



NYSDEC IHWDS No. 1-52-184

Former Mom's Cleaners Site

556 Union Boulevard

West Islip, NY 11795



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Date Submitted:

February 6, 2012



SITE CHARACTERIZATION REPORT



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SITE CHARACTERIZATION REPORT

FORMER MOM'S CLEANERS SITE

SITE # 1-52-184

556 UNION BOULEVARD

WEST ISLIP, NY 11795

EXECUTIVE SUMMARY

In accordance with New York State Department of Environmental Conservation (NYSDEC) requirements, a site characterization program consisting of a limited groundwater investigation and a soil vapor intrusion evaluation was completed at the Subject Property. The following summarizes the findings of the investigation:

- The groundwater investigation indicated that no NYSDEC Target Compound List (TCL) volatile organic compounds (VOCs) were detected above their respective NYSDEC Class GA groundwater quality standards in any of the groundwater samples collected. As such, no further action is recommended with respect to groundwater quality.
- The indoor air quality results at all of the indoor sampling locations included in this investigation were below the New York State Department of Health (NYSDOH) air guideline values for PCE and TCE. However, the sub-slab vapor concentrations were relatively high compared to the NYSDOH guidelines. As such, it is important to note that NYSDOH recommendations are driven by sub-slab vapor concentrations and not indoor air quality conditions. Therefore, Apex recommends continued bi-annual indoor air quality sampling.
- The highest concentrations of PCE and TCE in soil vapor samples were detected at sample locations in a paved area on the southern side of the building. However, because there were no co-located indoor air samples and the samples were collected outside of the building's footprint, NYSDOH guidance values and recommendations do not apply. The sub-slab soil vapor results would indicate a NYSDOH "mitigation recommendation" if the matrices did apply; therefore, in order to address soil vapor conditions at these exterior sample locations, Apex recommends continued bi-annual monitoring.
- To further evaluate the extent of PCE and TCE in soil vapor samples, Apex recommends off-site soil vapor sampling at the property abutting the southern property boundary.

1.0 INTRODUCTION AND BACKGROUND

This Site Characterization (SC) Report outlines the investigation activities conducted at the Former Mom's Cleaners Site located at 556 Union Boulevard, West Islip, New York (the Subject Property), on July 5, 2011 through August 17, 2011 (see **Figure 1**: Site Location Map). The Subject Property represents a former tenant space located on the central-northeastern portion of a shopping center known as Captree Village Shopping Center. According to a New York State Department of Environmental Conservation (NYSDEC) Order on Consent and Administrative Settlement (Order), the Subject Property is currently listed as Site #1-52-184 in the New York State Registry of Inactive Hazardous Waste Disposal Sites. The Subject Property is currently listed as a Class 4 site by the NYSDEC. In accordance with the Order and as further clarified from the NYSDEC letter dated February 9, 2011, a site characterization consisting of a limited groundwater investigation and a soil vapor intrusion (SVI) evaluation was completed at the Subject Property.

The NYSDEC has requested completion of site characterization activities at the Subject Property based upon the following:

- Groundwater samples collected and analyzed in November of 2009 from two (2) on-site monitoring wells, (i.e., MW-6 and MW-9) each contained tetrachloroethene (PCE) in exceedance of its New York State Class GA groundwater quality standard of 5.0 micrograms per liter (ug/l); and,
- Due to the presence of shallow groundwater impacted by halogenated volatile organic compounds (VOCs) in the vicinity of the on-site building, the potential for SVI into overlying occupied structures (i.e., the Captree Village Shopping Center's Good Samaritan Hospital, South Bay Cardiovascular Center and Rite Aid tenant spaces).

1.1 Objectives

The components of the site characterization program have been designed to meet the following specific objectives:

- Evaluate on-site groundwater quality conditions in the vicinity of the Subject Property, as well as directly upgradient of the nearest off-site properties; and,
- Evaluate SVI conditions and determine if any further action(s) (e.g., continued monitoring, mitigation, etc.) are warranted with respect to sub-slab soil vapor and indoor air quality (IAQ) conditions.

The primary objective of the current SVI investigation conducted by Apex was to meet NYSDEC monitoring requirements and evaluate whether soil vapors associated with the former operations at the Mom's Cleaners facility and Louis's Service Center have impacted conditions at the Subject Property. Secondly, data obtained serves as the basis for development of appropriate implementation of control measures, if necessary (e.g.

monitoring, identify sources, reduce exposures, mitigation, etc.). All SVI work was conducted in accordance with the applicable New York State Department of Health (NYSDOH) guidance document entitled "*Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York*," dated October 2006, as amended.

1.2 Site Description and Location

The Subject Property consists of a multi-tenant building currently occupied by several medical facilities located in the central and eastern portion of the building and a Rite Aid store on the western portion of the site. The portion of the building known as Mom's Cleaners is a former dry cleaning facility that is currently occupied by South Bay Cardiovascular Center (see **Figure 2.**)

A former on-site facility, known as Charlene Service Station, Inc., d/b/a Louis's Service Center, was located upgradient (i.e., north) of the former Mom's Cleaners facility. Louis's Service Center had documented, historic soil and groundwater contamination related to former underground storage tank (UST) operations associated with dispensing of gasoline, but has achieved regulatory closure with the NYSDEC.

Current tenants located within the proximity of the former dry cleaning facility include the following:

- Good Samaritan Hospital Medical Center (Good Samaritan), 560 Union Boulevard – This tenant space is situated at the east end of the existing multi-tenant building and is constructed slab-on-grade with no basement. The leased space is currently improved with offices, administrative work spaces, exam rooms and a physical therapy treatment exercise room utilized by Good Samaritan, which provides outpatient physical therapy, occupational therapy and speech language pathology services;
- South Bay Cardiovascular Center (South Bay), 540 Union Boulevard – This tenant space is situated west of the Good Samaritan leased space. The leased space is currently utilized by the South Bay for the diagnosis, treatment and prevention of cardiovascular diseases, and is comprised of offices, exam rooms and administrative work spaces. The former Mom's Cleaners space was located adjacent to the east wall of the South Bay space with primary dry cleaning operations reportedly located along the eastern portion of this tenant space;
- Great South Bay Surgical Associates, Dr. Francfort, M.D., 580 Union Boulevard - This tenant space is located on the eastern-most portion of the building and abuts the Good Samaritan tenant space. Dr. Francfort specializes in vascular and general surgeries, and the tenant space is comprised of administrative work space, offices, patient exam rooms and a conference room. The former Mom's Cleaners, is located to the west and hydrologically cross-gradient to this tenant space; and,

- Rite Aid Pharmacy (Rite Aid), 532 Union Boulevard – The Rite Aid store and pharmacy (Rite Aid) is located on the central-western portion of the overall strip mall, and is located at the west end of the single-story building. Rite Aid is a retail facility which provides pharmaceutical services and health-related products, as well as convenience items.

The Subject Property has been subject to environmental investigations and remedial actions over the last several years. As recently as 2009, Apex conducted a groundwater and SVI investigation, the results of which were provided to the NYSDEC circa April of 2010.

2.0 SITE CHARACTERIZATION INVESTIGATION

Apex has completed the following investigative activities to satisfy NYSDEC-prescribed SC Work Plan elements including the following:

- Collection of grab groundwater samples at three (3) locations via direct-push technique including vertical profiles reaching a terminal depth of 55-60 feet below grade surface (bgs) at one (1) upgradient (GW-1) and two (2) downgradient locations (GW-2 and GW-3);
- Collection of groundwater samples from the two (2) existing monitoring wells, MW-6 and MW-9, located downgradient of the former Mom's Cleaners site;
- Analysis of groundwater samples for NYSDEC Target Compound List (TCL) volatile organic compounds (VOCs);
- Installation of five (5) sub-slab soil vapor probes within the building, and three (3) soil vapor probes installed at three (3) outdoor downgradient locations beneath the pavement, south of the Subject Property.
- Collection of sub-slab soil vapor, indoor air and ambient air samples in the vicinity of the Subject Property;
- Analysis of sub-slab soil vapor, indoor air and ambient air samples for VOCs by United States Environmental Protection Agency (USEPA) Method TO-15; and,
- In accordance with NYSDOH protocols, Apex personnel completed a facility-wide inspection during the sampling period to evaluate chemical-use practices within the facilities. Labels were reviewed to determine the chemical nature of various products including, but not limited to, cleaners, lubricants, glues / adhesives, paints, chemicals, etc.

2.1 Data Quality Objectives for Sampling & Analyses

The soil vapor Data Quality Objectives (DQOs) for this project were to evaluate existing sub-slab soil vapor, indoor air quality and soil vapor conditions with respect to USEPA TO-15 analytes and groundwater-quality conditions with respect to NYSDEC TCL VOCs and New York State Class GA groundwater quality standards. Specifically, the work was conducted to evaluate:

- Whether soil vapors are impacting the indoor air quality of the overlying occupied building;
- Whether there was any reasonable potential for off-site soil vapor impact to residences located adjacent and downgradient to the Subject Property;
- Existing groundwater quality conditions upgradient of the Subject Property;
- Groundwater conditions downgradient of the former Mom's Cleaners location; and,

- The concentrations of VOCs present in groundwater, if any, at various depths ranging from 10-15 feet bgs to 55-60 feet bgs.

The work was conducted in accordance with the NYSDEC-approved SC Work Plan, Site-Specific Health and Safety Plan (HASP) and the Quality Assurance Project Plan (QAPP), all of which were approved by the NYSDEC prior to the commencement of investigative activities. All of the sample locations conducted as part of this work is indicated in **Figure 2**.

Each of the following tasks are described in the following sections:

2.2 Grab Groundwater Sampling

On July 5, 2011, Apex collected twelve (12) groundwater samples from three (3) locations GW-1, GW-2 and GW-3. At each location, grab groundwater samples were collected groundwater from four depths including, 10-15; 20-25; 30-35; and 55-60 feet bgs (i.e., four (4) samples from each of the three (3) sample locations for a total of twelve (12) groundwater samples).

The multi-depth groundwater samples were collected utilizing the following procedures:

- A decontaminated, four (4) foot long screen was advanced by the direct-push technique to a terminal depth of the selected boring (55-60 feet bgs);
- Groundwater samples were collected by inserting a length of factory decontaminated polyethylene tubing equipped with a check valve into the sample interval, which was then vigorously oscillated by hand, thereby driving water to the surface for collection in appropriate laboratory-supplied glassware for analysis;
- Once the deepest sample was collected, the screened interval was withdrawn to the next shallower sampling interval and a new length of polyethylene tubing was inserted and oscillated allowing for the collection of the groundwater samples from the next interval; and,
- This process was repeated to collect samples from all defined intervals until the screen is withdrawn to the final sampling depth. At the final (shallowest) depth, the aforementioned procedure was repeated to collect the shallow (i.e., 10-15 feet bgs) groundwater sample.

All rods, screen, and sampling equipment were decontaminated prior to beginning the drilling services and between borings utilizing Liquinox wash and rinse. Upon completion of sampling, the three (3) borings locations, all installed in a paved area, were backfilled with sand and patched with asphalt.

All of groundwater samples, including the quality assurance / quality control (QA / QC) samples, were analyzed for NYSDEC TCL VOCs by EPA Method 8260. Groundwater sample locations are indicated in **Figure 2**.

2.3 Existing Monitoring Well Sampling

On July 6, 2011, Apex collected groundwater samples from two (2) existing monitoring wells (i.e., MW-6 and MW-9) located downgradient of the former Mom's Cleaners site.

Prior to sampling, depth-to-water readings were collected from each monitoring well with a decontaminated electronic interface probe (IP) to evaluate for the absence or presence of light non-aqueous phase liquid (LNAPL) and bailers were used to evaluate for the absence or presence of dense non-aqueous phase liquid (DNAPL). LNAPL and DNAPL were not encountered in either well. Each sample was field screened for the presence of VOCs utilizing a calibrated photo-ionization detector (PID).

A minimum of three (3) well casing volumes of groundwater were removed utilizing a decontaminated submersible pump from each well prior to sampling. Upon the completion of purging, groundwater was collected in laboratory-supplied glassware utilize a factory-decontaminated bailer, labeled, placed in a cooler on ice and submitted to a laboratory.

The two groundwater samples were analyzed for NYSDEC TCL VOCs by EPA Method 8260.

Table 1 (Groundwater Sampling Log) provides a summary of the purge water and sampling conditions at each of the grab and monitoring well locations.

2.4 Sub-Slab Soil Vapor Point Installation

From July 23 through July 24, 2011, soil vapor implants were installed at each of five (5) interior building locations within the Captree Village Shopping Center and at three (3) exterior sub-pavement locations downgradient of the Subject Property (See **Figure 2**). The three (3) exterior implants were installed on the southern-side of the building and along the curb line of a paved driveway behind the building and north of a residential area in accordance with the NYSDEC-approved Work Plan. The five (5) interior probes were advanced directly through the concrete slab of the building.

At each soil vapor implant location, an eight-inch core drill was advanced through the building's concrete slab-on-grade foundation for interior locations and asphalt pavement for exterior locations. At the exterior locations, approximately two (2) feet of soil were removed, and approximately one (1) foot of soil at the interior location was removed. A six (6) inch long soil vapor screen with an anchor and attached Teflon, tubing were installed to the bottom of the borings (approximately 30-inches below the top of pavement for exterior

locations and approximately 16-inches below the slab for interior locations). The annular space around the implants and a section of Teflon tubing was filled with No. 2 Morie sand followed by cuttings and approximately twelve (12) inches of hydrated bentonite to provide a surface seal. A four (4) inch diameter manhole was installed at each location. Approximately two (2) feet of Teflon tubing was coiled inside the manhole and left in place for future sampling events.

Table 2 describes the conditions that were noted during the installation of sub-slab soil vapor sampling points.

2.5 Soil Vapor Sampling

Ambient air, indoor air, sub-slab soil vapor and soil vapor samples were collected utilizing six (6) liter, laboratory-supplied Summa canisters equipped with flow controllers and analog pressure gauges. Before and after pressure readings were recorded for each Summa canister. Prior to collecting the vapor samples, each probe was purged utilizing a photoionization detector (PID). Ambient air samples (one (1) outdoor ambient and five (5) indoor ambient samples) were collected over an eight (8) hour period in order to represent the air quality within the typical breathing zones at an elevation of three (3) to five (5) feet during an eight (8) hour work shift. Soil vapor sampling data is summarized in **Table 3**.

The soil vapor samples were collected directly through the probe's Teflon tubing. The soil vapor samples were collected over a two (2) hour period at a flow rate of 0.05 liters per minute (LPM), which is less than the maximum flow rate of 0.2 LPM as established in the NYSDOH Guidance Document. Due to the permanent nature of the installation, and with NYSDEC concurrence, the use of helium as a tracer gas was not conducted.

Start and finish times, start and end vacuum pressures, canister and flow controller identification numbers and PID responses collected to measure the effectiveness of purging were logged and are summarized in **Table 3**.

Co-located sub-slab soil vapor and indoor air sample locations were collected from five (5) interior building locations (i.e., CV-SS-1 / CV-SV-1; CV-SS-2 / CV-SV-2; CV-SS-3 / CV-SV-3; RA-SS-1 / RA-SV-1; and PT-SS-1 / PT-SV-1). One (1) outdoor ambient air sample (Outside Ambient-1) was collected to represent background conditions. In addition, three (3) sub-grade soil vapor samples (SS-1, SS-2, and SS-3) were collected on-site immediately along the southern property line pavement as close to neighboring properties as feasible. The sample locations are illustrated in **Figure 2**.

The Summa canisters containing the soil vapor and air samples were labeled, collected by the laboratory courier service and analyzed for VOCs by EPA Method TO-15 by a NYSDOH

Environmental Laboratory Accreditation Program (ELAP) certified laboratory as described below.

3.0 ANALYTICAL RESULTS

3.1 Groundwater Analytical Results

As discussed in the NYSDEC-approved SC Work Plan and **Section 2.1** and **2.2** above, three (3) grab groundwater sampling locations were selected for the collection of multi-depth groundwater samples. Additionally, two (2) existing groundwater monitoring wells were purged and sampled. The fourteen (14) groundwater samples were submitted to Analytical Laboratory Services, Inc. (ALS), a NYSDOH (ELAP) certified laboratory for the analysis of NYSDEC TCL VOCs by EPA Method 8260, in accordance with NYSDEC Analytical Services Protocol (ASP) Level B protocols. Additionally, several QA / QC samples were utilized and analyzed in accordance with Level B protocols (see **Section 4.0**). The original laboratory data results are included in **Appendix B**. The full level B deliverable is included in **Appendix G**.

As summarized in **Table 4**, no TCL VOCs were detected above their respective NYSDEC Class GA groundwater quality standards in any of the grab groundwater samples or samples from the two (2) permanent wells (MW-6 and MW-9). Low levels of carbon disulfide (e.g. well below its Class GA standard of 60 ug/L the majority) were detected in the majority of samples collected from GW-1, GW-2 and GW-3 at most of the sample depths. Chloroform was detected at a relatively low concentration (0.31 ug/L) in the GW-2, 30-35 feet bgs sample. Methyl tert-butyl ether (MTBE) was detected at 6.6 ug/L, which is below its groundwater quality standard of 10 ug/L, in the upgradient location, GW-1, 55-60 feet bgs summary which is likely associated with the former Louis' Service Station site. Tetrachloroethene (PCE) was detected at 1.3 ug/L in the samples collected from GW-3, 10-15 feet bgs; 1.3 ug/L in MW-6; and, 3.0 ug/L in MW-9; No other TCL VOCs were detected above their respective laboratory method detection limits (MDLs) in the remaining groundwater samples.

Groundwater conditions have improved since sampling in 2009 with respect to PCE and TCE. These analytes were detected at concentrations less than the NYSDEC Class GA groundwater quality standards during the July, 2011 sampling event (e.g., PCE was detected at a maximum concentration of 3.0 ug/L during the July 2011 sampling event compared to a maximum PCE concentration of 47 ug/L during the 2009 event and TCE was non-detect during the July 2011 event compared to a maximum concentration of 6 ug/L in 2009).

3.2 Soil Vapor Analytical Results

The sub-slab soil vapor and ambient air samples were analyzed by Centek, Laboratories, LLC. (Centek), a NYSDOH ELAP- certified laboratory for VOCs by EPA Method TO-15. All samples were shipped and handled properly under chain of custody procedures. The

original laboratory data sheets are included in **Appendix C**. The full Level B deliverables are included in **Appendix H**.

Table 5a, 5b, 5c, 5d, 5e and 5f provide a summary of the sub-slab soil vapor, soil vapor, indoor air and outdoor air samples collected by Apex on August 17, 2011. The 2011 data are compared to data collected by Apex in January 2009. The comparison in data shows a fluctuating trend of different analytes and concentrations detected at each location over time. Samples SS-1, SS-2 and SS-3 were installed in July, 2011 and were first sampled during the August 17, 2011 sampling event; therefore, data cannot be compared to data from previous events for these sample locations.

The NYSDOH Guidance Document provides specific contaminant thresholds for the following VOCs as part of NYSDOH-compliant SVI investigations: Carbon tetrachloride (CT), PCE, 1,1,1-Trichloroethane (1,1,1-TCA), Vinyl chloride (VC), 1,1-Dichloroethene (1,1-DCE), *cis*-1,2-Dichloroethene (*cis*-1,2-DCE) and TCE. NYSDOH Matrix 1 is used for determining if follow-up actions are required for TCE, 1,1,1-TCA, VC and CT. Matrix 2 is used for determining if follow-up actions are required for PCE, 1,1-DCE and *cis*-1,2-DCE. These matrices list the following recommendations based upon review of both the sub-slab soil vapor and indoor air sampling results.¹

- No further action – Given that the compound was not detected in the indoor air sample and that the concentration detected in the sub-slab vapor sample is not expected to significantly affect indoor air, no additional actions are required to address human exposures.
- Take reasonable and practical actions to identify source(s) and reduce exposures - The concentration detected in the indoor air sample is likely a result of indoor and / or outdoor sources rather than SVI given the low concentration detected in the co-located sub-slab vapor sample. NYSDOH recommends that steps should be taken to identify potential source(s) of the contaminant within the facility and to reduce exposures accordingly (e.g., by keeping containers tightly capped or by storing VOC-containing products in places where people do not spend much time, such as a garage or outdoor shed).
- Monitor - Monitoring is required to confirm concentrations in the indoor air have not increased due to changes in pressure gradients (e.g., deterioration of building foundation) or to evaluate temporal trends for relevant environmental data. Monitoring may also be needed to verify that existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are minimizing potential effects associated with SVI. The type and frequency of monitoring are determined on a site-

¹ The outdoor air sample results are utilized to establish "background" conditions and are typically, "subtracted out" of the indoor air sample results.

specific basis, taking into account applicable environmental data and building-operating conditions. Monitoring is considered a temporary measure implemented to address exposures related to SVI until contaminated environmental media are remediated.

- Mitigate - Mitigation of the VOC concern is required to minimize current or potential exposures associated with SVI. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system (SSDS), and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.
- Monitor / Mitigate – Monitoring or mitigation may be recommended after considering the magnitude of sub-slab soil vapor and indoor air concentrations, along with building and site-specific conditions.

For VOCs not specified in the NYSDOH matrices, the guidance document provides the results of background concentrations from various studies for a wider range of VOCs (i.e., fuel oil heated homes, public and commercial buildings). As the Subject Property consists of former and current commercial-uses, Apex utilized the results of the USEPA Building Assessment and Survey Evaluation (BASE) database to evaluate contaminant levels for compounds other than CT, TCE, PCE, VC, cis-1,2 DCE, 1,1-DCE and 1,1,1-TCA. Specifically, as discussed in the NYSDOH guidance, the 25th and 75th percentile of the BASE data were utilized as typical “Background” levels for comparison to results obtained during this study. In addition, Apex considered site-specific outdoor ambient air sample analytical results in the evaluation of data in accordance with the NYSDOH guidance.

3.3 North Parking Lot Outdoor Analytical Results

As summarized in **Tables 5a, 5b, 5c** and **5d**, relatively low concentration levels of VOCs were detected above maximum reporting limits (MRLs) in the soil vapor sample collected from the north parking lot locations. TCA, PCE and TCE were not detected above their respective laboratory MRLs in the parking lot ambient air sample.

This sample location was used to establish a background using outdoor ambient air in the breathing zone of the parking lot, north of the Subject Property. All other soil vapor and indoor air samples are then compared to this sample (Outdoor Ambient-1) to compare analytical results to background levels. VOCs detected in the outside, ambient air sample collected August 17, 2011 included:

- 1,2,4-Trimethylbenzene: 0.80 micrograms per liter ($\mu\text{g}/\text{m}^3$);
- 2-Butanone (MEK): 1.1 $\mu\text{g}/\text{m}^3$;

- 2-Propanol (IPA): $1.7 \mu\text{g}/\text{m}^3$;
- 2,2,4-Trimethylpentane: $1.7 \mu\text{g}/\text{m}^3$;
- Acetone: $4.2 \mu\text{g}/\text{m}^3$;
- Benzene: $1.6 \mu\text{g}/\text{m}^3$;
- Carbon tetrachloride (CT): $0.83 \mu\text{g}/\text{m}^3$;
- Cyclohexane: $0.98 \mu\text{g}/\text{m}^3$;
- Ethylbenzene: $0.62 \mu\text{g}/\text{m}^3$;
- Trichlorofluoromethane (Freon 11): $1.3 \mu\text{g}/\text{m}^3$;
- Dichlorodifluoromethane (Freon 12): $2.7 \mu\text{g}/\text{m}^3$;
- Heptane: $0.83 \mu\text{g}/\text{m}^3$;
- Hexane: $1.3 \mu\text{g}/\text{m}^3$;
- m&p-Xylenes: $2.2 \mu\text{g}/\text{m}^3$;
- o-Xylene: $0.71 \mu\text{g}/\text{m}^3$; and,
- Toluene: $5.0 \mu\text{g}/\text{m}^3$.

Apex considered site-specific outdoor ambient air sample analytical results in the evaluation of SVI data. As discussed in the NYSDOH guidance document, these ambient air analytical results are utilized as background conditions in the evaluation of indoor air quality data.

3.4 Good Samaritan Sub-Slab Soil Vapor / Indoor Air Results

Based upon the protocols included in the NYSDOH Guidance Document and analytical data summarized in **Table 5a**, sub-slab soil vapor and indoor air data for the Good Samaritan tenant space indicates the following conditions:

- CT was detected in sub-slab soil vapor sample PT-SS-1, and co-located indoor air sample, PT-SV-1. Detected concentrations of CT in were present in both samples at the same concentration of $0.77 \mu\text{g}/\text{m}^3$; however, CT was present in the background sample at a concentration of $0.83 \mu\text{g}/\text{m}^3$. Therefore, the detected concentration of CT in indoor air is likely associated with background levels.
- PCE was detected in sub-slab soil vapor sample PT-SS-1 at $820 \mu\text{g}/\text{m}^3$. Co-located indoor air sample, PT-SV-1, exhibited a PCE concentration of $1.7 \mu\text{g}/\text{m}^3$. Such PCE concentrations results in a NYSDOH Matrix 2 of recommendation to "monitor."
- TCE was detected at a detected concentration in sub-slab soil vapor sample PT-SS-1 at $5.5 \mu\text{g}/\text{m}^3$. Co-located indoor air sample, PT-SV-1, indicated a level of TCE of $1.5 \mu\text{g}/\text{m}^3$. These TCE concentrations result in a NYSDEC Matrix 1 recommendation to "monitor."
- A NYSDOH action of "No further action (NFA)" was determined for the following analytes listed in the NYSDOH Decision Matrices for the tenant space:
 - 1,1,1-TCA
 - 1,1-DCE

- *cis*-1,2-DCE
- VC
- The following VOCs were detected in sub-slab soil vapor and indoor air quality samples in this tenant space at concentrations above the 75th EPA BASE typical background levels. Although these compounds do not necessarily pose a significant risk, their presence in sub-slab vapor and indoor air samples may be important to note:
 - 2-Propanol (IPA)
 - Chloroform
 - Ethyl acetate

3.5 South Bay Sub-Slab Soil Vapor / Indoor Air Results

Based upon the protocols included in the NYSDOH Guidance Document and analytical data summarized in **Table 5b**, the sub-slab soil vapor and indoor air data for the South Bay tenant space within the building indicates the following:

- TCE was detected above laboratory MRLs in sub-slab vapor samples CV-SS-1 at 1.3 $\mu\text{g}/\text{m}^3$, CV-SS-2 (110 $\mu\text{g}/\text{m}^3$) and CV-SS-3 (1.2 $\mu\text{g}/\text{m}^3$). However, only one (1) corresponding indoor air sample for the above recommended sub-slab soil vapor samples indicated concentrations above a NYSDOH threshold value. TCE was present in indoor ambient air at location CV-SV-2 at a concentration of 2.5 $\mu\text{g}/\text{m}^3$ which results in a NYSDOH guidance recommendation of "mitigation."
- CT was detected in indoor air samples CV-SV-2 and CV-SV-3 at concentration ranging from 0.77 $\mu\text{g}/\text{m}^3$ to 0.90 $\mu\text{g}/\text{m}^3$. Due to the concentration of CT in sample CV-SV-3 at 0.90 $\mu\text{g}/\text{m}^3$ and the presence of CT in the sub-slab vapor sample, this sample's CT elevation falls into the NYSDOH Matrix 1 recommendation to "take reasonable and practical actions to identify source(s) and reduce exposures." However, CT was present at approximately the same concentrations in the outdoor ambient air sample at 0.83 $\mu\text{g}/\text{m}^3$. Therefore, CT may be present at background levels where a NYSDOH determination for further action is indicated. CT was not detected in indoor air sample CV-SV-1.
- CT was detected in all sub-slab soil vapor samples within the leasehold above laboratory MRLs. One sub-slab sample, CV-SS-3, had a concentration of CT which falls into the NYSDOH Matrix 1 recommendation to take reasonable and practical actions to identify source(s) and reduce exposures. Given that CT was present in the ambient background sample and was non-detectable in all sub-slab samples, no further action with respect to CT is recommended at this time.
- PCE was detected in all three (3) sub-slab soil vapor samples and all three (3) indoor air samples. PCE was detected in indoor air sample CV-SV-1 at 0.76 $\mu\text{g}/\text{m}^3$, and in sample CV-SV-2 at 4.9 $\mu\text{g}/\text{m}^3$. Due to concentration of PCE in co-located sub-slab soil vapor samples CV-SS-1 at 1,400 $\mu\text{g}/\text{m}^3$ and CV-SS-2 at 1,600 $\mu\text{g}/\text{m}^3$, a NYSDOH Matrix 2 recommendation to "mitigate" was recommended regardless of the indoor air

quality sample results in the same general location. PCE was detected in sub-slab soil vapor sample CV-SV-3 at $0.76 \mu\text{g}/\text{m}^3$. Because of levels of PCE in co-located sub-slab vapor sample CV-SS-3 at $710 \mu\text{g}/\text{m}^3$, this sample location falls into the NYSDOH Matrix 2 category to "monitor" at this location.

- A NYSDOH action of NFA was determined for the following analytes listed in the NYSDOH Decision matrices for the tenant space:
 - 1,1,1-TCA
 - 1,1-DCE
 - *cis*-1,2-DCE
 - VC
- The following compounds were detected in sub-slab vapor and indoor air quality samples in this tenant space at concentrations above the 75th EPA BASE typical background levels. Although these compounds do not necessarily pose a significant risk, the presence of these VOCs in sub-slab vapor and indoor air samples may be important to note:
 - 1,2,4-Trimethylbenzene
 - 1,2-Dichloroethane
 - 2-Butanone (MEK)
 - 2-Propanol (IPA)
 - Carbon disulfide
 - Ethyl acetate
 - Methylbenzene
 - *m,p*-Xylenes
 - Methylene chloride
 - *o*-Xylene
 - Toluene

3.6 Exterior, Southern Property Boundary Soil Vapor Results

Three (3) soil vapor samples were collected outside the footprint of the on-site building on the southern property boundary, hydrologically downgradient of the Former Mom's Cleaners site. These samples were installed beneath asphalt and concrete paving and were assigned sample numbers SS-1, SS-2 and SS-3. As summarized in **Table 5c**, TCE was detected in these samples at concentrations ranging from $300 \mu\text{g}/\text{m}^3$ to $1,100 \mu\text{g}/\text{m}^3$. PCE was detected in these samples at concentrations ranging from $10,000 \mu\text{g}/\text{m}^3$ to $26,000 \mu\text{g}/\text{m}^3$. The highest concentrations of TCE and PCE were detected in sample SS-1. Concentrations of the following analytes were detected above the EPA BASE 75th percentile values: 2-propanol (IPA), acetone, carbon disulfide, chloroform and methylene chloride. The NYSDOH Guidance Document does not provide contaminant thresholds for VOCs in samples collected outside of the footprint of a building. However, elevated concentrations of PCE and TCE were detected in all three (3) soil vapor samples. Although there are no indoor co-located samples, the soil vapor concentrations indicate a NYSDOH "mitigate" recommendation.

3.7 Rite Aid Pharmacy Sub-Slab Soil Vapor/Indoor Air Results

Based upon the protocols included in the NYSDOH Guidance Document and analytical data summarized in **Table 5d**, the sub-slab soil vapor and indoor air data for the above-referenced lease space within the building indicates the following:

- TCE was detected in sub-slab vapor sample RA-SS-1 at $0.98 \mu\text{g}/\text{m}^3$. Additionally, co-located indoor air sample RA-SV-1, contained TCE at $(0.60 \mu\text{g}/\text{m}^3)$. Such TCE levels result in a NYSDEC Matrix 1 recommendation to “take reasonable and practical actions to identify source(s) and reduce exposures.”
- A NYSDOH recommendation of NFA was determined for the following analytes listed in the NYSDOH Decision Matrices for the Rite Aid tenant space:
 - 1,1,1-TCA
 - *cis*-1,2-DCE
 - CT
 - 1,1-DCE
 - VC
 - TCE
- The following VOCs were detected in sub-slab soil vapor and indoor air quality samples in this tenant space at concentrations above the 75th EPA BASE typical background levels. Although these compounds do not necessarily a significant risk, the presence of these compounds in sub-slab vapor and indoor air samples may be important to note:
 - Ethyl acetate
 - Trichlorofluoromethane
 - 1,4-Dichlorobenzene

3.8 Comparison of 2009 and 2011 SVI Data

Indoor air conditions have changed since sampling January 11, 2009 with respect to PCE and TCE. Some PCE and TCE concentrations in samples collected August 17, 2011 were greater than concentrations of samples collected during the 2009 event, and other sample locations had lower concentrations in comparison to samples collected in 2009. Sample locations where PCE and TCE concentrations were greater during the 2009 event include the following:

- CV-SV-3: PCE was detected at a concentration of $0.13 \mu\text{g}/\text{m}^3$ in 2009 compared to a concentration of $0.76 \mu\text{g}/\text{m}^3$ in 2011; and,
- CV-SV-3: *cis*-1,2-DCE was detected below MDLs in indoor air in 2009; however, it was detected at concentration of $780 \mu\text{g}/\text{L}$ due to elevated concentration of *cis*-1,2-DCE in the co-located sub-slab sample.

Sample locations where PCE and TCE concentrations were greater during the 2011 event include the following:

- PT-SV-1: PCE was detected at a concentration of $0.62 \mu\text{g}/\text{m}^3$ in 2009 compared to a concentration of $1.7 \mu\text{g}/\text{m}^3$ in 2011. TCE was detected at a concentration below MDLs in 2009 compared to a concentration of $5.5 \mu\text{g}/\text{m}^3$ in 2011.

- CV-SV-1: PCE was not detected above MDLs in 2009 compared to a concentration of 0.76 ug/m³ in 2011.
- CV-SV-2: PCE was detected at a concentration below LDLs in 2009 compared to a concentration of 4.9 ug/m³ in 2011.

4.0 QUALITY ASSURANCE / QUALITY CONTROL SAMPLING

As per NYSDOH ASP Level B protocols, QA / QC sample collection and analysis was required, including the collection of trip blanks, blind duplicates, matrix spike (MS) and matrix spike duplicate (MSD) samples. Such collection of samples was performed as described in Apex's QAPP dated April 13, 2011. Field QA / QC samples were submitted to a NYSDOH-approved laboratory during the field investigation. QA / QC sample results are summarized in **Tables 5e** and **Table 5f**.

4.1 Field Duplicates

Field duplicate samples are used to assess the variability of a matrix at a specific sampling point and to assess the reproducibility of the sampling method. Aqueous field duplicate samples are samples collected from the same location, at the same time, in the same manner as the first, and placed into a separate container and are submitted to the laboratory with a fictitious identifier.

For soil vapor / air samples, the blind duplicate sample was associated with one (1) of the indoor air samples. Each duplicate sample was analyzed for the same parameters as the original sample collected that day.

- As summarized in **Table 5e**, indoor air sample CV-SV-4 was collected as a blind duplicate sample of CV-SV-3. The analytical results for the field duplicate were generally consistent with field sample. Most of the analytes detected in the duplicate were present in both air samples at similar concentrations.
- As summarized in **Table 5f**, groundwater grab sample, GW-4 10-15 feet was collected as a blind duplicate sample of GW-3 10-15 feet. The results of the field duplicate analytical data indicated that both data sets exhibit high precision and reproducibility. Carbon disulfide (CD) was detected in sample GW-4 10-15 feet at relatively low levels (0.25 ug/L) and there was no detection for CD in the blind duplicate sample. All other analytes were non-detect in both samples except for PCE which was present in both samples at concentrations of 1.3 ug/L and 1.4ug/L. The only difference in samples is the low-level detection of CD. The comparison of the two (2) samples indicates that the blind duplicate results are very similar.

4.2 Trip Blanks

Trip blanks are prepared in the laboratory for VOC analysis prior to sampling by filling appropriate containers with distilled / deionized water, or analyte-free air. The trip blank samples are utilized to determine if VOC cross-contamination occurs during sample shipment.

The trip blank was transported to the field, handled in the same manner as the other VOC samples, and submitted to the lab with the other samples for analysis.

- Apex submitted one (1) groundwater trip blank sample to the laboratory which consisted of two (2) 40 mL glass vials of deionized, analyte-free water provided by ALS. The trip blank was labeled, handled, placed on ice in the groundwater sample cooler and was listed on the chain of custody in the same manner that all other groundwater samples were. The groundwater trip blank analysis indicated that analytes were not detected above their respective MDLs and cross-contamination during shipping did not occur.

4.3 Rinseate Blanks

Rinseate blanks were prepared in the field by collecting distilled / deionized water in sample containers after the water has been used to rinse decontaminated equipment (e.g., macrocore samplers) prior to sampling.

- Apex collected one (1) rinseate blank which was collected from the macrocore sampler subsequent to decontaminating the sampling equipment. The rinseate blank sample analysis indicated that analytes were not detected above their respective MDLs. The data indicated that the field decontamination procedures were effective.

4.4 Matrix Spikes / Matrix Spike Duplicates

MS / MSD blanks are site-specific samples which are "spiked" in the laboratory with a known concentration of a known chemical. The laboratory then analyzes the samples for the spiked chemical to evaluate whether matrix interferences are either resulting in a loss of the spiked chemical (i.e., results in low-biased data) or an increase in the spiked chemical (i.e., results in high-biased data).

- MS and MSD samples, identified as GW-2 10-15 feet MS / MSD, were prepared from project sample GW-2 10-15 feet. All target analytes in the laboratory control sample were recovered within the control limits in the MS and MSD.
- MS and MSD samples, identified as CV-SV-2 MS and CV-SV-2MSD, were collected at project sample location CV-SV-2. All target analytes were recovered within laboratory control limits in the MS and MSD.

5.0 FACILITY INSPECTION / CHEMICAL INVENTORY REVIEW

In accordance with NYSDOH protocols, Apex personnel completed a facility-wide inspection during the SVI sampling period to evaluate chemical-use practices at the facilities. Labels were reviewed to determine the chemical nature of products including hand sanitizers, surface cleaners, floor cleaners, paints and miscellaneous chemicals. The data collected from the chemical inventory inspection were compared to the indoor air analytical data to evaluate whether site chemical-uses have impacted the indoor air quality of the tenant spaces, or if indoor air impacts represent a potential SVI issue.

The following chemicals were found to be in use at the facility:

- Purell and various other generic hand sanitizers were found to contain greater than 50% IPA;
- EZ-Kill disinfecting wipes were confirmed to contain n-alkyl, dimethyl benzyl ammonium chloride and IPA;
- Transeptic cleaning solution is utilized for cleaning purposes and contains IPA;
- 409 Cleaner, which is utilized for sanitizing and surface cleaning, contained a variety of VOCs including n-alkyl dimethylbenzyl ammonium chloride, n-propoxypropanol and monoethylamine;
- Cidex OPA (disinfectant) contains dipotassium hydrogen phosphate, potassium dihydrogen phosphate and benzotriazole;
- Peroxy, a hydrogen peroxide-based cleaner; contained alcohol ethoxylate, hydrogen peroxide, alcohol ethoxylate, and ethoxylated alkyl quarternary;
- Clorox, which is a disinfectant, contained sodium hypochlorite and sodium hydroxide;
- Super Sani-Cloths, which are used for sanitization purposes and were confirmed to contain 55% IPA and <1% quarternary ammonium;
- Pro-force, floor wax and floor wax stripper, contains 10% of 2-butoxyethanol, 5-20% of 2-aminoethanol, and 1-5% of disodium metasilicate, 1-5% alcohols, 1-5% c10-14 ethoxylated, 1-5% dipropylene glycol methyl ether and 1-5% IPA;
- Citrus II, which is utilized as a germicide for cleaning surfaces, contains alkyl dimethyl benzyl ammonium chlorides, diethylene glycol and butyl ether; and,
- Radiacwash cloths are used to remove radio-contamination from hands, surfaces and small objects. This product was confirmed to contain octyl phenol, ethylene oxide, benzyl dimethyl and hyamine 1622. This product is only utilized in the nuclear therapy areas of the building.

With respect to chemical usage at the facility and based upon the protocols included in the NYSDOH Guidance Document and analytical data summarized in **Tables 5a, 5b, 5c** and **5d**, the indoor air data indicates that the use of the above listed chemicals likely has impacted indoor air quality.

It is important to note that all of the tenant spaces within the building were occupied and were operating during the eight (8) hour period that Apex collected indoor ambient air samples. In addition to chemicals observed in storage and utilized by on-site personnel during air sampling, the facilities were occupied by staff, patients and customers whom may have carried contaminants on apparel or baggage upon their entry into the building. For example, levels of PCE and TCE in indoor air samples may be present in background air due to occupants adorning recently dry-cleaned apparel worn by customers / patients and / or staff of the tenant spaces.

IPA was detected at elevated concentrations above the 75th EPA database levels in all samples except RA-SS-1, RA-SV-1, Outdoor Ambient-1, SS-2 and SS-3. However, IPA use is widespread throughout the overall building, a majority of which was located in the physical therapy and cardiovascular offices. The presence of IPA in the indoor air samples is the result of on-site use of VOCs and is not considered to be related to SVI impacts.

The remaining VOCs potentially associated with operations and chemical use at the facility, which were detected in air samples, are not a concern at this time with respect to SVI issues.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Groundwater Quality

No TCL VOCs were detected above their respective NYSDEC Class GA groundwater quality standards in any of the groundwater samples collected in 2011. Low concentrations of carbon disulfide were detected in samples collected at GW-1, GW-2 and GW-3 at most of the sample depths. Chloroform was detected at a relatively low concentration in one sample. MTBE was detected at 10 ug/L at upgradient location. The presence of low-levels of MTBE is most likely attributed to the Louis' Service Center which was formerly present on the subject property. PCE was detected below its groundwater quality standard of 5.0 ug/L in samples GW-3, MW-6 and MW-9. All other TCL VOC analytes were not detected above their respective MDLs in the groundwater samples. Based upon the analytical data, no further action is recommended with respect to groundwater quality.

6.2 Indoor Air Quality

Based on data collected by Apex on August 17, 2011, Apex concluded the following for each tenant space:

South Bay Cardiovascular

VOCs included in the NYSDOH guidance document were detected in indoor air samples at several locations in the South Bay tenant space. Follow-up actions were evaluated for each analyte listed in the NYSDOH guidance document. The following analytes were detected at levels which require further action to address concerns for preserving indoor air quality:

- PCE was detected in indoor air sample CV-SV-2 at a concentration of 4.9 ug/m³. This was the highest PCE concentration detected in indoor air samples. Co-located sub-slab soil vapor sample, CV-SS-2, contained 1,600 ug/m³. According to NYSDOH Matrix 2, "mitigation" is the NYSDOH recommended action for this sample location.
- PCE was detected at a concentration requiring mitigation at co-located sample location CV-SS-1 (1,400 ug/m³) and CV-SV-1 (0.76 ug/m³). These were the only two (2) indoor sample locations where mitigation was the NYSDOH recommended action with respect to PCE at the subject property. PCE concentrations in samples CV-SV-1 and CV-SV-2 were relatively low considering the EPA BASE 75th percentile value for PCE is 5.9 ug/m³. However, a NYSDOH recommendation of "mitigate" was determined by elevated sub-slab concentrations in CV-SV-2 and CV-SV-1. Therefore, Apex considers bi-annual monitoring a sufficient method in lieu of mitigation to address indoor air quality issues with respect to PCE for these sample locations.
- TCE was detected at elevated levels in co-located samples CV-SV-2 (2.5 ug/m³) and CV-SS-2 (110 ug/m³). According to the NYSDOH Matrix 1, "mitigation" is the recommended action to address such levels of TCE at this location. TCE

concentrations were just above the EPA BASE 75th percentile value of 1.2 ug/m³ in sample CV-SV-2. A NYSDOH recommendation of "mitigate" is driven by elevated sub-slab vapor concentrations of TCE and not solely based upon indoor air concentrations.

- Sample locations CV-SV-1 and CV-SV-3 did not contain elevated concentrations of TCE; however, co-located sub-slab samples did contain significant concentrations of TCE. Therefore, Apex considers bi-annual monitoring a sufficient method in lieu of mitigation to address indoor concentrations of TCE in this sample location.
- By evaluating the VOC content of chemical storage observed in the building, certain VOCs were identified and dismissed as background conditions and not indoor air contaminants of concern.

Good Samaritan Physical Therapy Center

- PCE was detected in indoor air sample, PT-SV-1, at a concentration of 1.7 ug/m³. Co-located sub-slab sample, PT-SS-1 contained PCE at 820 ug/m³. According to NYSDOH Matrix 2, the NYSDOH recommended action for this sample location is "monitoring". The recommendation for "monitoring" was determined by elevated sub-slab vapor concentrations of PCE. Apex considers bi-annual monitoring an appropriate method to address concentrations of PCE at this sample location.
- TCE was detected in indoor air sample, PT-SV-1, at a concentration of 1.5 ug/m³. Co-located sub-slab sample, PT-SS-1 contained 5.5 ug/m³ of TCE. According to Matrix 2, the NYSDOH recommended action is "monitoring" for this location with respect to TCE. Apex considers bi-annual monitoring a sufficient method to address indoor air quality issues with respect to TCE at this location.
- It was determined by evaluating the VOC content of chemical storage observed in the building that elevated concentrations of analytes exceeding the EPA BASE 75th percentile values are associated with chemical storage / usage within the tenant space rather than SVI.

Rite Aid Pharmacy

- None of the VOCs listed in the NYSDOH guidance document were detected at concentrations requiring further action. Additionally, analytical results from January 2009 were evaluated and no further action was recommended using NYSDOH Matrices 1 and 2 for this sample location.
- Ambient air sample, RA-SV-1, collected in the Rite Aid tenant space, exhibited levels of 1,4-dichlorobenzene exceeding its EPA 75th percentile value. This analyte was not detected in 2009. The presence of this analyte could potentially be associated with the former gasoline service station located upgradient of the Subject Property. Additionally, it is important to note that 1,4-dichlorobenzene was not detected in the Outdoor Ambient-1 sample. Due to the presence of this analyte at this location, Apex recommends bi-annual monitoring.
- It was determined by evaluating the VOC content of chemical storage observed in the building that elevated concentrations of analytes exceeding the EPA BASE 75th

percentile values are associated with chemical storage / usage within the building rather than SVI.

The indoor air quality at all of the above-described locations was below the NYSDOH air quality guidance values for TCE and PCE. However, the sub-slab concentrations were relatively high compared to the NYSDOH guidelines. As such, it is important to note that NYSDOH recommendations of "mitigate" in the South Bay Cardiovascular tenant space and "monitoring" in the Good Samaritan Physical Therapy Center are driven by sub-slab concentrations and not indoor air quality.

6.3 Exterior Soil Vapor Conditions

The highest concentrations of PCE and TCE during the August 17, 2011 sampling event were detected at sample locations SS-1, SS-2 and SS-3, which were installed in a paved area on the southern side of the building (hydrologically downgradient). The highest level of PCE was detected at sample location SS-1 with a concentration of 26,000 ug/m³. The high concentration of TCE was also detected at SS-1 with a concentration of 1,100 ug/m³. All of these samples exhibited elevated levels of TCE and PCE. Because there were no co-located indoor air samples and the samples were collected outside of the building's footprint, NYSDOH guidance values do not apply to these samples in determining a recommendation. However, the sub-slab soil vapor concentration indicates a mitigate recommendation for any indoor air concentration. Apex recommends bi-annual monitoring of these sample locations.

To further evaluate the extent of PCE and TCE in soil vapor samples, Apex recommends off-site soil vapor sampling at the property abutting the southern property boundary. Two (2) soil vapor sample locations; one (1) approximately 20-feet south of exterior soil vapor samples, and one (1) approximately 100-feet south of the exterior soil vapor samples are recommended.

TABLES

Table 1: Groundwater Sampling Log
Site Characterization Report
Former Mom's Cleaners

Sample ID	Depth	Purge Volume	Description	DTW (feet)	PID
GW-1	10' - 15'	10 gallons	Grey and turbid	NA	0.0
GW-1	20' - 25'	10 gallons	Grey and turbid	NA	0.0
GW-1	30' - 35'	10 gallons	Grey and turbid	NA	0.0
GW-1	55' - 60'	10 gallons	Grey and turbid	NA	0.0
GW-3	10' - 15'	10 gallons	Light brown and turbid	NA	0.0
GW-3	20' - 25'	10 gallons	Light brown and turbid	NA	0.0
GW-3	30' - 35'	10 gallons	Light brown and turbid	NA	0.0
GW-3	55' - 60'	10 gallons	Brown and turbid	NA	0.0
GW-4	10' - 15'	10 gallons	Blind duplicate of GW-3 (10' - 15')	NA	0.0
GW-2	10' - 15'	10 gallons	Brown / Translucent and turbid	NA	0.0
GW-2	20' - 25'	10 gallons	Brown / Translucent and turbid	NA	0.0
GW-2	30' - 35'	10 gallons	Light brown / Translucent and turbid	NA	0.0
GW-2	55' - 60'	10 gallons	Light brown / Translucent and turbid	NA	0.0
GW-2 MS/MSD	10' - 15'	10 gallons	Light brown / Translucent and turbid	NA	0.0
Rinseate Blank	NA	NA	4' screen and tubing	NA	NA
MW-6	NA	15 gallons	Brown / Translucent and turbid	7.9	0.0
MW-9	NA	15 gallons	Brown / Translucent and turbid	9.1	0.0

Table 2: Permanent Soil Vapor Implant Field Log
Site Characterization Report
Former Mom's Cleaners

Installation ID	Installation Date	Location	Depth of Implant (inches bgs)	Thickness of Slab (inches of pavement)	Description of Soils
SS-1	7/23/2011	Exterior	30	4	Fine to medium sand, brown with trace silt
SS-2	7/23/2011	Exterior	32	4	Fine to medium sand, brown with trace silt
SS-3	7/23/2011	Exterior	32	4	Fine to medium sand, brown with trace silt
PT-SS-1	7/23/2011	Interior	18	4	Brown silty sand
CV-SS-1	7/23/2011	Interior	16	5	Brown silty sand
CV-SS-2	7/24/2011	Interior	16	5	Brown silty sand with trace gravel
CV-SS-3	7/24/2011	Interior	14	6	Brown silty sand
RA-SS-1	7/24/2011	Interior	16	5	Grey / tan silty sand with construction and trash debris

Table 3: Sub-Slab and Soil Vapor Sampling Log
Site Characterization Report
Former Mom's Cleaners

Sample ID	Time		Vacuum		Canister ID	Flow Controller ID	PID
	Start	End	Start	End			
Outdoor Ambient	0730	1530	30	3	836	00591	0.0
CV-SV-1 (Indoor Air)	0742	1542	28.9	0	1906	00740	0.0
CV-SV-2 (Indoor Air)	0752	1542	29.5	3	6876	00665	0.0
CV-SV-3 (Indoor Air)	0750	1558	30	0	6058	00630	0.0
PT-SV-1 (Indoor Air)	0820	162	30	0	1895	00656	0.0
RA-SV-1 (Indoor Air)	0830	1630	30	3	1888	00544	0.0
SS-1 (Soil Vapor)	0929	1129	28	5	744	00817	4.2
SS-2 (Soil Vapor)	0924	1124	28.5	0	850	00752	8.1
SS-3 (Soil Vapor)	0929	1129	28	5	744	00817	4.2
PT-SS-1 (Soil Vapor)	0942	1142	25	0	849	00773	0.0
CV-SS-2 (Soil Vapor)	1000	1200	27	0	1890	00637	2.9
CV-SS-1 (Soil Vapor)	1006	1206	23	0	1886	00721	0.0
CV-SS-3 (Soil Vapor)	1012	1212	28	5	6065	00739	0.0
RA-SS-1 (Soil Vapor)	1026	1226	25	5	1910	00690	0.0
BLIND DUPLICATE / CV-SV-4	0755	1558	30	3	6066	00638	0.0
CV-SV-3 MS/MSD	0750	1558	28.5	0	1904	00542	0.0

Table 4: Groundwater Analytical Summary Table
Site Characterization Report
Former Mom's Cleaners

Analyte	NYSDEC Class GA Groundwater Quality Standard	Grab Groundwater Samples												Blind Duplicate	Monitoring Wells	
		GW-1 (07/05/2011)				GW-2 (07/05/2011)				GW-3 (07/05/2011)				7/5/2011	MW-6 (07/06/2011)	MW-9 (07/06/2011)
		10' - 15'	20' - 25'	30' - 35'	55' - 60'	10' - 15'	20' - 25'	30' - 35'	55' - 60'	10' - 15'	20' - 25'	30' - 35'	55' - 60'	10' - 15'		
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2 Dibromoethane	0.0006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	60	1.8	0.72 J	1.0 J	1.4	0.50 J	0.43 J	ND	ND	ND	ND	0.58 J	ND	0.25 J	ND	ND
Carbon tetrachloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND	ND	0.31 J	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Tert-Butyl Ether (MTBE)	10	ND	ND	ND	6.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	1.3	ND	ND	ND	1.4	1.3	3.0
Toluene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

All GW Quality Standards and lab results are in µg/L unless noted.

J = Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte.

NA = NYSDEC Class GA Groundwater Quality Standard not assigned for this analyte

ND = Indicates that the analyte was not detected at the reportable detection limit

Table 5a: Soil Vapor Intrusion Sampling Summary
Good Samaritan Physical Therapy Center
Site Characterization Report
Former Mom's Cleaners

VOCs (ug/m3)	EPA BASE Indoor Database		Outdoor Ambient - 1		January 11, 2009			August 17, 2011		
					PT-SV-1	PT-SS-1	NYSDOH Matrix	PT-SV-1	PT-SS-1	NYSDOH Matrix
	25th	75th	1/11/2009	8/17/2011	Indoor Air	Sub-Slab	Reccommendation	Indoor Air	Sub-Slab	Reccommendation
1,1,1-Trichloroethane ¹	2.6	10.8	0.11 U	0.83 U	0.12 U	2.7 U	NFA	0.83 U	0.83 U	NFA
1,1,2,2-Tetrachloroethane	NA	NA	0.11 U	1.0 U	0.12 U	2.7 U	NA	1.0 U	1.0 U	NA
1,1,2-Trichloroethane	<1.0	<1.4	0.11 U	0.83 U	0.61 U	2.7 U	NA	0.83 U	0.83 U	NA
1,1-Dichloroethane	<0.4	<0.5	0.11 U	0.62 U	0.12 U	2.7 U	NA	0.62 U	0.62 U	NA
1,1-Dichloroethene ¹	<0.9	<1.2	0.11 U	0.60 U	0.12 U	2.7 U	NFA	0.60 U	0.60 U	NFA
1,2,4-Trichlorobenzene	<0.9	<1.2	0.11 U	1.1 U	0.12 U	2.7 U	NA	1.1 U	1.1 U	NA
1,2,4-Trimethylbenzene	1.7	5.1	0.57 U	0.80	0.61 U	2.7 U	NA	2.3	0.85	NA
1,2-Dibromo-3-chloropropane	NA	NA	0.57 U	NT	0.61 U	2.7 U	NA	NT	NT	NA
1,2-Dibromoethane	NA	NA	0.11 U	1.2 U	0.12 U	2.7 U	NA	1.2 U	1.2 U	NA
1,2-Dichlorobenzene	<0.9	<1.0	0.11 U	0.92 U	0.12 U	2.7 U	NA	0.92 U	0.92 U	NA
1,2-Dichloroethane	<0.5	<0.7	0.11 U	0.62 U	0.12 U	2.7 U	NA	0.62 U	0.62 U	NA
1,2-Dichloropropane	<1.0	<1.6	0.11 U	0.70 U	0.12 U	2.7 U	NA	0.70 U	0.70 U	NA
1,3,5-Trimethylbenzene	<1.3	<4.6	0.57 U	0.75 U	0.61 U	2.7 U	NA	1.0	0.75 U	NA
1,3-Butadiene	<2.3	<2.7	0.11 U	0.34 U	0.12 U	2.7 U	NA	0.34 U	0.34 U	NA
1,3-Dichlorobenzene	<0.7	<1.1	0.11 U	0.92 U	0.12 U	2.7 U	NA	0.92 U	0.92 U	NA
1,4-Dichlorobenzene	<0.8	1.4	0.11 U	0.92 U	0.12 U	2.7 U	NA	0.92 U	0.92 U	NA
1,4-Dioxane	NA	NA	0.57 U	1.1 U	0.61 U	2.7 U	NA	1.1 U	1.1 U	NA
2-Butanone (Methyl Ethyl Ketone)	3.3	7.5	0.57 U	1.1	1	16	NA	3.4	1.7	NA
2-Hexanone (Methyl Butyl Ketone)	NA	NA	0.57 U	1.2 U	0.61 U	2.7 U	NA	1.2 U	1.2 U	NA
2-Propanol (Isopropyl Alcohol)	6.6	56.0	0.57 U	1.7	130	6.5	NA	15,000	5,900	NA
3-Chloro-1-propene (Allyl Chloride)	NA	NA	0.11 U	0.48 U	0.12 U	2.7 U	NA	0.48 U	0.48 U	NA
2,2,4-trimethylpentane	NA	NA	NT	NT	NT	NT	NA	0.71	0.81	NA
4-Ethyltoluene	<1.5	< 3.1	0.57 U	0.75 U	0.61 U	2.7 U	NA	0.85	0.75 U	NA
4-Methyl-2-pentanone	<1.2	3.0	0.57 U	NT	0.61 U	7.1	NA	NT	NT	NA
Acetone	32.4	59.8	5.7 U	4.2	12	130	NA	50	36	NA
Acetonitrile	NA	NA	0.57 U	NT	0.61 U	2.7 U	NA	NT	NT	NA
Acrolein	NA	NA	5.7 U	NT	0.78	2.7 U	NA	NT	NT	NA
Acrylonitrile	NA	NA	0.57 U	NT	0.61 U	2.7 U	NA	NT	NT	NA
alpha-Pinene	NA	NA	0.57 U	NT	0.61 U	2.7 U	NA	NT	NT	NA
Benzene	2.1	5.1	0.79	1.6	0.86	2.7 U	NA	0.81	0.91	NA
Benzyl Chloride	<1.2	<1.7	0.11 U	0.88 U	0.12 U	2.7 U	NA	0.88 U	0.88 U	NA
Bromodichloromethane	NA	NA	0.11 U	1.0 U	0.12 U	2.7 U	NA	1.0 U	1.0 U	NA
Bromoform	NA	NA	0.57 U	1.6 U	0.61 U	2.7 U	NA	1.6 U	1.6 U	NA
Bromomethane	<0.8	<1.1	0.11 U	0.59 U	0.12 U	2.7 U	NA	0.59 U	0.59 U	NA
Carbon Disulfide	<0.8	2.1	0.57 U	0.47 U	0.61 U	2.7 U	NA	0.47 U	1.4	NA
Carbon Tetrachloride ¹	<0.8	<1.1	0.31	0.83 J	0.46	2.7 U	ID	0.77 J	0.77 J	ID
Chlorobenzene	<0.6	<0.8	0.11 U	0.70 U	0.12 U	2.7 U	NA	0.70 U	0.70 U	NA
Chloroethane	<0.8	<1.0	0.11 U	0.40 U	0.12 U	2.7 U	NA	0.40 U	0.40 U	NA
Chloroform	<0.4	<1.2	0.11 U	0.74 U	0.12 U	11	NA	0.74 U	1.4	NA
Chloromethane	2.1	3.1	0.62	0.31 U	0.56	2.7 U	NA	0.31 U	0.31 U	NA
cis-1,2-Dichloroethene ¹	<0.8	<1.2	0.11 U	0.60 U	0.12 U	5.1	NFA	0.64	0.60 U	NFA
cis-1,3-Dichloropropene	<1.7	<2.0	0.57 U	0.69 U	0.61 U	2.7 U	NA	0.69 U	0.69 U	NA
Cumene	NA	NA	0.57 U	NT	0.61 U	2.7 U	NA	NT	NT	NA
Cyclohexane	NA	NA	NT	0.98	NT	NT	NA	0.52 U	0.52 U	NA
Dibromochloromethane	NA	NA	0.11 U	1.3 U	0.12 U	2.7 U	NA	1.3 U	1.3 U	NA
d-Limonene	2.5	11.3	0.57 U	NT	0.83	3.7	NA	NT	NT	NA
Ethanol	26.0	140	5.7 U	NT	58	27 U	NA	NT	NT	NA
Ethyl Acetate	<1.0	3.2	0.86	0.92 U	0.79	5.5 U	NA	11	1.5	NA
Ethylbenzene	<1.6	3.4	0.57 U	0.62 J	0.61 U	7.5	NA	1.0	0.49 J	NA
Trichlorofluoromethane (Freon 11)	< 3.7	6.7	1.2	1.3	1.3	2.7 U	NA	1.3	1.4	NA
Trichlorotrifluoroethane (Freon 113)	<1.7	< 3.0	0.58	1.2 U	0.58	2.7 U	NA	1.2 U	1.2 U	NA
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	<1.1	<1.4	0.57 U	1.1 U	0.61 U	2.7 U	NA	1.1 U	1.1 U	NA
Dichlorodifluoromethane (Freon 12)	4.8	10.5	2.3	2.7	2.2	2.7 U	NA	2.1	2.3	NA
Helium (percent)	NA	NA	NT	NT	NT	-- U	NA	NT	NT	NA
Heptane	NA	NA	NT	0.83	NT	NT	NA	1.8	0.92	NA
Hexachloro-1,3-butadiene	<1.8	<2.5	0.11 U	1.6 U	0.12 U	2.7 U	NA	1.6 U	1.6 U	NA
Hexane	NA	NA	0.57 U	1.3	0.61 U	2.7 U	NA	2.7	0.54 U	NA
m,p -Xylenes	4.1	12.2	0.57 U	2.2	0.67	19	NA	2.6	1.4	NA
Methyl Isobutyl Ketone	NA	NA	NT	1.2 U	NT	NT	NA	1.2 U	1.2 U	NA
Methyl tert-Butyl Ether	<1.5	<6.4	0.11 U	0.55 U	0.12 U	2.7 U	NA	0.55 U	0.55 U	NA
Methylene chloride	<1.7	5.0	0.57 U	0.53 U	0.61 U	2.7 U	NA	2.0	0.53 U	NA
Naphthalene	<2.2	<5.2	0.23 U	NT	0.24 U	3.6	NA	NT	NT	NA
n-Butyl Acetate	NA	NA	0.57 U	NT	0.61 U	3.3	NA	NT	NT	NA
n-Nonane	<1.0	3.6	0.57 U	NT	0.61 U	2.7 U	NA	NT	NT	NA
n-Octane	NA	NA	0.57 U	NT	0.61 U	2.7 U	NA	NT	NT	NA
o-Xylene	<2.4	4.4	0.57 U	0.71	0.12 U	8.1	NA	1.0	0.49 J	NA
Propene	NA	NA	0.57 U	NT	35	5.5	NA	NT	NT	NA
Propylene	NA	NA	NT	0.26 U	NT	NT	NA	0.26 U	0.26 U	NA
Styrene	<1.6	<2.3	0.57 U	0.65 U	0.61 U	2.7 U	NA	0.91	0.48 J	NA
Tetrachloroethene ¹	<1.9	5.9	0.11 U	1.0 U	0.62	2,800	Mitigate	1.7	820	Monitoring
Tetrahydrofuran	NA	NA	NT	0.45 U	NT	NT	NA	0.45 U	0.45 U	NA
Toluene	10.7	25.9	1	5.0	4.7	190	NA	9.2	5.8	NA
trans-1,2-Dichloroethene	NA	NA	0.11 U	0.60 U	0.12 U	2.7 U	NA	0.60 U	0.60 U	NA
trans-1,3-Dichloropropene	<0.8	<1.2	0.57 U	0.69 U	0.61 U	2.7 U	NA	0.69 U	0.69 U	NA
Trichloroethene ¹	<1.2	1.2	0.11 U	0.82 U	0.12 U	130	Monitoring	1.5	5.5	Monitoring
Vinyl Acetate	NA	NA	5.7 U	0.54 U	6.1 U	27 U	NA	0.54 U	0.54 U	NA
Vinyl Bromide	NA	NA	NT	0.67 U	NT	NT	NA	0.67 U	0.67 U	NA
Vinyl Chloride ¹	<0.8	<1.0	0.11 U	0.39 U	0.12 U	2.7 U	NFA	0.39 U	0.39 U	NFA

Notes:

All units are in ug/m³- micrograms per cubic meter unless otherwise noted.

¹ = These analytes are listed in the NYSDOH Soil Vapor / Indoor Air Decision Matrices. The NYSDOH Matrices are included in the Guidance for Evaluating Soil Vapor Intrusion in New York State, NYSDOH, October 2006, document used for determining which actions, if any, must be taken to address elevated levels of these specific analytes.

Bolded and italicized values indicates that VOC were detected at a concentration exceeding USEPA BASE 75th percentile.

Yellow and **Bolded** values indicate the presence of a compound in sample at a concentration requiring follow-up actions per the NYSDOH Matrices determination.

Mitigate = Mitigation is required due to the presence of VOCs in soil vapor and/or indoor air samples. Mitigation strate

Monitoring = Monitoring is required to determine whether concentrations in the indoor air or sub-slab vapor have changed over time.

ID = NYSDOH Soil Vapor/Indoor Air Matrices recommend taking reasonable and practical actions to identify source(s) and reduce exposures.

NFA = No Further Action is required as determined by the NYSDOH Soil Vapor/Indoor Air Matrices.

NA = No NYSDOH / EPA guidelines assigned.

NT = Lab did not analyze sample for this analyte.

Blind Duplicate is a QA/QC sample which was assigned sample ID, CV-SV-4, and was collected with sample as CV-SV-3.

U = Compound was analyzed for, but not detected above laboratory reporting limits.

J = Analyte detected at or below quanitation limits.

PT = Good Samaritan Physical Therapy Center

Table 5b: Soil Vapor Intrusion Sampling Summary
South Bay Cardiovascular Center
Site Characterization Report
Former Mom's Cleaners

VOCs (ug/m3)	EPA BASE Indoor Database		Outdoor Ambient - 1		January 11, 2009			August 17, 2011			January 11, 2009			August 17, 2011			January 11, 2009			August 17, 2011		
					CV-SV-1	CV-SS-1	NYSDOH Matrix	CV-SV-1	CV-SS-1	NYSDOH Matrix	CV-SV-2	CV-SS-2	NYSDOH Matrix	CV-SV-2	CV-SS-2	NYSDOH Matrix	CV-SV-3	CV-SS-3	NYSDOH Matrix	CV-SV-3	CV-SS-3	NYSDOH Matrix
	25th	75th	1/11/2009	8/17/2011	Indoor Air	Sub-Slab	Recommendation	Indoor Air	Sub-Slab	Recommendation	Indoor Air	Sub-Slab	Recommendation	Indoor Air	Sub-Slab	Recommendation	Indoor Air	Sub-Slab	Recommendation	Indoor Air	Sub-Slab	Recommendation
1,1,1-Trichloroethane ¹	2.6	10.8	0.11 U	0.83 U	0.16 U	0.61 U	NFA	0.83 U	0.83 U	NFA	0.12 U	0.61 U	NFA	0.83 U	0.83 U	NFA	0.12 U	7.6 U	NFA	0.83 U	1.1	NFA
1,1,2,2-Tetrachloroethane	NA	NA	0.11 U	1.0 U	0.16 U	0.61 U	NA	1.0 U	1.0 U	NA	0.12 U	0.61 U	NA	1.0 U	1.0 U	NA	0.12 U	7.6 U	NA	1.0 U	1.0 U	NA
1,1,2-Trichloroethane	<1.0	<1.4	0.11 U	0.83 U	0.79 U	0.61 U	NA	0.83 U	0.83 U	NA	0.12 U	0.61 U	NA	0.83 U	0.83 U	NA	0.12 U	7.6 U	NA	0.83 U	0.83 U	NA
1,1-Dichloroethane	<0.4	<0.5	0.11 U	0.62 U	0.16 U	0.61 U	NA	0.62 U	0.62 U	NA	0.12 U	0.61 U	NA	0.62 U	0.62 U	NA	0.12 U	7.6 U	NA	0.62 U	0.62 U	NA
1,1-Dichloroethene ²	<0.9	<1.2	0.11 U	0.60 U	0.16 U	0.61 U	NFA	0.60 U	0.60 U	NFA	0.12 U	0.61 U	NFA	0.60 U	0.60 U	NFA	0.12 U	7.6 U	NFA	0.60 U	0.60 U	NFA
1,2,4-Trichlorobenzene	<0.9	<1.2	0.11 U	1.1 U	0.16 U	0.61 U	NA	1.1 U	1.1 U	NA	0.12 U	0.61 U	NA	1.1 U	1.1 U	NA	0.12 U	7.6 U	NA	1.1 U	1.1 U	NA
1,2,4-Trimethylbenzene	1.7	5.1	0.57 U	0.80	0.79 U	3.2	NA	0.60 J	0.55 J	NA	0.62 U	0.61 U	NA	6.5	1.6	NA	0.61 U	7.6 U	NA	0.85	0.75 U	NA
1,2-Dibromo-3-chloropropane	NA	NA	0.57 U	NT	0.79 U	0.61 U	NA	NT	NT	NA	0.62 U	0.61 U	NA	NT	NT	NA	0.61 U	7.6 U	NA	NT	NT	NA
1,2-Dibromoethane	NA	NA	0.11 U	1.2 U	0.16 U	0.61 U	NA	1.2 U	1.2 U	NA	0.12 U	0.61 U	NA	1.2 U	1.2 U	NA	0.12 U	7.6 U	NA	1.2 U	1.2 U	NA
1,2-Dichlorobenzene	<0.9	<1.0	0.11 U	0.92 U	0.16 U	0.61 U	NA	0.92 U	0.92 U	NA	0.12 U	0.61 U	NA	0.92 U	0.92 U	NA	0.12 U	7.6 U	NA	0.92 U	0.92 U	NA
1,2-Dichloroethane	<0.5	<0.7	0.11 U	0.62 U	0.16 U	0.61 U	NA	0.62 U	0.62 U	NA	0.12 U	0.61 U	NA	2.1	0.62 U	NA	0.12 U	7.6 U	NA	0.62 U	0.62 U	NA
1,2-Dichloropropane	<1.0	<1.6	0.11 U	0.70 U	0.16 U	1.2 U	NA	0.70 U	0.70 U	NA	0.12 U	0.61 U	NA	0.99	0.70 U	NA	0.12 U	7.6 U	NA	0.70 U	0.70 U	NA
1,3,5-Trimethylbenzene	<1.3	<4.6	0.57 U	0.75 U	0.79 U	1.1	NA	0.75 U	0.75 U	NA	0.62 U	0.61 U	NA	2.5	0.70 J	NA	0.61 U	7.6 U	NA	0.75 U	0.75 U	NA
1,3-Butadiene	<2.3	<2.7	0.11 U	0.34 U	0.16 U	0.61 U	NA	0.34 U	0.34 U	NA	0.12 U	0.61 U	NA	0.34 U	0.34 U	NA	0.12 U	7.6 U	NA	0.34 U	0.34 U	NA
1,3-Dichlorobenzene	<0.7	<1.1	0.11 U	0.92 U	0.16 U	0.61 U	NA	0.92 U	0.92 U	NA	0.12 U	0.61 U	NA	0.92 U	0.92 U	NA	0.12 U	7.6 U	NA	0.92 U	0.92 U	NA
1,4-Dichlorobenzene	<0.8	1.4	0.11 U	0.92 U	0.16 U	0.61 U	NA	0.92 U	0.92 U	NA	0.12 U	0.61 U	NA	0.92 U	0.92 U	NA	0.12 U	7.6 U	NA	0.92 U	0.92 U	NA
1,4-Dioxane	NA	NA	0.57 U	1.1 U	0.79 U	0.61 U	NA	1.1 U	1.1 U	NA	0.62 U	0.61 U	NA	1.1 U	1.1 U	NA	0.61 U	7.6 U	NA	1.1 U	1.1 U	NA
2-Butanone (Methyl Ethyl Ketone)	3.3	7.5	0.57 U	1.1	0.79 U	2.1	NA	1.1	0.90 U	NA	0.69	8.7	NA	18	4.7	NA	0.64	7.6 U	NA	1.7	0.90 U	NA
2-Hexanone (Methyl Butyl Ketone)	NA	NA	0.57 U	1.2 U	0.79 U	0.61 U	NA	1.2 U	1.2 U	NA	0.62 U	0.61 U	NA	1.2 U	1.2 U	NA	0.61 U	7.6 U	NA	1.2 U	1.2 U	NA
2-Propanol (Isopropyl Alcohol)	6.6	56.0	0.57 U	1.7	15	15	NA	310	880	NA	120	94	NA	880	990	NA	41	47	NA	440	360	NA
3-Chloro-1-propene (Allyl Chloride)	NA	NA	0.11 U	0.48 U	0.16 U	0.61 U	NA	0.48 U	0.48 U	NA	0.12 U	0.61 U	NA	0.48 U	0.48 U	NA	0.12 U	7.6 U	NA	0.48 U	0.48 U	NA
2,2,4-trimethylpentane	NA	NA	NT	1.7	NT	NT	NA	1.1	0.71 U	NA	NT	NT	NA	1.7	0.85	NA	NT	NT	NA	1.5	0.71 U	NA
4-Ethyltoluene	<1.5	< 3.1	0.57 U	0.75 U	0.79 U	0.61 U	NA	0.75 U	0.75 U	NA	0.62 U	0.61 U	NA	3.1	0.60 J	NA	0.61 U	7.6 U	NA	0.75 U	0.75 U	NA
4-Methyl-2-pentanone	<1.2	3.0	0.57 U	NT	0.79 U	0.61 U	NA	NT	NT	NA	0.62 U	0.83	NA	NT	NT	NA	0.61 U	7.6 U	NA	NT	NT	NA
Acetone	32.4	59.8	5.7 U	4.2	7.9 U	16	NA	36	34	NA	14	170	NA	150	50	NA	9	76 U	NA	40	19	NA
Acetonitrile	NA	NA	0.57 U	NT	0.79 U	0.61 U	NA	NT	NT	NA	0.62 U	1.2	NA	NT	NT	NA	0.61 U	7.6 U	NA	NT	NT	NA
Acrolein	NA	NA	5.7 U	NT	0.79 U	1.1	NA	NT	NT	NA	0.76	0.94	NA	NT	NT	NA	0.61 U	7.6 U	NA	NT	NT	NA
Acrylonitrile	NA	NA	0.57 U	NT	0.79 U	0.61 U	NA	NT	NT	NA	0.62 U	0.61 U	NA	NT	NT	NA	0.61 U	7.6 U	NA	NT	NT	NA
alpha-Pinene	NA	NA	0.57 U	NT	0.79 U	0.61 U	NA	NT	NT	NA	0.62 U	0.61 U	NA	NT	NT	NA	0.61 U	7.6 U	NA	NT	NT	NA
Benzene	2.1	5.1	0.79	1.6	0.87	0.8	NA	1.0	0.94	NA	0.82	1.1	NA	3.7	1.3	NA	0.87	7.6 U	NA	1.4	0.49 U	NA
Benzyl Chloride	<1.2	<1.7	0.11 U	0.88 U	0.16 U	0.61 U	NA	0.88 U	0.88 U	NA	0.12 U	0.61 U	NA	0.88 U	0.88 U	NA	0.12 U	7.6 U	NA	0.88 U	0.88 U	NA
Bromodichloromethane	NA	NA	0.11 U	1.0 U	0.16 U	0.61 U	NA	1.0 U	1.0 U	NA	0.12 U	0.61 U	NA	1.0 U	1.0 U	NA	0.12 U	7.6 U	NA	1.0 U	1.0 U	NA
Bromoform	NA	NA	0.57 U	1.6 U	0.79 U	0.61 U	NA	1.6 U	1.6 U	NA	0.62 U	0.61 U	NA	1.6 U	1.6 U	NA	0.61 U	7.6 U	NA	1.6 U	1.6 U	NA
Bromomethane	<0.8	<1.1	0.11 U	0.59 U	0.16 U	0.61 U	NA	0.59 U	0.59 U	NA	0.12 U	0.61 U	NA	0.59 U	0.59 U	NA	0.12 U	7.6 U	NA	0.59 U	0.59 U	NA
Carbon Disulfide	<0.8	2.1	0.57 U	0.47 U	0.79 U	0.61 U	NA	0.47 U	1.1	NA	0.12 U	2.5	NA	1.3	0.54	NA	0.61 U	7.6 U	NA	0.47 U	4.4	NA
Carbon Tetrachloride ¹	<0.8	<1.1	0.31	0.83 J	0.46	0.61 U	ID	0.96 U	1.3	NFA	0.49	0.61 U	NFA	0.77 J	1.1	NFA	0.48	7.6 U	ID	0.90 J	0.83 J	ID
Chlorobenzene	<0.6	<0.8	0.11 U	0.70 U	0.16 U	0.61 U	NA	0.70 U	0.70 U	NA	0.12 U	0.61 U	NA	1.3	0.70 U	NA	0.12 U	7.6 U	NA	0.70 U	0.70 U	NA
Chloroethane	<0.8	<1.0	0.11 U	0.40 U	0.16 U	0.61 U	NA	0.40 U	0.40 U	NA	0.12 U	0.61 U	NA	0.40 U	0.40 U	NA	0.12 U	7.6 U	NA	0.40 U	0.40 U	NA
Chloroform	<0.4	<1.2	0.11 U	0.74 U	0.16 U	0.61 U	NA	0.74 U	0.74 U	NA	0.12 U	0.76	NA	1.1	1.1	NA	0.12 U	7.6 U	NA	0.74 U	0.94	NA
Chloromethane	2.1	3.1	0.62	0.31 U	0.56	0.61 U	NA	0.31 U	0.31 U	NA	0.61	0.62	NA	0.31 U	0.31 U	NA	0.58	7.6 U	NA	0.31 U	0.31 U	NA
cis-1,2-Dichloroethene ¹	<0.8	<1.2	0.11 U	0.60 U	0.16 U	0.61 U	NFA	0.60 U	0.60 U	NFA	0.12 U	0.61 U	NFA	0.60 U	24	NFA	0.12 U	780	Monitor	0.60 U	0.60 U	NFA
cis-1,3-Dichloropropene	<1.7	<2.0	0.57 U	0.69 U	0.79 U	0.61 U	NA	0.69 U	0.69 U	NA	0.62 U	0.61 U	NA	0.69 U	0.69 U	NA	0.61 U	7.6 U	NA	0.69 U	0.69 U	NA
Cumene	NA	NA	0.57 U	NT	0.79 U	0.61 U	NA	NT	NT	NA	0.62 U	0.61 U	NA	NT	NT	NA	0.61 U	7.6 U	NA	NT	NT	NA
Cyclohexane	NA	NA	NT	0.98	NT	NT																

Table 5c: Soil Vapor Intrusion Sampling Summary
Exterior Soil Vapor Samples - Southern Property Line
Site Characterization Report
Former Mom's Cleaners

VOCs (ug/m3)	EPA BASE Indoor Database		Outdoor Ambient 8/17/2011	Exterior, Southern Property Boundary			NYSDOH Matrix Reccomendation
				August 17, 2011			
				Soil Vapor			
	25th	75th		SS-1	SS-2	SS-3	
1,1,1-Trichloroethane ¹	2.6	10.8	0.83 U	0.83 U	0.83 U	0.83 U	NFA
1,1,2,2-Tetrachloroethane	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA
1,1,2-Trichloroethane	<1.0	<1.4	0.83 U	0.83 U	0.83 U	0.83 U	NA
1,1-Dichloroethane	<0.4	<0.5	0.62 U	0.62 U	0.62 U	0.62 U	NA
1,1-Dichloroethene ¹	<0.9	<1.2	0.60 U	0.60 U	0.60 U	0.60 U	NFA
1,2,4-Trichlorobenzene	<0.9	<1.2	1.1 U	1.1 U	1.1 U	1.1 U	NA
1,2,4-Trimethylbenzene	1.7	5.1	0.80	0.80	0.55 J	1.1	NA
1,2-Dibromo-3-chloropropane	NA	NA	NT	NT	NT	NT	NA
1,2-Dibromoethane	NA	NA	1.2 U	1.2 U	1.2 U	1.2 U	NA
1,2-Dichlorobenzene	<0.9	<1.0	0.92 U	0.92 U	0.92 U	0.92 U	NA
1,2-Dichloroethane	<0.5	<0.7	0.62 U	0.62 U	0.62 U	0.62 U	NA
1,2-Dichloropropane	<1.0	<1.6	0.70 U	0.70 U	0.70 U	0.70 U	NA
1,3,5-Trimethylbenzene	<1.3	<4.6	0.75 U	0.75 U	0.75 U	0.75 U	NA
1,3-Butadiene	<2.3	<2.7	0.34 U	0.34 U	0.34 U	0.34 U	NA
1,3-Dichlorobenzene	<0.7	<1.1	0.92 U	0.92 U	0.92 U	0.92 U	NA
1,4-Dichlorobenzene	<0.8	1.4	0.92 U	0.92 U	0.92 U	0.92 U	NA
1,4-Dioxane	NA	NA	1.1 U	1.1 U	1.1 U	1.1 U	NA
2-Butanone (Methyl Ethyl Ketone)	3.3	7.5	1.1	2.3	0.90 U	1.3	NA
2-Hexanone (Methyl Butyl Ketone)	NA	NA	1.2 U	1.2 U	1.2 U	1.2 U	NA
2-Propanol (Isopropyl Alcohol)	6.6	56.0	1.7	380	17	0.37 U	NA
3-Chloro-1-propene (Allyl Chloride)	NA	NA	0.48 U	0.48 U	0.48 U	0.48 U	NA
2,2,4-trimethylpentane	NA	NA	1.7	0.71 U	0.81	0.71 U	NA
4-Ethyltoluene	<1.5	< 3.1	0.75 U	0.75 U	0.75 U	0.75 U	NA
4-Methyl-2-pentanone	<1.2	3.0	NT	NT	NT	NT	NA
Acetone	32.4	59.8	4.2	36	42	120	NA
Acetonitrile	NA	NA	NT	NT	NT	NT	NA
Acrolein	NA	NA	NT	NT	NT	NT	NA
Acrylonitrile	NA	NA	NT	NT	NT	NT	NA
alpha-Pinene	NA	NA	NT	NT	NT	NT	NA
Benzene	2.1	5.1	1.6	0.91	1.7	0.94	NA
Benzyl Chloride	<1.2	<1.7	0.88 U	0.88 U	0.88 U	0.88 U	NA
Bromodichloromethane	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA
Bromoform	NA	NA	1.6 U	1.6 U	1.6 U	1.6 U	NA
Bromomethane	<0.8	<1.1	0.59 U	0.59 U	0.59 U	0.59 U	NA
Carbon Disulfide	<0.8	2.1	0.47 U	2.7	1.7	1.7	NA
Carbon Tetrachloride ¹	<0.8	<1.1	0.83 J	0.96 U	1.3	0.96 U	NFA
Chlorobenzene	<0.6	<0.8	0.70 U	0.70 U	0.70 U	0.70 U	NA
Chloroethane	<0.8	<1.0	0.40 U	0.40 U	0.40 U	0.40 U	NA
Chloroform	<0.4	<1.2	0.74 U	11	5	3.6	NA
Chloromethane	2.1	3.1	0.31 U	0.31 U	0.31 U	0.31 U	NA
cis-1,2-Dichloroethene ¹	<0.8	<1.2	0.60 U	44	11	3.5	NFA
cis-1,3-Dichloropropene	<1.7	<2.0	0.69 U	0.69 U	0.69 U	0.69 U	NA
Cumene	NA	NA	NT	NT	NT	NT	NA
Cyclohexane	NA	NA	0.98	0.52 U	0.52 U	0.52 U	NA
Dibromochloromethane	NA	NA	1.3 U	1.3 U	1.3 U	1.3 U	NA
d-Limonene	2.5	11.3	NT	NT	NT	NT	NA
Ethanol	26.0	140	NT	NT	NT	NT	NA
Ethyl Acetate	<1.0	3.2	0.92 U	0.92 U	0.92 U	0.92 U	NA
Ethylbenzene	<1.6	3.4	0.62 J	0.66 U	0.66 U	0.66 U	NA
Trichlorofluoromethane (Freon 11)	< 3.7	6.7	1.3	1.8	2.8	1.9	NA
Trichlorotrifluoroethane (Freon 113)	<1.7	< 3.0	1.2 U	1.2 U	1.2 U	1.2 U	NA
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	<1.1	<1.4	1.1 U	1.1 U	1.1 U	1.1 U	NA
Dichlorodifluoromethane (Freon 12)	4.8	10.5	2.7	0.75 U	4.6	0.75 U	NA
Helium (percent)	NA	NA	NT	NT	NT	NT	NA
Heptane	NA	NA	0.83	0.62 U	0.62 U	0.62 U	NA
Hexachloro-1,3-butadiene	<1.8	<2.5	1.6 U	1.6 U	1.6 U	1.6 U	NA
Hexane	NA	NA	1.3	0.54 U	0.54 U	0.54 U	NA
m,p-Xylenes	4.1	12.2	2.2	1.3 U	1.1 J	0.71 J	NA
Methyl Isobutyl Ketone	NA	NA	1.2 U	1.2 U	1.2 U	1.2 U	NA
Methyl tert-Butyl Ether	<1.5	<6.4	0.55 U	0.55 U	0.55 U	0.55 U	NA
Methylene chloride	<1.7	5.0	0.53 U	0.53 U	0.53 U	44	NA
Naphthalene	<2.2	<5.2	NT	NT	NT	NT	NA
n-Butyl Acetate	NA	NA	NT	NT	NT	NT	NA
n-Nonane	<1.0	3.6	NT	NT	NT	NT	NA
n-Octane	NA	NA	NT	NT	NT	NT	NA
o-Xylene	<2.4	4.4	0.71	0.66 U	0.66 U	0.66 U	NA
Propene	NA	NA	NT	NT	NT	NT	NA
Propylene	NA	NA	0.26 U	0.26 U	0.26 U	0.26 U	NA
Styrene	<1.6	<2.3	0.65 U	0.65 U	0.65 U	0.65 U	NA
Tetrachloroethene ¹	<1.9	5.9	1.0 U	26,000	12,000	10,000	Mitigate*
Tetrahydrofuran	NA	NA	0.45 U	0.45 U	0.45 U	0.45 U	NA
Toluene	10.7	25.9	5.0	0.65	3.4	1.6	NA
trans-1,2-Dichloroethene	NA	NA	0.60 U	6.3	3.9	0.81	NA
trans-1,3-Dichloropropene	<0.8	<1.2	0.69 U	0.69 U	0.69 U	0.69 U	NA
Trichloroethene ¹	<1.2	1.2	0.82 U	1,100	940	300	Mitigate*
Vinyl Acetate	NA	NA	0.54 U	0.54 U	0.54 U	0.54 U	NA
Vinyl Bromide	NA	NA	0.67 U	0.67 U	0.67 U	0.67 U	NA
Vinyl Chloride ¹	<0.8	<1.0	0.39 U	0.39 U	0.39 U	0.39 U	NFA

Notes:

All units are in ug/m³- micrograms per cubic meter unless otherwise noted.

¹ = These analytes are listed in the NYSDOH Soil Vapor / Indoor Air Decision Matrices. The NYSDOH Matrices are included in the Guidance for Evaluating Soil Vapor Intrusion in New York State, NYSDOH, October 2006. document used for determining which actions, if any, must be taken to address elevated **Bolded and italicized** values indicates that VOC were detected at a concentration exceeding USEPA BASE 75th percentile

Yellow and **Bolded** values indicate the presence of a compound in sample at a concentration requiring follow-up actions per the NYSDOH Matrices determination

Mitigate = Mitigation is required due to the presence of VOCs in soil vapor and/or indoor air samples.

Mitigate* - Although there are no indoor co-located samples, the sub-slab concentration indicates a mitigate recommendation for any indoor air concentration

Monitor = Monitoring is required to determine whether concentrations in the indoor air or sub-slab vapor have changed over time

ID = NYSDOH Soil Vapor/Indoor Air Matrices recommend taking reasonable and practical actions to identify source(s) and reduce exposures

NFA = No Further Action is required as determined by the NYSDOH Soil Vapor/Indoor Air Matrices

NA = No NYSDOH / EPA guidelines assigned.

NT = Lab did not analyze sample for this analyte.

Blind Duplicate is a QA/QC sample which was assigned sample ID, CV-SV-4, and was collected with

U = Compound was analyzed for, but not detected above laboratory reporting limits.

J = Analyte detected at or below quantitation limits.

Table 5d: Soil Vapor Intrusion Sampling Summary
Rite Aid Pharmacy
Site Characterization Report
Former Mom's Cleaners

VOCs (ug/m3)	EPA BASE		Outdoor		January 11, 2009			August 17, 2011		
	Indoor Database		Ambient - 1		RA-SV-1	RA-SS-1	NYSDOH Matrix	RA-SV-1	RA-SS-1	NYSDOH Matrix
	25th	75th	1/11/2009	8/17/2011	Indoor Air	Sub-Slab	Reccomendation	Indoor Air	Sub-Slab	Reccomendation
1,1,1-Trichloroethane ¹	2.6	10.8	0.11 U	0.83 U	0.12 U	1.3	NFA	0.83 U	0.83 U	NFA
1,1,2,2-Tetrachloroethane	NA	NA	0.11 U	1.0 U	0.62 U	0.63 U	NA	1.0 U	1.0 U	NA
1,1,2-Trichloroethane	<1.0	<1.4	0.11 U	0.83 U	0.12 U	0.63 U	NA	0.83 U	0.83 U	NA
1,1-Dichloroethane	<0.4	<0.5	0.11 U	0.62 U	0.12 U	0.63 U	NA	0.62 U	0.62 U	NA
1,1-Dichloroethene ¹	<0.9	<1.2	0.11 U	0.60 U	0.12 U	0.63 U	NFA	0.60 U	0.60 U	NFA
1,2,4-Trichlorobenzene	<0.9	<1.2	0.11 U	1.1 U	0.12 U	0.63 U	NA	1.1 U	1.1 U	NA
1,2,4-Trimethylbenzene	1.7	5.1	0.57 U	0.80	0.62 U	1.4	NA	0.95	1.1	NA
1,2-Dibromo-3-chloropropane	NA	NA	0.57 U	NT	0.62 U	0.63 U	NA	NT	NT	NA
1,2-Dibromoethane	NA	NA	0.11 U	1.2 U	0.12 U	0.63 U	NA	1.2 U	1.2 U	NA
1,2-Dichlorobenzene	<0.9	<1.0	0.11 U	0.92 U	0.12 U	0.63 U	NA	0.92 U	0.92 U	NA
1,2-Dichloroethane	<0.5	<0.7	0.11 U	0.62 U	0.12 U	0.63 U	NA	0.62 U	0.62 U	NA
1,2-Dichloropropane	<1.0	<1.6	0.11 U	0.70 U	0.62 U	0.63 U	NA	0.70 U	0.70 U	NA
1,3,5-Trimethylbenzene	<1.3	<4.6	0.57 U	0.75 U	0.62 U	0.63 U	NA	0.75 U	0.60 J	NA
1,3-Butadiene	<2.3	<2.7	0.11 U	0.34 U	0.12 U	0.63 U	NA	0.34 U	0.34 U	NA
1,3-Dichlorobenzene	<0.7	<1.1	0.11 U	0.92 U	0.12 U	0.63 U	NA	0.92 U	0.92 U	NA
1,4-Dichlorobenzene	<0.8	1.4	0.11 U	0.92 U	0.19	0.63 U	NA	2.5	2.0	NA
1,4-Dioxane	NA	NA	0.57 U	1.1 U	0.62 U	0.63 U	NA	1.1 U	1.1 U	NA
2-Butanone (Methyl Ethyl Ketone)	3.3	7.5	0.57 U	1.1	1.4	4.2	NA	0.90 U	2.1	NA
2-Hexanone (Methyl Butyl Ketone)	NA	NA	0.57 U	1.2 U	0.62 U	0.63 U	NA	1.2 U	1.2 U	NA
2-Propanol (Isopropyl Alcohol)	6.6	56.0	0.57 U	1.7	11	2.8	NA	45	23	NA
3-Chloro-1-propene (Allyl Chloride)	NA	NA	0.11 U	0.48 U	0.12 U	0.63 U	NA	0.48 U	0.48 U	NA
2,2,4-trimethylpentane	NA	NA	NT	1.7	NT	NT	NA	0.66 J	0.57 J	NA
4-Ethyltoluene	<1.5	< 3.1	0.57 U	0.75 U	0.62 U	0.63 U	NA	0.75 U	0.75 U	NA
4-Methyl-2-pentanone	<1.2	3.0	0.57 U	NT	0.62 U	0.63 U	NA	NT	NT	NA
Acetone	32.4	59.8	5.7 U	4.2	12	22	NA	36	31	NA
Acetonitrile	NA	NA	0.57 U	NT	0.62 U	0.63 U	NA	NT	NT	NA
Acrolein	NA	NA	5.7 U	NT	1.1	0.63 U	NA	NT	NT	NA
Acrylonitrile	NA	NA	0.57 U	NT	0.62 U	0.63 U	NA	NT	NT	NA
alpha-Pinene	NA	NA	0.57 U	NT	0.62 U	0.63 U	NA	NT	NT	NA
Benzene	2.1	5.1	0.79	1.6	0.89	0.74	NA	0.62	0.65	NA
Benzyl Chloride	<1.2	<1.7	0.11 U	0.88 U	0.12 U	0.63 U	NA	0.88 U	0.88 U	NA
Bromodichloromethane	NA	NA	0.11 U	1.0 U	0.12 U	0.63 U	NA	1.0 U	1.0 U	NA
Bromoform	NA	NA	0.57 U	1.6 U	0.62 U	0.63 U	NA	1.6 U	1.6 U	NA
Bromomethane	<0.8	<1.1	0.11 U	0.59 U	0.12 U	0.63 U	NA	0.59 U	0.59 U	NA
Carbon Disulfide	<0.8	2.1	0.57 U	0.47 U	0.62 U	4.4	NA	0.47 U	1.2	NA
Carbon Tetrachloride ¹	<0.8	<1.1	0.31	0.83 J	0.49	0.63 U	ID	0.96 U	1.1	NFA
Chlorobenzene	<0.6	<0.8	0.11 U	0.70 U	0.12 U	0.63 U	NA	0.70 U	0.70 U	NA
Chloroethane	<0.8	<1.0	0.11 U	0.40 U	0.12 U	0.63 U	NA	0.40 U	0.40 U	NA
Chloroform	<0.4	<1.2	0.11 U	0.74 U	0.12 U	1	NA	0.74 U	0.74	NA
Chloromethane	2.1	3.1	0.62	0.31 U	0.61	0.63 U	NA	0.31 U	0.31 U	NA
cis-1,2-Dichloroethene ¹	<0.8	<1.2	0.11 U	0.60 U	0.12 U	0.63 U	NFA	0.60 U	0.60 U	NFA
cis-1,3-Dichloropropene	<1.7	<2.0	0.57 U	0.69 U	0.62 U	0.63 U	NA	0.69 U	0.69 U	NA
Cumene	NA	NA	0.57 U	NT	0.62 U	0.63 U	NA	NT	NT	NA
Cyclohexane	NA	NA	NT	0.98	NT	NT	NA	0.52 U	0.52 U	NA
Dibromochloromethane	NA	NA	0.11 U	1.3 U	0.12 U	0.63 U	NA	1.3 U	1.3 U	NA
d-Limonene	2.5	11.3	0.57 U	NT	0.94	2.6	NA	NT	NT	NA
Ethanol	26.0	140	5.7 U	NT	100	46	NA	NT	NT	NA
Ethyl Acetate	<1.0	3.2	0.86	0.92 U	4.7	1.5	NA	11	5.3	NA
Ethylbenzene	<1.6	3.4	0.57 U	0.62 J	0.62 U	13	NA	0.66 U	0.66 U	NA
Trichlorofluoromethane (Freon 11)	< 3.7	6.7	1.2	1.3	1.2	1.7	NA	1.3	9.3	NA
Trichlorotrifluoroethane (Freon 113)	<1.7	< 3.0	0.58	1.2 U	0.61	0.63 U	NA	1.2 U	1.2 U	NA
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	<1.1	<1.4	0.57 U	1.1 U	0.62 U	0.63 U	NA	1.1 U	1.1 U	NA
Dichlorodifluoromethane (Freon 12)	4.8	10.5	2.3	2.7	2.3	2.5	NA	2.1	6.7	NA
Helium (percent)	NA	NA	NT	NT	NT	--	NA	NT	NT	NA
Heptane	NA	NA	NT	0.83	NT	NT	NA	1.2	1.1	NA
Hexachloro-1,3-butadiene	<1.8	<2.5	0.11 U	1.6 U	0.12 U	0.63 U	NA	1.6 U	1.6 U	NA
Hexane	NA	NA	0.57 U	1.3	0.62 U	0.63 U	NA	1.1	0.54 U	NA
m,p -Xylenes	4.1	12.2	0.57 U	2.2	0.62 U	31	NA	0.97 J	0.88 J	NA
Methyl Isobutyl Ketone	NA	NA	NT	1.2 U	NT	NT	NA	1.6	1.2 U	NA
Methyl tert-Butyl Ether	<1.5	<6.4	0.11 U	0.55 U	0.12 U	0.63 U	NA	0.55 U	0.55 U	NA
Methylene chloride	<1.7	5.0	0.57 U	0.53 U	0.62 U	0.63 U	NA	1.5	1.4	NA
Naphthalene	<2.2	<5.2	0.23 U	NT	0.25 U	0.63 U	NA	NT	NT	NA
n-Butyl Acetate	NA	NA	0.57 U	NT	0.82	0.63 U	NA	NT	NT	NA
n-Nonane	<1.0	3.6	0.57 U	NT	0.62 U	0.64	NA	NT	NT	NA
n-Octane	NA	NA	0.57 U	NT	0.62 U	1.8	NA	NT	NT	NA
o-Xylene	<2.4	4.4	0.57 U	0.71	0.62 U	13	NA	0.66 U	0.66 U	NA
Propene	NA	NA	0.57 U	NT	4.1	1.3	NA	NT	NT	NA
Propylene	NA	NA	NT	0.26 U	NT	NT	NA	0.26 U	0.26 U	NA
Styrene	<1.6	<2.3	0.57 U	0.65 U	0.62 U	0.63 U	NA	0.65 U	0.65 U	NA
Tetrachloroethene ¹	<1.9	5.9	0.11 U	1.0 U	0.12 U	6.6	NFA	1.0 U	2.5	NFA
Tetrahydrofuran	NA	NA	NT	0.45 U	NT	NT	NA	0.45 U	0.45 U	NA
Toluene	10.7	25.9	1	5.0	4.7	390	NA	6.1	5.3	NA
trans-1,2-Dichloroethene	NA	NA	0.11 U	0.60 U	0.12 U	0.63 U	NA	0.60 U	0.60 U	NA
trans-1,3-Dichloropropene	<0.8	<1.2	0.57 U	0.69 U	0.62 U	0.63 U	NA	0.69 U	0.69 U	NA
Trichloroethene ¹	<1.2	1.2	0.11 U	0.82 U	0.12 U	0.63 U	NFA	0.60 J	0.98	ID
Vinyl Acetate	NA	NA	5.7 U	0.54 U	6.2 U	6.3 U	NA	0.54 U	0.54 U	NA
Vinyl Bromide	NA	NA	NT	0.67 U	NT	NT	NA	0.67 U	0.67 U	NA
Vinyl Chloride ¹	<0.8	<1.0	0.11 U	0.39 U	0.12 U	0.63 U	NFA	0.39 U	0.39 U	NFA

Notes:

All units are in ug/m³- micrograms per cubic meter unless otherwise noted.

¹ = These analytes are listed in the NYSDOH Soil Vapor / Indoor Air Decision Matrices. The NYSDOH Matrices are included in the Guidance for Evaluating Soil Vapor Intrusion in New York State, NYSDOH, October 2006, document used for determining which actions, if any, must be taken to address elevated levels of these specific analytes.

Bolded and italicized values indicates that VOC were detected at a concentration exceeding USEPA BASE 75th percentile.

Yellow and **Bolded** values indicate the presence of a compound in sample at a concentration requiring follow-up actions per the NYSDOH Matrices determination.

Mitigate = Mitigation is required due to the presence of VOCs in soil vapor and/or indoor air samples. Mitigation strategy

Monitoring = Monitoring is required to determine whether concentrations in the indoor air or sub-slab vapor have changed over time.

ID = NYSDOH Soil Vapor/Indoor Air Matrices recommend taking reasonable and practical actions to identify source(s) and reduce exposures.

NFA = No Further Action is required as determined by the NYSDOH Soil Vapor/Indoor Air Matrices.

NA = No NYSDOH / EPA guidelines assigned.

NT = Lab did not analyze sample for this analyte.

Blind Duplicate is a QA/QC sample which was assigned sample ID, CV-SV-4, and was collected with sample as CV-SV-3.

U = Compound was analyzed for, but not detected above laboratory reporting limits.

J = Analyte detected at or below quanitation limits.

RA = Rite Aid Pharmacy

Table 5e: Soil Vapor QA/QC Sampling Summary
Site Characterization Report
Former Mom's Cleaners

TCL VOCs + Freon 113 ad 10 TICs	SOIL VAPOR	
	Field Smpl. ID	Field Duplicate Fictitious ID
	CV-SV-3	CV-SV-4
1,1,1-Trichloroethane	0.83 U	0.83 U
1,1,2,2-Tetrachloroethane	1.0 U	1.0 U
1,1,2-Trichloroethane	0.83 U	0.83 U
1,1-Dichloroethane	0.62 U	0.62 U
1,1-Dichloroethene	0.60 U	0.60 U
1,2,4-Trichlorobenzene	1.1 U	1.1 U
1,2,4-Trimethylbenzene	0.85	2.7
1,2-Dibromoethane	1.2 U	1.2 U
1,2-Dichlorobenzene	0.92 U	0.92 U
1,2-Dichloroethane	0.62 U	0.62 U
1,2-Dichloropropane	0.70 U	0.70 U
1,3,5-Trimethylbenzene	0.75 U	0.85
1,3-Butadiene	0.34 U	0.34 U
1,3-Dichlorobenzene	0.92 U	0.92 U
1,4-Dichlorobenzene	0.92 U	0.92 U
1,4-Dioxane	1.1 U	1.1 U
2,2,4-Trimethylpentane	0.75	0.71 U
4-Ethyltoluene	1.7 U	1.1
Acetone	40	21
Allyl chloride	0.48 U	0.48 U
Benzene	1.4	0.42 J
Benzyl chloride	0.88 U	0.88 U
Bromodichloromethane	1.0 U	1.0 U
Bromofluorobenzene	NT	NT
Bromoform	1.6 U	1.6 U
Bromomethane	0.59 U	0.59 U
Carbon disulfide	0.47 U	0.47 U
Carbon tetrachloride	0.90 J	0.96 U
Chlorobenzene	0.70 U	0.70 U
Chloroethane	0.40 U	0.40 U
Chloroform	0.74 U	0.74 U
Chloromethane	0.31 U	0.67
cis-1,2-Dichloroethene	0.60 U	0.60 U
cis-1,3-Dichloropropene	0.69 U	0.69 U
Cyclohexane	0.52 U	0.52 U
Dibromochloromethane	1.3 U	1.3 U
Ethyl acetate	0.92 U	0.92 U
Ethylbenzene	0.66	0.66 U
Freon 11	1.4	1.1
Freon 113	1.2 U	1.2 U
Freon 114	1.1 U	1.1 U
Freon 12	2.2	1.9
Heptane	1.0	0.42 J
Hexachloro-1,3-butadiene	1.6 U	1.6 U
Hexane	0.54 U	0.54 U
Isopropyl alcohol	440	3,300
m&p-Xylene	2.2	0.62 J
Methyl Butyl Ketone	1.2 U	1.2 U
Methyl Ethyl Ketone	1.7	0.90 U
Methyl Isobutyl Ketone	1.2 U	1.2 U
Methyl tert-butyl ether	0.55 U	0.55 U
Methylene chloride	0.99	1.00
o-Xylene	0.71	0.66 U
Propylene	0.26 U	0.26 U
Styrene	0.65 U	0.65 U
Tetrachloroethylene	0.76 J	1.00 U
Tetrahydrofuran	0.45 U	0.45 U
Toluene	4.5	1.5
trans-1,2-Dichloroethene	0.60 U	0.60 U
trans-1,3-Dichloropropene	0.69 U	0.69 U
Trichloroethene	0.82 U	0.82 U
Vinyl acetate	0.54 U	0.54 U
Vinyl Bromide	0.67 U	0.67 U
Vinyl chloride	0.39 U	0.39 U

Notes:

- 1. U = Parameter detected below Laboratory Reporting Limit (LRL).
- 2. J,B = Indicates an estimated value between the method detection limit (MDL) and the practical quantitation limit (PQL) for the analyte.
- 3. NT = Not Analyzed

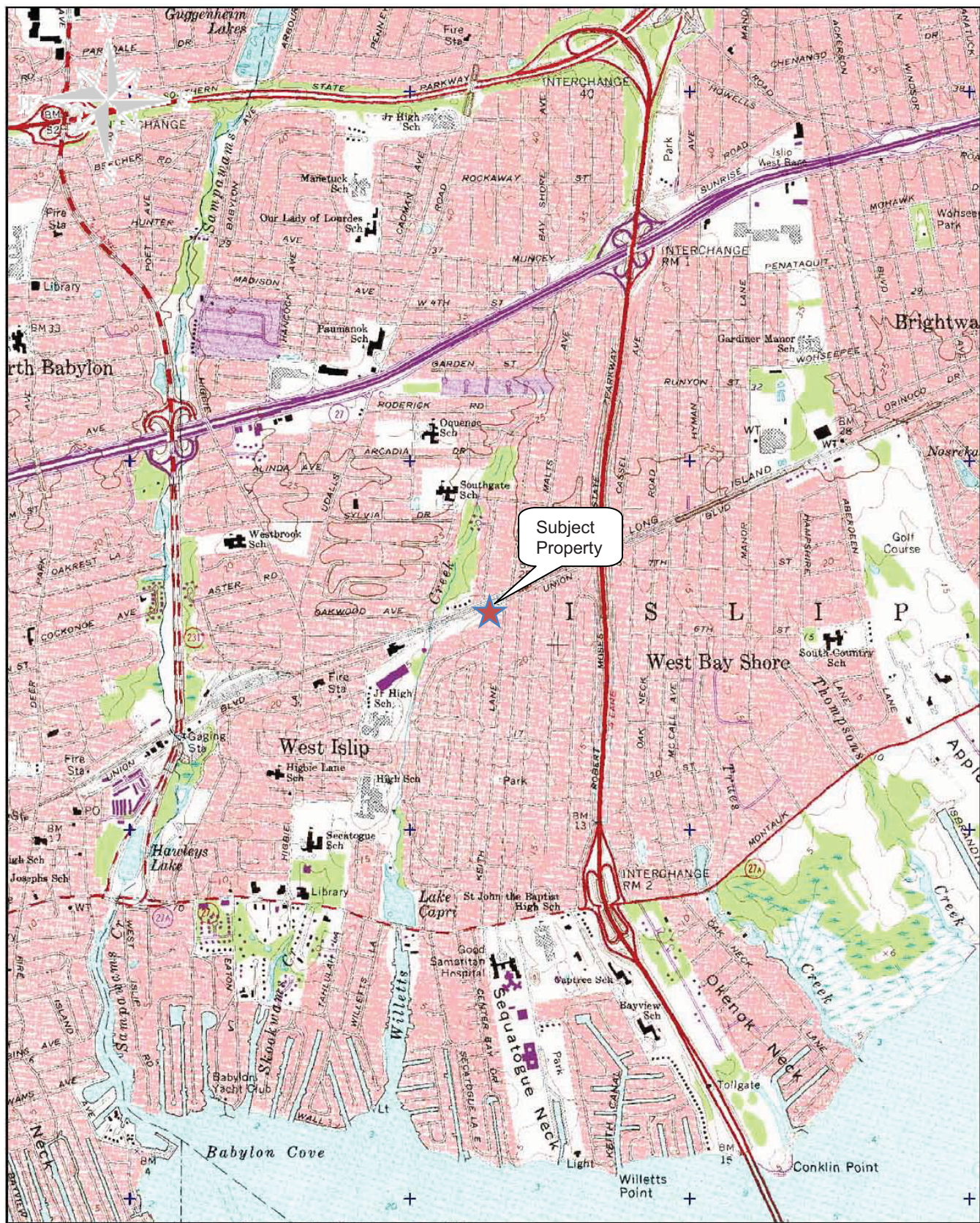
Table 5f: Groundwater QA/QC Sampling Summary
Site Characterization Report
Former Mom's Cleaners

TCL VOCs + Freon 113 ad 10 TICs	GROUNDWATER			
	Trip Blank 7/6/2011	Rinseate Blank 7/5/2011	Field Smpl. ID	Blind Duplicate Fictitious ID
			GW-3 (10-15')	GW-4 (10-15')
1,1,1-Trichloroethane	0.22 U	0.22 U	0.22 U	0.83 U
1,1,2,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	1.0 U
1,1,2-Trichloroethane	0.33 U	0.33 U	0.33 U	0.83 U
1,1-Dichloroethane	0.28 U	0.28 U	0.28 U	0.62 U
1,1-Dichloroethene	0.29 U	0.29 U	0.29 U	0.60 U
1,2,4-Trichlorobenzene	NT	NT	NT	1.1 U
1,2,4-Trimethylbenzene	NT	NT	NT	2.7
1,2-Dibromoethane	0.28 U	0.28 U	0.28 U	1.2 U
1,2-Dichlorobenzene	NT	NT	NT	0.62 U
1,2-Dichloroethane	0.32 U	0.32 U	0.32 U	0.70 U
1,2-Dichloropropane	NT	NT	NT	NT
1,3,5-Trimethylbenzene	NT	NT	NT	NT
1,3-butadiene	NT	NT	NT	0.34 U
1,3-Dichlorobenzene	NT	NT	NT	0.92 U
1,4-Dichlorobenzene	NT	NT	NT	0.92 U
1,4-Dioxane	NT	NT	NT	1.1 U
2,2,4-trimethylpentane	NT	NT	NT	0.71
4-ethyltoluene	NT	NT	NT	1.1
Acetone	3.1 U	3.1 U	3.1 U	21
Allyl chloride	NT	NT	NT	NT
Benzene	0.23 U	0.23 U	0.23 U	0.42 U
Benzyl chloride	NT	NT	NT	0.88 U
Bromodichloromethane	0.27 U	0.27 U	0.27	1.0 U
Bromofluorobenzene	NT	NT	NT	NT
Bromoform	0.40 U	0.40 U	0.4 U	1.6 U
Bromomethane	0.39 U	0.39 U	0.39 U	0.59 U
Carbon disulfide	0.23 U	0.23 U	0.23 U	0.47 U
Carbon tetrachloride	0.31 U	0.31 U	0.31 U	0.96 U
Chlorobenzene	0.19 U	0.19 U	0.19 U	0.70 U
Chloroethane	0.33 U	0.33 U	0.33 U	0.40
Chloroform	0.21 U	0.21 U	0.21 U	0.74 U
Chloromethane	0.31 U	0.31 U	0.31 U	0.67 U
cis-1,2-Dichloroethene	0.32 U	0.32 U	0.32 U	0.60
cis-1,3-Dichloropropene	0.31 U	0.31 U	0.31 U	0.69 U
Cyclohexane	NT	NT	NT	0.52
Dibromochloromethane	NT	NT	NT	1.3
Ethyl acetate	NT	NT	NT	0.92
Ethylbenzene	0.34 U	0.34 U	0.34	0.66 U
Freon 11	NT	NT	NT	1.1 U
Freon 113	NT	NT	NT	1.2
Freon 114	NT	NT	NT	1.1
Freon 12	NT	NT	NT	1.9 J
Heptane	NT	NT	NT	0.42 U
Hexachloro-1,3-butadiene	NT	NT	NT	1.6 J
Hexane	NT	NT	NT	0.54 U
Isopropyl alcohol	NT	NT	NT	NT
m&p-Xylene	0.52 U	0.52 U	0.52	0.62 U
Methyl Butyl Ketone	NT	NT	NT	NT
Methyl Ethyl Ketone	NT	NT	NT	NT
Methyl Isobutyl Ketone	1.5 U	1.5 U	1.5	1.2
Methyl tert-butyl ether	0.33 U	0.33 U	0.33	0.55
Methylene chloride	0.45 U	0.45 U	0.45	0.71
o-Xylene	0.33 U	0.33 U	0.33	0.66 U
Propylene	NT	NT	NT	0.26 U
Styrene	0.24 U	0.24 U	0.24	0.65 U
Tetrachloroethylene	0.35 U	0.35 U	1.3	1.0
Tetrahydrofuran	NT	NT	NT	0.45 U
Toluene	0.23 U	0.23 U	0.23	1.5 U
trans-1,2-Dichloroethene	0.26 U	0.26 U	0.26	0.60 U
trans-1,3-Dichloropropene	0.31 U	0.31 U	0.31	0.69 U
Trichloroethene	0.33 U	0.33 U	0.33	0.82 U
Vinyl acetate	NT	NT	NT	0.54 U
Vinyl Bromide	NT	NT	NT	0.67 U
Vinyl chloride	0.30 U	0.30 U	0.30	0.39 U

Notes:

- 1. U = Parameter detected below Laboratory Reporting Limit (LRL).
- 2. NA - Sample not analyzed for indicated analyte.
- 3. NT = Not Analyzed

FIGURES

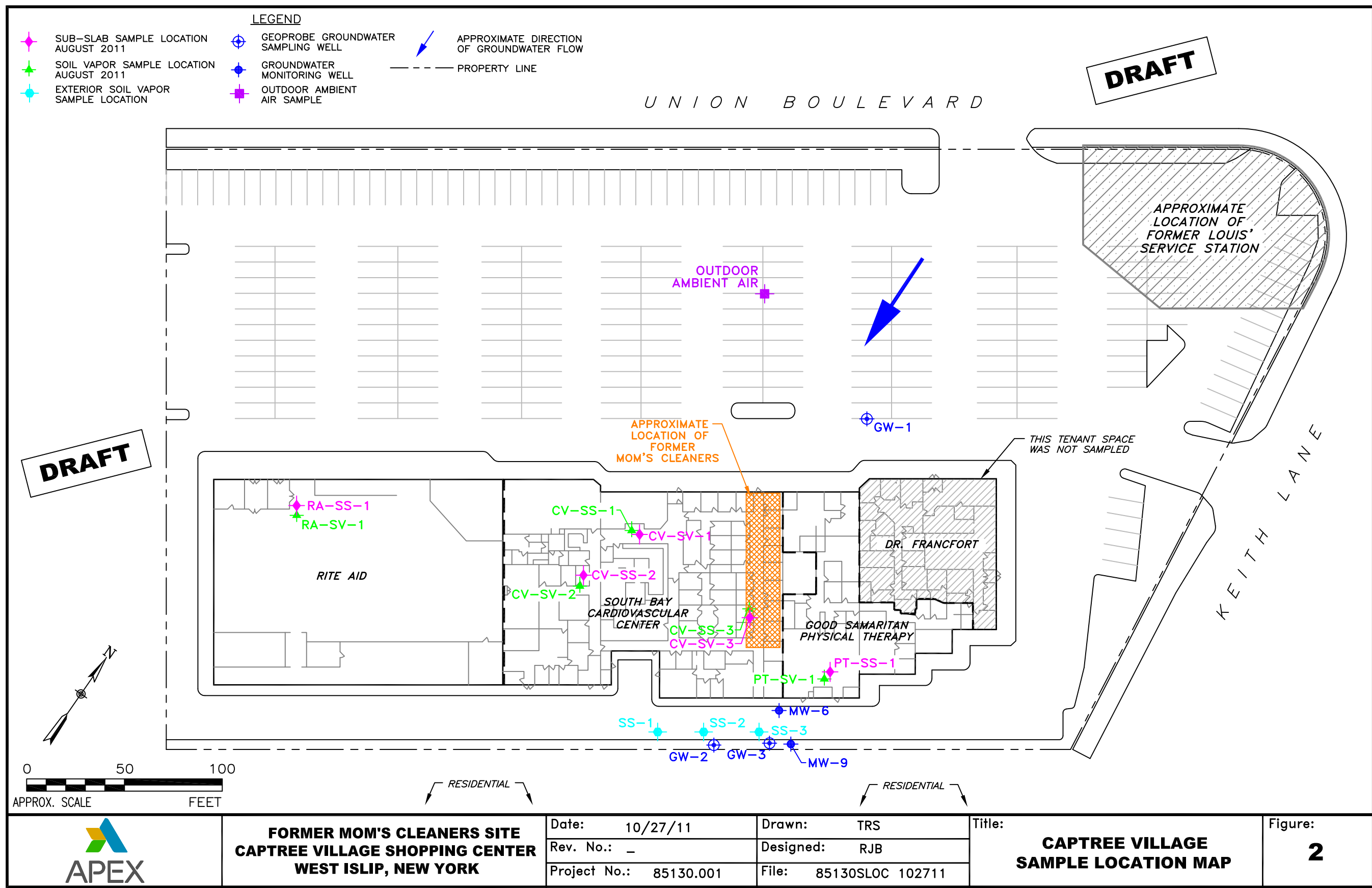


3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS 1000 ft Scale: 1: 25,000 Detail: 13-0 Datum: WGS84



Figure 1
Former Mom's Cleaners Site
Site Location Map

Client: Moritt, Hock,
Hamroff & Horitz
Project No.: 85130.001
Project Location: West Islip, NY
Date: February 2012



**FORMER MOM'S CLEANERS SITE
CAPTREE VILLAGE SHOPPING CENTER
WEST ISLIP, NEW YORK**

Date:	10/27/11	Drawn:	TRS
Rev. No.:	_	Designed:	RJB
Project No.:	85130.001	File:	85130SL0C 102711

Title: **CAPTREE VILLAGE
SAMPLE LOCATION MAP**

Figure: **2**