**9.3**	J	**9.3**	J
74-87-3	CHLOROMETHANE	3128.6	NL	µg/m^3	2.5	UJ	2.3	UJ	2.3	UJ	2.9	UJ
156-59-2	CIS-1,2-DICHLOROETHENE	NL	NL	µg/m^3	4.8	UJ	4.4	UJ	4.4	UJ	5.6	UJ
10061-01-5	CIS-1,3-DICHLOROPROPENE	23.4	NL	µg/m^3	5.4	UJ	5	UJ	5	UJ	6.4	UJ
124-48-1	DIBROMOCHLOROMETHANE	NL	NL	µg/m^3	10	UJ	9.4	UJ	9.4	UJ	12	UJ
75-71-8	DICHLORODIFLUOROMETHANE	3476.2	NL	µg/m^3	5.9	UJ	5.4	UJ	5.4	UJ	6.9	UJ
100-41-4	ETHYLBENZENE	37.4	NL	µg/m^3	5.2	UJ	4.8	UJ	4.8	UJ	6.1	UJ
87-68-3	HEXACHLORO-1,3-BUTADIENE	NL	NL	µg/m^3	13	UJ	12	UJ	12	UJ	15	UJ
108-38-3	M,P-XYLENE	NL	NL	µg/m^3	5.2	UJ	**6.4**	J	4.8	UJ	6.1	UJ
1634-04-4	METHYL TERT-BUTYL ETHER	360.0	NL	µg/m^3	4.3	UJ	4	UJ	4	UJ	5	UJ
75-09-2	METHYLENE CHLORIDE	3379.6	60	µg/m^3	4.2	UJ	3.8	UJ	3.8	UJ	4.9	UJ
91-20-3	NAPHTHALENE	NL	NL	µg/m^3	6.3	UJ	5.8	UJ	5.8	UJ	7.3	UJ

Table 4-4
Air Sample Detections - VOCs
77 Westchester Avenue, Pound Ridge/Scotts Corners Site

				Sample ID	AO-01-A		SV-01-A		SV-02-A		SV-902-A	
				Location ID	AO-01		SV-01		SV-02		SV-02	
				Sample Date	9/12/2016		9/12/2016		9/12/2016		9/12/2016	
				Sample Type	N		N		N		FD	
				Parent Sample Code							SV-02-A	
CAS No.	Chemical	EPA VISL	NYSDOH AGVs	Unit	Result	Q	Result	Q	Result	Q	Result	Q
142-82-5	N-HEPTANE	NL	NL	µg/m^3	4.9	UJ	4.5	UJ	4.5	UJ	5.7	UJ
95-47-6	O-XYLENE	NL	NL	µg/m^3	5.2	UJ	4.8	UJ	4.8	UJ	6.1	UJ
100-42-5	STYRENE	34761.9	NL	µg/m^3	5.1	UJ	4.7	UJ	4.7	UJ	6	UJ
127-18-4	TETRACHLOROETHENE	360.0	30	µg/m^3	8.1	UJ	**64**	J	**67**	J	**66**	J
108-88-3	TOLUENE	173809.5	NL	µg/m^3	4.5	UJ	**50**	J	**8**	J	**6.5**	J
156-60-5	TRANS-1,2-DICHLOROETHENE	NL	NL	µg/m^3	4.8	UJ	4.4	UJ	4.4	UJ	5.6	UJ
10061-02-6	TRANS-1,3-DICHLOROPROPENE	23.4	NL	µg/m^3	5.4	UJ	5	UJ	5	UJ	6.4	UJ
79-01-6	TRICHLOROETHENE	15.9	2	µg/m^3	6.4	UJ	5.9	UJ	5.9	UJ	7.5	UJ
75-69-4	TRICHLOROFLUOROMETHANE	NL	NL	µg/m^3	6.8	UJ	6.2	UJ	6.2	UJ	7.9	UJ
108-05-4	VINYL ACETATE	NL	NL	µg/m^3	42	UJ	39	UJ	39	UJ	49	UJ
75-01-4	VINYL CHLORIDE	5.6	NL	µg/m^3	3.1	UJ	2.8	UJ	2.8	UJ	3.6	UJ

Bolded - detection
exceeds NYSDOH AGV
µg/m^3 - microgram per cubic meter
AGVs - air guideline values
EPA - Environmental Protection Agency
VISL - vapor intrusion screening levels
FD - field duplicate
ID - identification
J - estimated result
N - normal
NL - not listed
No.- number
NYSDOH - New York State Department of Health
UJ - estimated undetected
Q - qualifier

Figures

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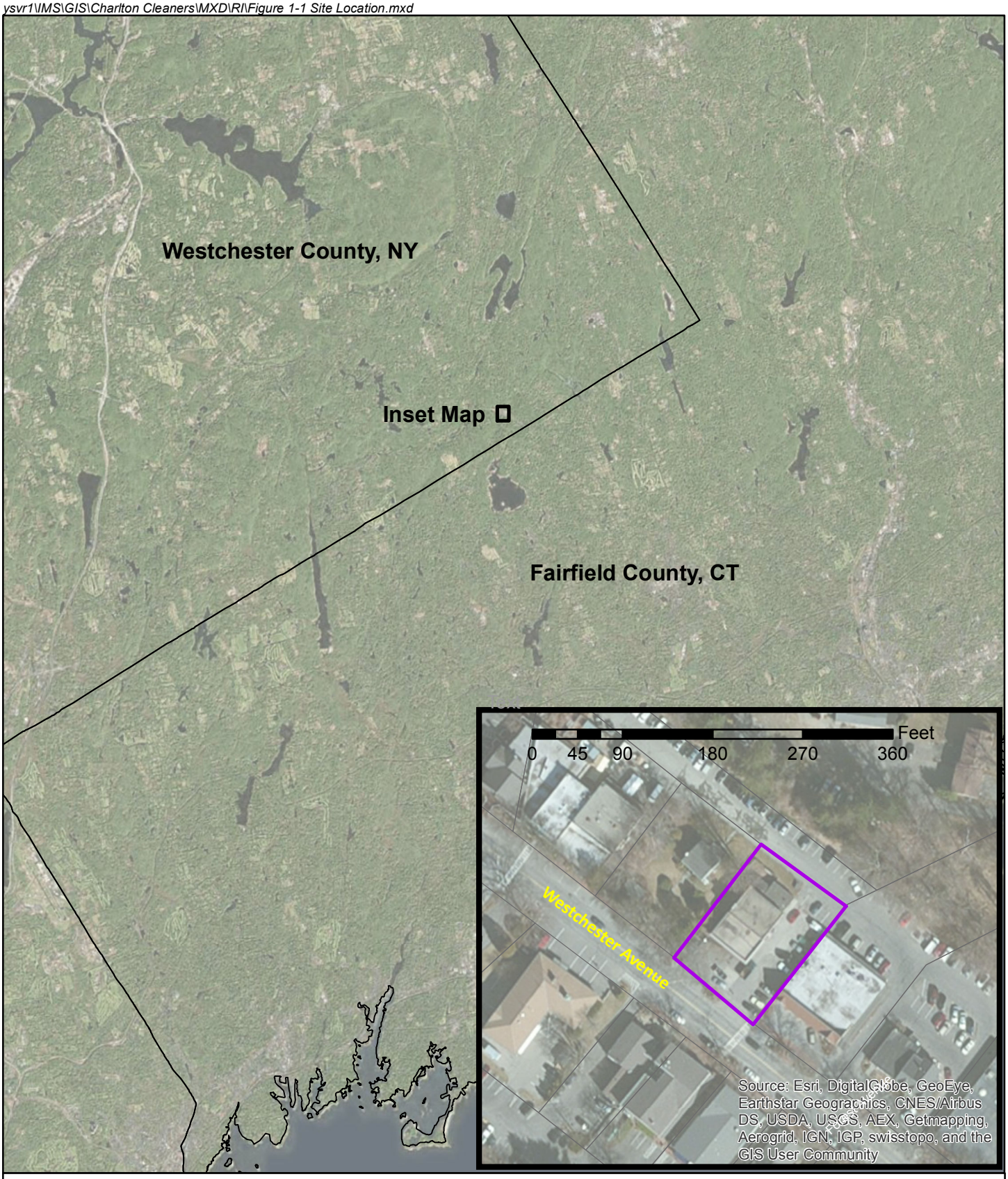
ysvr1\IMS\GIS\Charlton Cleaners\MXD\RI\Figure 1-1 Site Location.mxd



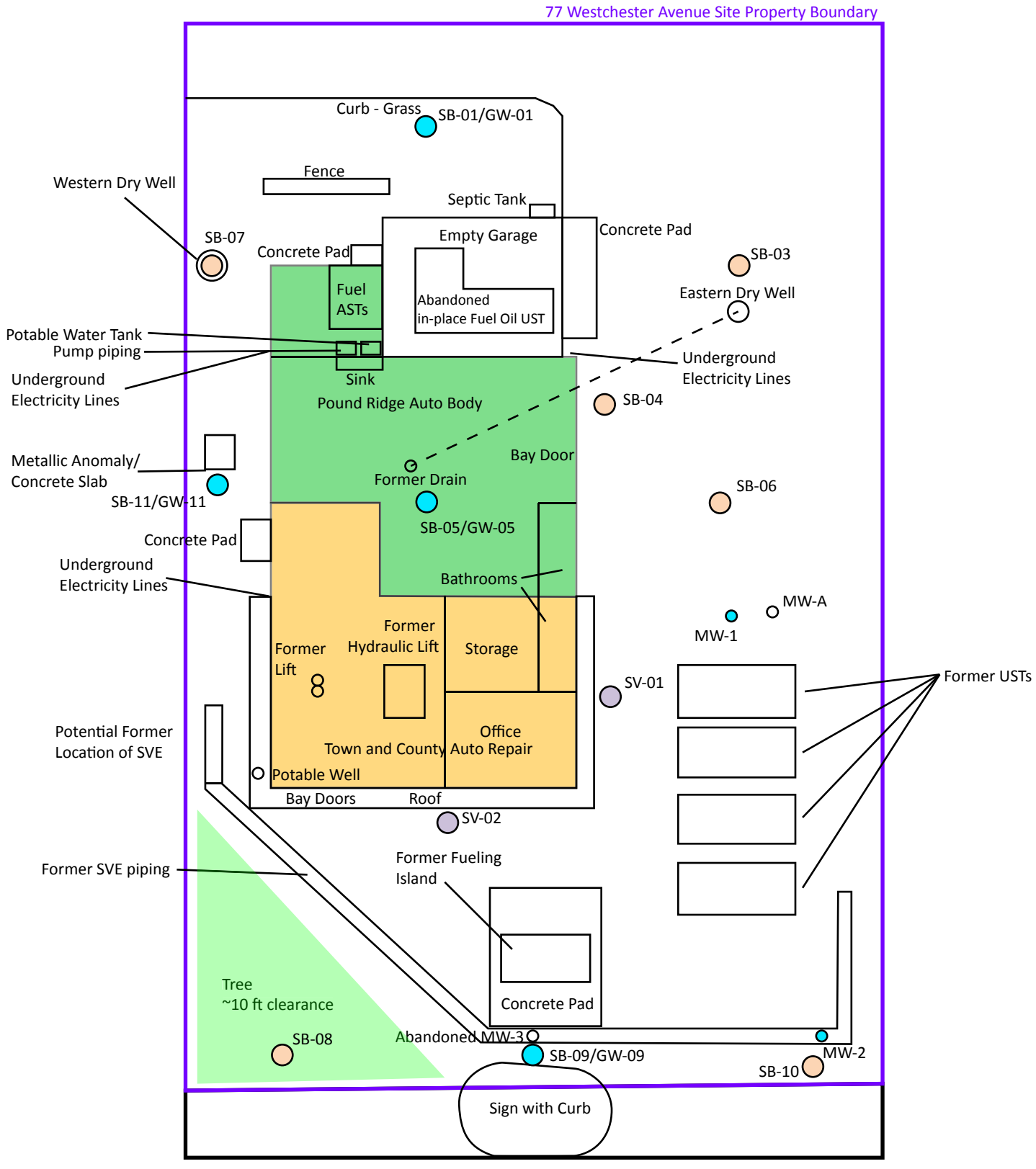
Subject Property (parcel No. 9454-9)

N

Miles
0 1 2 4

CDM Smith

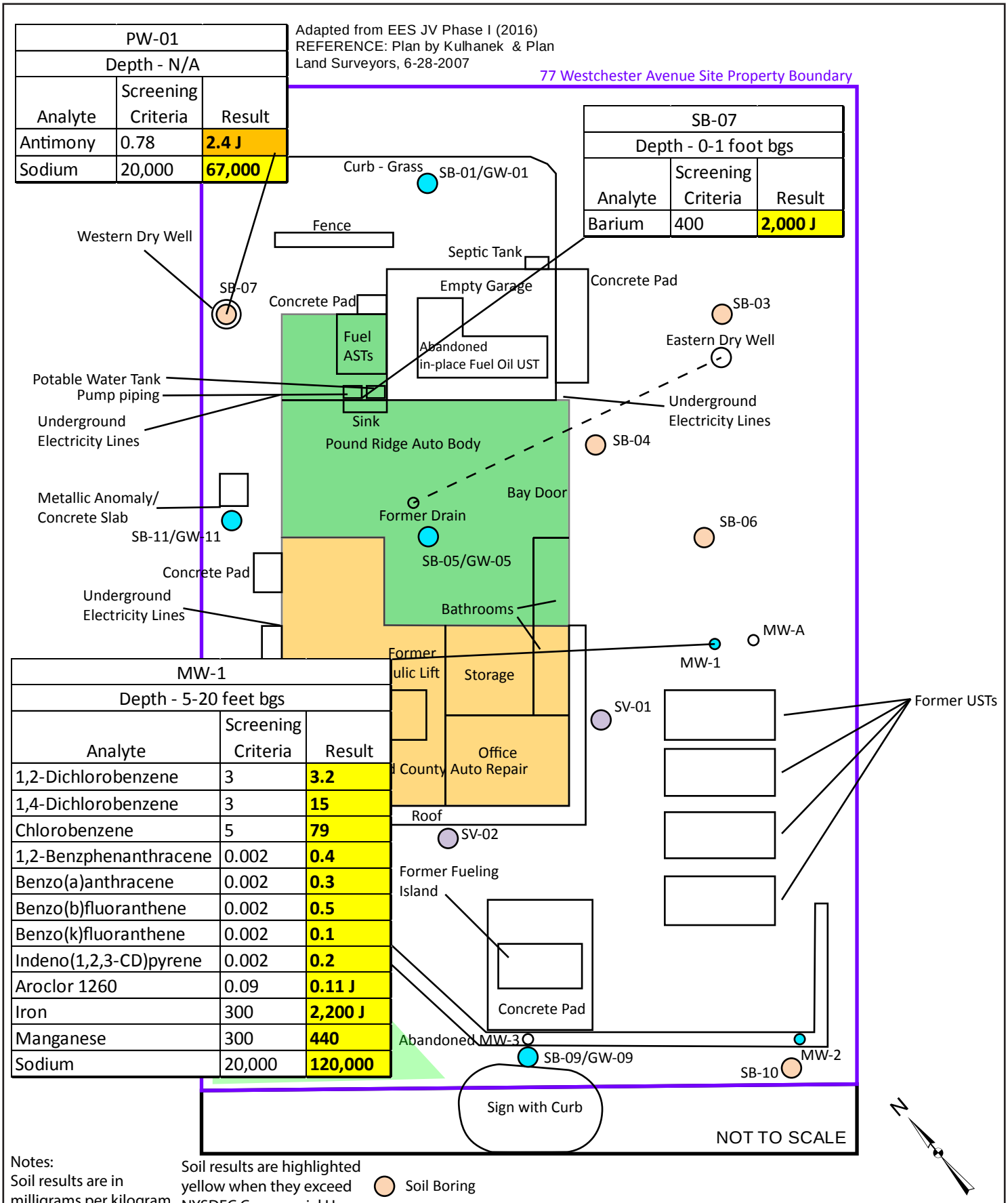
Figure 1-1
Site Location Map
TBA66 - Phase II Investigation
77 Westchester Avenue,
Pound Ridge/Scotts Corners Site
Pound Ridge, NY



Adapted from EES JV Phase I (2016)
REFERENCE: Plan by Kulhanek & Plan Land Surveyors, 6-28-2007

CDM Smith

Figure 3-1
Site Plan and Sampling Locations
TBA66 - Phase II Investigation
77 Westchester Avenue, Pound Ridge/Scotts Corners Site
Pound Ridge, New York



Notes:
Soil results are in milligrams per kilogram. Aqueous results are in micrograms per liter.

Soil results are highlighted yellow when they exceed NYSDEC Commercial Use SCOs. Aqueous results are highlighted yellow when they exceed NYSDEC AWQS and are highlighted orange when they exceed EPA RSLs for Tap Water.

- Soil Boring
- Soil Boring with collocated Groundwater Sample
- Soil Vapor Sampling Point
- Existing Monitoring Well (sampled wells in blue)

CDM Smith

Figure 4-1
Soil and Groundwater Exceedances
TBA66 - Phase II Investigation
77 Westchester Avenue, Pound Ridge/Scotts Corners Site
Pound Ridge, New York

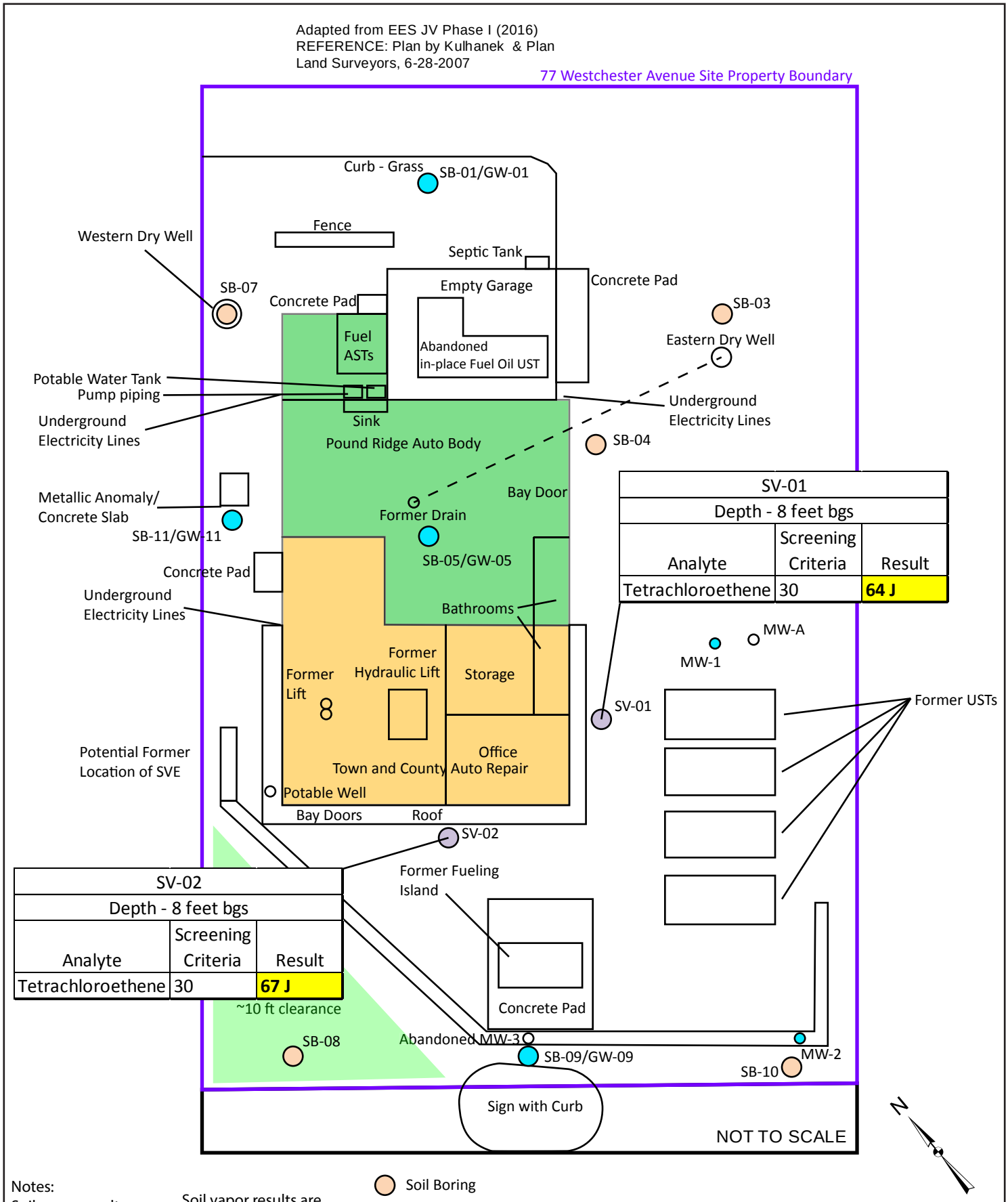


Figure 4-2
Soil Vapor Exceedances
TBA66 - Phase II Investigation
77 Westchester Avenue, Pound Ridge/Scotts Corners Site
Pound Ridge, New York

Appendix A

Appendix A
Geophysical Investigation Report

DELTA Geophysics Inc.

GEOPHYSICAL INVESTIGATION REPORT

SITE LOCATION:

75 Westchester Avenue
Pound Ridge, New York

PREPARED FOR:

CDM Smith
14 Wall Street, Suite 1702
New York, New York

PREPARED BY:

Mike Mesaros
Delta Geophysics Inc.
738 Front Street
Catasauqua, PA 18032

August 22, 2016

Delta Geophysics, Inc. (Delta) is pleased to provide the results of the geophysical survey conducted at 75 Westchester Avenue, Pound Ridge, New York.

1.0 INTRODUCTION

On August 16th, 2016 Delta Geophysics personnel performed a limited geophysical investigation at 75 Westchester Avenue, Pound Ridge, New York.. The area of interest was all accessible areas throughout the property. Particular attention was given to the location of the client proposed soil borings. Soil borings were located inside the building and throughout the property. Subsurface conditions were unknown at the time of survey.

2.0 SCOPE OF WORK

The survey was conducted to investigate the subsurface for anomalies consistent with underground storage tanks (UST) and former excavations. A secondary objective was to locate and mark detectable underground utilities for the property.

3.0 METHODOLOGY

Selection of survey equipment is dependent site conditions and project objectives. For this project the technician utilized the following equipment to survey the area of concern:

- Geophysical Survey Systems Inc. SIR-3000 cart-mounted Ground Penetrating Radar (GPR) unit with a 400 Mhz antenna.
- Radiodetection RD7000 precision utility locator.
- Fisher M-Scope TW-6 pipe and cable locator.

Ground penetrating radar (commonly called GPR) is a geophysical method that has been developed over the past thirty years for shallow, high-resolution, subsurface investigations of the earth. GPR uses high frequency pulsed electromagnetic waves (generally 10 MHz to 1,000 MHz) to acquire subsurface information. Energy is propagated downward into the ground and is reflected back to the surface from boundaries at which there are electrical property contrasts. GPR is a method that is commonly used for environmental, engineering, archeological, and other shallow investigations.

The GSSI SIR-3000 GPR can accept a wide variety of antennas which provide various depths of penetration and levels of resolution. The 400 MHz antenna can achieve depths of penetration up to about 20 feet, but this depth may be greatly reduced due to site-specific conditions. Signal penetration decreases with increased soil conductivity. Conductive materials attenuate or absorb the GPR signal. As depth increases the return signal becomes weaker. Penetration is the greatest in unsaturated sands and fine gravels. Clayey, highly saline or saturated soils, areas covered by steel reinforced concrete, foundry slag, of other highly conductive materials significantly reduces GPR depth of penetration.

The GPR was configured to transmit to a depth of approximately 10 feet below the subsurface, but actual signal penetration was limited to approximately 3-4 feet below ground surface (bgs). The limiting factor was signal attenuation from near surface soils and snowcover.

The RD7000 precision utility locator uses radio emission to trace the location of metal bearing utilities. This radio emission can be active or passive. Active tracing requires the attachment of a radio transmitter to the utility, passive tracing uses radio emissions that are present on the utility. Underground electrical utilities typically emit radio signals that this device can detect.

The TW-6 is designed to find pipes, cables and other metallic objects such as underground storage tanks. One surveyor can carry both the transmitter and receiver together, making it ideally suited for exploration type searches of ferrous metal masses. Metal detectors of this type operate by generating a magnetic field at the transmitter which causes metallic objects in the subsurface to generate a secondary magnetic field. The induced secondary field is detected by the receiver, which generates an audible tone equal to the strength of the secondary field.

4.0 SURVEY FINDINGS

All accessible areas throughout the property were examined during this investigation. Each location was examined with the RD7000 for potential subsurface utilities then surveyed with GPR and TW-6 for other potential anomalies. Based on the data gathered, three GPR anomalies and two metallic anomalies were detected on the subject property.

Metallic Anomaly #1

Metallic Anomaly #1 was located with TW-6 and confirmed with GPR. The anomaly measures approximately 5 feet by 4.5 feet. It is located approximately 50 feet from the access road behind the building and 5.5 feet from the west wall of the building. GPR imaged a flat feature at 1 foot bgs.

Metallic Anomaly #2

Metallic Anomaly #2 was located with TW-6 and confirmed with GPR. The anomaly measures approximately 4 feet by 4 feet. It is located approximately 25 feet from the access road behind the building and 6 feet from the west wall of the building. GPR imaged a flat feature at less than 1 foot bgs.

Due to the shallow depth of the anomaly, Delta and CDM personnel dug down to find two steel plates covering a brick lined pit. The pit was approximately 3 feet deep with a diameter of 3 feet.

Anomaly #1

Anomaly #1 was located with GPR. The anomaly measures approximately 27 feet by 23 feet. It is located in the parking lot approximately 22 feet north of Westchester Avenue and 6 feet east of the former pump island. GPR transects imaged disturbed soils consistent with a former excavation.

Anomaly #2

Anomaly #2 was located with GPR. The anomaly measures approximately 20 feet by 12 feet. It is located in the parking lot approximately 61 feet north of Westchester Avenue and 12 feet east of the building. GPR transects imaged disturbed soils consistent with a former excavation.

Anomaly #3

Anomaly #3 was located with GPR. The anomaly measures approximately 8 feet by 5 feet. It is located in the northeast addition to the building. GPR transects imaged disturbed soils consistent with a former excavation.

Underground lifts / floor drains

Two anomalous areas were detected with GPR in the garage in the southwest section of the building. GPR transects imaged two areas of disturbed soils with dimensions of approximately 1 foot by 1 foot. TW-6 usage was limited throughout the garage due to reinforced concrete. No unknown pipes were detected that may have been associated with the soil disturbances. The soil disturbances may be former underground lifts.

A former floor drain filled with concrete is located in the northern garage of the building. Delta imaged an unknown utility traverse from the floor drain to an area outside identified by CDM personnel to be a former drywell. Approximate dimensions of the former drywell are 6.5 feet by 4 feet. It is located in the parking lot approximately 22 feet east of the building and 11 feet south of the access road behind the building.

Utility Survey

Delta performed a utility survey across the client specified area. The following utilities were identified: electrical conduits, telecommunications, water, and sanitary sewer. All utilities were marked onsite with appropriate colors. Anomalous features were marked onsite in pink paint. Former excavations were marked onsite in white paint.

A site map (081616) is included with all located subsurface features.

5.0 SURVEY LIMITATIONS

GPR depth of penetration was limited to approximately 3-4 feet bgs. The limiting factor was due to conductive soils. Interior GPR depth of penetration was limited to less than 1 foot bgs due to reinforced concrete. TW-6 usage was limited throughout the interior of the building due to reinforced concrete. Vehicles were parked along the west and east sides of the parking lot. Parked vehicles prevent Delta personnel from being able to survey the area for potential anomalous features.

6.0 WARRANTIES AND DISCLAIMER

As with any geophysical method, it must be stressed that caution be used during any excavation or intrusive testing in proximity to any anomalies indicated in this report. In addition, the absence of detected signatures does not preclude the possibility that targets may exist. To the extent the client desires more definitive conclusions than are warranted by the currently available facts; it is specifically Delta's intent that the conclusions stated herein will be intended as guidance.

This report is based upon the application of scientific principles and professional judgment to certain facts with resultant subjective interpretations. Professional judgments expressed herein are based on the facts currently available within the limit or scope of work, budget and schedule. Delta represents that the services were performed in a manner consistent with currently accepted professional practices employed by geophysical/geological consultants under similar

circumstances. No other representations to Client, express or implied, and no warranty or guarantee is included or intended in this agreement, or in any report, document, or otherwise.

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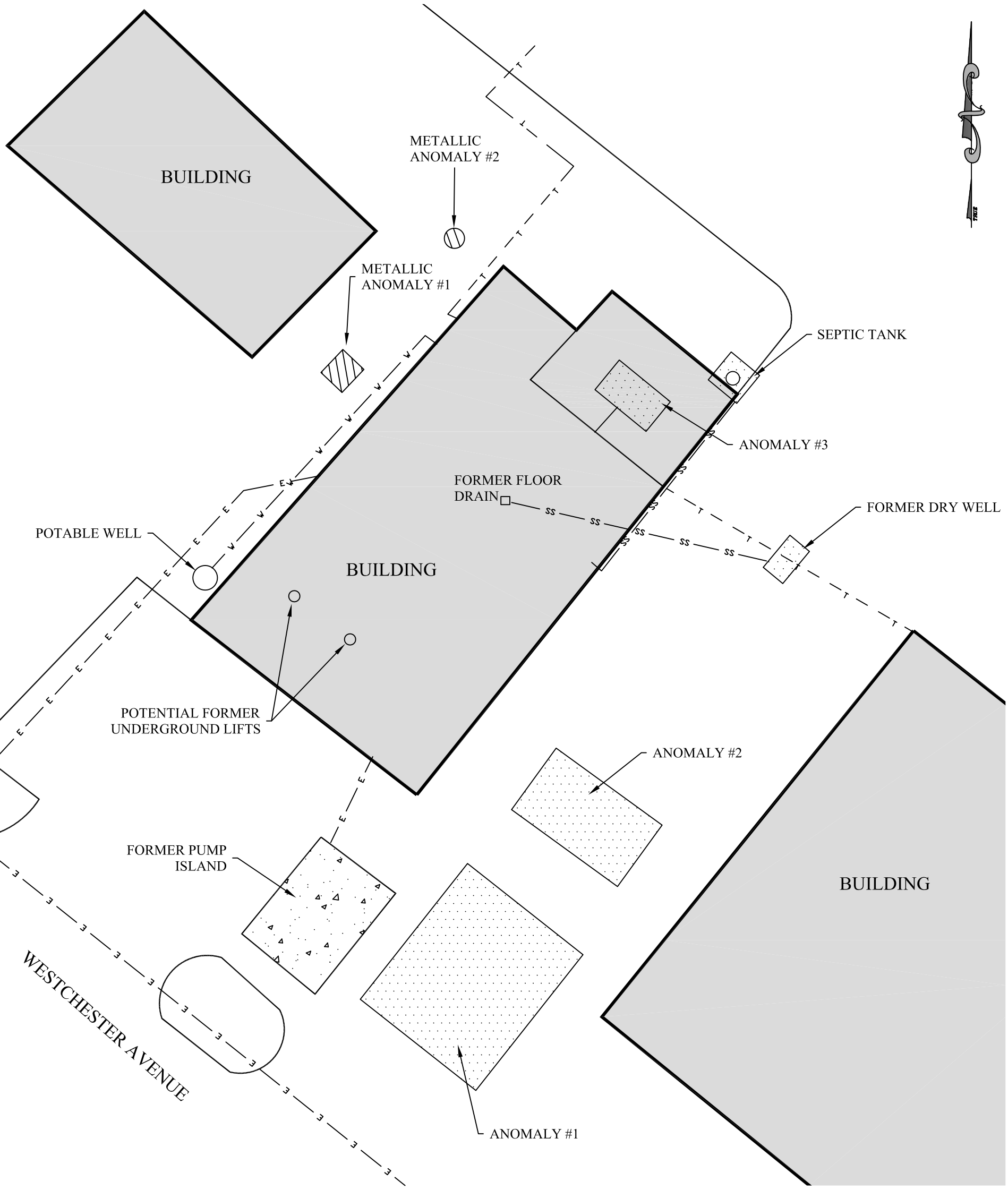

LEGEND

- UTILITY VALVE COVER
- MANHOLE COVER
- UTILITY POLE
- LIGHT POLE
- FIRE HYDRANT
- E — ELECTRIC
- G — GAS
- T — TELECOMMUNICATION
- SD — STORM SEWER
- SS — SANITARY SEWER
- W — WATER
- U — UNKNOWN UTILITY
- X — FENCE

NOTES:

This site plan was produced from data positioned by differential GPS measurments collected in the field. Due to the errors normally present in DGPS data, this document is not intended or represented to be of survey precision. Caution should be used in all field measurments based on this site plan.

As with any geophysical method, it must be stressed that caution be used during any excavation or intrusive testing in proximity of any anomalies indicated in this document The absence of detected signatures does not preclude the possibility that targets exist. The geophysical data and results presented in this site plan are based upon the application of scientific principles and professional judgements to certain facts with resultant subjective interpretations. Professional judgements expressed herein are based on the facts currently available within the limits of the existing data, scope of work, budget, and schedule.

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0 8 16 32 48

GRAPHIC SCALE IN FEET

DATE	8/16/16
SCALE	1'' = 16'
DWG NO.	081816
SHT NO.	1 OF 1
PROJECT.	

GEOPHYSICAL INVESTIGATION
75 WESTCHESTER AVENUE, POUND RIDGE, NEW YORK
FOR
CDM SMITH

DELTA Geophysics Inc.
738 Front Street, Catasauqua, PA 18032
Phone: (610) 231-3701

Appendix B

Appendix B
Field Logbook

77 Westchester Ave, Pound Ridge, NY 6/1/16

TBA66 - Pound Ridge Site Reconnaissance

Personel - CDM Smith - Travis Tomaselli, Joe Button
- Town of Pound Ridge - Dick Lyman

PPE - Level D

Weather - Sunny, 75°F

Purpose - Site Reconnaissance for Phase II investigation

0900 - T. Tomaselli on site

0945 - J. Button

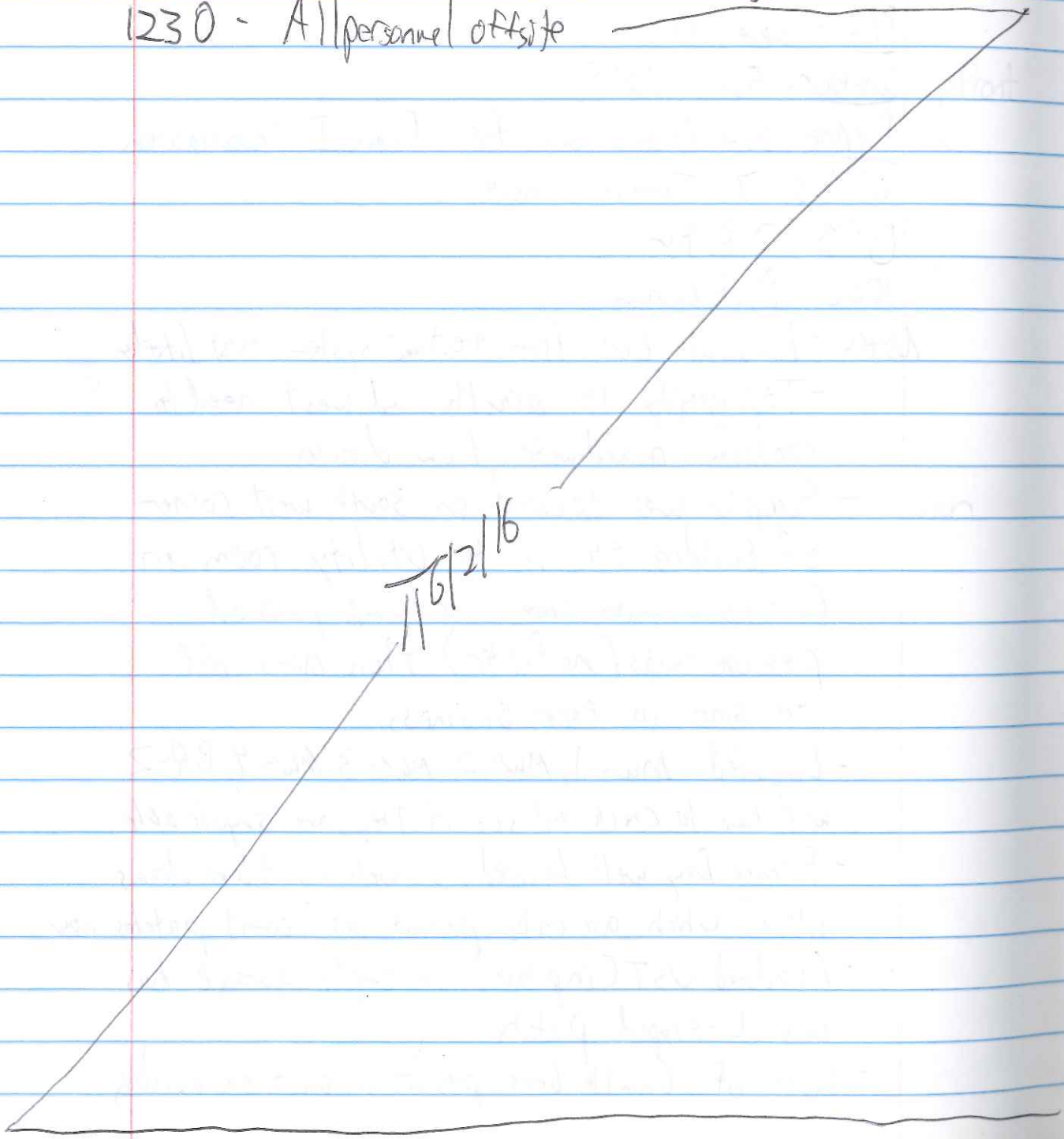
1000 - Dick Lyman

Notes - Diagonal cut from treatment system most likely
- Topography is south and west, need to confirm groundwater flow direction
- Supply well located on south west corner of building, ties in to utility room in back room where there is a sump pump and pressure tanks (no filter) then goes off to smth in each business
- Located MW-1, MW-2, MW-3, MW-4, BR-2 will have to check and see if they are sampleable
- Former Dry well located, as well as floor drains all of which are only present as cement patches now
- Abandoned UST (in place) in empty garage has large L-shaped patch
- Lots of bumble bees present in back on building

77 Westchester Ave, Pound Ridge, NY 6/2/16

- West side of building (10-15 feet) accessible
  no overhead lines
- septic confirmed at back (northeast corner)

1230 - All personnel offsite



Location Pound Ridge, NY Date 8/16/16

Project / Client TBA66 - Pound Ridge / USEPA

Personnel - CDM Smith - T. Tomaselli
Delta - Mike Mesaros

PPE - Level D

Weather - Sunny, 85°F

Purpose - Geophysical survey, clear drilling locations

0830 - T. Tomaselli onsite, Delta onsite

0900 - site walk and health and safety meeting, begin survey.

0920 - Collect water level, see status of MW-2.
Depth to water = 9.99 feet btic
no product, slight petroleum odor
Depth to bottom (hard) = 11.00 ft btic
4 inch well, plug, casing intact

0945 - Collect water level, see status of MW-1
Depth to water = 9.85 feet btic
no product, slight petroleum odor
Depth to bottom = 17.82 feet btic
soft bottom
- plug, casing intact, casing has rough edge on top. Entire casing is slotted, 4 inch well

1000 - Measure access to Pound Ridge Auto Body. Garage door is 8 feet 6 inches high. Ceiling is 12 feet high.

8/16/16

Location Pound Ridge, NY Date 8/16/16

Project / Client TBA66 - Pound Ridge / USEPA

1020 - Measure access to rear shed, bay door is 8 feet high, ceiling is 10 feet 8 inches.

1030 - Measure access to Town and Country Auto Repair, bay door is 9 feet 6 inches high, ceiling is 12 feet high.

1100 - Delta locates MW-A, correct on map. Collect water level, see status of well
Depth to water = 8.85 feet btic
no product, slight petroleum odor
Depth to bottom = 13.40, soft bottom
4 inch PVC casing, plug intact, casing intact
MW-A is located 7 feet east (away from building) of MW-1

1130 - Location in back shed is cleared but needs to stay off the concrete patch and away from trench going to wall shown in picture. Best to drill west of trench, under outlet on wall.

1200 - Delta clears inside Pound Ridge

8/16/16

Location Pound Ridge NY Date 8/16/16

Project / Client Pound Ridge - TBA66 - USEPA

Auto Body bay. Piping from dry well forms straight line to former drain. May still be safest.

1300 - Delta identifies a 3 foot deep 3 foot diameter, plastic pipe lined hole with steel cover near back northwest corner.

- Delta identified that potable well piping leads to "sump" in utility room, then up to 80 gallon pressure tank.

1400 - After scanning Town and Country Auto Repair, Delta sees no lines coming out of concrete patches. Most likely former hydraulic lifts. Also diagonal entrance line in back area. See figure.

1420 - M. Mesaros completes survey, offsite all drilling locations cleared.

1430 - T. Tonsell offsite - asst owner about pit in northwest corner, says it is a former drain for washer (clothes)

TT 8/16/16

Location Pound Ridge NY Date 9/7/16

Project / Client Pound Ridge - TBA66 - USEPA

Personnel - T. Tonsell, Y. Liu, C. Jaworski, R. Mefes

PPE - Level D

Weather - Cloudy, 80°F

Purpose - Begin Soil Sampling for phase II

0740 - T. Tonsell onsite, Talon onsite

0815 - Y. Liu onsite

0830 - Conduct HTS meeting, walkover site

0900 - Talon begins drilling at SB-01.

0920 - Collect SB-01-A CLP BD3D0 0-2 feet bgs for VOCs, SVOCs, TPH, PCBs, Metals (MS/MSD)

Back note 9:15 Refusal at 3 feet moved off location west, 5 attempts ended at location just off curb.

0940 - Refusal at 13 feet bgs

1000 - Collect SB-01-B CLP BD3D1 6-8 ~~12~~ feet bgs for VOCs, SVOCs TPH, PCBs, Metals

1015 - Talon sets up at FW-02 height of rig prevents them from doing this point, will try to move point

1030 - Talon sets up begins drilling

TT 9/7/16

Rite in the Rain

Location Pond Ridge, NY Date 9/7/16

Project / Client Pond Ridge, TBA66-USEPA

at SB-03.

1040- SB-03-A sample time, CLP BD3D2 Collected 0-2 feet bgs, for VOCs, SVOCs, PCBs, TPH, Metals

1045- STOP work due to lab issue. No CLP lab available. Take Lunch

1220- Continue drilling at SB-03

1230- Complete SB-03 to 15 feet bgs

1235- SB-03-B sample collected, BD3D3 CLP 5-7 feet bgs, for VOCs, SVOCs, PCBs TPH Metals

1240- Backfill SB-03, move to SB-04, begin drilling

1255- SB-04-A sample collected, CLP BD3D4, for VOCs, SVOCs, PCBs TPH Metals, 0-2 feet bgs

1320- Talon begins installing SV-01,02.

1340- SB-04-B sample collected, CLP= BD3D5, for VOCs, SVOCs, PCBs TPH, Metals, 9-11 feet bgs

1350- Talon installs ~~SB-0~~ 9/7/16 SV-01 and SV02 installed at 7 feet bgs, Sand 6-7 feet bgs Bentonite 0-6 feet bgs

T 9/7/16

Location Pond Ridge, NY Date 9/7/16

Project / Client Pond Ridge, TBA 66-USEPA

1400- Begin drilling at SB-09

1420- SB-09-A sample time, collected CLP= BD3E5 for VOCs, TPH, 0-2 feet bgs

1430- Talon completed SB-09, installed temporary well.

1440- SB-09-B sample time, collected 8-10 feet bgs BD3E6 CLP for VOCs, TPH

1445- Talon begins drilling at SB-08

1500- Encounters refusal at 5 feet six times, all around corner of parcel lot, test run to 7 feet bgs

1530- SB-08-A sample time, CLP BD3E3 collected 0-2 feet bgs for VOCs TPH

1540- SB-08-B sample time CLP BD3E4 collected 5-7 feet bgs for VOCs, TPH

1550- Talon begins drilling at SB-10

1605- Talon completes SB-10 to 12.5 feet bgs

1630- SB-10-A sample time, CLP BD3E7 collected 0-2 feet bgs, for VOCs, TPH

1645- SB-10-B sample time CLP BD3E8 collected 8-10 feet bgs for VOCs, TPH

T 9/7/16

Rite in the Rain

Location Pond Ridge, NY Date 9/7/16

Project / Client Pond Ridge, TBA66-USEPA

Note- Pound Ridge Auto Body has been painting this afternoon. Noting PID has been < 1.0 PPM and we have conducted sampling away from/upwind from exhaust vent.

1635- Backnote - a woman drove by and asked what we are doing, did not seem bothered, told her we are sampling soil and water for the town. She took a photo.

1650- No samples shipped today, lab is very swamped.

1700- All personell off site

9/7/16

Location Pound Ridge, NY Date 9/8/16

Project / Client Pond Ridge, TBA66-USEPA

Personnel - CDM Smith - T. Tomaselli, Y. Liu
Talon - C. Jaworski, R. McFee

PPE - Level D

Weather - Overcast, 85°F

Purpose - Complete soil sampling, begin Groundwater sampling

0715- CDM Smith Talon onsite

0730- Calibrate PID, H+S meeting

Backnote- Dick Lyman onsite before Hy to check in - 9/7/16 - 1200

Backnote to 1650 - 9/7/16 note, Sub contracted lab was still being procured last night work was stopped earlier in day since there was no lab but after speaking with V. Marcian and B. MacDonald T. Tomaselli was given go ahead to continue sampling soil.

0745- Talon sets up on SB-06, begins drilling.

0820- Talon reaches 15 feet bgs, needs to collect additional volume for duplicate

0825- SB-06-A Sample collected, CLP BD3D8 - for VOCs 9/8/16

TPH, SVOCs PCBs, Metals
0-2 feet bgs.
0845- Spoke to B. MacDonald. OK to move GW-2 to ~~SB-04~~ 9/8/16 TT location.
0855- Talon begins coring at ~~SB-04~~ SB-05 9/8/16 TT
0900- Collect SB-06 and duplicate SB-906-B BD309 and BD310 respectively for VOCs SVOCs PCBs, TPH, Metals, 7-9 feet bgs. SB05 9/8/16 TT
0920- Complete core at ~~SB-04~~, slab is 4 inches thick, began advancing 2-foot runs.
0930- Notice SB-04 and SB-05 were switched will note paperwork
0955- SB-05-A sample for CLP BD306 for VOCs, SVOCs, PCBs, TPH, Metals 0-4 feet bgs
1030- SB-05-B sample time, CLP BD307 for VOCs, SVOCs PCBs, TPH, Metals 5.5-9.5 feet bgs
1040- Talon relocates to SB-07 TT 9/8/16

after installing temporary well to 12 feet bgs at SB-05.
1050- Talon hits refusal 1 foot into dry well at SB-07, will collect SB-07-A from here, move off ~~to~~ collect SB-07-B from just 2 feet down gradient of SB-07-A
1110- Complete drilling at SB-07, move to SB-11
1120- SB-07-A CLP BD3E1 collected from 0.0-0.0 feet bgs at bottom of dry well PID = 1.5 ppm dry gray brown silt, some sand, some gravel, Also some compressed blue gray material, maybe soaper Paper based.
1145- Talon begins drilling at SB-11
1155- SB-07-B CLP: BD3E2 collected from 9-11 feet bgs for VOCs, SVOCs, PCBs, TPH, metals
1210- Talon sets GW-11 well after completing boring to refusal at 13 feet bgs.
1230- SB-11-A sample time TT 9/8/16

Rite in the Rain

Location Pond Ridge, NY Date 9/8/16

Project / Client Pond Ridge TBA66, USEPA

Cont. CLP=BD3E9, 0-2 feet bgs, for VOCs, SVOCs, TPH, metals, PCBs

1245 - Collect SB-11-B 8-10 feet bgs. CLP=BD3F0 for VOCs, SVOCs, TPH, metals, PCBs

1345 - Talon offsite

1400 - T. Bennett notifies T. Tomaselli to ship samples to RTI Lab.

1430 - Pack all samples from today and yesterday, send to RTI

1830 - All personnel offsite to FedEx

9/8/16

Location Pond Ridge, NY Date 9/9/16

Project / Client Pond Ridge, TBA66, USEPA

Personnel - CDMSmith - T. Tomaselli, Y. Liu
Talon - C. Jaworski, R. McKee

PPE - Level D

Weather - Cloudy, 85°F

Purpose - Complete groundwater sampling

0715 - CDMSmith onsite, still have not received air canisters at hotel

9/9/16

0730 - Y. Liu calibrates YSI, PID, Lakotte

0850 - Set up at GW-01, begin purging will forego initial development due to lack of water

0900 - GW-01 ran dry pumping 2 mL/minute, stop, wait to recharge

0930 - Begin purging at GW-05, ran dry in 10 minutes

0940 - Spoke to B. MacDonald, V. McKeon and came up with new plan. Collect VOCs, GRO from temporary wells, due to lack of volume collect full suite + duplicate at GW-06 (MW-1) collect MS/MSD full suite at GW-10 (MW-2).

0950 - will collect GW-01, 05

9/9/16

Rule in the Rain

Location Pond Ridge NY Date 9/9/16

Project / Client Pond Ridge, TBA66 USEPA

when they have recharged.

1055 - Begin purging at MW-1.

1145 - MW-1-A sample time (MS/MSD) for VOCs SVOCs PCBs metals TPH

1145 - MW-91-A sample time for VOCs, SVOCs, PCBs, metals TPH, duplicate

1220 - RB-01 collected off soil sampling liner, for VOCs, SVOCs, PCBs, TPH, metals

Backnote - TB-01 collected at 08:00

Backnote - Talon left site 11:00. Did not have anything else to do today

1300 - Collect RB-02 off tubing for groundwater grab sample for VOCs SVOCs, PCBs, metals, TPH.

1400 - GW-01-A sample time for VOCs GRO due to volume.

1430 - GW-05-A sample time for VOCs, due to lack of volume, GRO to be collected Monday.

1500 - Pack up samples, air coolers to arrive Monday

1745 - All personnel offsite to FedEx - 9/9/16

Location Pond Ridge NY Date 9/12/16

Project / Client Pond Ridge, TBA66 USEPA

Personnel - CDM Smith - T. Tomsett, C. Hlynh

Talon -

PPE - Level D

Weather - Sunny, 75°F

Purpose - Complete groundwater and air sampling

0730 - CDM Smith onsite conduct H&S meeting

0745 - Calibrate YSI, PID, LaMotte

0800 - Trip blank TB-02 sample time

0830 - LaMotte will not turn on, battery OK.

0945 - Set up on GW-11, well quickly dries out, wait for recharge to collect grab sample

1000 - GW-11-A sample collected for VOCs, TPH-GRO only due to lack of sample volume

1030 - Begin purging at GW-10

1100 - GW-04-A sample time for VOCs, TPH DRO + GRO, Talon onsite, begin pulling temporary wells

1115 - Conduct helium tests on SV-01, 02 both pass. PID = 0.3, 0.0 ppm respectively

9/12/16

Location Pond Ridge, NY Date 9/12/16
Project / Client Pond Ridge, TB466 USEPA

1130- GW-05-B collected via grab for DRO.
1145- Begin purging Sonde for PW-01 sample
1215- Sample time PW-01-A for VOCs, SVOCs, metals
1235- RAW-2-A collected via grab for VOCs, GRO only.
1300- Talon offsite
1305- Spoke to V. Maclean, canisters - CORRECT ones are at hotel, not bottle vacs.
1340- CDM Smith offsite to retrieve air canisters from hotel.
1500- Arrive back onsite with air canisters
SV-01-A
Canister ID # 461
Regulator ID: 14033
start time: 15:17 end time: 1557
start pressure -33 end pressure: -8
1520- SV-02-A
Canister ID # 387
Regulator ID: 14064
start time 1530 end time 1557 1607
start pressure -31 end pressure -8 -5
KJ 9/12/16

Location Pond Ridge, NY Date 9/12/16
Project / Client Pond Ridge - TB466 - USEPA

SV-902-A
Canister ID = 261
Regulator ID = 14160
start time 1530 end time 1607
start pressure -30 end pressure -10
1534- AD-01
Canister ID = 1146
Regulator ID = 14228
start time: 1534 end time: 1604
start pressure -28 end pressure: -5
1630- CDM Smith offsite to recharge

9/12/16

Rite in the Rain

Appendix C

Appendix C
Soil Boring Logs

CDM Smith

Raritan Plaza I
110 Fieldcrest Ave, 6th Floor
Edison, New Jersey 08837

Page 1 of 1

Boring Name: SB-01

Client: USEPA
Project Location: ~~Washington Township, NJ~~

Project Name: ~~PVOC Superfund Site, OU3~~
Project Number: ~~101995.3323.040~~ Pound Ridge

Drilling Contractor: ~~ARS~~ Talon
Drilling Method: DPT
Sample Method:
Drilling Date: 9/7/15
North:
East:

Surface Elevation (ft amsl):
Total Depth: 15
Depth to Initial Water Level (ft bgs): 11.46'
Field Screening Instrument: PPB RAE
Logged by: T...

Depth (ft. bgs)	Sample Number	Blows per 6 inches	Sample Interval (ft)	Recovery (ft)	OVM Reading (ppm)	Graphic Log	Material Description
0	1		0-5	2.2	0.0	SM	0-0.5 - Dark brown sand, SILT, Topsoil
						SM	0.5-1.3 - SAA, Light brown
							1.3-1.6 - cobble
						ML	1.6-1.8 - Dark gray clayey SILT, gravel
5							1.8-2.2 - Cobble
	2		5-10	2.8	0.0	SM	5.0-7.8 - Medium gray silty, clayey med. SAND, moist, dense, abundant gravel 3 inch cobble at 7.5 feet bgs
10	3		10-13	3.7	0.0	SM	10-13 - SAA wet at 11
			refusal				
15							
20							

Remarks:

CDM Smith

Raritan Plaza I
110 Fieldcrest Ave, 6th Floor
Edison, New Jersey 08837

Page 1 of 1

Boring Name: SB-03

Client: USEPA
Project Location: ~~Washington Township, NJ~~
Project Name: ~~PVGC Superfund Site, OU3~~ Pond Ridge
Project Number: ~~101995.3323.040~~

Drilling Contractor: ~~ARS~~
Drilling Method: DPT
Sample Method: Tarbon
Drilling Date: 9/7/16
North:
East:

Surface Elevation (ft amsl):
Total Depth: 15
Depth to Initial Water Level (ft bgs): 10.5
Field Screening Instrument: PPB RAE
Logged by: T. Tomaselli

Depth (ft. bgs)	Sample Number	Blows per 6 inches	Sample Interval (ft)	Recovery (ft)	OVM Reading (ppm)	Graphic Log	Material Description
0	1	-	0-5	2.5	0.0	SW	0-0.5 - Asphalt 0.5-1.1 - med. Brown, silty SAND, gravel, dry
						ML	1.1-2.0 - Olive gray, clayey, sandy SILT, moist, stiff., some gravel.
						ML	2.0-2.5 - SAA. dark gray
5	2	-	5-10	4.0	36.2 - 5.5 ft bgs 62.0 - 6.0 ft bgs 12.0 - 6.5 ft bgs 7.0 - 7.0 ft bgs 4.9 - 7.5 ft bgs 2.0 - 8.0 ft bgs	SM	5.0-9.0 - red. Gray, silt and sand, moist, some gravel, petroleum odor
10	3	-	10-15	3.1	0.5	SM	10.0-10.5 - cobble 10.5-13.1 - med gray silt and sand, wet, gravel, hard
15							
20							

Remarks:

CDM Smith

Raritan Plaza I
110 Fieldcrest Ave, 6th Floor
Edison, New Jersey 08837

Page 1 of 1

Boring Name: SB-04

Client: USEPA
Project Location: ~~Washington Township~~, NJ

Project Name: PV~~GC Superfund Site, OU3~~
Project Number: ~~101995.3323.040~~ Pond Ridge

Drilling Contractor: ~~ARS~~ DPT
Drilling Method:
Sample Method: Talon
Drilling Date: 9/7/16
North:
East:

Surface Elevation (ft amsl):
Total Depth: 15 feet bgs
Depth to Initial Water Level (ft bgs): 11 ft bgs
Field Screening Instrument: PPB RAE
Logged by: T. Tomsell

Depth (ft. bgs)	Sample Number	Blows per 6 inches	Sample Interval (ft)	Recovery (ft)	OVM Reading (ppm)	Graphic Log	Material Description
0	1		0-5	2.5	0.0	SW	0.0-0.5 - Asphalt 0.5-2.5 - Red Brown - gravelly SAND abundant SILT, dry
5	2		5-10	2.0	0.0	SM	5.0-5.5 - Cobble 5.5-5.8 - Dark brown, moist, sandy SILT some gravel
						SM	5.8-7.0 - Gray brown, silty sand, dense, dry, some gravel
10	3		10-15	~~0.~~ 3.5	0.9 10.5 feet bgs	SM	10.0-11.5 - SAA, wet at 11 ft bgs 11.5-13.5 - SAA, trace clay abundant gravel, wet
15							
20							

Remarks:

CDM Smith

Raritan Plaza I
110 Fieldcrest Ave, 6th Floor
Edison, New Jersey 08837

Boring Name: SB-05

Client: USEPA
Project Location: Washington Township, NJ

Project Name: PVOC Superfund Site, OU3
Project Number: 401995.3323.040

Drilling Contractor: ~~ARS~~ DPT
Drilling Method:
Sample Method: Talon
Drilling Date: 9/8/16
North:
East:

Surface Elevation (ft amsl):
Total Depth: 12
Depth to Initial Water Level (ft bgs): 9.5
Field Screening Instrument: PPB RAE
Logged by: T. Tomasello

Depth (ft. bgs)	Sample Number	Blows per 6 inches	Sample Interval (ft)	Recovery (ft)	OVM Reading (ppm)	Graphic Log	Material Description
0							0-0.2-Concrete
	1		0-2	1.2	0.0	SM	~~SAA~~ 0.2-1.2 Medium brown sandy SILT, some gravel
	2		2-4	1.1	0.0	SM	2.0-3.2- SAA.
5	3		4-6	2.0	0.0	SM	4.0-6.0- SAA
	4		6-8	1.9	0.0	SM	6.0-7.9- SAA, moist
	5		8-10	2.0	0.0	SM ML	8.0-9.5 - SAA. 9.5-10.0-Gray brown, clayey SAND, silty, some gravel, angular, wet
10	6		10-12	2.0	0.0	ML	10.0-12.0- SAA.
		Stop at 12 feet bgs					
15							
20							

Remarks:

CDM Smith

Raritan Plaza I
110 Fieldcrest Ave, 6th Floor
Edison, New Jersey 08837

Page 1 of 1

Boring Name: SB-06

Client: USEPA
Project Location: ~~Washington Township, NJ~~
Project Name: ~~PVGC Superfund Site, OU3~~
Project Number: ~~101995.3323.040~~ Pond Ridge

Drilling Contractor: ~~ARS~~ DPT
Drilling Method: Talon
Sample Method:
Drilling Date: 9/8/16
North:
East:

Surface Elevation (ft amsl):
Total Depth: 15
Depth to Initial Water Level (ft bgs): 10 ft bgs
Field Screening Instrument: PPB RAE
Logged by: J. Tomaselli

Depth (ft. bgs)	Sample Number	Blows per 6 inches	Sample Interval (ft)	Recovery (ft)	OVM Reading (ppm)	Graphic Log	Material Description
0	1		0-5	2.7	0.0	SM	0-0.3 - Asphalt 0.3-1.1 - Fill - med. brown silt and sand, dry, loose, abundant gravel
						CL	1.1-1.3 - Dark gray silty CLAY, some sand, moist
						SM	1.3-2.6 - same as 0.3-1.1
5	2		5-10	3.4	0.1 5-7 ft 0.2 7-8.3 ft	CL	2.6-2.7 - same as 1.1-1.3 - wet 5.0-6.5 - SAA
						ML	6.5-8.3 - Olive brown, clayey, sandy, silt, moist, firm
10	3		10-15	3.2	0.0	ML	10.0-12.0 - SAA, wet
						ML	12.0-13.2 - SAA, more sand, abundant gravel
15							
20							

Remarks:

CDM Smith

Raritan Plaza I
110 Fieldcrest Ave, 6th Floor
Edison, New Jersey 08837

Boring Name: SB-07 Pond Ridge

Client: USEPA
Project Location: ~~Washington Township, NJ~~
Project Name: ~~PVGC Superfund Site, OU3~~
Project Number: ~~101995.3323.040~~

Drilling Contractor: ~~ARS~~ Taka
Drilling Method: DPT
Sample Method:
Drilling Date: 9/8/16
North:
East:

Surface Elevation (ft amsl):
Total Depth: 15
Depth to Initial Water Level (ft bgs): 11.0
Field Screening Instrument: PPB RAE
Logged by: T. Tomaselli

Depth (ft. bgs)	Sample Number	Blows per 6 inches	Sample Interval (ft)	Recovery (ft)	OVM Reading (ppm)	Graphic Log	Material Description
0	1		0-5	2.7	0.1 at 0.5 ft bgs 0.5 at 1.5 ft bgs 2.9 at 2.0 ft bgs 27.9 at 2.0 ft bgs	SM SM SW SM SM	0.0-0.5 - Med brown, sandy SILT, dry 0.5-0.8 Gray, SILT and SAND, dry, loose 0.8-1.8 - Med. Brown gravelly SAND, silt, loose, dry 1.8-2.1 - Same as 0.5-0.8, gravelly 2.1-2.7 - Dark Brown, sandy SILT, loose, dry, some gravel
5	2		5-10	4.0	0.2	SM	5.0-6.5 - medium brown, stiff, sandy SILT, abundant gravel, iron staining damp, mottled 6.5-9.0 - SAA, moist
10	3		10-15	2.5	0.3 at 10.5 ft 5.7 at 11.0 ft 0.4 at 11.5 ft	SM ML	10.0-11.0 - med gray brown SILT and SAND, some gravel, damp, loose 11.0-12.5 - Olive gray, sandy SILT, clayey, some fine gravel, stiff, wet
15							
20							

Remarks:

CDM Smith

Raritan Plaza I
110 Fieldcrest Ave, 6th Floor
Edison, New Jersey 08837

Boring Name: SB-08

Client: USEPA
Project Location: ~~Washington Township, NJ~~
Project Name: ~~PVGC Superfund Site, OU3~~
Project Number: ~~101995.3323.040~~ Pond Ridge

Drilling Contractor: ~~ARS~~ DPT
Drilling Method: Talon
Sample Method:
Drilling Date: 9/7/16
North:
East:

Surface Elevation (ft amsl):
Total Depth: 7
Depth to Initial Water Level (ft bgs): —
Field Screening Instrument: PPB RAE
Logged by: T. Tomaselli

Depth (ft. bgs)	Sample Number	Blows per 6 inches	Sample Interval (ft)	Recovery (ft)	OVM Reading (ppm)	Graphic Log	Material Description
0	1		0-5	4.5	5.3 at 1.5 feet bgs 0.0 otherwise	SP SW	0.0-0.3- Asphalt 0.3-0.9- Dark red brown, medium silty SAND, Dry, loose 0.9-1.2- Cobble 1.2-4.5- very light brown fine SAND, abundant silt and gravel, dry
5	2		5-~~10~~ 7 refusal	2	0.0	SW	5.0-7.0- SAA Cobble fragments
10	3		10-15				
15							
20							

Remarks:

CDM Smith

Raritan Plaza I
110 Fieldcrest Ave, 6th Floor
Edison, New Jersey 08837

Page 1 of 1

Boring Name: SB-09

Client: USEPA
Project Location: ~~Washington Township, NJ~~

Project Name: PVGC Superfund Site, OU3
Project Number: 101995.3323.040

Drilling Contractor: ~~ARS~~ Talon
Drilling Method:
Sample Method: DPT
Drilling Date: 9/7/16
North:
East:

Surface Elevation (ft amsl):
Total Depth: 15
Depth to Initial Water Level (ft bgs): 9.8
Field Screening Instrument: PPB RAE
Logged by: T. Tomaselli

Depth (ft. bgs)	Sample Number	Blows per 6 inches	Sample Interval (ft)	Recovery (ft)	OVM Reading (ppm)	Graphic Log	Material Description
0	1		0-5	3.5	0.0	SW	0-0.8 - Asphalt 0.5-1.0 - Light brown, silty SAND loose, dry
						SW	1.0-2.0 - Light gray brown silty gravelly SAND dry, loose, asphalt 1.7-1.8
						SW	2.0-2.3 - Same as 0.5-1.0
5						SW	2.3-3.5 - fine SAND, gravelly, white brown
	2		5-10	5.0	0.0	SW	5.0-10.0 - SAA, dry damp at 8.0, wet at 9.8 ice + bags
10	3		10-15	5.0	0.0 faint petroleum odor	SW	10.0-12.0 - SAA
						SW	12.0-13.8 - Olive gray, med. SAND some silt, abundant gravel, wet, firm
						SW	13.8-15.0 - SAA, soft
15							
20							

Remarks:

CDM Smith

Raritan Plaza I
110 Fieldcrest Ave, 6th Floor
Edison, New Jersey 08837

Page 1 of 1

Boring Name: SB-10

Client: USEPA
Project Location: ~~Washington Township, NJ~~

Project Name: ~~PVGC Superfund Site, OU3~~
Project Number: ~~101995.3323.040~~

Drilling Contractor: ~~ARS~~ DPT
Drilling Method:
Sample Method: Talon
Drilling Date: 9/7/16
North:
East:

Surface Elevation (ft amsl):
Total Depth: 12.5
Depth to Initial Water Level (ft bgs): 10
Field Screening Instrument: PPB RAE
Logged by: T. Tomasello

Depth (ft. bgs)	Sample Number	Blows per 6 inches	Sample Interval (ft)	Recovery (ft)	OVM Reading (ppm)	Graphic Log	Material Description
0	1		0-5	3.5	0.0	SW	0-0.5 - Asphalt 0.5-1.2 - Red brown, silty SAND, trace gravel, damp, soft
						SM	1.2-3.5 Light gray, silty SAND damp, abundant gravel, moist, hard
5	2		5-10	5.0	0.0	SM	5.0-10.0 - S.A.A. 10 feet water table
10	3		10-12.5	2.5	27 at 11ft bgs 2.54 at 12ft bgs 450 at 12.5 feet bgs	SM	SAA, dark gray stained, saturated
			Refusal				
15							
20							

Remarks:

CDM Smith

Raritan Plaza I
110 Fieldcrest Ave, 6th Floor
Edison, New Jersey 08837

Boring Name: SB-11

Client: USEPA
Project Location: Washington Township, NJ

Project Name: ~~PVGC Superfund Site, OU3~~
Project Number: ~~104995.3323.040~~

Drilling Contractor: ~~ARS~~ Talon
Drilling Method: DPT
Sample Method:
Drilling Date: 9/8/16
North:
East:

Surface Elevation (ft amsl):
Total Depth: 13
Depth to Initial Water Level (ft bgs): 11
Field Screening Instrument: PPB RAE
Logged by: L. Tomasello

Depth (ft. bgs)	Sample Number	Blows per 6 inches	Sample Interval (ft)	Recovery (ft)	OVM Reading (ppm)	Graphic Log	Material Description
0	1		0-5	2.7	0.3	SM	0.0-1.1 - med. brown, fine SANDY SILT, dry, loose, trace gravel
						SM	1.1-2.5 - SAA, red brown, iron staining
					2.1 PPM at 0.8	GW	2.5-2.7 - Red brown, sandy GRAVEL, some silt, dry
5	2		5-10	5.0	0.0	SW	5.0-7.5 - Light brown silty SAND, M-F, some gravel, little iron staining, dry, loose
							7.5-8.0 - Boulder
10						SM	8.0-10.0 - Gray, moist, sandy SILT, trace clay, abundant gravel, hard
	3		10-13	2.7	0.0	SM	10.0-11.0 - SAA
						SM	11.0-12.7 - SAA, wet, hard, more sand.
15			refusal	13 ft bgs			
20							

Remarks:

Appendix D

Appendix D
Groundwater Sampling Logs

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD
77 Westchester Avenue, Pound Ridge/Scotts Corners Site
Pound Ridge, New York

DATE: 9/12/16 WELL #: PW-01

SAMPLERS: TT DEPTH OF PUMP INTAKE: — ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: SCREENED/OPEN BOREHOLE INTERVAL: — ft TIC or ft BGS (circle one)

SAMPLE ID: PW-01-A SAMPLE TIME: 1215 SAMPLE FLOW RATE: ~~10 GPM~~ 9/12/16 250 ml/minute

CLP ID:

Instrument Type/Model: YSI Model # 600XL / Horiba U-22 (circle one) Instrument:

Complete and/or Circle at right Other (specify)_____

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle	ft TIC / ft BGS (circle one)	Units: GPM	ft TIC / ft BGS	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1145										
1150	10		10		7.83	0.581	4.94	20.29	131.5	
1200	50		↓		6.71	0.574	3.97	20.72	144.1	
1205	100				6.59	0.579	4.59	20.79	-152.8	
1210	150		↓		6.55	0.575	4.19	19.98	-153.6	
1215 - sample time										

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm
TIC = Top of Inner Casing BGS = Below Ground Surface

PID = 2.1 ppm
Total Depth = 17.75

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD
77 Westchester Avenue, Pound Ridge/Scotts Corners Site
Pound Ridge, New York

DATE: 9/9/16
SAMPLERS: TT
WEATHER CONDITIONS:
WELL #: MW-1
DEPTH OF PUMP INTAKE: 14 ft TIC or ft BGS (circle one)
SCREENED/OPEN BOREHOLE INTERVAL: 10-18 ft TIC or ft BGS (circle one)
SAMPLE ID: MW-1-A
CLP ID:
SAMPLE TIME: 1145 SAMPLE FLOW RATE: 250 ml/minute

Instrument Type/Model: Complete and/or Circle at right — YSI Model # 600XL / Horiba U-22 (circle one) — Other (specify)_____ — Instrument: LaMotte

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER 10.66	FLOW RATE	DRAWDOWN	pH	SPECIFIC CONDUCTIVITY	DISSOLVED OXYGEN	TEMP.	REDOX POTENTIAL	TURBIDITY
				(± 0.3 FT)	(± 0.1 SU)	(± 3%)	(± 10%)	(± 10%)	(± 10 mV)	(± 10%)
24-Hour 10:55	gallons / liters (circle)	ft TIC / ft BGS (circle one)	Units: mL/min	ft TIC / ft BGS	SU	S/cm, mS/cm, or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
11:00	1.5	10.82	~~280~~ 300	0.22	7.22	0.880	3.18	20.06	106.6	66.4
11:05	3.0	10.85	300	0.25	6.69	0.876	1.86	21.01	129.6	33.7
11:10	4.5	10.86	300	0.26	6.57	0.874	0.95	21.09	147.3	26.4
11:15	6	↓	300	↓	6.53	0.870	0.88	21.14	152.6	20.3
11:20	7.5		300		6.50	0.868	0.83	21.33	155.9	17.2
1125	9		300		6.49	0.868	0.78	21.10	161.8	14.0
1130	10.5		300		6.48	0.866	0.81	21.47	163.4	6.33
1135	12	↓	300	↓	6.48	0.865	0.79	21.51	167.4	5.42

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L; Redox Potential = -100 - +600 mV; Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm
TIC = Top of Inner Casing; BGS = Below Ground Surface

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD
77 Westchester Avenue, Pound Ridge/Scotts Corners Site
Pound Ridge, New York

Depth to Bottom = 10.99

DATE: 9/12/2016 **WELL #:** MW-02

SAMPLERS: CH, TT **DEPTH OF PUMP INTAKE:** 11.00 ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: sunny, 75°F **SCREENED/OPEN BOREHOLE INTERVAL:** 10.79-11 ft TIC or ft BGS (circle one)

SAMPLE ID: MW-02-A **SAMPLE TIME:** 1235 **SAMPLE FLOW RATE:** Grab ml/minute
CLP ID:

Instrument Type/Model: Complete and/or Circle at right					YSI Model # 600 XL / Horiba U-22 (circle one) Other (specify)_____					Instrument:
CURRENT TIME	VOLUME PURGED	DEPTH TO WATER 10.79	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle	ft TIC / ft BGS (circle one)	Units:	ft TIC / ft BGS	SU	S/cm, mS/cm, or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
No flow, very little water					6.80	0.982	0.43	27.78	-71.3	✓
Grab sample collected 12:35										

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm
TIC = Top of Inner Casing BGS = Below Ground Surface

Total Depth = 13.00 ft bgs

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD
77 Westchester Avenue, Pound Ridge/Scotts Corners Site
Pound Ridge, New York

DATE: ~~9/~~ 9/9/16

WELL #: GW-01

SAMPLERS: YL TT

DEPTH OF PUMP INTAKE: ~~8~~ 13 ft TIC or ft (BGS) (circle one)

WEATHER CONDITIONS: 83 ~~85~~ Partly Cloudy ~~MS/MSD~~

SCREENED/OPEN BOREHOLE INTERVAL: 8 - 13 ft TIC or ft (BGS) (circle one)

SAMPLE ID: GW-01-A SAMPLE TIME: 1400 ~~1000~~ SAMPLE FLOW RATE: ml/minute

CLP ID:

Instrument Type/Model: YSI Model # 600 x L / Horiba U-22 (circle one)

Complete and/or Circle at right Other (specify)_____

Instrument: Lamotte

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER 9.57	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle	ft TIC / ft BGS (circle one)	Units: mL/min	ft TIC / ft BGS	SU	S/cm, mS/cm°/ or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
8:55	~~50m~~		~~50~~		6.25	3.758	0.94	20.43	-83.7	>1000
9:00	well	ran	dry	- wait for		recharge				
		11.77								
Grab sample collected for VOCs + GRO only.										

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm
TIC = Top of Inner Casing BGS = Below Ground Surface

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD
77 Westchester Avenue, Pound Ridge/Scotts Corners Site
Pound Ridge, New York

Product Present: Unknown thickness
PID 0.7 ppm

DATE: 9/9/16
WELL #: GW-05
SAMPLERS: YL & TT
DEPTH OF PUMP INTAKE: 12.3 ft TIC or ft BGS (circle one)
WEATHER CONDITIONS: 83° partly cloudy
SCREENED/OPEN BOREHOLE INTERVAL: 7.3-12.3 ft TIC or ft BGS (circle one)
SAMPLE ID: GW-05-A
SAMPLE TIME: 1430 SAMPLE FLOW RATE: ml/minute
CLP ID:

Instrument Type/Model: YSI Model # 600 XL / Horiba U-22 (circle one) Instrument:
Complete and/or Circle at right Other (specify)_____

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER 11.00	FLOW RATE	DRAWDOWN	pH	SPECIFIC CONDUCTIVITY	DISSOLVED OXYGEN	TEMP.	REDOX POTENTIAL	TURBIDITY
24-Hour	gallons / liters (circle	ft TIC / ft BGS (circle one)	Units:	ft TIC / ft BGS	SU	S/cm, mS/cm°/ or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
				(± 0.3 FT)	(± 0.1 SU)	(± 3%)	(± 10%)	(± 10%)	(± 10 mV)	(± 10%)
9:32					7.07	0.942	~~03.7~~ 5.56	22.08	47.9	>1000
9:36	Well ran dry - wait for recharge									
1430 - Grab sample collected for VOCs only										

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm
TIC = Top of Inner Casing BGS = Below Ground Surface

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD
77 Westchester Avenue, Pound Ridge/Scotts Corners Site
Pound Ridge, New York

PID = 0.2
Total depth = 13.4

DATE: 9/12/2016 **WELL #:** GW-09

SAMPLERS: CH, TT **DEPTH OF PUMP INTAKE:** ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Sunny, 75°F **SCREENED/OPEN BOREHOLE INTERVAL:** 8.4 - 13.4 ft TIC or ft (BGS) (circle one)

SAMPLE ID: GW-09-A **SAMPLE TIME:** 1100 **SAMPLE FLOW RATE:** 250 mL/min ml/minute
CLP ID:

Instrument Type/Model: YSI Model # 600 XL / Horiba U-22 (circle one) Instrument:
Complete and/or Circle at right Other (specify)_____

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER 11.13	FLOW RATE	DRAWDOWN	pH	SPECIFIC CONDUCTIVITY	DISSOLVED OXYGEN	TEMP.	REDOX POTENTIAL	TURBIDITY
24-Hour 1031	gallons / liters (circle	ft TIC / ft BGS (circle one)	Units: mL/minute mL/min	ft TIC / ft BGS	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
				(± 0.3 FT)	(± 0.1 SU)	(± 3%)	(± 10%)	(± 10%)	(± 10 mV)	(± 10%)
1035	1.5		300 mL/min		6.41	1.046	1.12	21.82	-5.70	
1040					6.59	1.055	0.68	21.20	-31.50	
1045					6.70	1.044	0.47	21.14	-43.9	
1050					6.73	1.041	0.46	21.17	-46.2	
1055	7.5				6.74	1.041	0.43	21.44	-46.8	

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L ✓ Redox Potential = -100 - +600 mV ✓ Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm
TIC = Top of Inner Casing BGS = Below Ground Surface

Turbidimeter not working
↳ Turbidity is estimated at under 100 NTU

PID = 1.9 PPM
Total Depth = 12.60

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD
77 Westchester Avenue, Pound Ridge/Scotts Corners Site
Pound Ridge, New York

DATE: 9/12/16 **WELL #:** GW-11

SAMPLERS: TT, CH **DEPTH OF PUMP INTAKE:** 12.60 ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Sunny, 75°F **SCREENED/OPEN BOREHOLE INTERVAL:** 7.6 - 12.6 ft TIC or ft BGS (circle one)

SAMPLE ID: GW-11-A **SAMPLE TIME:** 1000 **SAMPLE FLOW RATE:** Grab ml/minute

CLP ID:

Instrument Type/Model: YSI Model # 600XL / Horiba U-22 (circle one) Instrument:

Complete and/or Circle at right Other (specify)_____

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER 10.50	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour 0955 start	gallons / liters / (circle)	ft TIC / ft BGS (circle one)	Units: mL/min	ft TIC / ft BGS	SU	S/cm, mS/cm, or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1000	0.5	Dry	50mL/min	—	6.20	0.427	4.22	17.34	21.1	>1000
well is dry, collect VOCs, GRO only as grab once water comes back into well										

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm
TIC = Top of Inner Casing BGS = Below Ground Surface

Appendix E

Appendix E
Waste Manifests

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE

GENERATOR

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: N/A

Manifest Document No.: 101655

2. Page 1 of

3. Generator's Name and Mailing Address
U.S. EPA REGION 2/POUND RIDGE ATTN: ALISON DEVINE
290 BROADWAY, 19th FLOOR, NEW YORK, NY 10007

4. Generator's Phone (212) 637-4158

5. Transporter 1 Company Name: FREEHOLD CARTAGE, INC.

6. US EPA ID Number: NJD 054 126 164

A. State Transporter's ID

B. Transporter 1 Phone: 732-462-1001

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
ENVIRONMENTAL RECOVERY CORP
1076 OLD MANHEIM PIKE
LANCASTER, PA 17601

10. US EPA ID Number: PAD 987n266 749

E. State Facility's ID: 301344

F. Facility's Phone: 717-393-2627

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NONHAZARDOUS NON REGULATED (GROUNDWATER) APPROVAL 1610--05859-LWT	1	DM	75	P
b. NONHAZARDOUS, NON REGULATED (SOIL CUTTINGS) APPROVAL 1610-05860-SPT	1	DM	200	P
c. NONHAZARDOUS, NON REGULATED (PPE/DEBRIS) APPROVAL 1610-05861-SPT	1	DM	50	P
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

SITE ADDRESS: 77 WESTCHESTER AVE
POUND RIDGE, NY 10576

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: CDM Smith / X Caitlin Hughes on behalf of USEPA

Signature: X [signature] on behalf of USEPA

Date: Month 11 Day 03 Year 16

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Michael Brochu

Signature: [signature]

Date: Month 11 Day 03 Year 16

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name

Signature

Date: Month Day Year

FREEHOLD CARTAGE INC.

P.O. BOX 5010 • FREEHOLD, NJ 07728-5010
(732) 462-1001 • FAX (732) 308-0924

BILL OF LADING

FCI EPA ID NO. NJD054126164

S 577924

350 Pigeon Point Road
New Castle, DE 19720
Phone: (302) 658-2005
Fax: (302) 658-6229

175 Bartow Mun. Airport
Bartow, FL 33830
Phone: (863) 533-4599
Fax: (863) 533-1613

5533 Dunham Road
Maple Heights, OH 44137
Phone: (330) 835-3473
Fax: (330) 835-3732

108 Monahan Avenue
Dunmore, PA 18512
Phone: (570) 342-7232
Fax: (570) 342-7367

132 Myrtle Beach Hwy.
Sumter, SC 29153
Phone: (803) 773-2611
Fax: (803) 773-2942

SHIPPER NAME/ADDRESS	PHONE (AREA CODE)	
USEPA Region 2 Pound Ridge, NY	TRACTOR 719 / TRAILER 4898	APPOINTMENT TIME :
FCI REP. LOADING (PRINT) M Crodian	PROCEDURE LTL	EQUIP. SPOTTED — / EQUIP. REMOVED —
COMMENTS OR DELAYS AT SHIPPER		TIME AT SHIPPER (MILITARY TIME ONLY): 13:00 ARRIVAL TIME / 13:15 DEPARTURE TIME EQUIPMENT USED —

BROKER:

PO#: WO#:

MANIFEST / DOCUMENT NO. See manifest

(X) HM		PROPER U.S. D.O.T. SHIPPING NAME	U.S. D.O.T. HAZARDOUS CLASS	NA/IJN/NO.	PACKING GROUP	NO. CONT.	CONT. TYPE	NET QUANTITY	UNIT MEASURE	WASTE NO.	FORM
	1	101655				3	DM	(55gal)			
	2										
	3										

SPECIAL HANDLING INSTRUCTIONS INCLUDING CONTAINER EXEMPTION NUMBER.

SHIPPER'S CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, U.S. EPA and the State. The materials described above were consigned to the Transporter named. The consignee can and will accept the shipment and has a valid permit to do so if required. I certify that the foregoing is true and correct to the best of my knowledge.

Payment to the contractor for waste removal does not constitute payment to the carrier and if the contractor does not pay the carrier, the shipper is obligated to pay the agreed rate offered to the contractor.

PLEASE PRINT NAME/TITLE	SHIPPER'S SIGNATURE	DATE LOADED
	X _____ I HAVE READ THE ABOVE AND UNDERSTAND AND AGREE TO ALL OF ITS CONTENT.	11 / 3 / 16 MO. DAY YR.

CONSIGNEE NAME/ADDRESS	PHONE (AREA CODE)	
ERC Lancaster, Pa	TRACTOR / TRAILER	APPOINTMENT TIME :
FCI REP. UNLOADING (PRINT)	PROCEDURE / EQUIP. SPOTTED / EQUIP. REMOVED	TIME AT CONSIGNEE (MILITARY TIME ONLY): : ARRIVAL TIME / : DEPARTURE TIME
COMMENTS OR DELAYS AT CONSIGNEE		EQUIPMENT USED

PLEASE PRINT NAME/TITLE	CONSIGNEE SIGNATURE	DATE UNLOADED
	X _____	/ / MO. DAY YR.

AR H-0257	MD HWH-167 2001-OPV-2335	MO H-1490	OH UPW-0190713-OH	TX 40705
CT CT-HW-307	ME ME-HWT-47 ME-WOT-47	ND WH-429	OK UPW-0190713-OH	WI 11602
DE DE-HW-203 DE-SW-203	MI UPW-0190713-OH	NH TNH-0047	ONTARIO, CANADA A 840943	WV UPW-0190713-OH
IL UPW-0190713-OH	MN UPW-0190713-OH	NJ S-2265 15939	PA PA-AH-0067	
MA MA-294		NY NJ-113	QUEBEC, CANADA QC-6ML-047	
			RI RI-535	

White - FCI Original
Yellow - FCI Billing
Blue - FCI Office/Customer
Green - Retained by TSDF
Gold - Retained by Generator

S 577924

Appendix F

Appendix F
Data Validation Reports

77 Westchester Avenue, Pound Ridge/Scotts Corners Site
Pound Ridge, New York
Data Validation Report

Sample Delivery Group (SDG) Number: 16090771
Laboratory: Bureau Veritas North America
Matrix: Air
Collection date: 09/12/16
Analysis/Methods:

Volatile Organic Compounds TO15

Samples in SDG:

16090771-001A	SV-01-A
16090771-002A	AO-01-A
16090771-003A	SV-02-A
16090771-004A	SV-902-A

Data validation was performed in accordance with the specific analytical methods, the U.S. EPA Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15 (June 2014, and SOP HW-31, Revision 6 (June 2014).

Volatile Organic Compounds TO-15

Precision:	**Yes**	**No**	**N/A**
Are the field duplicate relative percent differences (RPD) ≤25%?			**N/A**
Were the Matrix Spike Duplicate RPDs ≤ 20%? (Or lab defined limits)			**N/A**
Laboratory Control Spike Duplicates RPD within limits?			**N/A**

Comments (note deviations):

Field Duplicates	**TO-15**	**Sample (ug/L)**	**Duplicate (ug/L)**	**%RPD**	**Qualifiers**	**Associated Samples**
		SV-02-A	SV-902-A	Acceptable		

LCS/LCSD	**TO-15**	**%RPD**	**Limits**	**Qualifiers**	**Associated Samples**
LCS/LCSD - 4680849		Acceptable			

MS/MSD	**TO-15**	**%RPD**	**Limit**	**Qualifiers**	**Associated Samples**
N/A					

Laboratory Duplicate	**Sample**	**Duplicate**	**RL**	**%RPD**	**Qualifier**	**Associated Samples**
N/A						

Accuracy:	**Yes**	**No**	**N/A**
Was the Matrix Spike/Matrix Spike Duplicate criteria met? (frequency ≥ 5% and laboratory determined control limits)			**N/A**
Laboratory Control Sample criteria met?			**No**
Were the Laboratory Method Blank results all < RL?			**Yes**
Were the Field Blanks results all < RL?			**N/A**
Was the ICAL criteria met?			**No**
Was the CCV criteria met?			**Yes**
Was the Tuning criteria met?			**Yes**
Were the Surrogate % recoveries within laboratory determined control limits?			**N/A**
Were the Internal Standard areas within ± 50 - 150%?			**Yes**

Comments (note deviations):

Blanks	**TO-15**	**Concentration**	**MDL**	**RL**	**Qualifiers**	**Associated Samples**
BLK-4680832		Nondetect				

Field Blank	**TO-15**	**Concentration (ug/L)**	**MDL / RL**	**Qualifiers**	**Associated Samples**
N/A		Nondetect			

Surrogates	**TO-15**	**%R**	**Limit**	**Qualifiers**	**Associated Samples**
		Acceptable			

MS/MSD	TO-15	%R	Limits (%)	Qualifiers	Associated Samples
N/A					

LCS/LCSD	TO-15	%R	Limits	Qualifiers	Associated Samples
LCS/LCSD - 4680849	1,4-Dioxane	131%	130%	J**	All samples
	Naphthalene	140%	130%	J**	All samples

**No qualification required - sample results nondetect

ICAL	TO-15	RRF	%RSD	Qualifiers	Associated Samples
(8/30/2016) (13:09)	1,2,4-Trichlorobenzene	Acceptable	35.86%	J**	All samples
	Naphthalene	Acceptable	36.35%	J**	All samples

**No qualification required - sample results nondetect

CCV	TO-15	RRF	%D	Qualifiers	Associated Samples
(09/15/2016) (8:48)		Acceptable	Acceptable		

Tune	TO-15
	Acceptable

Internal Standards	TO-15	Area	Area Lower / Upper Limit	Qualifiers	Associated Samples
	Acceptable				

Canister Information	TO-15	Qualifiers	Associated Samples
Batch canister certification was performed and results were within criteria.			

Representativeness:	Yes	No	N/A
Were sampling procedures and design criteria met?	Yes		
Were holding times met?	Yes		
Was preservation criteria met? (0° - 6° C)			N/A
Were Chain-of-Custody records complete and provided in data package?	Yes		

Comments (note deviations):

Holding Time / Canister Pressure Criteria	Days to Analysis	Criteria	Qualifier	Associated Samples
Hold Time	Acceptable			
	Difference between Initial Pressure and Pressure reading at time of analysis			
Canister Pressure Criteria	> 5 for each canister	< 5	J/UJ	All analytes - all samples

Comparability:	Yes	No	N/A
Were analytical procedures and methods followed as defined in the QAPP or field change documentation?	Yes		

Comments (note deviations):

Completeness (90%):	Yes	No	N/A
Are all data in this SDG usable?	Yes		

Comments (note deviations):

Sensitivity:	Yes	No	N/A
Are MDLs present and reported?	Yes		
Do the reporting limits meet project requirements?	Yes		

Comments (note deviations):

Overall Comments: All data are usable.

Data Validator: Kristine Molloy Date: 2/26/2017

Data Reviewer: Cherie Zakowski Date: 2/27/2017

77 Westchester Avenue, Pound Ridge/Scotts Corners Site
Pound Ridge, New York
Data Validation Report

Sample Delivery Group (SDG) Number: 1609326
Laboratory: RTI Laboratories
Matrix: Soil
Collection date: 9/7/2016 & 9/8/2016
Analysis/Methods:

Volatile Organic Compounds 8260A
Semivolatile Organic Compounds 8270A
Metals (ICP - MS) 6020A
Petroleum Hydrocarbons (DRO) / Nonhalogentated Organics (GRO) SW8015D
Polychlorinated Biphenyls (PCBs) 8082A

Samples in SDG:

1609326-001	SB-06-A	1609326-012	SB-07-B
1609326-002	SB-06-B	1609326-013	SB-09-B
1609326-003	SB-906-B	1609326-014	SB-11-A
1609326-004	SB-10-A	1609326-015	SB-11-B
1609326-005	SB-01-A	1609326-016	SB-05-A
1609326-006	SB-01-B	1609326-017	SB-05-B
1609326-007	SB-04-A	1609326-018	SB-07-A
1609326-008	SB-03-A	1609326-019	SB-08-B
1609326-009	SB-03-B	1609326-020	SB-09-A
1609326-010	SB-04-B	1609326-021	SB-10-B
1609326-011	SB-08-A		

Data validation was performed in accordance with the specific analytical methods and the U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review (September 2016) and the U.S. EPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (September 2016).

Volatile Organic Compounds 8260C

Precision:	**Yes**	**No**	**N/A**
Are the field duplicate relative percent differences (RPD) ≤100%?			**Yes**
Were the Matrix Spike Duplicate RPDs ≤ 20%? (Or lab defined limits)			**N/A**
Laboratory Control Spike Duplicates RPD within limits?			**No**

Comments (note deviations):

Field Duplicates	**8260C**	**Sample**	**Duplicate**	**%RPD**	**Qualifiers**	**Associated Samples**
		SB-06-B	**SB-906-B**	Acceptable		

LCS/LCSD	**8260C**	**%RPD**	**Limits**	**Qualifiers**	**Associated Samples**
VOA10 LCS / LCSD 091816	Acetone	49%	25%	**J / UJ**	**1609326-001 through 1609326-010**
VOA10 LCS / LCSD 09201	Acetone	28%	25%	**J / UJ**	**1609326-011 through 1609326-021**

MS/MSD	**8260C**	**%RPD**	**Limit**	**Qualifiers**	**Associated Samples**
N/A					

Laboratory Duplicate	**Sample**	**Duplicate**	**DL / LOQ**	**%RPD**	**Qualifier**	**Associated Samples**
N/A						

Accuracy:	**Yes**	**No**	**N/A**
Was the Matrix Spike/Matrix Spike Duplicate criteria met? (frequency ≥ 5% and laboratory determined control limits)			**N/A**
Laboratory Control Sample criteria met?			**No**
Were the Laboratory Method Blank results all < RL?			**No**
Were the Field Blanks results all < RL?			**N/A**
Was the ICAL criteria met?			**Yes**
Was the CCV criteria met?			**No**
Was the Tuning criteria met?			**Yes**
Were the Surrogate % recoveries within laboratory determined control limits?			**Yes**
Were the Internal Standard areas within ± 50 - 150%?			**Yes**

Comments (note deviations):

Blanks	8260C	Concentration	DL / LOQ	Qualifiers	Associated Samples
VOA10 MBLK 09181					
	m,p-xylene	0.94	0.56 / 2.0	None	Sample results nondetect or >LOQ
	Methylene Chloride	4.4	0.27 / 5.0	**RL U**	**1609326-001, 1609326-004 through 1609326-010**
VOA10 MBLK 09201	Methylene Chloride	3.5	0.27 / 5.0	**RL U**	**1609326-10 through 1609326-021**

Field Blank	8260C	Concentration (ug/L)	DL / LOQ	Qualifiers	Associated Samples
N/A					

Surrogates	8260C	%R	Limit	Qualifiers	Associated Samples
	4-Bromofluorobenzene **	152%	79-119	**J+**	**SB-03-B**

**1,2-Dichlorobenzene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Benzene, Chlorobenzene, Isopropylbenzene, Naphthalene, Toluene, m,p-xylene, o-xylene

MS/MSD	8260C	%R	Limits (%)	Qualifiers	Associated Samples
N/A					

LCS/LCSD	8260C	%R	Limits	Qualifiers	Associated Samples
VOA10 LCS / LCSD 091816	1,1,2-Trichloro-1,2,2-trifluoroethane	144 / 134%	66-136	**J****	**1609326-001 through 1609326-010**
	Dichlorodifluoromethane	150 / 142%	29-149	**J****	**1609326-001 through 1609326-010**
	Methylene Chloride	120 / 138%	70-128	**J**	**1609326-001 through 1609326-010**
VOA10 LCS / LCSD 092016	1,1,2-Trichloro-1,2,2-trifluoroethane	138/ 131	66-136	**J****	**1609326-011 through 1609326-021**
	2-Butanone	162/ 151	51-148	**J****	**1609326-011 through 1609326-021**
	Methylene Chloride	134 / 123	70-128	**J**	**1609326-011 through 1609326-021**

**** No qualification required as results are nondetect**

ICAL	8260C	RRF	%RSD	Corr. Coeff.	Qualifiers	Associated Samples
(9/18/16 11:45)			Acceptable			

CCV	8260C	RRF	%D	Qualifiers	Associated Samples
VOA10 ICV 091816	1,1,2-Trichloro-1,2,2-trifluoroethane	Acceptable	42.60%	**J/UJ**	**1609326-001 through 1609326-010**
	Dichlorodifluoromethane	Acceptable	43.50%	**J/UJ**	**1609326-001 through 1609326-010**
VOA10 CCVE 091816		Acceptable	Acceptable		
VOA10 CCVE 092016 (Closing)		Acceptable	Acceptable		

Tune	8260C
	Acceptable

Internal Standards	8260C	Qualifiers	Associated Samples
	Acceptable		

Semivolatile Organic Compounds 8270D

Precision:	**Yes**	**No**	**N/A**
Are the field duplicate relative percent differences (RPD) ≤100%?		**No**	
Were the Matrix Spike Duplicate RPDs ≤ 20%? (Or lab defined limits)		**No**	
Laboratory Control Spike Duplicates RPD within limits?			**N/A**

Comments (note deviations):

Field Duplicates	**8270D**	**Sample SB-06-B**	**Duplicate SB-906-B**	**%RPD**	**Qualifiers**	**Associated Samples**
	Benzo (a) pyrene	2	11	138%	None	ABS difference < 5xs LOQ
	Fluoranthene	4.5	29	146%	None	ABS difference < 5xs LOQ
	Chrysene	2	12	143%	None	ABS difference < 5xs LOQ
	Phenanthrene	2.8	19	149%	None	ABS difference < 5xs LOQ
	Acenaphthene	2.4	8.1	NC **	None	ABS difference < 5xs LOQ
	Anthracene	4.8	8.1	NC **	None	ABS difference < 5xs LOQ
	Benzo (a) anthracene	10	8.1	NC **	None	ABS difference < 5xs LOQ
	Benzo (b) fluoranthene	17	8.1	NC **	None	ABS difference < 5xs LOQ
	Benzo (g,h,I) perylene	5.6	8.1	NC **	None	ABS difference < 5xs LOQ
	Benzo (k) fluoranthene	8.9	8.1	NC **	None	ABS difference < 5xs LOQ
	Fluorene	1.6	8.1	NC **	None	ABS difference < 5xs LOQ
	Indeno (1,2,3-cd) pyrene	5.2	8.1	NC **	None	ABS difference < 5xs LOQ
	Pyrene	5.7	8.1	NC **	None	ABS difference < 5xs LOQ

**** %RPD not calculated - sample results were ND in sample SB-906-B**

LCS/LCSD	**8270D**	**%RPD**	**Limits**	**Qualifiers**	**Associated Samples**
N/A					

MS/MSD	8270D	%RPD	Limit	Qualifiers	Associated Samples
1609326-005E					
	2,3,4,6-Tetrachlorophenol	38.3%	25%	J**	1609326-005E
	2,4,5-Trichlorophenol	43.7%	25%	J**	1609326-005E
	2,4,6-Trichlorophenol	39.7%	25%	J**	
	2,4-Dichlorophenol	37.4%	25%	J**	
	2,4-Dimethylphenol	32.3%	25%	J**	
	2,4-Dinitrophenol	25.9%	25%	J**	
	2,4-Dinitrotoluene	58.0%	25%	J**	
	2,6-Dinitrotoluene	49.5%	25%	J**	
	2-Chloronaphthalene	30.6%	25%	J**	
	2-Chlorophenol	26.4%	25%	J**	
	2-Methylnaphthalene	27.0%	25%	J	
	2-Methylphenol	31.6%	25%	J**	
	2-Nitroaniline	27.3%	25%	J**	
	2-Nitrophenol	60.3%	25%	J**	
	3-Nitroaniline	41.9%	25%	J**	
	4,6-Dinitro-2-methylphenol	43.8%	25%	J**	
	4-Bromophenyl-phenylether	27.2%	25%	J**	
	4-Chloro-3-methylphenol	39.4%	25%	J**	
	4-Chlorophenyl-phenylether	27.9%	25%	J**	
	4-Nitroaniline	46.0%	25%	J**	
	Acenaphthene	32.8%	25%	J	
	Acetophenone	200.0%	25%	J**	
	Benzo (a) anthracene	34.9%	25%	J	
	Benzaldehyde	200.0%	25%	J**	
	Benzo (a) pyrene	25.8%	25%	J	
	Benzo (b) fluoranthene	40.7%	25%	J	
	Benzo (g,h,I) perylene	41.9%	25%	J	
	Benzo (k) fluoranthene	44.4%	25%	J	
	Bis (2-chloroethoxy) methane	36.7%	25%	J**	
	Bis (2-ethylhexyl) phthalate	38.9%	25%	J	
	Butylbenzylphthalate	83.6%	25%	J**	
	Caprolactam	200.0%	25%	J**	
	Carbazole	37.9%	25%	J	
	Chrysene	26.0%	25%	J	
	Di-n-butylphthalate	3635.0%	25%	J**	
	Di-n-octylphthalate	58.8%	25%	J**	
	Dibenzofuran	30.3%	25%	J**	
	Diethylphthalate	34.5%	25%	J**	
	Dimethylphthalate	30.4%	25%	J**	
	Fluorene	26.0%	25%	J	
	Hexachlorobenzene	27.4%	25%	J**	
	Indeno (1,2,3-cd) pyrene	29.1%	25%	J	
	Isophorone	29.4%	25%	J**	
	N-Nitrosodiphenylamine	26.3%	25%	J**	
	N-Nitroso-di-n-propylamine	32.8%	25%	J**	
	Naphthalene	25.6%	25%	J	
	Nitrobenzene	39.9%	25%	J**	
	Pentachlorophenol	25.8%	25%	J**	
	Phenanthrene	40.8%	25%	J	1609326-005E
	Pyrene	188.0%	25%	J	1609326-005E

**** No qualification required as results are nondetect**

Laboratory Duplicate	Sample	Duplicate	DL / LOQ	%RPD	Qualifier	Associated Samples
N/A						

Accuracy:	Yes	No	N/A
Was the Matrix Spike/Matrix Spike Duplicate criteria met? (frequency ≥ 5% and laboratory determined control limits)		No	
Laboratory Control Sample criteria met?	Yes		
Were the Laboratory Method Blank results all < RL?	Yes		
Were the Field Blanks results all < RL?			N/A
Was the ICAL criteria met?	Yes		
Was the CCV criteria met?		No	
Was the Tuning criteria met?	Yes		
Were the Surrogate % recoveries within laboratory determined control limits?	Yes		
Were the Internal Standard areas within ± 50 - 150%?	Yes		

Comments (note deviations):

Blanks	8270D	Concentration		DL / LOQ	Qualifiers	Associated Samples
MB-41091		Nondetect				

Field Blank	8270D	Concentration (ug/L)	DL / LOQ	Qualifiers	Associated Samples
N/A					

Surrogates	8270D	%R	Limit	Qualifiers	Associated Samples
	Terphenyl-d14*	133.0%	54-127	J+	SB-06-A
		137.0%	54-127	J+	SB-03-A
	1,4-Dioxane-d8*	13.2%	25-130	J- / UJ	SB-07-A
	2-Fluorophenol*	20.5%	35-115	J- / UJ	SB-07-A
	2-Fluorobiphenyl*	35.9%	44-115	J- / UJ	SB-07-A
	Phenol-d5*	27.6%	33-122	J- / UJ	SB-07-A

MS/MSD	8270D	%R	Limits (%)		Qualifiers	Associated Samples
1609326-005E	2,4-Dinitrophenol	12 / 19.4%	50-130		J/UJ	1609326-005
	3,3'-Dichlorobenzidine	0 / 0%	22-121		J/R	
	4-Nitroaniline	37.9 / 60.9%	50-130		J/UJ	
	Acetophenone	0 / 53.1%	33-115		J/R	
	Atrazine	0 / 0%	47-127		J/R	
	Benzaldehyde	0 / 52%	50-130		J/R	
	Benzo (g,h,I) perylene	54.8 / 20.7	43-134		J/UJ	
	Biphenyl	0 / 0%	40-117		J/R	
	Bis (2-ethylhexyl) phthalate	94.9 / 146	51-133		J	
	Butylbenzylphthalate	45.9 / 179	48-132		J	
	Caprolactam	0 / 72.5	46-117		J/R	
	Hexachlorocyclopentadiene	0 / 0%	50-130		J/R	
	Indeno (1,2,3-cd) pyrene	58.6 / 35.6	45-133		J/UJ	
	Pyrene	1.96 / 301	35-142	NFG	J/R	1609326-005

LCS/LCSD	8270D	%R	Limits	Qualifiers	Associated Samples
LCS-41091		Acceptable			

ICAL		RRF	%RSD	Corr. Coeff.	Qualifiers	Associated Samples
(9/12/16 6:32)		Acceptable	Acceptable			

CCV	8270D	RRF	%D	Qualifiers	Associated Samples
CCV S7 092316		Acceptable	Acceptable		
CCVE S7 092216	Bis(2-ethylhexyl)phthalate	Acceptable	55.80%	J/UJ	1609326-001 through 1609326-003, 1609326-005 through 1609326-010 & 1609326-012, 14 through 1609326-18
	Butyl benzyl phthalate	Acceptable	59.80%	J/UJ	
	Hexachlorocylcopentadiene	Acceptable	91.10%	J/UJ	
	Hexachloroethane	Acceptable	64.20%	J/UJ	1609326-001 through 1609326-003, 1609326-005 through 1609326-010 & 1609326-012, 14 through 1609326-18
CCVE S7 092616	Atrazine	Acceptable	-39.0%	J/UJ	1609326-014 & 1609326-018

Tune	
	Acceptable

Internal Standards	Areas	ICAL Midpoint Standard	20% / 50% ICAL Midpoint	Qualifiers	Associated Samples
Perylene-d12	340,675 - 737,145	1,635,094	327,018 / 817,547	**J+ / UJ**	**1609326-001 through -003 1609326-006 through -010, -012 1609326-014 through -018**

Metals 6020A

Precision:

	Yes	No	N/A
Are the field duplicate relative percent differences (RPD) ≤100%?			Yes
Were the Matrix Spike Duplicate RPDs ≤ 20%? (Or lab defined limits)			No
Laboratory Control Spike Duplicates RPD within limits?			N/A

Comments (note deviations):

Field Duplicates	6010B	Sample	Duplicate	%RPD	Qualifiers	Associated Samples
		SB-06-B	SB-906-B	Acceptable		

LCS/LCSD	6010B	%RPD	Limits	Qualifiers	Associated Samples
N/A					

MS/MSD	6010B	%RPD	Limit	Qualifiers	Associated Samples
1609326-005FMS / MSD	Barium	20.6%	20%	J/UJ	All samples
	Calcium	26.6%	20%	J/UJ	All samples
	Iron	20.1%	20%	J/UJ	All samples

Laboratory Duplicate	Sample	Duplicate	DL / LOQ	%RPD	Qualifier	Associated Samples
N/A						

Accuracy:

	Yes	No	N/A
Were serial dilutions analyzed and within control limits of ±10% for waters (± for 15% for soils) or initial sample result less than 50x MDL?			Yes
Was matrix spike criteria met (frequency 20% and % recovery 75-125%)?			No
Was post digestion spike criteria met (if applicable)?			Yes
Was laboratory control sample criteria met?			Yes
Was laboratory blank criteria met (within control limits)?			No
Were ICV/CCV % recoveries within 90-110%?			Yes
Were the Detection Limit CRQL Standards within 70-130?			Yes
Was the %D on form 16-IN for the initial calibration instrument response and concentration data <30%?			N/A
Were ICSA/ICSAB % recoveries acceptable or within CRQL criteria?			N/A
Was the tune %RPD <5% (Peak width < 0.75)?			N/A
Was internal standard criteria met?			N/A

Comments (note deviations):

Serial Dilution	Analyte	Initial Sample Result	%D	50 x MDL	Qualifier	Associated Samples
			Acceptable			

Blanks	6010B	Concentration	DL / LOQ	Qualifiers	Associated Samples
MB-40990	Calcium	4800	2100 / 36000	None	Sample result > LOQ
	Iron	3700	22000/ 11000(	None	Sample result > LOQ

ICB	Result	DL / LOQ	Qualifier	Associated Samples
	Nondetect			

**** Numerous CCBs were performed results associated with each of the CCBs were nondetect.**

CCBs	Result	DL / LOQ	Qualifier	Associated Samples
	Nondetect			

Field Blank	6010B	Concentration (ug/L)	DL / LOQ	Qualifiers	Associated Samples
N/A					

ICSA/AB	Analyte - Solution A	%R	Found Sol. A / True A	CRQL	Qualifiers	Associated Samples
N/A						

MS/MSD	6010B	%R	Limits (%)	Post Digestion Spike	Qualifiers	Associated Samples
1609326-005FMS / MSD	Aluminum	4560 / -1780%	75-125		None	Sample result 4xs the spike added
	Barium	136 / 31.8%	75-125	80%	None	Sample result 4xs the spike added
	Calcium	282 / -417	75-125	94%	None	Sample result 4xs the spike added
	Copper	160 /85	75-125	105%	**J**	**All samples**
	Iron	1680 / 60	75-125		None	Sample result 4xs the spike added
	Magnesium	571/ 87	75-125	94%	**J**	**All samples**
	Lead	103 / 63.1	75-125	83%	None	Sample result 4xs the spike added
	Manganese	347 / 29	75-125	95%	None	Sample result 4xs the spike added
	Potasium	263 / 291	75-125	94%	None	Sample result 4xs the spike added
	Selenium	72 /74	75-125	76%	**J/UJ**	**All samples**
	Sodium	90.9 / 67	75-125	92%	**J/UJ**	**All samples**
	Thallium	56.3 / 63	75-125	64%	**J-/UJ**	**All samples**
	Vanadium	94.2 / 74.9	75-125	96%	**J/UJ**	**All samples**
	Zinc	187 / 98.5	75-125	77%	**J**	**All samples**

LCS/LCSD	6010B	%R	Limits	Qualifiers	Associated Samples
LCS-40990		Acceptable			

ICV/CCV	Analyte	%R	Limits	Qualifier	Associated Samples
	Acceptable				

CRQL Standard	Analyte	%R	Limits	Qualifier	Associated Samples
		Acceptable			

Polychlorinated Biphenyls 8082A

Precision:	Yes	No	N/A
Are the field duplicate relative percent differences (RPD) ≤100%?	**Yes**		
Were the Matrix Spike Duplicate RPDs ≤ 20%? (Or lab defined limits)	**Yes**		
Laboratory Control Spike Duplicates RPD within limits?			**N/A**

Comments (note deviations):

Field Duplicates	**8082A**	**Sample (ug/L)** SB-06-B ND	**Duplicate (ug/L)** SB-906-B ND	**%RPD**	**Qualifiers**	**Associated Samples**

LCS/LCSD N/A	**8082A**	**%RPD**	**Limits**	**Qualifiers**	**Associated Samples**

MS/MSD 1609326-005F MS / MSD	**8082A**	**%RPD** Acceptable	**Limit**	**Qualifiers**	**Associated Samples**

Laboratory Duplicate N/A	**Sample**	**Duplicate**	**LOQ**	**%RPD**	**Qualifier**	**Associated Samples**

Accuracy:	Yes	No	N/A
Was the Matrix Spike/Matrix Spike Duplicate criteria met? (frequency ≥ 5% and laboratory determined control limits)	**Yes**		
Laboratory Control Sample criteria met?	**Yes**		
Were the Laboratory Method Blank results all < RL?	**Yes**		
Were the Field Blanks results all < RL?			**N/A**
Was the ICAL criteria met?	**Yes**		
Was the CCV criteria met?	**Yes**		
Were the Surrogate % recoveries within laboratory determined control limits?	**Yes**		
Was the percent difference between the columns less than 25% for detected sample results?	**Yes**		

Comments (note deviations):

Blanks MB-41258	**8082A**	**Concentration** Nondetect	**MDL/RL**	**Qualifiers**	**Associated Samples**

Field Blank N/A	**8082A**	**Concentration (ug/L)**	**MDL / RL**	**Qualifiers**	**Associated Samples**

Surrogates	**8082A**	**%R** Acceptable	**Limit**	**Qualifiers**	**Associated Samples**

MS/MSD 1609326-005F MS / MSD	**8082A**	**%R** Acceptable	**Limits (%)**	**Qualifiers**	**Associated Samples**

LCS/LCSD LCS-41258	**8082A**	**%R** Acceptable	**Limits**	**Qualifiers**	**Associated Samples**

Target Compound Identification	**8082A**	**RPD <25%**	**RPD** Acceptable	**Qualifiers**	**Associated Samples**

ICAL	**8082A**	**RRF** Acceptable	**%RSD**	**Corr. Coeff.**	**Qualifiers**	**Associated Samples**

CCV	**8082A**	**RRF**	**%D** Acceptable	**Qualifiers**	**Associated Samples**

Internal Standards	**8082A**	**Area**	**Area Lower / Upper Limit**	**Qualifiers**	**Associated Samples**
N/A					

Petroleum Hydrocarbons (DRO) / Nonhalogenated Organics (GRO) SW8015B

Precision:	**Yes**	**No**	**N/A**
Are the field duplicate relative percent differences (RPD) ≤100%?	**Yes**		
Were the Matrix Spike Duplicate RPDs ≤ 20%? (Or lab defined limits)		**No**	
Laboratory Control Spike Duplicates RPD within limits?			**N/A**

Comments (note deviations):

Field Duplicates	**8015B**	**Sample (ug/L) SB-06-B**	**Duplicate (ug/L) SB-906-B**	**%RPD**	**Qualifiers**	**Associated Samples**
				Acceptable		

LCS/LCSD	**8015B**	**%RPD**	**Limits**	**Qualifiers**	**Associated Samples**
N/A					

MS/MSD	**8015B**	**%RPD**	**Limit**	**Qualifiers**	**Associated Samples**
1609326-005CMS / MSD	GRO	Acceptable			
1609326-005EMS / MSD	DRO	63.5%	20%	**J**	**SB-01-A**
1609326-021EMS / MSD	DRO	20.10%	20%	**J**	**SB-10-B**

Laboratory Duplicate	**Sample**	**Duplicate**	**DL / LOQ**	**%RPD**	**Qualifier**	**Associated Samples**
N/A						

Accuracy:	**Yes**	**No**	**N/A**
Was the Matrix Spike/Matrix Spike Duplicate criteria met? (frequency ≥ 5% and laboratory determined control limits)		**No**	
Laboratory Control Sample criteria met?	**Yes**		
Were the Laboratory Method Blank results all < RL?		**No**	
Were the Field Blanks results all < RL?			**N/A**
Were the Surrogate % recoveries within laboratory determined control limits?		**No**	

Comments (note deviations):

Blanks	**8015B**	**Concentration**	**DL / LOQ**	**Qualifiers**	**Associated Samples**
VOA8 MBLK-091516	GRO	1,100	1300 / 2000	**RL U**	**1609326-001 through 1609326-008**
VOA8 MBLK2-091516	GRO	1,400	1300 / 2000	**RL U**	**1609326-011 through 1609326-013, 1609326-015 through 1609326-017 & 1609326-019 through 1609326-021**
MB-41077		Nondetect			
MB-41078		Nondetect			

Field Blank	**8015B**	**Concentration (ug/L)**	**DL / LOQ**	**Qualifiers**	**Associated Samples**
N/A					

Surrogates	8015B	%R	Limit	Qualifiers	Associated Samples
GRO	1,2-Dichlorobenzene-d4	190%	70-130	J+	SB-07-A
DRO	n-Eicosane	54%	60-130	J- / UJ	SB-906-B
		52%	60-130	J- / UJ	SB-10-A
		47%	60-130	J- / UJ	SB-01-A
		45%	60-130	J- / UJ	SB-07-B
		59%	60-130	J- / UJ	SB-11-B
		58%	60-130	J- / UJ	SB-05-B
		34%	60-130	J- / UJ	SB-07-A
		59.7%	60-130	J- / UJ	SB-09-A
DRO	Squalene	229%	60-130	J+	SB-01-A
		169%	60-130	J+	SB-04-A
		174%	60-130	J+	SB-11-A
		297%	60-130	J+	SB-07-A
		0%	60-130	J- / R	SB-09-A

MS/MSD	8015B	%R	Limits (%)	Qualifiers	Associated Samples
1609326-005CMS / MSD	GRO	Acceptable			
1609326-005EMS / MSD	DRO	18.8 / 83.1	38-132	J/UJ	SB-01-A
1609326-021EMS / MSD		Acceptable			

LCS/LCSD	8015B	%R	Limits	Qualifiers	Associated Samples
VOA8 LCS 091516		Acceptable			
LCS-41077		Acceptable			
LCS-41078		Acceptable			

ICAL	8015B	RRF	%RSD	Corr. Coeff.	Qualifiers	Associated Samples
(5/26/16 8:50)			Acceptable			

CCV	8260	RRF	%D	Qualifiers	Associated Samples
			Acceptable		

Representativeness:	Yes	No	N/A
Were sampling procedures and design criteria met?	Yes		
Were holding times met?	Yes		
Was preservation criteria met? (0° - 6° C)	Yes		
Were Chain-of-Custody records complete and provided in data package?	Yes		

Comments (note deviations): Cooler temperatures were 2.0, 3.4 & 4.4° C .

Holding Times	Days to Analysis	HT Criteria	Qualifier	Associated Samples
		Acceptable		

Comparability:	Yes	No	N/A
Were analytical procedures and methods followed as defined in the QAPP or field change documentation?	Yes		

Comments (note deviations):

Completeness (90%):	Yes	No	N/A
Are all data in this SDG usable?	Yes		

Comments (note deviations):

Sensitivity:	Yes	No	N/A
Are MDLs present and reported?	Yes		
Do the reporting limits meet project requirements?	Yes		

Comments (note deviations):

Overall Comments: All data are usable with appropriate qualifiers applied.

Data Validator: *Kristine Molloy* Date: *3/1/2017*

Data Reviewer: *Cherie Zakowski* Date: 3/3/2017

77 Westchester Avenue, Pound Ridge/Scotts Corners Site
Pound Ridge, New York
Data Validation Report

Sample Delivery Group (SDG) Number: 1609334
Laboratory: RTI Laboratories
Matrix: Groundwater
Collection date: 09/09/16
Analysis/Methods:

Volatile Organic Compounds 8260A
Semivolatile Organic Compounds 8270A
Metals (ICP - MS) 6020A
Petroleum Hydrocarbons (DRO) / Nonhalogentated Organics (GRO) SW8015D
Polychlorinated Biphenyls (PCBs) 8082A

Samples in SDG:

1609334-001	MW-1-A
1609334-002	MW-91-A
1609334-003	RB-01
1609334-004	RB-02
1609334-005	GW-01-A
1609334-006	GW-05-A
1609334-007	TB-01

Data validation was performed in accordance with the specific analytical methods and the U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review (September 2016) and the U.S. EPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (September 2016).

Volatile Organic Compounds 8260C

Precision:

	Yes	No	N/A
Are the field duplicate relative percent differences (RPD) ≤50%?		**Yes**	
Were the Matrix Spike Duplicate RPDs ≤ 20%? (Or lab defined limits)		**No**	
Laboratory Control Spike Duplicates RPD within limits?		**No**	

Comments (note deviations):

Field Duplicates	8260C	Sample	Duplicate	%RPD	Qualifiers	Associated Samples
		MW-1-A	MW-91-A	Acceptable		

LCS/LCSD	8260C	%RPD	Limits	Qualifiers	Associated Samples
VOA11B LCS / LCSD 091616					
	1,2,3-Trichlorobenzene	28%	25%	**J/UJ**	**1609334-001 & 1609334-002**

MS/MSD	8260C	%RPD	Limit	Qualifiers	Associated Samples
1609334-001A	Bromomethane	34%	25%	**J / UJ**	**1609334-001B**

1609458-010AMSD

** Several MS/MSD RPDs were outside of acceptable criteria; however per the NFGs in the case of the organics qualification should be applied to the original sample results. The original sample is not assocaited with this SDG; therefore no qualification was required.

Laboratory Duplicate	Sample	Duplicate	DL / LOQ	%RPD	Qualifier	Associated Samples
N/A						

Accuracy:

	Yes	No	N/A
Was the Matrix Spike/Matrix Spike Duplicate criteria met? (frequency ≥ 5% and laboratory determined control limits)		**No**	
Laboratory Control Sample criteria met?		**No**	
Were the Laboratory Method Blank results all < RL?		**No**	
Were the Field Blanks results all < RL?		**No**	
Was the ICAL criteria met?		**Yes**	
Was the CCV criteria met?		**No**	
Was the Tuning criteria met?		**Yes**	
Were the Surrogate % recoveries within laboratory determined control limits?		**Yes**	
Were the Internal Standard areas within ± 50 - 150%?		**Yes**	

Comments (note deviations):

Blanks	8260C	Concentration	DL / LOQ	Qualifiers	Associated Samples
VOA11B MBLK 091516					
	Acetone	1.5	0.56 / 10	**RL U**	**GW-01-A**
	Methylene Chloride	0.49	0.27 / 5.0	None	Sample results nondetect
VOA11B MBLK 091616	Acetone	1.9	0.56 / 10	**RL U**	**MW-1-A & MW-91-A**
	Methylene Chloride	0.48	0.27 / 5.0	None	Sample results nondetect

Field Blank	8260C	Concentration (ug/L)	DL / LOQ	Qualifiers	Associated Samples
RB-01	2-Butanone	3.1	2.3 / 10	None	Sample results nondetect
	Acetone	16	0.56 / 10	**RL U**	**GW-01-A MW-1-A & MW-91-A**
RB-02	2-Butanone	2.4	2.3 / 10	None	Sample results nondetect
	Acetone	14	0.56 / 10	**RL U**	**GW-01-A MW-1-A & MW-91-A**
	Methylene Chloride	0.29	0.27 / 5.0	None	Sample results nondetect
TB-01	2-Butanone	2.5	2.3 / 10	None	Sample results nondetect
	Acetone	13	0.56 / 10	**RL U**	**GW-01-A MW-1-A & MW-91-A**
	Chloromethane	0.82	0.37 / 1.0	**RL U**	**MW-1-A & MW-91-A**
	Methylene Chloride	0.34	0.27 / 5.0	None	Sample results nondetect

Surrogates	8260C	%R	Limit	Qualifiers	Associated Samples
		Acceptable			

MS/MSD	8260C	%R	Limits (%)	Qualifiers	Associated Samples
1609334-001A	1,1,2-Trichloro-1,2,2-trifluoroethane	154 / 153%	70-136	**J ****	**MW-1-A**
	Bromomethane	44.2 / 62.5%	53-141	**J / UJ**	**MW-1-A**
	Napthalene	58.6 / 63.2%	61-128	**J / UJ**	**MW-1-A**

**** No qualification required as results are nondetect**

1609458-010AMSD

** Several MS/MSD recoveries were outside of acceptable criteria; however per the NFGs in the case of the organics qualification should be applied to the original sample results. The original sample is not associated with this project; therefore no qualification was required.

LCS/LCSD	8260C	%R	Limits	Qualifiers	Associated Samples
VOA11B LCS / LCSD 09156	1,1,2-Trichloro-1,2,2-trifluoroethane	128 / 141%	70-136	**J****	**GW-01-A & GW-05-A**
	o-xylene	74.5 / 77.2	78-122	**J / UJ**	**GW-01-A & GW-05-A**
	Styrene	76.1 / 78.8	78-123	**J / UJ**	**GW-01-A & GW-05-A**
VOA11B LCS / LCSD 091616	1,1,2-Trichloro-1,2,2-trifluoroethane	150 / 140	70-136	**J****	**MW-1-A & MW-91-A**
	o-xylene	77.6 / 76.1	78-122	**J / UJ**	**MW-1-A & MW-91-A**

**** No qualification required as results are nondetect**

ICAL	8260C	RRF	%RSD	Corr. Coeff.	Qualifiers	Associated Samples
(9/14/16 1:35)			Acceptable			

CCV	8260C	RRF	%D	Qualifiers	Associated Samples
VOA11B CCV091516	1,1,2-trichloro-1,2,2-trifluoroethane	Acceptable	28.40%	**J/UJ**	**GW-01-A & GW-05-A**
VOA11B CCV091516	1,1,2-trichloro-1,2,2-trifluoroethane	Acceptable	33.80%	**J/UJ**	**MW-1-A & MW-91-A**

Tune	8260C
	Acceptable

Internal Standards	8260C	Qualifiers	Associated Samples
	Acceptable		

Semivolatile Organic Compounds 8270D

Precision:	Yes	No	N/A
Are the field duplicate relative percent differences (RPD) ≤50%?			**NC****
Were the Matrix Spike Duplicate RPDs ≤ 20%? (Or lab defined limits)		**No**	
Laboratory Control Spike Duplicates RPD within limits?			**N/A**

Comments (note deviations):

Field Duplicates	**8270D**	**Sample** MW-1-A	**Duplicate** MW-91-A	**%RPD**	**Qualifiers**	**Associated Samples**
	Chrysene	0.044	0.41	NC **	None	ABS difference < 5xs LOQ
	Dibenz (a,h) anthracene	0.037	0.075	NC **	None	ABS difference < 5xs LOQ
	Benzo (k) fluoranthene	0.13	0.14	NC **	None	ABS difference < 5xs LOQ
	Benzo (g,h,I) perylene	0.052	0.28	NC **	None	ABS difference < 5xs LOQ
	Benzo (b) fluoranthene	0.082	0.52	NC **	None	ABS difference < 5xs LOQ
	Benzo (a) pyrene	0.060	0.34	NC **	None	ABS difference < 5xs LOQ
	Fluoranthene	0.051	0.78	NC **	None	ABS difference < 5xs LOQ
	Indeno (1,2,3-cd) pyrene	0.055	0.24	NC **	None	ABS difference < 5xs LOQ
	Benzo (a) anthracene	0.065	0.28	NC **	None	ABS difference < 5xs LOQ
	Pyrene	0.058	0.68	NC **	None	ABS difference < 5xs LOQ

**** %RPD not calculated - sample results were ND in sample MW-1-A**

LCS/LCSD	**8270D**	**%RPD**	**Limits**	**Qualifiers**	**Associated Samples**
N/A					

MS/MSD	**8270D**	**%RPD**	**Limit**	**Qualifiers**	**Associated Samples**
1609334-001CMS					
	N-Nitrosodiphenylamine	30%	25%	**J****	**MW-1-A**

**** No qualification required as results are nondetect**

Laboratory Duplicate	**Sample**	**Duplicate**	**DL / LOQ**	**%RPD**	**Qualifier**	**Associated Samples**
N/A						

Accuracy:	Yes	No	N/A
Was the Matrix Spike/Matrix Spike Duplicate criteria met? (frequency ≥ 5% and laboratory determined control limits)		**No**	
Laboratory Control Sample criteria met?		**No**	
Were the Laboratory Method Blank results all < RL?	**Yes**		
Were the Field Blanks results all < RL?			**N/A**
Was the ICAL criteria met?	**Yes**		
Was the CCV criteria met?		**No**	
Was the Tuning criteria met?	**Yes**		
Were the Surrogate % recoveries within laboratory determined control limits?	**Yes**		
Were the Internal Standard areas within ± 50 - 150%?	**Yes**		

Comments (note deviations):

Blanks	**8270D**	**Concentration**	**DL / LOQ**	**Qualifiers**	**Associated Samples**
MB-40993		Nondetect			

Field Blank	**8270D**	**Concentration (ug/L)**	**DL / LOQ**	**Qualifiers**	**Associated Samples**
RB-01		Nondetect			
RB-01	Naphthalene	0.1	0.097 / 0.20	None	Sample results nondetect

Surrogates	**8270D**	**%R**	**Limit**	**Qualifiers**	**Associated Samples**
	Phenol-d5	26.2%	30-130	**J- / UJ***	**MW-1-A**
		22.8%	30-130	**J- / UJ***	**MW-91-A**

*Benzaldehyde and phenol qualified

MS/MSD	8270D	%R	Limits (%)	Qualifiers	Associated Samples
1609334-001CMS	1,1-Biphenyl	0/0%	50-130	J / R	MW-1-A
	3,3-Dichlorobenzidine	0/0%	27-129	J / R	MW-1-A
	4,6-Dinitro-2-methylphenol	143/143%	44-137	J**	MW-1-A
	Atrazine	0/0%	44-142	J / R	MW-1-A
	N-Nitrosodiphenylamine	53/38%	51-123	J / UJ	MW-1-A

** No qualification required as results are nondetect

LCS/LCSD	8270D	%R	Limits	Qualifiers	Associated Samples
LCS-40993	Capractolam	0%	50-130	J/R	MW-1-A & MW-91-A
	Atrazine	26.90%	44-142	J/UJ	MW-1-A & MW-91-A

ICAL		RRF	%RSD	Corr. Coeff.	Qualifiers	Associated Samples
(9/12/16 6:32)			Acceptable			

CCV	8270D	RRF	%D	Qualifiers	Associated Samples
CCV S7091416	Atrazine	Acceptable	-38.0%	J/UJ	MW-1-A & MW-91-A

Tune

Acceptable

Internal Standards	Area	Area Lower /	Qualifiers	Associated Samples
	Acceptable			

Metals 6020A

Precision:	Yes	No	N/A
Are the field duplicate relative percent differences (RPD) ≤50%?		**No**	
Were the Matrix Spike Duplicate RPDs ≤ 20%? (Or lab defined limits)		**Yes**	
Laboratory Control Spike Duplicates RPD within limits?			**N/A**

Comments (note deviations):

Field Duplicates	**6010B**	**Sample MW-1-A**	**Duplicate MW-91-A**	**%RPD**	**Qualifiers**	**Associated Samples**
	Aluminum	330	720	74%	None	ABS difference < 5xs LOQ
	Iron	2,200	5,100	79%	**J**	**MW-1-A & MW-91-A**
	Zinc	38	13	98%	None	ABS difference < 5xs LOQ

LCS/LCSD	**6010B**	**%RPD**	**Limits**	**Qualifiers**	**Associated Samples**
N/A					

MS/MSD	**6010B**	**%RPD**	**Limit**	**Qualifiers**	**Associated Samples**
1609334-001FMS / MSD		Acceptable			

Laboratory Duplicate	**Sample**	**Duplicate**	**DL / LOQ**	**%RPD**	**Qualifier**	**Associated Samples**
N/A						

Accuracy:	Yes	No	N/A
Were serial dilutions analyzed and within control limits of ±10% for waters (± for 15% for soils) or initial sample result less than 50x MDL?	**Yes**		
Was matrix spike criteria met (frequency 20% and % recovery 75-125%)?		**No**	
Was post digestion spike criteria met (if applicable)?	**Yes**		
Was laboratory control sample criteria met?	**Yes**		
Was laboratory blank criteria met (within control limits)?		**No**	
Were ICV/CCV % recoveries within 90-110%?	**Yes**		
Were the Detection Limit CRQL Standards within 70-130?	**Yes**		
Was the %D on form 16-IN for the initial calibration instrument response and concentration data <30%?			**N/A**
Were ICSA/ICSAB % recoveries acceptable or within CRQL criteria?	**Yes**		
Was the tune %RPD <5% (Peak width < 0.75)?			**N/A**
Was internal standard criteria met?			**N/A**

Comments (note deviations):

Serial Dilution	**Analyte**	**Initial Sample Result**	**%D**	**50 x MDL**	**Qualifier**	**Associated Samples**
			Acceptable			

Blanks	**6010B**	**Concentration**	**DL / LOQ**	**Qualifiers**	**Associated Samples**
MB-40997	Aluminum	4.9	0.38 / 100	None	Sample result nondetect
MB-40998		Nondetect			

ICB	**Result**	**DL / LOQ**	**Qualifier**	**Associated Samples**
	Nondetect			

**** Numerous CCBs were performed results associated with each of the CCBs were nondetect.**

CCBs	**Result**	**DL / LOQ**	**Qualifier**	**Associated Samples**
	Nondetect			

Field Blank	6010B	Concentration (ug/L)	DL / LOQ	Qualifiers	Associated Samples
RB-01	Aluminum	6.1	2.8 / 100	None	Sample results > LOQ
	Chromium	0.62	0.61 / 20	**20 U**	**MW-1-A & MW-91-A**
	Copper	1	0.49 / 10	**10 U**	**MW-1-A & MW-91-A**
	Iron	110	95 / 400	None	Sample results > LOQ
	Manganese	1.5	0.53 / 10	None	Sample results > LOQ
	Nickel	6.7	0.41 / 20	**20 U**	**MW-1-A & MW-91-A**
	Zinc	9.6	3.5 / 100	**100 U**	**MW-1-A & MW-91-A**
	Antimony	0.28	0.19/2.5	**2.5 U**	**MW-1-A**
RB-02	Aluminum	6.5	2.8 / 100	None	Sample results > LOQ
	Manganese	0.57	0.53 / 10	None	Sample results > LOQ
	Nickel	6.4	0.41 / 20	**20 U**	**MW-1-A & MW-91-A**
	Zinc	15	3.5 / 100	**100 U**	**MW-1-A & MW-91-A**

ICSA/AB	Analyte - Solution A	%R	Found Sol. A / True A	CRQL	Qualifiers	Associated Samples
		Acceptable				

MS/MSD	6010B	%R	Limits (%)	Post Digestion Spike	Qualifiers	Associated Samples
1609334-001FMS / MSD	Aluminum	120 / 136%	75-125	79%	**J**	**All samples**
	Sodium	33.4 / -11.7%	75-125		None	Sample result 4xs the spike added

LCS/LCSD	6010B	%R	Limits	Qualifiers	Associated Samples
LCS-40997		Acceptable			
LCS-40998		Acceptable			

ICV/CCV	Analyte	%R	Limits	Qualifier	Associated Samples
	Acceptable				

CRQL Standard	Analyte	%R	Limits	Qualifier	Associated Samples
		Acceptable			

Polychlorinated Biphenyls 8082A

Precision:	Yes	No	N/A
Are the field duplicate relative percent differences (RPD) ≤50%?	**Yes**		
Were the Matrix Spike Duplicate RPDs ≤ 20%? (Or lab defined limits)	**Yes**		
Laboratory Control Spike Duplicates RPD within limits?			**N/A**

Comments (note deviations):

Field Duplicates	**8082A**	**Sample (ug/L)** MW-1-A	**Duplicate (ug/L)** MW-91-A	**%RPD**	**Qualifiers**	**Associated Samples**
				Acceptable		

LCS/LCSD	**8082A**	**%RPD**	**Limits**	**Qualifiers**	**Associated Samples**
N/A					

MS/MSD	**8082A**	**%RPD**	**Limit**	**Qualifiers**	**Associated Samples**
1609334-001EMS / MSD		Acceptable			

Laboratory Duplicate	**Sample**	**Duplicate**	**LOQ**	**%RPD**	**Qualifier**	**Associated Samples**
N/A						

Accuracy:	Yes	No	N/A
Was the Matrix Spike/Matrix Spike Duplicate criteria met? (frequency ≥ 5% and laboratory determined control limits)	**Yes**		
Laboratory Control Sample criteria met?	**Yes**		
Were the Laboratory Method Blank results all < RL?	**Yes**		
Were the Field Blanks results all < RL?	**Yes**		
Was the ICAL criteria met?	**Yes**		
Was the CCV criteria met?		**No**	
Were the Surrogate % recoveries within laboratory determined control limits?	**Yes**		
Was the percent difference between the columns less than 25% for detected sample results?		**No**	

Comments (note deviations):

Blanks	**8082A**	**Concentration**	**MDL/RL**	**Qualifiers**	**Associated Samples**
MB-41155		Nondetect			

Field Blank	**8082A**	**Concentration (ug/L)**	**MDL / RL**	**Qualifiers**	**Associated Samples**
RB-01		Nondetect			
RB-02		Nondetect			

Surrogates	**8082A**	**%R**	**Limit**	**Qualifiers**	**Associated Samples**
		Acceptable			

MS/MSD	**8082A**	**%R**	**Limits (%)**	**Qualifiers**	**Associated Samples**
1609334-001EMS / MSD		Acceptable			

LCS/LCSD	**8082A**	**%R**	**Limits**	**Qualifiers**	**Associated Samples**
LCS-41155		Acceptable			

		RPD <25%	**RPD**	**Qualifiers**	**Associated Samples**
Target Compound Identification	**8082A** Total PCBs	71.5%		**RC U**	**MW-91-A**

ICAL (6/6/2016 3:46)	**8082A**	**RRF** Acceptable	**%RSD**	**Corr. Coeff.**	**Qualifiers**	**Associated Samples**

CCV CCV093016E1A	**8082A** Aroclor 1260	**RRF**	**%D** 77.1%	**Qualifiers** **J/UJ**	**Associated Samples** **MW-1-A & MW-91-A**

Internal Standards	**8082A**	**Area** Acceptable	**Area Lower / Upper Limit**	**Qualifiers**	**Associated Samples**

Petroleum Hydrocarbons (DRO) / Nonhalogenated Organics (GRO) SW8015B

Precision:	Yes	No	N/A
Are the field duplicate relative percent differences (RPD) ≤50%?		**No**	
Were the Matrix Spike Duplicate RPDs ≤ 20%? (Or lab defined limits)	**Yes**		
Laboratory Control Spike Duplicates RPD within limits?			**N/A**

Comments (note deviations):

Field Duplicates	**8015B**	**Sample (ug/L) MW-1-A**	**Duplicate (ug/L) MW-91-A**	**%RPD**	**Qualifiers**	**Associated Samples**
	Diesel Range Organics (DR(	160	270	51%	None	ABS difference < 5xs LOQ
	Gasoline Range Organics (GRO)			Acceptable		

LCS/LCSD	**8015B**	**%RPD**	**Limits**	**Qualifiers**	**Associated Samples**
N/A					

MS/MSD	**8015B**	**%RPD**	**Limit**	**Qualifiers**	**Associated Samples**
1609334-001B		Acceptable			

Laboratory Duplicate	**Sample**	**Duplicate**	**DL / LOQ**	**%RPD**	**Qualifier**	**Associated Samples**
N/A						

Accuracy:	Yes	No	N/A
Was the Matrix Spike/Matrix Spike Duplicate criteria met? (frequency ≥ 5% and laboratory determined control limits)	**Yes**		
Laboratory Control Sample criteria met?	**Yes**		
Were the Laboratory Method Blank results all < RL?		**No**	
Were the Field Blanks results all < RL?		**No**	
Were the Surrogate % recoveries within laboratory determined control limits?	**Yes**		

Comments (note deviations):

Blanks	**8015B**	**Concentration**	**DL / LOQ**	**Qualifiers**	**Associated Samples**
VOA8 MBLK-091316	GRO	19	15 / 100	**RL U**	**GW-01-A**
MB-41035		Nondetect			

Field Blank	**8015B**	**Concentration (ug/L)**	**DL / LOQ**	**Qualifiers**	**Associated Samples**
RB-01	GRO	23	15 / 100	**RL U**	**GW-01-A**
	DRO	64	14 / 200	**RL U**	**MW-01-A**
RB-02	GRO	23	15 / 100	**RL U**	**GW-01-A**
	DRO	50	14 / 200	**RL U**	**MW-01-A**

Surrogates	**8015B**	**%R**	**Limit**	**Qualifiers**	**Associated Samples**
	Squalene	135%	48-125%	**J**	**MW-91-A**

MS/MSD	**8015B**	**%R**	**Limits (%)**	**Qualifiers**	**Associated Samples**
1609334-001BMS / MSD		Acceptable			
1609334-001DMS / MSD		Acceptable			

LCS/LCSD	**8015B**	**%R**	**Limits**	**Qualifiers**	**Associated Samples**
VOA8 LCS 091316		Acceptable			
LCS-41035		Acceptable			

ICAL	8015B	RRF	%RSD	Corr. Coeff.	Qualifiers	Associated Samples
(6/6/16 9:04)			Acceptable			
(9/1/16 10:20)			Acceptable			

CCV	8260	RRF	%D	Qualifiers	Associated Samples
(9/1/16 10:20)			Acceptable		

Representativeness:	Yes	No	N/A
Were sampling procedures and design criteria met?	Yes		
Were holding times met?	Yes		
Was preservation criteria met? (0° - 6° C)	Yes		
Were Chain-of-Custody records complete and provided in data package?	Yes		

Comments (note deviations): Cooler temperatures were 4.2, 4.7. 4.9 & 5.6° C .

Holding Times	Days to Analysis	HT Criteria	Qualifier	Associated Samples
		Acceptable		

Comparability:	Yes	No	N/A
Were analytical procedures and methods followed as defined in the QAPP or field change documentation?	Yes		

Comments (note deviations):

Completeness (90%):	Yes	No	N/A
Are all data in this SDG usable?		No	

Comments (note deviations):

Sensitivity:	Yes	No	N/A
Are MDLs present and reported?	Yes		
Do the reporting limits meet project requirements?	Yes		

Comments (note deviations):

Overall Comments: All data are usable with appropriate qualifiers applied.

Data Validator: Kristine Molloy Date: 2/27/2017

Data Reviewer: Cherie Zakowski Date: 3/1/2017

77 Westchester Avenue, Pound Ridge/Scotts Corners Site
Pound Ridge, New York
Data Validation Report

Sample Delivery Group (SDG) Number: 1609377
Laboratory: RTI Laboratories
Matrix: Groundwater
Collection date: 09/12/16
Analysis/Methods:

Volatile Organic Compounds 8260C
Semivolatile Organic Compounds 8270A
Metals (ICP - MS) 6020A
Petroleum Hydrocarbons (DRO) / Nonhalogentated Organics (GRO) SW8015D

Samples in SDG:

1609377-001	GW-05-B
1609377-002	GW-09-A
1609377-003	MW-2-A
1609377-004	GW-11-A
1609377-005	PW-01-A
1609377-006	TB-02

Data validation was performed in accordance with the specific analytical methods and the U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review (September 2016) and the U.S. EPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (September 2016).

Volatile Organic Compounds 8260C

Precision:	Yes	No	N/A
Are the field duplicate relative percent differences (RPD) ≤50%?			**N/A**
Were the Matrix Spike Duplicate RPDs ≤ 20%? (Or lab defined limits)		**No**	
Laboratory Control Spike Duplicates RPD within limits?		**No**	

Comments (note deviations):

Field Duplicates	8260C	Sample	Duplicate	%RPD	Qualifiers	Associated Samples
N/A						

LCS/LCSD	8260C	%RPD	Limits	Qualifiers	Associated Samples
VOA11B LCS / LCSD 091616					
	1,2,3-Trichlorobenzene	28%	25%	**J/UJ**	**GW-09-A, GW-11-A, MW-2A, PW-01-A**

MS/MSD	8260C	%RPD	Limit	Qualifiers	Associated Samples
1609334-001MS / MSD					

** Several MS/MSD RPDs were outside of acceptable criteria; however per the NFGs in the case of the organics, qualification should be applied to the original sample results. The original sample is not assocaited with this SDG; therefore no qualification was required.

Laboratory Duplicate	Sample	Duplicate	DL / LOQ	%RPD	Qualifier	Associated Samples
N/A						

Accuracy:	Yes	No	N/A
Was the Matrix Spike/Matrix Spike Duplicate criteria met? (frequency ≥ 5% and laboratory determined control limits)		**No**	
Laboratory Control Sample criteria met?		**No**	
Were the Laboratory Method Blank results all < RL?		**No**	
Were the Field Blanks results all < RL?			**N/A**
Was the ICAL criteria met?	**Yes**		
Was the CCV criteria met?		**No**	
Was the Tuning criteria met?	**Yes**		
Were the Surrogate % recoveries within laboratory determined control limits?	**Yes**		
Were the Internal Standard areas within ± 50 - 150%?	**Yes**		

Comments (note deviations):

Blanks	8260C	Concentration	DL / LOQ	Qualifiers	Associated Samples
VOA11B MBLK 091616					
	Acetone	1.9	0.56 / 10	**10 U**	**GW-09-A, GW-11-A, PW-01-A**
	Methylene Chloride	0.48	0.27 / 5.0	None	Sample results nondetect

Field Blank	8260C	Concentration (ug/L)	DL / LOQ	Qualifiers	Associated Samples
TB-02	2-Butanone	2.8	2.3 / 10	None	Sample results nondetect
	Acetone	13	0.56 / 10	**10 U**	**GW-09-A, GW-11-A, PW-01-A**
	Chloromethane	0.65	0.37 / 1.0	None	Sample results nondetect
	Methylene Chloride	0.30	0.27 / 5.0	None	Sample results nondetect

Surrogates	8260C	%R	Limit	Qualifiers	Associated Samples
		Acceptable			

MS/MSD	8260C	%R	Limits (%)	Qualifiers	Associated Samples
	** Several MS/MSD recoveries were outside of acceptable criteria; however per the NFGs in the case of the organics qualification should be applied to the original sample results. No qualification was required.				

LCS/LCSD	8260C	%R	Limits	Qualifiers	Associated Samples
VOA11B LCS / LCSD 091616	1,1,2-Trichloro-1,2,2-trifluoroethane	150 / 140%	70-136	**J****	**GW-09-A, GW-11-A, MW-2A, PW-01-A**
	o-xylene	77.6 /76.1	78-122	**J / UJ**	**GW-09-A, GW-11-A, MW-2A, PW-01-A**

**** No qualification required as results are nondetect**

ICAL	8260C	RRF	%RSD	Corr. Coeff.	Qualifiers	Associated Samples
(9/14/16 1:35)			Acceptable			

CCV	8260C	RRF	%D	Qualifiers	Associated Samples
VOA11B CCV091616	1,1,2-trichloro-1,2,2-trifluoroethane	33.80%		**J/UJ**	**GW-09-A, GW-11-A, MW-2A, PW-01-A**

Tune	8260C
	Acceptable

Internal Standards	8260C	Qualifiers	Associated Samples
	Acceptable		

Semivolatile Organic Compounds 8270D

Precision:	**Yes**	**No**	**N/A**
Are the field duplicate relative percent differences (RPD) ≤50%?			**N/A**
Were the Matrix Spike Duplicate RPDs ≤ 20%? (Or lab defined limits)			**Yes**
Laboratory Control Spike Duplicates RPD within limits?			**N/A**

Comments (note deviations):

Field Duplicates	**8270D**	**Sample**	**Duplicate**	**%RPD**	**Qualifiers**	**Associated Samples**
N/A						

LCS/LCSD	**8270D**	**%RPD**	**Limits**	**Qualifiers**	**Associated Samples**
N/A					

MS/MSD	**8270D**	**%RPD**	**Limit**	**Qualifiers**	**Associated Samples**
1609416-006MS		Acceptable			

** The RPD for 1,4-dioxane was outside of acceptable criteria; however per the NFGs in the case of the organics qualification should be applied to the original sample results. The original sample is not assocaited with this SDG; therefore no qualification was required.

Laboratory Duplicate	**Sample**	**Duplicate**	**DL / LOQ**	**%RPD**	**Qualifier**	**Associated Samples**
N/A						

Accuracy:	**Yes**	**No**	**N/A**
Was the Matrix Spike/Matrix Spike Duplicate criteria met? (frequency ≥ 5% and laboratory determined control limits)			**No**
Laboratory Control Sample criteria met?			**No**
Were the Laboratory Method Blank results all < RL?			**No**
Were the Field Blanks results all < RL?			**N/A**
Was the ICAL criteria met?			**Yes**
Was the CCV criteria met?			**No**
Was the Tuning criteria met?			**Yes**
Were the Surrogate % recoveries within laboratory determined control limits?			**Yes**
Were the Internal Standard areas within ± 50 - 150%?			**Yes**

Comments (note deviations):

Blanks	**8270D**	**Concentration**	**DL / LOQ**	**Qualifiers**	**Associated Samples**
MB-41006		Nondetect			

Field Blank	**8270D**	**Concentration (ug/L)**	**DL / LOQ**	**Qualifiers**	**Associated Samples**
N/A					

Surrogates	**8270D**	**%R**	**Limit**	**Qualifiers**	**Associated Samples**
		Acceptable			

MS/MSD	**8270D**	**%R**	**Limits (%)**	**Qualifiers**	**Associated Samples**
1609416-006MS					

** Several MS/MSD recoveries were outside of acceptable criteria; however per the NFGs in the case of the organics qualification should be applied to the original sample results. The original sample is not associated with this SDG; therefore no qualification was required.

LCS/LCSD	**8270D**	**%R**	**Limits**	**Qualifiers**	**Associated Samples**
LCS-41006	Atrazine	23.40%	44-142	**J/UJ**	**PW-01-A**

ICAL (9/12/16 6:32)		RRF	%RSD	Corr. Coeff.	Qualifiers	Associated Samples
			Acceptable			

CCV	8270D	RRF	%D	Qualifiers	Associated Samples
CCV S8 091516	Hexachlorocyclopentadiene		54.3%	J/UJ	PW-01-A
CCV S8 091516	4,6-Dinitro-2-methylphenol		56.0%	J/UJ	PW-01-A
	Hexachlorocyclopentadiene		66.9%	J/UJ	PW-01-A

Tune		
	Acceptable	

Internal Standards	Area	Area Lower /	Qualifiers	Associated Samples
	Acceptable			

Metals 6020A

Precision:	**Yes No N/A**
Are the field duplicate relative percent differences (RPD) ≤50%?	**N/A**
Were the Matrix Spike Duplicate RPDs ≤ 20%? (Or lab defined limits)	**Yes**
Laboratory Control Spike Duplicates RPD within limits?	**N/A**

Comments (note deviations):

Field Duplicates	**6020A**	**Sample**	**Duplicate**	**%RPD**	**Qualifiers**	**Associated Samples**
N/A						

LCS/LCSD	**6020A**	**%RPD**	**Limits**	**Qualifiers**	**Associated Samples**
N/A					

MS/MSD	**6020A**	**%RPD**	**Limit**	**Qualifiers**	**Associated Samples**
1609377-005CMS /MSD		Acceptable			

Laboratory Duplicate	**Sample**	**Duplicate**	**DL / LOQ**	**%RPD**	**Qualifier**	**Associated Samples**
N/A						

Accuracy:	**Yes No N/A**
Were serial dilutions analyzed and within control limits of ±10% for waters (± for 15% for soils) or initial sample result less than 50x MDL?	**Yes**
Was matrix spike criteria met (frequency 20% and % recovery 75-125%)?	**Yes**
Was post digestion spike criteria met (if applicable)?	**Yes**
Was laboratory control sample criteria met?	**Yes**
Was laboratory blank criteria met (within control limits)?	**No**
Were ICV/CCV % recoveries within 90-110%?	**Yes**
Were the Detection Limit CRQL Standards within 70-130?	**Yes**
Was the %D on form 16-IN for the initial calibration instrument response and concentration data <30%?	**N/A**
Were ICSA/ICSAB % recoveries acceptable or within CRQL criteria?	**Yes**
Was the tune %RPD <5% (Peak width < 0.75)?	**N/A**
Was internal standard criteria met?	**N/A**

Comments (note deviations):

Serial Dilution	**Analyte**	**Initial Sample Result**	**%D**	**50 x MDL**	**Qualifier**	**Associated Samples**
			Acceptable			

Blanks	**6020A**	**Concentration**	**DL / LOQ**	**Qualifiers**	**Associated Samples**
MB-41148	Antimony	0.56	0.38 / 5.0	None	Sample result nondetect

ICB	**Result**	**DL / LOQ**	**Qualifier**	**Associated Samples**
ICB-1742267	Nondetect			
ICB-1742591	Nondetect			

**** Numerous CCBs were performed results associated with each of the CCBs were nondetect.**

CCBs	**Result**	**DL / LOQ**	**Qualifier**	**Associated Samples**
	Nondetect			

Field Blank	**6020A**	**Concentration (ug/L)**	**DL / LOQ**	**Qualifiers**	**Associated Samples**
N/A					

MS/MSD	**6020A**	**%R**	**Limits (%)**	**Qualifiers**	**Associated Samples**
1609377-005CMS /MSD	Magnesium	134 / 97.2%	83-118	None	Sample result 4xs the spike added
	Sodium	161 / 65.6%	85-117	None	Sample result 4xs the spike added

LCS/LCSD	6020A	%R	Limits	Qualifiers	Associated Samples
LCS-41148		Acceptable			

ICV/CCV	Analyte	%R	Limits	Qualifier	Associated Samples
	Acceptable				

CRQL Standard	Analyte	%R	Limits	Qualifier	Associated Samples
		Acceptable			

Petroleum Hydrocarbons (DRO) / Nonhalogenated Organics (GRO) SW8015D

Precision:

	Yes	No	N/A
Are the field duplicate relative percent differences (RPD) ≤50%?			N/A
Were the Matrix Spike Duplicate RPDs ≤ 20%? (Or lab defined limits)	Yes		
Laboratory Control Spike Duplicates RPD within limits?			N/A

Comments (note deviations):

Field Duplicates	8015D	Sample	Duplicate	%RPD	Qualifiers	Associated Samples
N/A						

LCS/LCSD	8015D	%RPD	Limits	Qualifiers	Associated Samples
N/A					

MS/MSD	8015D	%RPD	Limit	Qualifiers	Associated Samples
1609334-001DMS / MSD		Acceptable			

Laboratory Duplicate	Sample	Duplicate	DL / LOQ	%RPD	Qualifier	Associated Samples
N/A						

Accuracy:

	Yes	No	N/A
Was the Matrix Spike/Matrix Spike Duplicate criteria met? (frequency ≥ 5% and laboratory determined control limits)	Yes		
Laboratory Control Sample criteria met?	Yes		
Were the Laboratory Method Blank results all < RL?		No	
Were the Field Blanks results all < RL?			N/A
Were the Surrogate % recoveries within laboratory determined control limits?	Yes		

Comments (note deviations):

Blanks	8015D	Concentration	DL / LOQ	Qualifiers	Associated Samples
VOA8 MBLK-091316	GRO	19	15 / 100	**100 U**	**GW-05-B, GW-09-A, GW-11-A**
MB-41035		Nondetect			

Field Blank	8015D	Concentration (ug/L)	DL / LOQ	Qualifiers	Associated Samples
N/A					

Surrogates	8015D	%R	Limit	Qualifiers	Associated Samples
		Acceptable			

MS/MSD	8015D	%R	Limits (%)	Qualifiers	Associated Samples
1609334-001DMS / MSD		Acceptable			

LCS/LCSD	8015D	%R	Limits	Qualifiers	Associated Samples
VOA8 LCS 091316		Acceptable			
LCS-41035		Acceptable			

ICAL	8015D	RRF	%RSD	Corr. Coeff.	Qualifiers	Associated Samples
(6/6/16 9:04)			Acceptable			
(9/1/16 10:20)			Acceptable			

CCV	8015D	RRF	%D	Qualifiers	Associated Samples
ICV 060616			Acceptable		
CCVE 091316			Acceptable		

Representativeness:	Yes	No	N/A
Were sampling procedures and design criteria met?	Yes		
Were holding times met?	Yes		
Was preservation criteria met? (0° - 6° C)	Yes		
Were Chain-of-Custody records complete and provided in data package?	Yes		

Comments (note deviations): Cooler temperatures was 0.9 ° C .

Holding Times	Days to Analysis	HT Criteria	Qualifier	Associated Samples
		Acceptable		

Comparability:	Yes	No	N/A
Were analytical procedures and methods followed as defined in the QAPP or field change documentation?	Yes		

Comments (note deviations):

Completeness (90%):	Yes	No	N/A
Are all data in this SDG usable?	Yes		

Comments (note deviations):

Sensitivity:	Yes	No	N/A
Are MDLs present and reported?	Yes		
Do the reporting limits meet project requirements?	Yes		

Comments (note deviations):

Overall Comments: All data are usable awith appropriate qualifiers applied.

Data Validator: Kristine Molloy Date: 11/18/2016

Data Reviewer: *Cherie Zakowski* Date: 11/20/2016