

# **SOIL VAPOR INTRUSION** **INVESTIGATION WORK PLAN**

**FORMER MOM'S CLEANERS SITE  
S/W INTERSECTION OF UNION BOULEVARD AND KEITH LANE  
WEST ISLIP, NY 11795**



*Prepared for:*

**Delilah Realty  
c/o Mr. David Cohen, esq.  
Moritt Hock Hamroff & Horowitz, LLP  
400 Garden City Plaza  
Garden City, New York 11530**

*Prepared by:*

**Apex Companies, LLC  
120-D Wilbur Place  
Bohemia, New York 11716**

*November 21, 2008*



**Apex Companies, LLC  
120-D Wilbur Place  
Bohemia, New York 11716-2440  
Phone: (631) 567-1777 Fax: (631) 567-1967**

**TABLE OF CONTENTS:**

	<u>Page No.</u>
<b>1.0 INTRODUCTION.....</b>	<b>1</b>
<b>2.0 SITE ENVIRONMENTAL HISTORY SUMMARY .....</b>	<b>2</b>
<b>3.0 SAMPLE LOCATIONS &amp; PRELIMINARY RECONNAISSANCE .....</b>	<b>3</b>
3.1 Preliminary Reconnaissance.....	3
3.2 Proposed Sample Locations.....	3
<b>4.0 SEMI-PERMANENT SOIL VAPOR IMPLANT INSTALLATION .....</b>	<b>4</b>
<b>5.0 SOIL VAPOR/AIR SAMPLING &amp; ANALYSIS .....</b>	<b>4</b>
5.1 Sub-Slab Sampling.....	4
5.2 Indoor Air Quality Sampling.....	5
5.3 QA/QC and Helium Monitoring.....	5
5.4 Facility Inspection / Chemical Inventory Review .....	5
<b>6.0 ANALYSIS SOIL VAPOR/AIR SAMPLES .....</b>	<b>6</b>
<b>7.0 DATA EVALUATION AND REPORTING.....</b>	<b>6</b>

**FIGURES:**

Figure 1: Site Plan

Figure 2: Proposed SVI Sample Locations

**APPENDICES:**

Appendix A: Former Louis's Service Station NYSDEC SPILLS Database Report  
Former Mom's Cleaners NYSDEC IHWDS Database Report

## **SOIL VAPOR INTRUSION INVESTIGATION WORK PLAN**

**FORMER MOM'S CLEANERS SITE  
S/W INTERSECTION OF UNION BOULEVARD AND KEITH LANE  
WEST ISLIP, NY 11795**

### **1.0 INTRODUCTION**

Apex Companies, LLC (Apex) has been retained by Moritt Hock Hamroff, & Horowitz, LLP (Moritt Hock) to conduct a Soil Vapor Intrusion (SVI) investigation at the Captree Village Shopping Center located on the southwest corner of the intersection of Union Boulevard and Keith Lane in West Islip, New York.

The project site is currently a multi-tenant, shopping center but was formerly also the location of Charlene Service Station, Inc., doing business as (dba) Louis's Service Center, and the Mom's Cleaner's facility (see *Figure 1*). Louis's Service Center had documented, historic soil and groundwater contamination related to former tank operations associated with dispensing of gasoline. The site was assigned NYSDEC Spill No. 97-02931 to address the subsurface contamination and following remediation, was closed by the NYSDEC on March 21, 2002. A copy of the NYSDEC SPILLS database record for the site is provided in *Appendix A*.

The Mom's Cleaners site was listed as a Class 4 Inactive Hazardous Waste Disposal Site (IHWDS) by the NYSDEC based upon contamination related to the former site operations (NYSDEC IHWDS No. 152184). A Class 4 site is one that has been properly closed, but that requires continued site management, consisting of operation, maintenance, and monitoring. The continued monitoring program required by the NYSDEC at the former Mom's Cleaners site is reportedly limited to periodic monitoring of two (2) monitoring wells located on-site and the completion of the SVI investigation

This SVI Investigation Work Plan has been developed to determine if soil vapors related to historic site operations at the Mom's Cleaners site are a potential concern and if so, to obtain data that can serve as the basis for development of appropriate SVI mitigation measures. All SVI work will be 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.

Additional information regarding the historic sources of contamination and the procedures to be implemented to investigate the site for possible SVI concerns is presented in the following sections of this SVI Investigation Work Plan.

## **2.0 SITE ENVIRONMENTAL HISTORY SUMMARY**

Louis's Service Station and Mom's Cleaners historically operated at the subject property (see **Figure 1** for former locations). Based upon the results of a gasoline spill investigation conducted at the former gasoline station, additional contamination in the vicinity of the former Mom's Cleaners site was also detected. The NYSDEC determined that chlorinated solvent contamination resulted from the disposal and/or spillage of tetrachloroethene (PCE) at the former dry cleaning unit and the associated septic tank at the former Mom's Cleaners site.

In August 1997, soils sampled proximate to Mom's Cleaners and the associated septic tank demonstrated elevated levels of PCE at 1,000 µg/kg and 670 µg/kg, respectively. Areas of soil contamination were subsequently remediated by the property owner (i.e., Delilah Reality Company) in September and October 1997. However, soil borings sampled in October 1998 displayed that residual PCE was present in soils at a concentration of 215 µg/kg.

A site groundwater investigation was also completed. In March 1997, EnviroComp, Inc. (under the direction of the NYSDEC) installed a series of groundwater monitoring wells on and near the former dry cleaning unit. The wells were monitored routinely through May 2000. The results of the final sampling event conducted by EnviroComp in May 2000 indicated that two (2) wells identified as MW-6 and MW-9 contained 50 µg/l and 39 µg/l of PCE, respectively. In 2008, the NYSDEC requested further sampling of MW-6 and MW-9 to assess current groundwater conditions at the subject property. In accordance with the NYSDEC request, Long Island Analytical Laboratories, Inc. (LIAL) obtained groundwater samples for MW-6 and MW-9. Results indicated the presence of PCE in groundwater at 25 µg/l for MW-6 and 34 µg/l for MW-9.

A preliminary SVI screening survey was conducted circa September 8, 2008 by LIAL. Three (3) SVI samples were collected using summa canisters; two of the three samples were collected within 24 inches of MW-6 and MW-9 at a depth of approximately one foot above the water table (about 7 to 8 feet below grade surface, bgs). The remaining sample was collected as an upwind, ambient air sample. The results of the LIAL SVI screening event reportedly indicated that cis-1,2-Dichloroethene ( $510 \mu\text{g}/\text{m}^3$ ), Trichloroethene ( $280 \mu\text{g}/\text{m}^3$ ), and Tetrachloroethene ( $800 \mu\text{g}/\text{m}^3$ ) were found to exceed the 95<sup>th</sup> percentile of the United States Environmental Protection Agency (USEPA) Building Assessment and Survey Evaluation (BASE) dataset in the SV1 sample (immediately adjacent to MW-6). Acetone ( $180 \mu\text{g}/\text{m}^3$ ), cis-1,2-Dichloroethene ( $3,800$

$\mu\text{g}/\text{m}^3$ ), Trichloroethene ( $3,500 \mu\text{g}/\text{m}^3$ ), and Tetrachloroethene ( $19,000 \mu\text{g}/\text{m}^3$ ) were found to exceed the 95<sup>th</sup> percentile of the USEPA BASE dataset in the SV2 sample (immediately adjacent to MW-9). Since these data were not collected below structure slabs and no corresponding indoor air quality samples were collected, these data were only used to determine if additional SVI Investigation was warranted. Based upon the results, it was determined that a more formal SVI Investigation was warranted and this SVI Investigation Work Plan outlines the proposed additional investigation.

### **3.0 SAMPLE LOCATIONS & PRELIMINARY RECONNAISSANCE**

#### **3.1 Preliminary Reconnaissance**

On November 7, 2008, Apex was granted site access and completed a preliminary reconnaissance of the existing site structures to identify possible SVI investigation sample locations that would be appropriate to identify SVI concerns (if any) and that could be installed in a manner acceptable to existing tenants. A detailed floor plan showing individual room dividers and heating ventilation and cooling system plans was not readily available for Apex's review. However, such a plan will be reviewed if made available to Apex before finalizing actual sample locations.

#### **3.2 Proposed Sample Locations**

Based upon the site preliminary walk-through, five (5) sub-slab vapor / indoor air quality sample locations are proposed; the proposed locations are indicated in **Figure 2**:

- One (1) sample is to be located in the existing Physical Therapy office in the approximate location of the main equipment area. This location was chosen because it is within the primary occupied space for area workers and because it is the closest area in the suite to the former dry cleaning units at the adjacent tenant space;
- Two (2) samples are to be located in the Good Samaritan lease space which overlays the area formerly occupied by Mom's Cleaners. The first sample will be collected from the waiting room area which is the primary occupied space in the area. The second sample will be located in the open area at the rear of the suite where the former dry cleaning unit at Mom's cleaners was reportedly located (i.e., in the apparent source area during former operations);
- One (1) sample will be collected at the suite immediately west of the Good Samaritan suite in a place to be determined. Preliminarily, an employee office area will be targeted for this sample location;
- One (1) sample will be collected in the Rite-Aid store from an aisle area or near the cashier's stations where workers are frequently present.

At each location, a sub-slab vapor sample and indoor air quality sample will be collected.

In addition, to the locations identified above, an upwind, exterior air sample will also be collected on the day of sampling to serve as an ambient background sample.

All locations indicated above are preliminary only and may be subject to change based upon the access restrictions imposed by building tenants and any observations made by Apex during the detailed site walk / reconnaissance in advance of sampling. No changes to this SVI Investigation Work Plan will be made without proper justification that will be discussed in the final SVI Investigation Report.

#### **4.0 SEMI-PERMANENT SOIL VAPOR IMPLANT INSTALLATION**

At each of the five (5) building interior, sub-slab locations one-to-two-inch-diameter access holes will be cut with a coring machine through any overlying cover materials, as required (e.g., concrete surfaces). The interior soil vapor sampling implants will be installed utilizing hand-powered equipment (e.g., hand auger, post-hole digger, etc.). Each soil vapor probe will consist of a six-inch-long stainless-steel screen with one-quarter-inch-diameter Teflon tubing set two-inches below the floor slab/surface.

The bottom of the six-inch-long stainless-steel screens will be installed at nominal depths of five-feet bgs, or if groundwater is encountered at a depth shallower than five-feet bgs, one foot above the water table. The annular space surrounding the screens will be filled with decontaminated glass beads or filter pack sand. A hydrated seal will be installed atop of the glass beads/sand pack to prevent outdoor air infiltration. Additional measures to assure that no outdoor air infiltration is occurring are discussed in **Section 5.3**.

Upon completion of the sampling, the soil probes will be removed, the holes backfilled and the surfaces repaired with appropriate materials (e.g., asphalt or concrete). No replacement of floor tiles, carpeting or other floor finishing materials is included. However, care will be taken to coordinate with site occupants to minimize impacts to building finish materials to the degree practical.

#### **5.0 SOIL VAPOR/AIR SAMPLING & ANALYSIS**

##### **5.1 Sub-Slab Sampling**

The semi-permanent vapor probes will be allowed to equilibrate for a minimum of 24 hours prior to sampling. Prior to sampling, each point will be purged of a minimum of three tube volumes of soil vapor. Confirmation of adequate purging will be determined by utilizing a photoionization detector (PID) to confirm the absence of volatile organic compounds above the PID detection limits. A six-liter, laboratory-supplied vacuum

Summa canister will be connected to the Teflon tubing subsequent to the purging and the samples will be collected over a two-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.

## **5.2 Indoor Air Quality Sampling**

In addition to the five (5) sub-slab vapor samples, five (5) indoor air quality samples, and one (1) outdoor air/ambient sample will be collected utilizing six-liter, laboratory-supplied Summa canisters set atop three-foot-tall stands, table tops or desks over an eight-hour period, concurrent with the indoor sub-slab sampling. The samples will be collected to establish indoor air concentrations and background conditions at the site. The sample elevation will be selected in order to represent the air quality within the typical breathing zone (between three-and-five-feet above grade, as required in the NYSDOH Guidance Document).

Sampling will be completed during the heating or cooling seasons.

## **5.3 QA/QC and Helium Monitoring**

As a quality assurance/quality control (QA/QC) measure, helium will be introduced into a closed/sealed space surrounding the sampling tube as a tracer gas to confirm the integrity of the probe seals and to ensure that no outdoor air intrusion impact the soil vapor sample (e.g., no "short circuiting" occurs). The closed/sealed space around the sampling tube will be formed utilizing an inverted container placed atop of the ground at the point where sampling tubing exits the subsurface. Teflon sampling tubing will be run through an air-tight fitting installed on the top of the container and polyethylene tubing will be run from the helium supply through another air-tight fitting on the side of the container.

## **5.4 Facility Inspection / Chemical Inventory Review**

In accordance with NYSDOH protocols, Apex personnel would conduct a facility-wide inspection during the sampling period to evaluate chemical-use practices at the facilities. Labels will be reviewed to determine the chemical nature of various products including, but not limited to, cleaners, lubricants, glues/adhesives, paints, pool chemicals, etc. The data will be compared to the indoor air analytical data to determine if on-site chemical use has deleteriously impacted the indoor air quality of the facility. For the purposes of this SVI Investigation Work Plan, it is assumed that facility personnel with knowledge of on-site chemical-use practices will assist Apex during this task.

## **6.0 ANALYSIS SOIL VAPOR/AIR SAMPLES**

The soil vapor and air samples will be analyzed by a NYSDOH Environmental Laboratory Accreditation Program (ELAP) - certified laboratory (with appropriate chain-of-custody) for NYSDOH-specified VOCs by EPA Method TO-15. The soil vapor samples will also be analyzed for helium to assist in data quality review.

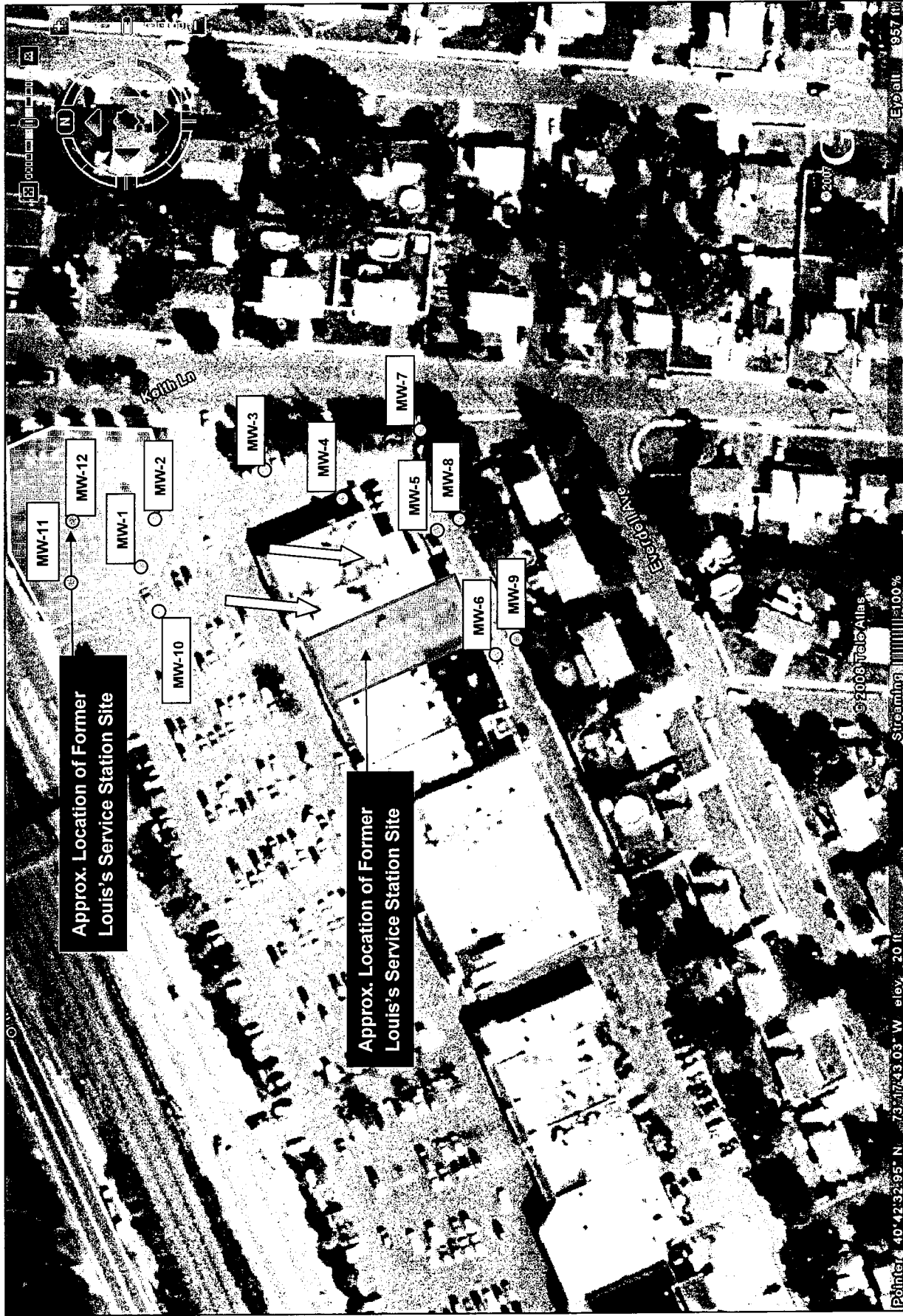
## **7.0 DATA EVALUATION AND REPORTING**

Upon completion of sampling and analyses, data will be evaluated in conjunction with NYSDOH evaluation criteria / decision matrices as outlined in "*Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York*," dated October 2006, as amended and results will be presented in a SVI Investigation Report.

For parameters that do not have specific guidance values or evaluation criteria / decision matrices, Apex will evaluate results on a case by case basis utilizing appropriate guidance documents, regulatory criteria, models, comparison to background levels, or other methods acceptable to NYSDEC and NYSDOH.



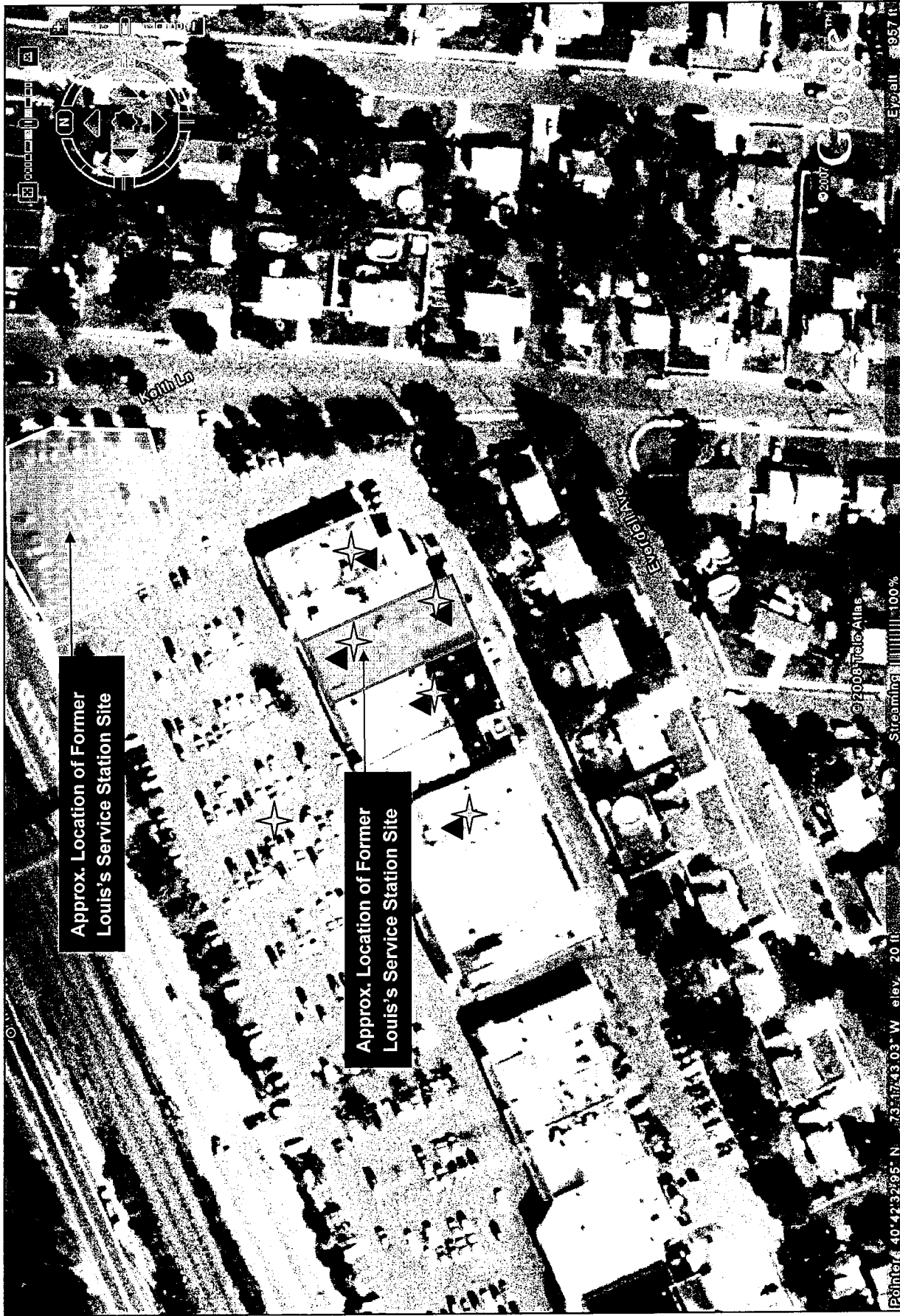
**FIGURES**



**Figure 1**  
Site Plan – Captree Village Shopping Center

● Approx. Historic Well Location  
(Note: Historic Wells May No Longer Exist)

↑ Approx. GW Flow Direction



**Figure 2**  
 Proposed SVI Investigation Sampling Locations

**APPENDIX A**

**CURRENT NYSDEC DATABASE REPORTS**



**NEW YORK STATE  
DEPARTMENT OF  
ENVIRONMENTAL CONSERVATION**

## Spill Incidents Database Search Details

---

### Spill Record

#### Administrative Information

**DEC Region:** 1

**Spill Number:** 9702931

#### Spill Date/Time

**Spill Date:** 06/02/1997    **Spill Time:** 12:00:00 AM

**Call Received Date:** 06/09/1997    **Call Received Time:** 09:35:00 AM

#### Location

**Spill Name:** LOU'S GULF S/S

**Address:** UNION BLVD & KEITH LANE

**City:** WEST ISLIP    **County:** Suffolk

#### Spill Description

**Material Spilled**    **Amount Spilled**    **Resource Affected**

Gasoline                      UNKNOWN    Groundwater

**Cause:** Other  
**Source:** Gasoline Station  
**Waterbody:**

## **Record Close**

**Date Spill Closed:** 03/21/2002

"Date Spill Closed" means the date the spill case was closed by the case manager in the Department of Environmental Conservation (the Department). The spill case was closed because either; a) the records and data submitted indicate that the necessary cleanup and removal actions have been completed and no further remedial activities are necessary, or b) the case was closed for administrative reasons (e.g., multiple reports of a single spill consolidated into a single spill number). The Department however reserves the right to require additional remedial work in relation to the spill, if in the future it determines that further action is necessary.

If you have questions about this reported incident, please contact the Regional Office where the incident occurred.

Refine Current Search

---



## Environmental Site Remediation Database Search Details

---

### Site Record

#### Administrative Information

**Site Name:** Mom's Cleaners  
**Site Code:** 152184  
**Program:** State Superfund Program  
**Classification:** 04  
**EPA ID Number:**

#### Location

**DEC Region:** 1  
**Address:** 556 Union Boulevard  
**City:** West Islip **Zip:** 11795  
**County:** Suffolk  
**Latitude:** 40.708978640  
**Longitude:** -73.294777170  
**Site Type:** LAGOON  
**Estimated Size:** 0.120 Acres

#### Institutional And Engineering Controls

#### Site Owner(s) and Operator(s)

**Current Owner Name:** Delilah Realty c/o Moritt, Hock & Hamroff  
**Current Owner(s) Address:** 400 Garden City Plaza - Suite 201  
Garden City, NY, 11530  
**Owner(s) during disposal:** Information not available  
**Operator during disposal:** Moms Cleaners  
**Stated Operator(s) Address:** 556 Union Boulevard  
West Islip, NY 11795

#### Site Document Repository

#### Hazardous Waste Disposal Period

**From:** 1993 **To:** 1997

#### Site Description

This former dry cleaning facility is located on the corner of Keith Lane and Union Boulevard, in the Captree shopping center, which includes four retail establishments. The company vacated in July 1997. Due to a gasoline spill investigation at Lou's Gulf, a nearby "former automotive repair facility / gasoline and diesel fuel dispensing station" chlorinated solvents were uncovered. The sources of contamination were determined to be the dry cleaning unit and the former septic tank, both of which were remediated by the property owner in September and October 1997. Prior to this, in August 1997, tetrachloroethene (PCE) levels in soils in these areas were 1000 and 670 ppb respectively. However, one of the soil borings (SB-11) sampled in October 1998 showed that residual PCE contamination (215 ppb) remained. Also, subsequent groundwater sampling indicated that two monitoring wells (MW #6 and MW #9) situated downgradient of the dry cleaning unit contained elevated levels of PCE. Additional groundwater monitoring is required to determine whether the remediation has been sufficiently effective.

## **Material Disposed of at Site and Quantity**

### **Site Environmental Assessment**

Soil and groundwater data show that PCE was disposed or spilled at this facility. Some remediation was conducted but residual contamination remains. Groundwater levels of PCE were up to 212 ppb (and 240 ppb vinyl chloride) prior to remediation and remained at levels of up to 120 ppb (and 190 ppb vinyl chloride) after remediation. As of July 2008, the maximum PCE levels was 34 ppb (with vinyl chloride non-detect).

### **Site Health Assessment**

Soil and groundwater at the facility are contaminated with tetrachloroethene. Concentrations have decreased after removal of contaminated materials from the site. Groundwater monitoring is continuing. The area is served by public water and there are no known water supply wells near or downgradient from the site. NYSDOH and NYSDEC will evaluate the need to conduct additional investigations to determine the potential for soil vapor intrusion into structures on or near the site.

**For more information: E-mail Us**

[Back to Search Results](#)

[Refine Current Search](#)