FINAL
VAPOR INVESTIGATION REPORT
EUGENE'S DRY CLEANERS
SITE NO. 1-52-157

WORK ASSIGNMENT NO. D004434-27

Prepared for:

New York State Department of Environmental Conservation
Albany, New York

Prepared by:

MACTEC Engineering and Consulting, P.C.
Portland, Maine

Project Number: 3612072087

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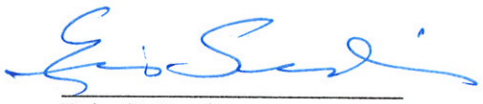

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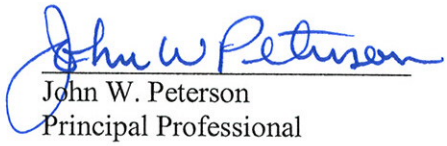

John W. Peterson
Principal Professional

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS

ADT	Aquifer Drilling and Testing, Inc.
ASP	Analytical Services Protocol
bgs	below ground surface
cis-1,2-DCE	cis-1,2-dichloroethene
DUSR	Data Usability Summary Report
HASP	Health and Safety Plan
MACTEC	MACTEC Engineering and Consulting, P.C.
mg/kg	milligram(s) per kilogram
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCE	tetrachloroethene
PID	photoionization detector
Report	Eugene's Dry Cleaners VI report
RI	Remedial Investigation
ROD	Record of Decision
Site	Eugene's Dry Cleaners site
SVIE	Soil Vapor Intrusion Evaluation
TCE	Trichloroethene
TCL	target compound list

GLOSSARY OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

µg/L	microgram(s) per liter
µg/m^3	microgram(s) per cubic meter
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
VI	Vapor Investigation
WP	Work Plan

1.0 INTRODUCTION

MACTEC Engineering and Consulting, P.C. (MACTEC), under contract to the New York State Department of Environmental Conservation (NYSDEC), conducted a Vapor Investigation (VI) at the Eugene's Dry Cleaners site (Site) (Site # 1-52-157) in the town of Babylon, Suffolk County (see Figure 1.1 for Site Location). This Eugene's Dry Cleaners VI report (Report) documents the activities and results of sampling performed at the Site between December 2007 and January 2008.

The Site is the location of a former dry cleaning facility with known releases of organic chlorinated solvent chemicals. This VI was authorized by NYSDEC as a result of the Site's inclusion in 2005 on the List of Inactive Hazardous Waste Sites with Pre-2003 Remedial Decisions where Disposal of Chlorinated Hydrocarbons Occurred. Additional details of the Site History are provided in Section 2.

This VI was conducted in accordance with the NYSDEC requirements described in Work Assignment No. D004434-27, dated March 28, 2007 (NYSDEC, 2007), and with the April 2006 Superfund Standby Contract No. D004434 between the NYSDEC and MACTEC. The planned Scope of Work was established in the Final VI Work Plan (WP) dated August 2007 (MACTEC, 2007). Vapor and air samples were collected in accordance with the New York State Department of Health (NYSDOH) "*Guidance for Evaluating Soil Vapor Intrusion in the State of New York"* (NYSDOH, 2006). The VI also considered guidance established in the NYSDEC "Draft DER-10 Technical Guidance for Site Investigations and Remediation" (NYSDEC, 2002a).

2.0 SITE LOCATION AND HISTORY

2.1 SITE LOCATION

The Eugene's Dry Cleaner Site is located at 54 East Main Street in the Town of Babylon, Suffolk County. The Town of Babylon is situated near the south shore of Long Island about 30 miles east of New York City. The Site occupies approximately 0.1 acres.

2.2 PHYSICAL SETTING

The Site is located on the south side of East Main Street. The surrounding area is topographically flat and most of the ground surface is developed or paved. MACTEC estimates the ground elevation to be approximately 10 to 15 feet above mean sea level. Nearby properties along East Main Street are predominantly light commercial with residential properties located to the north and south. Two public water supply wells are located approximately 0.5 miles north (upgradient) of the Site.

The Site consists of a single-story masonry building with a sub-level, situated on a soil-supported concrete slab. The building houses several current ground-floor commercial businesses. The former Eugene's Dry Cleaners was located along the eastern side of the structure, a space that is currently occupied by a nail salon.

The southern shore of Long Island in the vicinity of the Site is characterized by a series of north-south trending linear tidal inlets or creeks. These inlets extend inland from Great South Bay, which is approximately one mile south of the Site. Carlis Creek is located to the west approximately 1900 feet from the Site and Sumpwams Creek is located to the east approximately 1000 feet from the Site. Depth to groundwater measured in monitoring wells in December 2007 was between 6.4 and 8.8 feet below ground surface (bgs). Previous investigations have interpreted groundwater flow as being towards the south southwest, with discharge to Great South Bay or Sumpwams Creek. Observations from the direct-push borings completed in December, 2008 indicate the top ten feet of overburden is composed of one to two feet of silty sand grading to medium to coarse sand and gravel.

The Record of Decision (ROD) completed for the Eugene's Dry Cleaners Site (NYSDEC, 2000) indicates the overburden geology is composed of Pleistocene glacial deposits from the ground surface to a depth of 50 to 60 feet bgs. These consist of fine to coarse sand and gravel and overlie the Gardiners Clay, a marine clay with interbedded sand layers and lenses. The Gardiners Clay is reported to be approximately 10 feet thick in the general vicinity of the Site. The Magothy formation, an alluvial deposit of interbedded sand, gravel and clay units, underlies the Gardiners clay and is an important aquifer for Long Island.

2.3 SITE HISTORY

According to the ROD, the Site had been a dry cleaning operation since at least 1989 and ceased operation in 1998. In December 1994, the Suffolk County Department of Health Services, while responding to a fuel oil spill, detected tetrachloroethene (PCE) in the sediment from a basement sump. This contamination was believed to be a result of the facility discharging a PCE/water mixture to the basement sump. In July 1998, a focused Remedial Investigation (RI) was performed by NYSDEC to evaluate the basement and groundwater conditions. Elevated contaminant concentrations were detected in soils and groundwater at the sump and beneath the slab-on-grade at the Site. An Interim Remedial Measure was performed in October 1998 which included power washing the basement and removing approximately three cubic yards of material from the sump.

In February 2005, the Site was included on the List of Inactive Hazardous Waste Sites with Pre-2003 Remedial Decisions where Disposal of Chlorinated Hydrocarbons Occurred. A Soil Vapor Intrusion Evaluation (SVIE) was performed by O'Brien & Gere for the NYSDEC in April and May of 2006. The SVIE included groundwater grab samples, temporary soil vapor points, and indoor air samples from the Site building. PCE and trichloroethene (TCE) were detected within the basement air and in the soil vapor at multiple locations outside the Site building.

The SVIE is summarized in the following subsection. NYSDEC has required additional investigation to investigate the source of elevated soil vapor concentrations, evaluate potential vapor impacts to surrounding structures and to assess and design vapor mitigation system(s).

2.4 2006 VAPOR INTRUSION INVESTIGATION SUMMARY

NYSDEC completed a SVIE in 2006 that included groundwater sampling, soil gas sampling, and indoor air sampling. Groundwater grab samples and soil gas samples were collected at five locations east, west, and south of the Site. Indoor air samples were collected from the building containing the former dry cleaners and an adjacent business space. Samples were analyzed for volatile organic compounds (VOCs).

Chlorinated solvent-type VOCs were detected in four of the five groundwater samples. PCE was detected above drinking water criteria at two locations, GW-5 (9 µg/L) located adjacent to the Site building (to the east), and GW-1 (7 µg/L) located approximately 200 feet downgradient to the south.

Five soil gas samples were collected from the same locations as the groundwater samples. Analytical results reported solvent and fuel type VOCs in all five soil gas samples with the highest concentrations of PCE reported at V-5S (5,282 µg/m³), V-3S (4,926 µg/m³), and V4S (104 µg/m³) which were located adjacent to the building to the east, south, and west respectively.

Three indoor air samples were collected during the SVIE. One basement air and one first floor air sample were collected from the western half of the building, which is currently below a retail shop, and one basement air sample was collected form the eastern half of the building which was utilized by the former dry cleaner. Analytical results identified solvent-related VOCs in all indoor air samples, with the highest concentrations reported from the basement of the former dry cleaner. The samples of basement air contained levels of TCE (>1.5 µg/m³) and PCE (>250 µg/m³).

3.0 SCOPE OF WORK

Based on the 2006 findings, NYSDEC required additional characterization to evaluate the source of the soil gas impacts and sample vapor at nearby structures. MACTEC performed the majority of the field portion of this VI between December 10, 2007 and December 19, 2007. Indoor air at one additional structure was sampled on January 14 and 15, 2008 due to site construction that interfered with access during the earlier sampling dates.

MACTEC collected soil vapor from seven exterior borings and five sub-slab borings; air samples of ambient (outside) air and indoor air from five structures; groundwater samples from four direct-push borings, five existing monitoring wells and the basement sump in the Site building; soil samples from three sub-slab locations and from the six direct-push borings. The following subsections describe the sampling activities completed during this VI.

This VI was conducted in accordance with the specifications presented in the Quality Assurance Program Plan (ABB-ES, 1994) and the Site-specific Quality Assurance Project Plan, included as Appendix B of the WP. Soil vapor and indoor air samples were analyzed by Con-Test Analytical Laboratory of East Longmeadow, MA. Soil and groundwater samples were analyzed by Mitkem Corporation of Warwick, RI. Both laboratories are NYSDOH-approved and Environmental Laboratory Accreditation Program certified laboratories.

3.1 GENERAL NOTES ON FIELD ACTIVITIES

General field activities, including health and safety, and decontamination, are described in the following subsections.

Health and Safety. The Site-specific Health and Safety Plan (HASP) was provided as Appendix C to the WP. All work was conducted under Level D personal protection as specified in the Program HASP (MACTEC, 2005) and the Site-specific HASP. No health and safety incidents occurred during the field program.

Decontamination. Sampling methods and equipment were selected to minimize decontamination requirements and the possibility of cross contamination. Disposable sampling equipment was used as much as practical. Soil borings were completed using direct-push methods that generated minimal soil waste. Soil waste was containerized as the developed and paved character of the Site footprint did not provide an area to spread soils. The single drum of investigation derived waste soil was sampled for waste characterization and the drum was removed from the Site by Aquifer Drilling and Testing, Inc. (ADT) and disposed as non-hazardous waste at American Landfill in Waynesburg, Ohio. Waste characterization results are included in Appendix A.

3.2 STRUCTURE SAMPLING

MACTEC collected air samples from five structures (Structure 01 to 05) at or near the Eugene's Dry Cleaner Site. The structures are shown on Figure 3.1 and include four current commercial businesses and a church hall (Structure 04).

The targeted sampling approach for each structure included:

- Completion of the NYSDOH Indoor Air Quality Questionnaire and Inventory,
- One sub-slab soil vapor sample,
- One basement (or lowest floor) air sample, and
- A sample from the first livable/occupied floor in the building.

Structures 01 through 04 were sampled between December 11, 2007 and December 13, 2007 and Structure 05 was sampled on January 15, 2008. In December, two ambient air samples (AA-01 and AA-02) were collected north and south of the Site to document outdoor air conditions during the sampling event. One ambient air sample (AA-03) was also collected during the January sample event. Due to the nature of the structures sampled, not all locations have a sub-slab, basement air, and first floor air sample suite.

At Structure 01, a slab-on-grade commercial building currently housing a restaurant, one sub-slab sample was collected within the structure and two first floor air samples were collected.

At Structure 02, the former dry cleaner, two sub-slab samples were collected from different areas within the basement. One sample was collected close to the sump source area and one was

collected as far to the north from the sump as possible. A first floor air sample was also collected. The basement at Structure 02 is shared with Structure 03 and a single basement air sample was collected near the doorway between the two basement areas. Two sub-slab samples were collected at Structure 02.

At Structure 03, a commercial business with a basement adjoining the former dry cleaner, a sub-slab sample, a basement air sample and a first floor air sample were collected.

At Structure 04, a church hall to the north of the Site, a sub-slab sample, a basement air sample and a first floor air sample were collected.

At Structure 05, a commercial multi-use building, two basement air samples were collected from opposite ends of the building and a first floor air sample was collected. A sub-slab sample was not taken due to the objections of the site contact at the site of sampling.

An air sample data collection summary is presented in Table 3.1.

Indoor Air Surveys

MACTEC conducted indoor air surveys and product inventories at each structure sampled using the NYSDOH "Indoor Air Quality Questionnaire and Building Inventory" form. A MiniRae photoionization detector (PID) that measures parts per billion was used to scan inventoried items that may be off-gassing VOCs. VOCs identified on the containers and are also included on the air sample analytical Target Compound List (TCL) are noted on the inventory forms, along with any PID readings. MACTEC observed cleaning and solvent-type chemicals at Structure 02 on the first floor (a nail salon); however, the business owner did not allow them to be inventoried or the questionnaire to be completed. Structure 04, contained numerous cleaning products but the MiniRae PID was not functioning properly and therefore measurements of total vapor in the vicinity of the cleaners are not available. The completed surveys include sketches of the structure layout and location of air and sub-slab samples.

Sub-slab, Soil vapor and Indoor Air Sampling

Sub-slab soil vapor samples were collected from below the concrete floor slabs at four structures (01, 02, 03 and 04). At each location, MACTEC used a hammer drill to penetrate the floor and install a permanent sub-slab vapor point using a stainless steel sample port and ¼-inch diameter Teflon tubing. Prior to sampling, three volumes of air were purged from the tubing using a polyethylene syringe at a rate less than 200 milliliter/minute. Clean-certified 6-liter SUMMA®-type canisters with a 24-hour regulator control valves were connected to the tubing at each point and used to collect the sub-slab samples. No sub-slab sample was collected at Structure 05. Much of this building has a crawlspace with a concrete floor. Since it is not habitable and due to reluctance of the building owner, the sub-slab was not penetrated.

Basement level indoor air samples were collected from four of the structures (02, 03, 04, and 05). The samples were collected from a few feet above the floor level and were sampled over the same 24-hour period as sub-slab sampling (if performed).

First floor level indoor air samples were collected from all five structures. Two first floor air samples were collected at Structure 01 which was constructed with a slab on grade. The first floor samples were collected from approximately three to five feet above the floor level, and set up with 24-hour flow valves to be collected coincident with the sub-slab and basement air samples.

Three ambient air samples were collected in the vicinity of the structures homes/businesses being sampled for indoor air and sub-slab vapor VOC contamination. AA-01 was located near Structure 04; AA-02 was located just behind (south) the former dry cleaner (Structure 02 and 03). Ambient air sample AA-03 was collected in January during the indoor air sampling for Structure 05.

For all air samples, the time of sample collection, canister vacuum (in inches Hg), canister identification, regulator identification, and weather conditions were recorded in the field log book. After approximately 24-hours, the flow valves were shut off. The time and remaining vacuum in the canister were noted in the field log book. The samples were delivered to Con-Test Laboratory by the field crew. Con-Test analyzed for VOCs via United States Environmental Protection Agency (USEPA) Method TO-15. Laboratory analysis included Category B deliverables.

Photographs of the deployed canisters or interior conditions are included in Appendix B. Completed indoor air quality questionnaires and inventory forms are provided in Appendix C.

3.3 SOIL VAPOR SAMPLING

MACTEC installed soil vapor points at seven locations exterior of structures to establish permanent sampling points to assess residual subsurface contamination. [Note that soil vapor samples collected as part of structure sampling are described in the previous section.] The locations of these points are shown on Figure 3.1 and described below:

DP-01	Upgradient of the Site along the north side of East Main Street;
DP-02	In the alley to the east of the former Eugene's Dry Cleaners building;
DP-03	In the alley to the east of the former Eugene's Dry Cleaners building;
DP-04	Along the south side of the Site building
DP-05	To the south of the Site building and near an existing dry well
DP-06	Southwest of the Site building near well PW-2
DP-07	Southeastern portion of the property at well PW-8

MACTEC collected soil vapor samples from each of the soil vapor points in December 2007.

Soil vapor points DP-02 through DP-07 were installed on December 11th and 12th, 2007 by ADT using direct-push drilling methods. The boreholes were drilled using a two and 3/8-inch outside diameter macrocore sampler to evacuate soils from the borehole. Each boring was advanced into the water table, to a depth of 10 feet bgs. Water was encountered at each location at approximately 7.8 to 8.0 feet bgs. Soil profiles recovered from the direct-push samplers were examined to evaluate soil conditions and identify water-saturated zones. The six inch soil vapor points were installed above the water table at a depth of 4.0 to 5.0 feet bgs. Soil vapor point installation diagrams are presented in Appendix D.

Soil vapor point DP-01 was installed on December 18, 2007 by MACTEC using a hand auger. The soil vapor point was installed to a depth of 4.5 feet bgs. This boring was completed adjacent to existing upgradient monitoring well PW-1 in a sidewalk tree-planting cut-out. Soil samples were not analyzed from this upgradient location.

The soil vapor points were installed, tested, and sampled in accordance with the procedures described in the WP. Each soil vapor point was completed with a flush-to-the-ground road box with sealable cap set into a concrete pad.

The soil gas samples were collected in clean-certified three liter SUMMA®-type canisters with flow regulators set to approximately 20 minutes per sample. Flow into the canisters was less than 0.2 liters per minute, as requested by the NYSDOH. Soil vapor samples were delivered to Con-Test Analytical for analyses of VOCs by USEPA Method TO-15.

3.4 GROUNDWATER SAMPLING

MACTEC collected groundwater samples from nine locations at the Site. Groundwater grab samples were collected from four soil vapor sampling point locations (DP-02, DP-03, DP-04, and DP-05) and from standing water within the sump at the basement of the former dry cleaners. Five groundwater samples were also collected from existing monitoring wells (P-1, PW-1, PW-2, PW-3, and PW-8) using low-flow groundwater sampling methods. A sixth monitoring well, PW-6, appeared to be obstructed or partially filled in and could not be sampled. Field data records for the low flow monitoring well samples are included in Appendix D.

Groundwater samples were submitted to Mitkem for analysis for TCL VOCs using USEPA 8260 methods as described in the NYSDEC Analytical Services Protocol (ASP) (NYSDEC, 2005). Off-Site laboratory analysis included Category B deliverables. The sample set included one field duplicate at DP-04 and a matrix spike and matrix spike duplicate collected at PW-3.

3.5 SOIL SAMPLING

MACTEC collected soil grab samples from six direct-push soil vapor soil borings (DP-02 through DP-07), and from sub-slab borings completed in basement of Structure 02 and Structure 03. A field duplicate sample was collected at boring DP-04. At the direct-push locations, soils were collected in an acetate tube using a 5-foot long core sampler. Upon retrieval, the tubes were removed from the core barrel and opened lengthwise to provide access to the soils. Soils were logged and based on the PID readings and physical evidence such as color or odor, one sample from each boring location was submitted for VOC analysis. No visible contamination or odors

were detected in the borings and therefore a default depth of two or three feet bgs was used to characterize conditions in subsurface soils.

Soil samples were analyzed by Mitkem for VOCs using USEPA method 8260. Off-Site laboratory analysis included Category B deliverables. Soil boring logs with stratigraphic descriptions and drilling information are provided in Appendix D.

4.0 DATA ASSESSMENT

4.1 DATA USABILITY ASSESSMENT

MACTEC reviewed the laboratory data results from the field activities completed in December 2007 and January 2008 to establish that the results met data quality objectives. Project chemist review was completed based on NYSDEC Division of Environmental Remediation guidance for Data Usability Summary Reports (DUSR) (NYSDEC, 2002b). This review included evaluations of sample collection, data package completeness, holding times, quality control data (blanks, instrument calibrations, duplicates, surrogate recovery, and spike recovery), data transcription, electronic data reporting, calculations, and data qualification. The DUSRs are presented in Appendix E.

Air samples and soil vapor samples were analyzed by Con-Test Analytical Laboratory of East Longmeadow, Massachusetts for VOCs by USEPA Method TO-15. Groundwater samples and soil samples were analyzed by Mitkem Laboratory of Warwick, Rhode Island. Both laboratories provided Category B deliverables as defined in the NYSDEC ASP (NYSDEC, 2005).

The December 2007 field event generated a total of eleven groundwater, ten soil, thirteen soil vapor, and nine air samples. The January 2008 field event generated four air samples. The DUSRs for these two data sets are provided in Appendix E along with tabulated full data results. With the exception of the items discussed in the DUSR, the results are interpreted to be usable as reported by the laboratory. The chemist review added various data validation qualifiers, as dictated by the guidelines. These include:

- U indicates that the analyte was not detected above the reported detection limit
- UJ indicates that the analyte was not detected a the reported detection limit and the detection limit is estimated
- J indicates that the concentration is estimated
- R indicates that the results was rejected during validation
- D indicates that the results was reported from a diluted analytical run

The chemist review noted that two air samples from the December 2007 event (ECFA02, and ECFA03) had slight positive final pressure readings when canister pressure was recorded upon receipt at the laboratory. The laboratory explanation was that temperature differences between the field and laboratory setting and potential differences in the accuracy of pressure gauges caused these positive readings. Detected compounds from these samples were qualified as estimated. MACTEC notes that in contemporaneous samples from a similar NYSDEC Site, a field duplicate sample collected at one location had similar reported concentrations to the field prime sample and did not have a positive laboratory pressure reading. This supports a finding that slight positive pressure does not invalidate the analysis and that the results are accurate and usable.

4.2 INDOOR AIR AND SUB-SLAB SOIL VAPOR RESULTS

Table 4.1 presents a summary of VOCs that were detected in sub-slab soil vapor samples and indoor air samples. MACTEC has grouped the results by structure and included the results for three outdoor ambient air samples that were collected during the time period that the sampling was performed. The NYSDOH has developed two matrices to use as tools in making remedial action decisions when soil vapor may be entering structures. The decision matrices are included in the NYSDOH *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (NYSDOH, 2006). The list of volatile chemicals that the matrices provide guidance for have been amended to seven, as documented to the NYSDEC in a letter dated June 25, 2007 (NYSDOH, 2007). The seven VOCs are: TCE, PCE, 1,1,1-trichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene (cis-1,2-DCE), vinyl chloride, and carbon tetrachloride. The guidance values are applicable when evaluating sub-slab vapor samples in relation to contemporaneous indoor air concentration.

Of the five structures sampled, four included sub-slab soil vapor and indoor air sample sets that can be used to compare to the NYSDOH guidance matrices (01, 02, 03, and 04). Structure 05 had no sub-slab sampling as explained previously. Where a comparison to the matrices can be made, three compounds, PCE, TCE, and carbon tetrachloride were reported at levels above NYSDOH guidance values.

The results for PCE in indoor basement air and sub-slab soil vapor are shown on Figure 4.1. PCE was reported above NYSDOH guidance at Structures 02, 03 and 04. PCE was not reported at levels above NYSDOH guidance values in samples from Structure 01.

The highest sub-slab vapor concentration, 6500 micrograms per cubic meter (µg/m^3) was reported at Structure 02. Corresponding indoor air levels for PCE were 78 J µg/m^3 in first floor air. Basement air results (from BA-03, which collected air from the entire basement beneath Structure 02 and Structure 03) contained PCE at 39 µg/m^3. Note that a 2006 sample of basement air from this structure contained PCE at 254 µg/m^3. The elevated 2007 sub-slab concentration yields a category of "MITIGATE" when the appropriate NYSDOH matrix is applied. Low levels of TCE were also reported in the sub-slab and first floor air samples from Structure 02. The levels (1.1 µg/m^3 in soil vapor and 0.53J µg/m^3 in indoor air) fall within NYSDOH guidance criteria that recommend that reasonable and practical actions should be taken to identify the source and reduce exposure.

Structure 03, the adjoining retail space, contained PCE in sub-slab vapor (180 µg/m^3), basement air (39 µg/m^3), and first floor air (14 J µg/m^3) at reported concentrations that, while lower than the former dry-cleaners, also indicate a "MITIGATE" guidance recommendation.

At Structure 04, PCE was reported in sub-slab vapor (27 µg/m^3), basement air (10 µg/m^3), and first floor air (3.6 µg/m^3) at reported concentrations that fall within the range for a recommendation that reasonable and practical steps be taken to identify the source and reduce exposure. This structure is approximately 160 feet to the north of the Site.

At Structure 05, (where no sub-slab sample was obtained) PCE was reported at concentrations up to 9.8 µg/m^3 in basement (crawlspace) air. This crawlspace has a concrete floor that appears intact and reportedly was installed in recent years. At this structure, results from nearby exterior soil vapor implants provide supplemental data to evaluate the indoor air findings. See the following subsection for a discussion of soil vapor results.

Carbon tetrachloride was reported in indoor air at all structures, however, the concentrations are similar to those reported in the ambient (outdoor) air samples (i.e., all results are <0.6 µg/m^3). Additionally, carbon tetrachloride was not identified in any groundwater sample. The results suggest to MACTEC that carbon tetrachloride may be present in these structures from possible household influences or at general background concentrations and may therefore not be present as a Site-related contaminant.

4.3 SOIL VAPOR RESULTS

Samples of soil vapor were collected from seven locations near the Site (DP-01 to DP-07). Chlorinated VOCs were detected at elevated concentrations (>100 µg/m^3) at all these locations except DP-01 which is located north of the Site and in an interpreted upgradient direction. The levels of PCE are shown on Figure 4.2. Of note are the concentrations reported at DP-03 (48,000 µg/m^3), DP-04 (2800 µg/m^3), and DP-07 (9100 µg/m^3). DP-03 and DP-04 are adjacent to the former dry cleaners and are closest to the basement sump. DP-07 is approximately 70 feet south of the building and is near monitoring well PW-8 which has the highest level of VOCs in groundwater (see section 4.4 below). TCE is also present at these locations. The results from soil vapor samples are provided on Table 4.2.

VOCs are also present at lower concentrations in the vapor samples locations DP-02, DP-05 and DP-06 with PCE reported below 250 µg/m^3 in these samples. The lowest reported soil vapor concentration of PCE was at the upgradient location DP-01 (3.3 µg/m^3).

4.4 GROUNDWATER RESULTS

VOCs reported in groundwater samples collected from the five monitoring wells, the four direct-push borings, and the basement sump, are presented in Table 4.3. The summed total of detected VOCs in each water sample is shown on Figure 4.3. There were no chlorinated solvent VOCs reported in the groundwater sample collected from the upgradient monitoring well PW-1, nor were there any VOCs detected in the groundwater grab samples collected from DP-02, located near the northeast (upgradient) corner of the Site.

VOCs were detected above groundwater criteria (Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations [NYS, 2008]) in samples from two existing monitoring wells, P-1 and PW-8. Vinyl Chloride (2J micrograms per liter [µg/L]) was reported in the sample from in P-1, and cis-1,2-DCE (9 µg/L) and PCE (25 µg/L) were reported at PW-8. These wells are located directly south of the Site building, in the interpreted direction of groundwater flow from the Site and former dry cleaners basement sump.

One or more solvent-type VOCs were reported in grab samples from direct-push locations DP-03, DP-04 and DP-05 and at monitoring wells PW-2 and PW-3, however the reported concentrations were all below criteria and generally at 1 J µg/L.

In 2006, a groundwater grab sample collected approximately 120 feet to the south of PW-8 (GW-1) contained PCE at 7 ug/L.

No VOCs were reported from the water grab sample from the basement sump at the former dry cleaners.

4.5 SOIL RESULTS

VOCs reported in soil samples from the six direct-push soil vapor borings and from three sub-slab soil vapor borings completed in the basement of the Site building are presented in Table 4.4. All soil samples were collected from above the water table. Soil VOC concentrations were compared to criteria values from, Subpart 375-6.8(a) Unrestricted Use Soil Cleanup, "Remedial Program Soil Clean-up Objectives" (NYS, 2006).

VOC compounds that were detected in one or more soil samples included: acetone, ethyl benzene, naphthalene, PCE, toluene, TCE, and xylene. However, only one result was reported at levels above the unrestricted use soil cleanup criteria. PCE (2.4 milligrams per kilogram [mg/kg]) was reported in DP-03 above the criteria of 1.3 mg/kg. Note that this location also had the highest reported PCE in soil gas. PCE concentrations in all soil samples from the 2007 VI are shown on Figure 4.4.

The three sub-slab soil samples collected below the basement at Structure 02 and Structure 03 contained trace (below reporting limit) or no VOCs. No VOCs were detected at SS-02B and SS-03 and trace levels of PCE and TCE were reported at SS-02A.

All other soil samples contained one or more VOCs that were identified above detection limits but all results are well below appropriate unrestricted soil cleanup criteria.

5.0 INVESTIGATION FINDINGS

The primary goals of this VI were to; provide further information on the source of elevated soil vapor concentrations identified during a previous investigation, perform structure evaluations at the Site and of adjacent structures, and obtain necessary information to design a soil vapor or sub-slab depressurization system, if appropriate.

Based on the review of results from this investigation, MACTEC has identified the following findings:

- The 2007 VI confirmed residual impacts from chlorinated solvents in the Site building. Both the former dry cleaning space (described in this Report as Structure 02) and an adjacent retail business (Structure 03) contained PCE at levels in sub-slab vapor and in indoor air that indicate a "MITIGATE" condition based on current NYSDOH guidance.
- A water sample from the Site basement sump and three sub-slab soil samples from the Site building did not identify a residual source. However, a soil sample collected adjacent to the east of the building (DP-03) found PCE in shallow soil above regulatory criteria. This is confirmed by elevated PCE in soil gas from the same location. Based on these data, MACTEC concludes there is residual PCE contamination in shallow soils near the south end of the former dry cleaners structure. It is not likely that the source of this soil contamination is the basement sump since the sump is at a lower elevation.
- Sampling of adjacent structures did not identify solvents at levels that would indicate a "MITIGATE condition. However, the absence of sub-slab data from Structure 05, coupled with its proximity to DP-03 raise the possibility of elevated PCE in sub-slab vapor beneath that structure.
- VOCs in 2007 water samples from wells P-1 and PW-08 indicate that residual solvents are impacting groundwater (i.e., concentrations are above groundwater criteria). PCE reported at PW-08 and further south in a 2006 groundwater grab sample (GW-1) are indicative of migrating impact. The presence of solvent-type VOCs in these wells is consistent with earlier findings that groundwater is flowing generally southward.
- The magnitude and general distribution of PCE in 2007 soil vapor is consistent with the previous 2006 investigation

The NYSDEC, in consultation with NYSDOH, will evaluate the results presented in this Report to determine the appropriate follow-up actions. MACTEC offers the following recommendations:

1. Obtain access from the property owner of Structure 05 to collect a sub-slab sample to determine if sub-slab soil vapor is the source if the PCE identified at levels of approximately 10 $\mu g/m^3$ in the crawlspace at this building. In the absence of confirmatory

sub-slab vapor sampling, consider recommending a sub-slab depressurization system in this buildings crawlspace to control potential vapors emanating from residual contamination in soils between this building and the Site.

2. Install one or two monitoring wells near PW-6 (as a replacement to the damaged PW-6) to monitor impacted groundwater that is migrating southward from residual source(s) near the south end of the former dry cleaners.
3. Sub-slab depressurization systems are recommended to mitigate Structures 02 and 03. A soil vapor extraction system was evaluated, but would not be cost effective due to increased installation, operation, and maintenance costs.
4. Contaminated soils near DP-03 do not warrant remedial action due to the low levels of contamination detected in the alley way that are below restricted residential cleanup objects, no impacts to groundwater, and installation of sub-slab depressurized systems at impacted structures are anticipated to be performed. Since the contamination pathways will be addressed, contamination in the soil will naturally decrease in concentration over time.

Based on conversations with NYSDOH, MACTEC has provided the addresses of the structures that were sampled for this VI to the NYSDEC under separate cover.

6.0 REFERENCES

ABB Environmental Services, 1994. Program Quality Assurance Program Plan. Prepared for the New York State Department of Environmental Conservation, Albany, New York. June 1994.

MACTEC Engineering and Consulting, Inc. P.C., 2005. *Program Health and Safety Plan.* Prepared for New York State Department of Environmental Conservation, Albany, New York. 2005.

MACTEC Engineering and Consulting, Inc. P.C., 2007. Final Vapor Investigation Workplan Eugene's Dry Cleaners. Prepared for New York State Department of Environmental Conservation, Albany, New York. August 2007.

New York State (NYS), 2008. New York Codes, Rules, and Regulations, Title 6, Part 700-705 Water Quality Regulations Surface Water and Groundwater Classifications and Standards. Amended January 2008.

New York State (NYS), 2006. *New York Codes, Rules, and Regulations, Title 6, Part 375-Environmental Remediation Programs.* December 14, 2006.

New York State Department of Environmental Conservation (NYSDEC). 2000. Record of Decision Eugene's Dry Cleaners Site Babylon (V) Suffolk County Site 1-52-157. November 2000.

New York State Department of Environmental Conservation (NYSDEC), 2002a. Draft DER-10, Technical Guidance for Site Investigation and Remediation. December 2002.

New York State Department of Environmental Conservation (NYSDEC). 2002b. "*Guidance for the Development of Data Usability Reports"* Division of Environmental Remediation, 2002.

New York State Department of Environmental Conservation (NYSDEC), 2005. "*Analytical Services Protocol"*;7/05 Edition; July 2005.

New York State Department of Environmental Conservation (NYSDEC), 2007. Work Assignment #D003826-27, Eugene's Dry Cleaners, Site # 1-52-157 - letter dated March 28, 2007.

New York State Department of Health (NYSDOH), 2006. "*Guidance for Evaluating Soil Vapor Intrusion in the State of New York"*, Final, October 2006.

New York State Department of Health (NYSDOH), 2007. NYSDEC letter regarding seven VOCs for indoor air matrices. June 25, 2007.

FIGURES

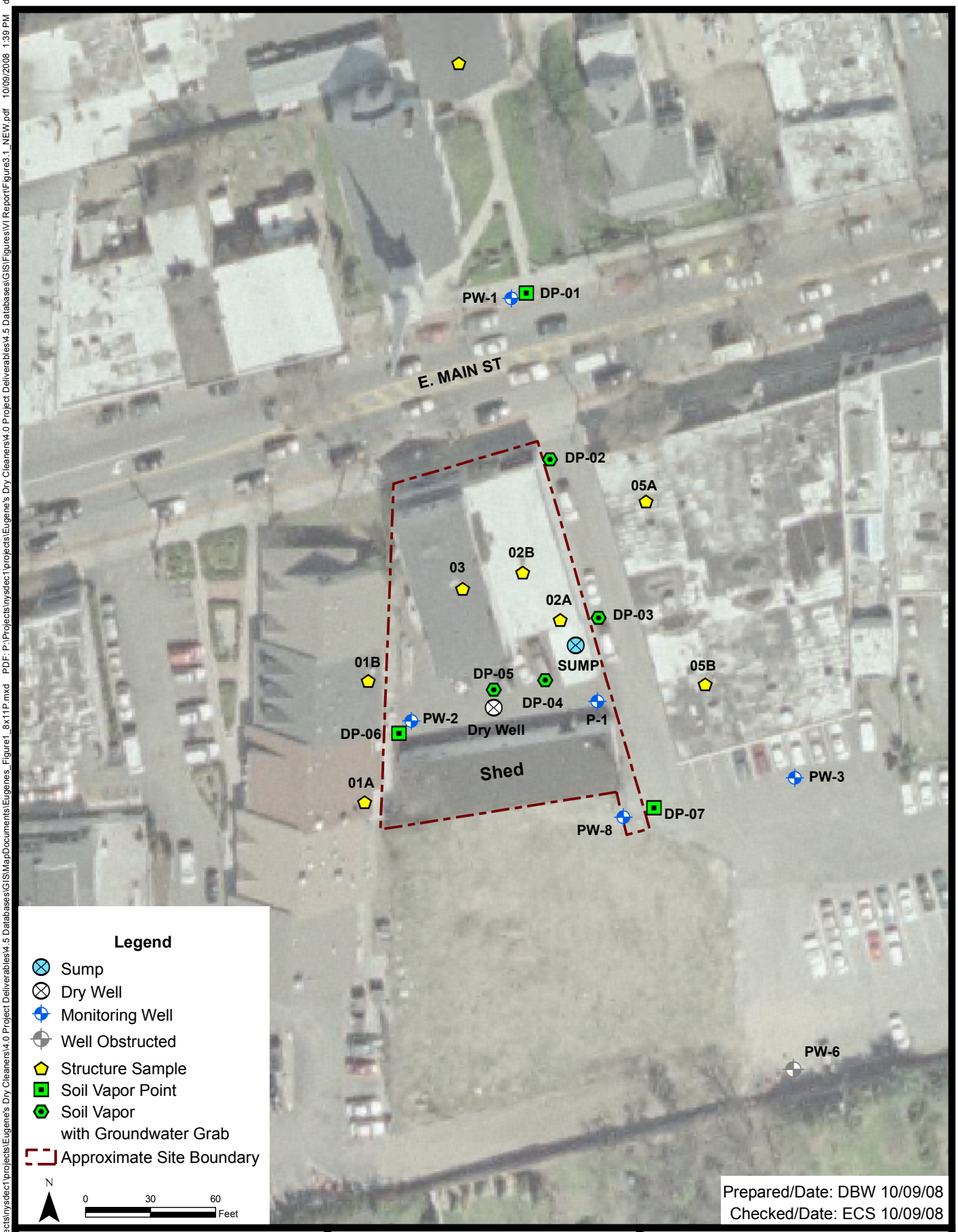
Prepared/Date: BRP 08/15/07
Checked/Date: ECS 08/15/07

NYSDEC
Eugene's Dry Cleaners
Babylon, NY

MACTEC

Site Location

Project 3612072087 Figure 1.1



VI REPORT
EUGENE'S DRY CLEANERS
BABYLON, NY

MACTEC

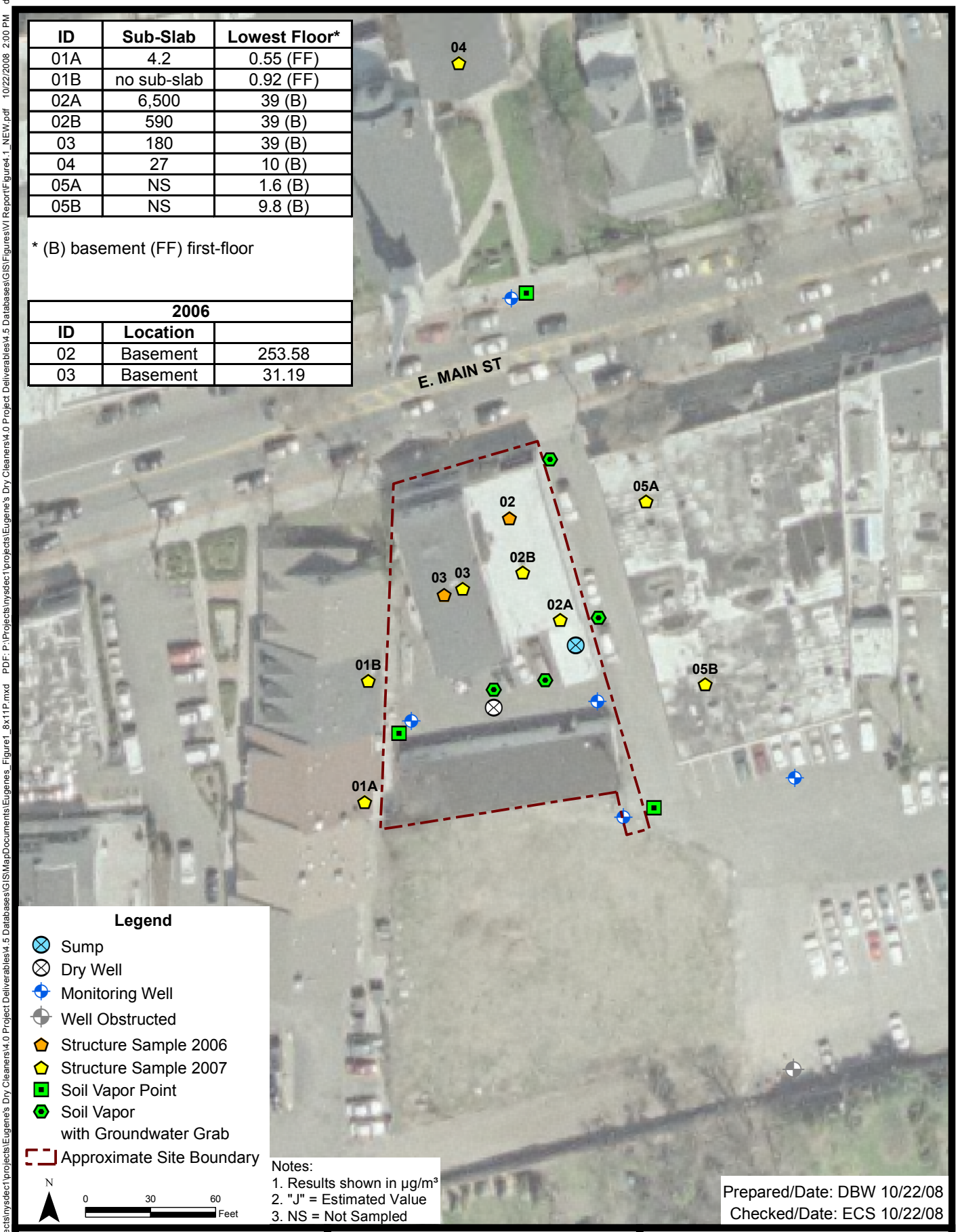
2007 Sample Locations

Project 3612072087 Figure 3.1

ID	Sub-Slab	Lowest Floor*
01A	4.2	0.55 (FF)
01B	no sub-slab	0.92 (FF)
02A	6,500	39 (B)
02B	590	39 (B)
03	180	39 (B)
04	27	10 (B)
05A	NS	1.6 (B)
05B	NS	9.8 (B)

* (B) basement (FF) first-floor

2006		
ID	Location	
02	Basement	253.58
03	Basement	31.19



Legend

- Sump
- Dry Well
- Monitoring Well
- Well Obstructed
- Structure Sample 2006
- Structure Sample 2007
- Soil Vapor Point
- Soil Vapor with Groundwater Grab
- Approximate Site Boundary

N

0 30 60 Feet

Notes:
1. Results shown in µg/m³
2. "J" = Estimated Value
3. NS = Not Sampled

Prepared/Date: DBW 10/22/08
Checked/Date: ECS 10/22/08

VI REPORT
EUGENE'S DRY CLEANERS
BABYLON, NY

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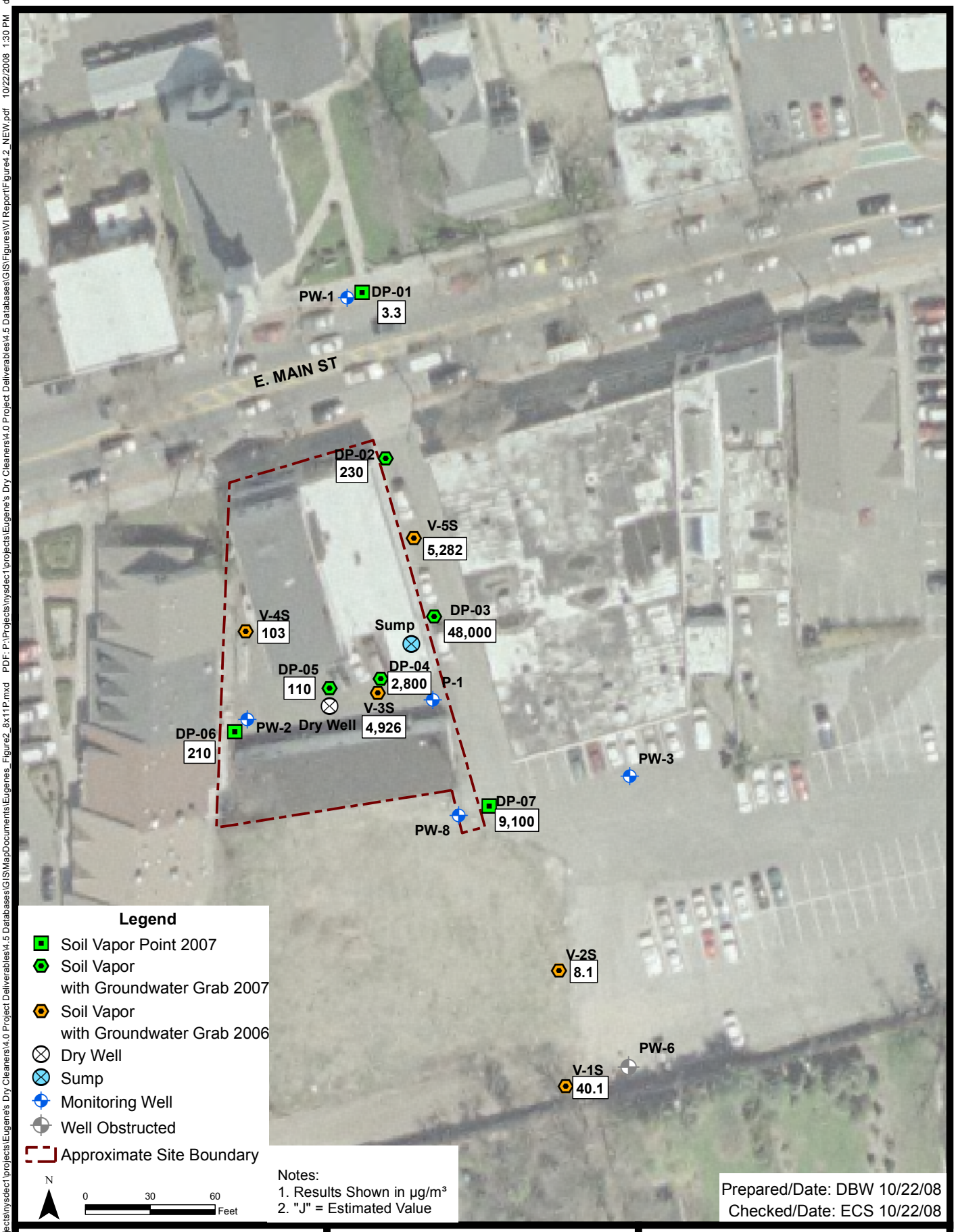
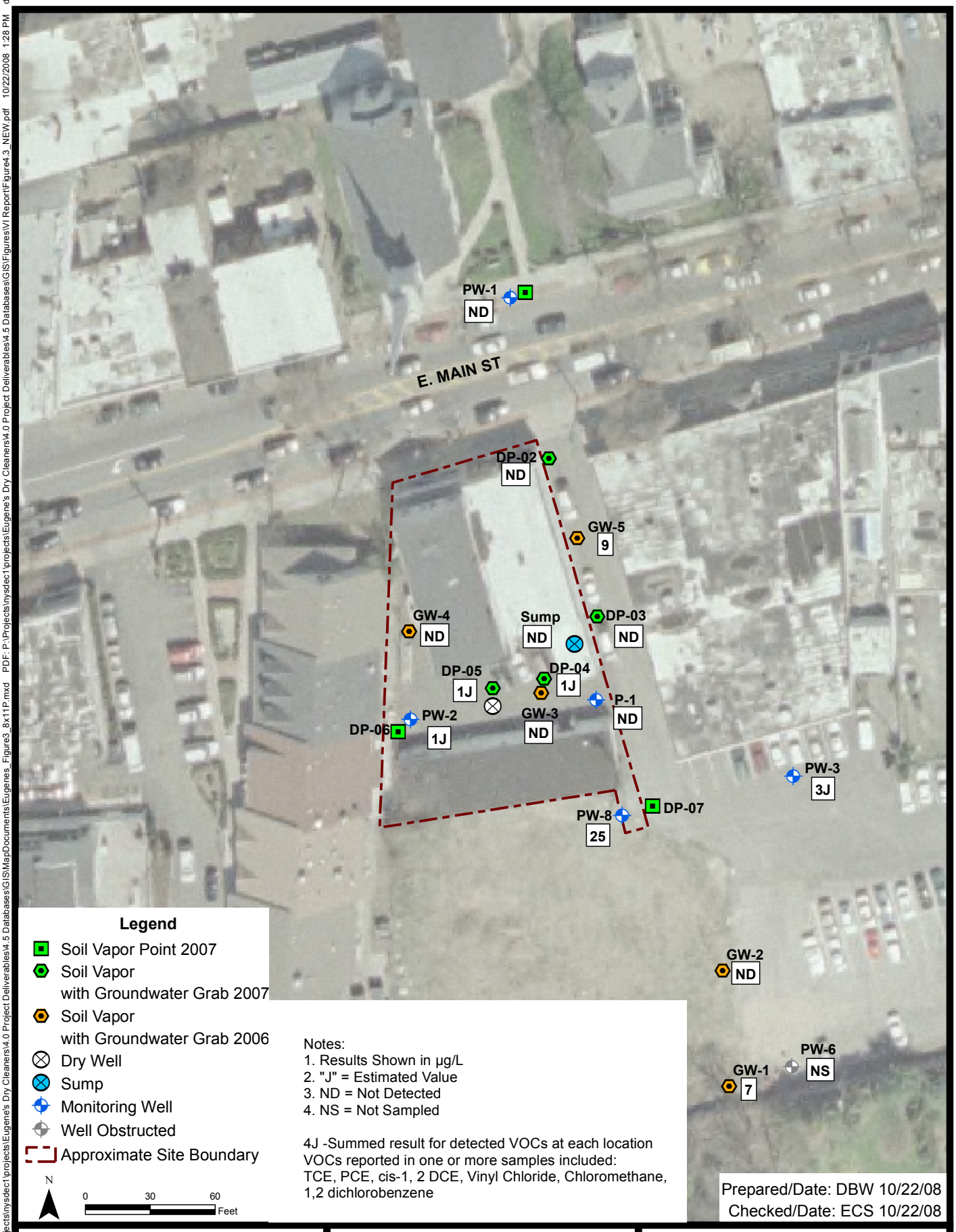
PCE in Sub-Slab Vapor and Basement Air
Project 3612072087 Figure 4.1



VI REPORT
EUGENE'S DRY CLEANERS
BABYLON, NY

MACTEC

PCE in Soil Vapor
(Outside Locations)
Project 3612072087 Figure 4.2



VI REPORT
EUGENE's DRY CLEANERS
BABYLON, NY

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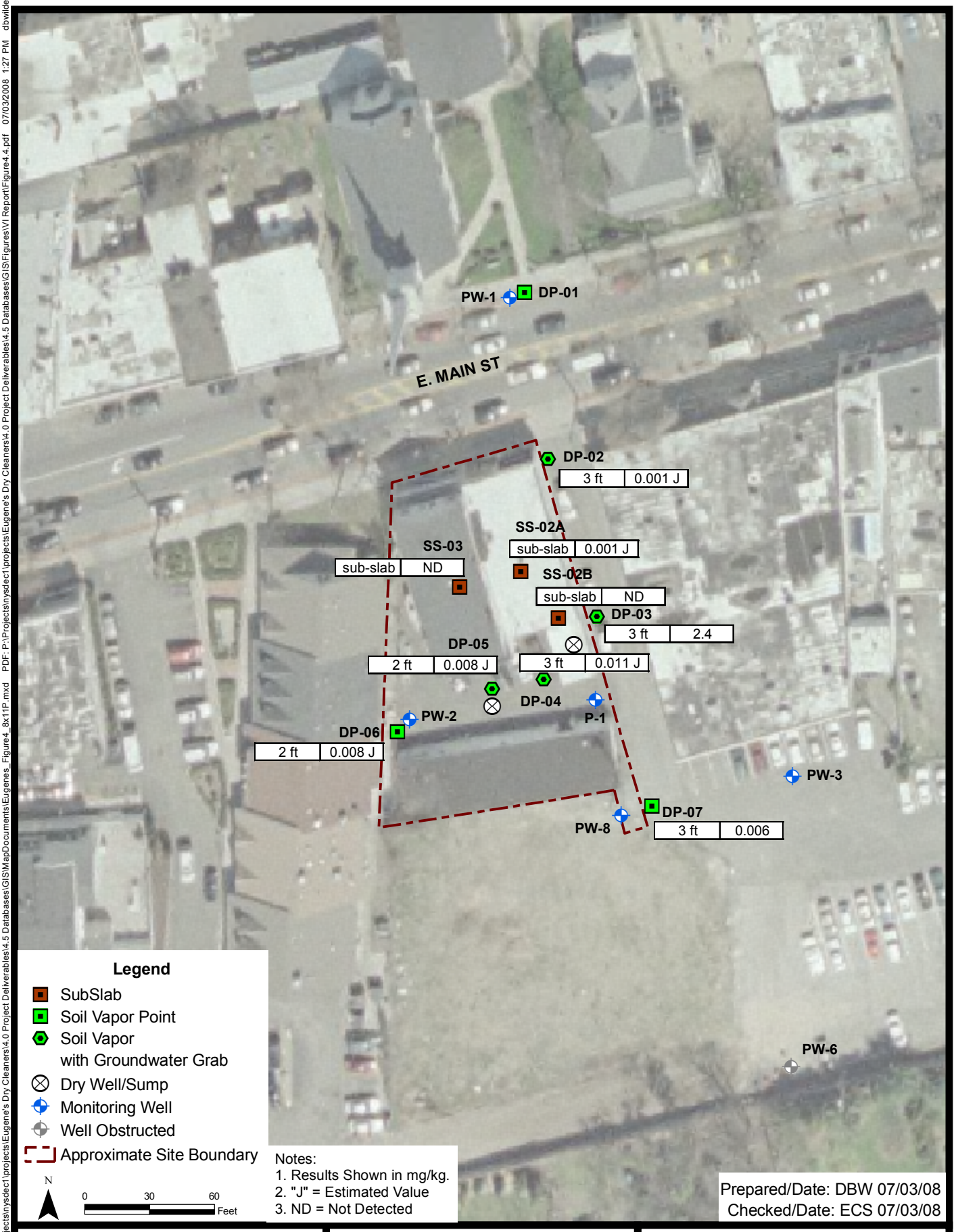
PCE in Groundwater

Project 3612072087 Figure 4.3



VI REPORT
EUGENE'S DRY CLEANERS
BABYLON, NY

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PCE in 2007 Soil Samples

Project 3612072087 Figure 4.4

TABLES

Table: 3.1: Air Sample Data Collection Summary

Location	Field Sample ID	Sample Type	Vapor Point	Can ID	Regulator ID	Start Date	Start Time	Sample End Date	End Time	Start Pressure (inches of Hg)	End Pressure (inches of Hg)	Canister Size	Depth	Slab Thickness (inches)	Purge (ml)	He Tracer Detected	PID Reading: Purged Vapor (ppb)
Ambient (Outdoor) Air Samples																	
AA-01	ECAA01	Indoor Air	NA	1055	3078	12/12/2007	11:30 AM	12/13/2007	10:48 AM	-29	-7	6 Liter	NA	NA	NA	NA	NA
AA-02	ECAA02	Indoor Air	NA	1122	3084	12/12/2007	11:36 AM	12/13/2007	10:56 AM	-29	-8	6 Liter	NA	NA	NA	NA	NA
AA-03	ECAA03	Indoor Air	NA	1109	3253	1/14/2008	2:15 PM	1/15/2008	1:30 PM	-29	-6.5	6 Liter	NA	NA	NA	NA	NA
Indoor Air Samples																	
FA-01A	ECFA01A	Indoor Air	NA	1275	3079	12/10/2007	12:27 PM	12/11/2007	10:41 AM	-27	-5	6 Liter	NA	NA	NA	NA	NA
FA-01B	ECFA01B	Indoor Air	NA	1336	3050	12/10/2007	12:35 PM	12/11/2007	10:31 AM	-23	-5	6 Liter	NA	NA	NA	NA	NA
FA-02	ECFA02	Indoor Air	NA	1476	3094	12/10/2007	1:17 PM	12/11/2007	12:42 PM	-29	0	6 Liter	NA	NA	NA	NA	NA
FA-03	ECFA03	Indoor Air	NA	1745	3217	12/10/2007	3:40 PM	12/11/2007	3:21 PM	-27.5	0	6 Liter	NA	NA	NA	NA	NA
FA-04	ECFA04	Indoor Air	NA	1669	3048	12/10/2007	4:55 PM	12/11/2007	4:28 PM	-30	-2.5	6 Liter	NA	NA	NA	NA	NA
FA-05	ECFA05	Indoor Air	NA	1755	3265	1/14/2008	1:45 PM	1/15/2008	1:25 PM	-29	0	6 Liter	NA	NA	NA	NA	NA
BA-03	ECBA03-02	Indoor Air	NA	1286	3199	12/11/2007	4:07 PM	12/12/2007	2:52 PM	-30	-5	6 Liter	NA	NA	NA	NA	NA
BA-04	ECBA04	Indoor Air	NA	1152	3295	12/10/2007	4:41 PM	12/11/2007	4:21 PM	-30	-9	6 Liter	NA	NA	NA	NA	NA
BA-05A	ECBA05A	Indoor Air	NA	1635	3178	1/14/2008	1:10 PM	1/15/2008	1:00 PM	-20	0	6 Liter	NA	NA	NA	NA	NA
BA-05B	ECBA05B	Indoor Air	NA	1628	3103	1/14/2008	1:20 PM	1/15/2008	1:05 PM	-30	-10	6 Liter	NA	NA	NA	NA	NA
Soil Vapor Samples - Sub-Slab																	
SS-01	ECSS01	Sub Slab	Permanent	1118	3268	12/10/2007	12:27 PM	12/11/2007	10:42 AM	-27	-4	6 Liter	2 in	4	240	NA	140
SS-02A	ECSS02A	Sub Slab	Permanent	1779	3271	12/10/2007	3:31 PM	12/11/2007	3:26 PM	-30	-6	6 Liter	2 in	12	240	NA	0
SS-02B	ECSS02B	Sub Slab	Permanent	1726	3296	12/11/2007	11:57 AM	12/12/2007	3:00 PM	-29	-11	6 Liter	2 in	12	250	NA	0
SS-03	ECSS03	Sub Slab	Permanent	1389	3008	12/10/2007	2:53 PM	12/11/2007	2:42 PM	-30	-20	6 Liter	2 in	2	300	NA	9
SS-03	ECSS03-02	Sub Slab	Permanent	1236	3099	12/11/2007	4:07 PM	12/12/2007	2:55 PM	-30	-9	6 Liter	2 in	2	300	NA	NR
SS-04	ECSS04	Sub Slab	Permanent	1241	3013	12/10/2007	4:40 PM	12/11/2008	4:22 PM	-28	-8.5	6 Liter	NR	NR	240	NA	NR
Soil Vapor Samples - Direct Push Borings																	
DP-01	ECSV01	Soil Vapor	Permanent	1637	NP	12/19/2007	4:10 PM	12/19/2007	4:30 PM	-24	-2	3 liter	4.5 ft	NA	600	0%	0
DP-02	ECSV02	Soil Vapor	Permanent	1686	NP	12/13/2007	10:33 AM	12/13/2007	10:53 AM	-30	-5	3 liter	4 ft	NA	600	0%	0
DP-03	ECSV03	Soil Vapor	Permanent	1513	NP	12/13/2007	10:19 AM	12/13/2007	10:39 AM	-28	-5	3 liter	5 ft	NA	600	0%	0
DP-04	ECSV04	Soil Vapor	Permanent	1399	NP	12/12/2007	2:01 PM	12/12/2007	2:21 PM	-29	-5	3 liter	4 ft	NA	600	0%	0
DP-04	ECSV04-DUP	Soil Vapor	Permanent	1363	NP	12/12/2007	2:23 PM	12/12/2007	2:43 PM	-30	-5	3 liter	4 ft	NA	600	0%	0
DP-05	ECSV05	Soil Vapor	Permanent	1406	NP	12/12/2007	1:47 PM	12/12/2007	2:07 PM	-30	-4	3 liter	4 ft	NA	600	0%	0
DP-06	ECSV06	Soil Vapor	Permanent	1360	NP	12/12/2007	1:32 PM	12/12/2007	1:52 PM	-30	-6	3 liter	4 ft	NA	600	0%	0
DP-07	ECSV07	Soil Vapor	Permanent	1393	NP	12/12/2007	2:12 PM	12/12/2007	2:32 PM	-30	-7	3 liter	4 ft	NA	600	0%	0

NP = Not Provided for 20 Minute Regulators
NR = Not Recorded
NA = Not Applicable

Structure ID	Ambient Air						Structure 1					
Location ID	AA-01		AA-02		AA-03		SS-01		FA-01A		FA-01B	
Field Sample ID	ECAA01		ECAA02		ECAA03		ECSS01		ECFA01A		ECFA01B	
Field Sample Date	12/13/2007		12/13/2007		1/15/2008		12/11/2007		12/11/2007		12/11/2007	
QC Code	FS		FS		FS		FS		FS		FS	
Parameter	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1,1-Trichloroethane	0.25	U	0.25	U	0.25	U	**0.29**		0.25	U	0.25	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**0.62**		**0.69**		0.69	U	**0.55**		**0.55**		**0.76**	
1,2,4-Trimethylbenzene	**0.35**		**0.4**		**0.4**		0.23	U	**0.44**		**0.93**	
1,2-Dichlorobenzene	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U
1,3,5-Trimethylbenzene	0.23	U	0.23	U	0.23	U	0.23	U	0.23	U	0.23	U
1,3-Dichlorobenzene	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U
1,4-Dichlorobenzene	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U	**0.92**	
2-Butanone	**3.5**	J	**3.4**	J	**2.5**		**2.4**	J	**3.2**	J	**5.3**	J
2-Hexanone	**0.96**	J	**0.59**	J	0.44	UJ	0.18	UJ	**0.48**	J	**1.1**	J
2-Propanol	**1.8**		**3**		**2.1**		**2.1**		**1.5**		**20**	
4-Ethyltoluene	0.23	U	0.23	U	0.23	U	0.23	U	0.23	U	**0.27**	
4-Methyl-2-pentanone	0.18	UJ	0.18	UJ	0.18	UJ	0.18	UJ	0.18	UJ	0.18	UJ
Acetone	**15**		**43**		**11**	J	**21**		**10**		**100**	J
Benzene	**0.83**		**0.92**		**0.92**		**0.17**		**1.1**		**2.2**	
Carbon tetrachloride	**0.51**		**0.51**		**0.34**	J	**0.34**		**0.4**		**0.57**	
Chloroform	0.22	U	0.22	U	**0.83**		**17**		0.22	U	**0.66**	
Chloromethane	**1.6**		**1.4**		**1**		0.09	U	**1.2**		**1.7**	
Cis-1,2-Dichloroethene	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U
Cyclohexane	0.16	UJ	0.16	UJ	0.16	UJ	0.16	UJ	0.16	UJ	**0.43**	J
Dichlorodifluoromethane	**2.8**		**2.8**		**2.3**		**2.7**		**2.4**		**3.2**	
Ethanol	**18**	J	**19**	J	**9**	J	**180**	J	**15**	J	**960**	J
Ethyl acetate	0.17	UJ	0.17	UJ	0.33	U	0.17	UJ	0.17	UJ	**6.8**	J
Ethyl benzene	**0.35**		**0.35**		**0.27**		0.2	U	**0.39**		**0.78**	
Heptane	**0.26**		**0.33**		**0.22**		0.18	U	**0.33**		**0.77**	
Hexachlorobutadiene	2	UJ	2	UJ	0.96	U	2	UJ	2	UJ	2	UJ
Hexane	**0.54**		**0.6**		**0.57**		0.17	U	**0.7**		**1.4**	
Methylene chloride	1.9	U	1.6	U	**4.8**		1.7	U	2.5	U	2.4	U
Naphthalene	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U
o-Xylene	**0.35**		**0.39**		**0.27**		0.2	U	**0.43**		**0.82**	
Propylene	**1.5**		0.31	U	**1.5**		0.31	U	0.31	U	0.31	U
Styrene	0.19	U	0.19	U	0.19	U	0.19	U	**0.19**		**0.61**	
Tetrachloroethene	**0.43**		**0.73**		**0.61**		**4.2**		**0.55**		**0.92**	
Tetrahydrofuran	0.27	UJ	0.27	UJ	0.14	U	0.27	UJ	**0.66**	J	0.27	UJ
Toluene	2		2.5		1.7		0.47		2.4		6.8	
Trichloroethene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Trichlorofluoromethane	1.4		1.4		1.1		2.3		1.2		1.8	
Vinyl acetate	0.32	UJ	0.32	UJ	1.1		0.32	UJ	0.32	UJ	0.32	UJ
Xylene, m/p	0.94		1.1		0.66		0.39	U	1.1		2.1	

Structure ID	Structure 2						Structure 3					
Location ID	SS-02A		SS-02B		FA-02		SS-03		BA-03		FA-03	
Field Sample ID	ECSS02A		ECSS02B		ECFA02		ECSS03-02		ECBA03-02		ECFA03	
Field Sample Date	12/11/2007		12/12/2007		12/11/2007		12/12/2007		12/12/2007		12/11/2007	
QC Code	FS		FS		FS		FS		FS		FS	
Parameter	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1,1-Trichloroethane	54	U	**0.44**		**0.29**	J	**0.25**		**0.29**		0.25	UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane	76	U	**0.55**		**0.76**	J	**0.55**		**0.62**		**0.69**	J
1,2,4-Trimethylbenzene	**1500**		**2.7**		**1.9**	J	**0.53**		**1.8**		**1.6**	J
1,2-Dichlorobenzene	60	U	0.27	U	0.27	UJ	0.27	U	0.27	U	0.27	UJ
1,3,5-Trimethylbenzene	**900**		**0.66**		**0.66**	J	0.23	U	**0.53**		**0.53**	J
1,3-Dichlorobenzene	60	U	0.27	U	0.27	UJ	0.27	U	0.27	U	0.27	UJ
1,4-Dichlorobenzene	60	U	0.27	U	**1.1**	J	0.27	U	0.27	U	0.27	UJ
2-Butanone	300	UJ	1.4	UJ	**13**	J	**2.7**	J	**1.4**	J	**2.6**	J
2-Hexanone	40	UJ	0.18	UJ	0.18	UJ	**0.48**	J	0.18	UJ	0.18	UJ
2-Propanol	250	U	1.2	U	**500**	J	1.2	U	1.2	U	**18**	J
4-Ethyltoluene	**360**		**0.4**		**0.88**	J	0.23	U	**0.44**		**0.4**	J
4-Methyl-2-pentanone	40	UJ	0.18	UJ	0.18	UJ	0.18	UJ	0.18	UJ	0.18	UJ
Acetone	**450**		**39**		**5700**	J	**19**		**110**	J	**280**	J
Benzene	32	U	**0.89**		**1.5**	J	0.15	U	**0.83**		**1.6**	J
Carbon tetrachloride	62	U	**0.34**		**0.51**	J	0.28	U	**0.45**		**0.57**	J
Chloroform	48	U	**0.7**		**4.3**	J	**11**		0.22	U	0.22	UJ
Chloromethane	20	U	**0.5**		**1.6**	J	**0.3**		**1.4**		**1.6**	J
Cis-1,2-Dichloroethene	40	U	**0.29**		0.18	UJ	0.18	U	0.18	U	0.18	UJ
Cyclohexane	**110**	J	**1.4**	J	**0.62**	J	0.16	UJ	0.16	UJ	**0.5**	J
Dichlorodifluoromethane	50	U	**2.7**		**3.2**	J	**2.6**		**2.8**		**3.3**	J
Ethanol	190	UJ	**19**	J	**270**	J	**5.8**	J	**6.7**	J	**39**	J
Ethyl acetate	36	UJ	0.17	UJ	**200**	J	0.17	UJ	0.17	UJ	**4.2**	J
Ethyl benzene	**61**		**0.43**		**1.3**	J	0.2	U	**0.31**		**1.1**	J
Heptane	40	U	**0.44**		**3.9**	J	**0.22**		**0.37**		**0.7**	J
Hexachlorobutadiene	430	UJ	2	UJ	2	UJ	2	UJ	2	UJ	2	UJ
Hexane	**56**		**0.82**		0.17	UJ	**0.79**		**0.73**		**3.4**	J
Methylene chloride	240	U	2.6	U	2	UJ	**8.1**		2.2	U	3	UJ
Naphthalene	**150**		**0.61**		0.58	UJ	0.58	U	0.58	U	**0.9**	J
o-Xylene	**240**		**0.74**		**1.6**	J	0.2	U	**0.43**		**1**	J
Propylene	69	U	0.31	U	0.31	UJ	**0.53**		0.31	U	0.31	UJ
Styrene	**140**		**0.34**		**3.9**	J	0.19	U	**2.5**		**47**	J
Tetrachloroethene	**6500**		**590**		**78**	J	**180**		**39**		**14**	J
Tetrahydrofuran	59	UJ	0.27	UJ	0.27	UJ	0.27	UJ	0.27	UJ	0.27	UJ
Toluene	180		2.8		140	J	0.44		4.2		19	J
Trichloroethene	54	U	1.1		0.53	J	0.29		0.25	U	0.25	UJ
Trichlorofluoromethane	56	U	1.3		1.6	J	1.4		1.4		1.6	J
Vinyl acetate	71	UJ	0.32	UJ	0.32	UJ	0.32	UJ	0.32	UJ	0.32	UJ
Xylene, m/p	230		1.5		3.9	J	0.39		0.86		2.5	J

Table 4.1 Indoor Air VOC Results

Structure ID	Structure 4						Structure 5					
Location ID	SS-04		BA-04		FA-04		FA-05		BA-05A		BA-05B	
Field Sample ID	ECSS04		ECBA04		ECFA04		ECFA05		ECBA05A		ECBA05B	
Field Sample Date	12/11/2007		12/11/2007		12/11/2007		1/15/2008		1/15/2008		1/15/2008	
QC Code	FS		FS		FS		FS		FS		FS	
Parameter	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1,1-Trichloroethane	**0.39**		0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	**0.69**		**0.69**		**0.62**		0.69	U	0.69	U	0.69	U
1,2,4-Trimethylbenzene	**3.6**		**0.8**		0.23	U	**3.3**		**4.1**		**4.4**	
1,2-Dichlorobenzene	0.27	U	0.27	U	0.27	U	**0.81**		**0.43**		**0.32**	
1,3,5-Trimethylbenzene	**1**		0.23	U	0.23	U	**0.93**		**1.2**		**1.5**	
1,3-Dichlorobenzene	0.27	U	0.27	U	0.27	U	**0.38**		0.27	U	0.27	U
1,4-Dichlorobenzene	0.27	U	**0.27**		0.27	U	**35**		**16**		**8**	
2-Butanone	**17**	J	**1.8**	J	**1.5**	J	0.77	U	**3**		0.77	U
2-Hexanone	**1.3**	J	0.18	UJ	0.18	UJ	0.18	UJ	**0.55**	J	0.18	UJ
2-Propanol	**6.4**		**16**		**48**		**8.9**		**6.4**		**4.2**	
4-Ethyltoluene	**0.53**		0.23	U	0.23	U	**1.1**		**1.3**		**1.8**	
4-Methyl-2-pentanone	0.18	UJ	0.18	UJ	0.18	UJ	**0.29**	J	**0.22**	J	0.18	UJ
Acetone	**330**	J	**43**		**47**		**7.9**	J	**16**	J	**9.4**	J
Benzene	**0.32**		**1.1**		**1**		**0.92**		**0.86**		**0.98**	
Carbon tetrachloride	0.28	U	**0.57**		**0.45**		**0.34**	J	**0.34**	J	**0.34**	J
Chloroform	**1.1**		**2.6**		**0.35**		0.22	U	0.22	U	0.22	U
Chloromethane	0.09	U	**1.5**		**1.4**		**1**		**1.1**		**0.99**	
Cis-1,2-Dichloroethene	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U
Cyclohexane	**0.22**	J	**0.53**	J	**1.7**	J	0.16	UJ	0.16	UJ	0.16	UJ
Dichlorodifluoromethane	**8.3**		**4.6**		**7.3**		**2.3**		**2.2**		0.45	U
Ethanol	**10**	J	**110**	J	**680**	J	**80**	J	**49**	J	**40**	J
Ethyl acetate	0.17	UJ	0.17	UJ	0.17	UJ	**0.32**		0.33	U	0.33	U
Ethyl benzene	**0.43**		**0.9**		**0.74**		**0.62**		**0.47**		**0.59**	
Heptane	**0.33**		**0.96**		**1.8**		**2.7**		**0.7**		**1**	
Hexachlorobutadiene	2	UJ	2	UJ	2	UJ	0.96	U	0.96	U	**0.96**	
Hexane	**0.38**		**3.3**		**2.2**		**0.82**		**0.63**		**0.82**	
Methylene chloride	2.5	U	**15**		2.6	U	**1.4**		**1.8**		**0.69**	
Naphthalene	**1.2**		**0.66**		0.58	U	**3.9**		**2.3**		0.58	U
o-Xylene	**0.7**		**0.7**		**0.51**		**0.78**		**0.74**		**0.94**	
Propylene	**0.73**		0.31	U	0.31	U	**1.7**		**1.4**		0.16	U
Styrene	**0.23**		**1.1**		**0.19**		**0.31**		0.19	U	0.19	U
Tetrachloroethene	**27**		**10**		**3.6**		**1.6**		**1.6**		**9.8**	
Tetrahydrofuran	0.27	UJ	**0.27**	J	0.27	UJ	0.14	U	0.14	U	0.14	U
Toluene	2.2		5		26		11		3		4	
Trichloroethene	0.29		0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Trichlorofluoromethane	3		1.6		1.6		1.1		1.1		1.2	
Vinyl acetate	0.32	UJ	0.32	UJ	0.32	UJ	0.41		1.4		0.89	
Xylene, m/p	1.6		1.9		1.5		1.4		1.2		1.4	

Notes:

Only Detected Compounds shown.
Samples analyzed for VOCs by USEPA Method TO-15.
Location Name: AA = Ambient Air; SS = Sub-Slab;
BA = Basement Air; FA = First Floor Air
Results in microgram per cubic meter ($\mu g/m^3$)
QC Code:
FS = Field Sample
Qualifiers:
U = Not detected at a concentration greater than the RL
J = Estimated value
Detections are indicated in **BOLD**
NYSDOH background indoor air based upon 1997-2003 sampling (NYSDOH, 2005).

Highlighted results fall within the guidance criteria for **Mitigate,** as established in "Guidance for Evaluating Soil Vapor Intrusion in the State of New York (New York State Department of Health, 2005).

Highlighted results fall within the criteria for **Monitor,** as established in "Guidance for Evaluating Soil Vapor Intrusion in the State of New York (New York State Department of Health, 2005)..

Highlighted results exceed ambient conditions and fall within criteria for recommend that reasonable and practical actions are taken to identify the source(s) and reduce exposure, as established in "Guidance for Evaluating Soil Vapor Intrusion.." (New York State Department of Health, 2005).

Created by: BAS 05/06/2008
Checked by: TC 05/07/2008

Table 4.2 Soil Vapor VOC Results

Location	DP-01		DP-02		DP-03		DP-04		DP-04		DP-05		DP-06		DP-07	
Field Sample Date	12/19/2007		12/13/2007		12/13/2007		12/12/2007		12/12/2007		12/12/2007		12/12/2007		12/12/2007	
Field Sample ID	ECSV01		ECSV02		ECSV03		ECSV04		ECSV04-DUP		ECSV05		ECSV06		ECSV07	
QC Code	FS		FS		FS		FS		FD		FS		FS		FS	
Parameter	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1,1-Trichloroethane	0.55	U	0.54	U	54	U	**1.9**		**1.9**		0.54	U	0.54	U	**2.5**	
1,2,4-Trimethylbenzene	**2.7**		**17**		50	U	**3.5**		**4.2**		**7.6**		**4.1**		**66**	
1,3,5-Trimethylbenzene	1	U	**11**		50	U	**1.4**		**1.6**		**2.5**		**1.2**		**63**	
2-Butanone	**4.8**		**3.1**	J	300	U	3	UJ	**4.2**	J	**5.8**	J	**7.2**	J	7.4	UJ
2-Hexanone	0.41	U	0.4	UJ	40	U	**1.2**	J	**2**	J	**1.6**	J	**0.98**	J	1	UJ
2-Propanol	**32**		**8.3**		250	U	2.5	U	2.5	U	2.5	U	**25**		6.2	U
4-Ethyltoluene	1	U	**3.7**		50	U	**0.88**		**0.98**		**1.8**		**0.98**		**11**	
4-Methyl-2-pentanone	0.41	U	0.4	UJ	40	UJ	0.4	UJ	**1.3**	J	**1.1**	J	**1.1**	J	1	UJ
Acetone	**160**		**190**	J	240	UJ	**12**	J	**28**	J	**410**	J	**760**	J	**100**	
Benzene	0.32	U	**3.9**		32	U	**6.3**	J	**4.5**	J	**1.6**		**0.77**		**2.4**	
Carbon disulfide	0.31	U	3.2	U	320	U	**38**	J	**22**	J	**25**		**3.2**		7.8	U
Chloroform	0.48	U	**1.4**		48	U	**3.7**		**3.6**		0.48	U	0.48	U	**2.2**	
Cis-1,2-Dichloroethene	0.39	U	0.4	U	40	U	**23**		**19**		**0.56**		0.4	U	**4.2**	
Cyclohexane	0.34	U	**51**	J	34	UJ	**2.9**	J	**2.8**	J	**0.89**	J	0.34	UJ	**76**	J
Dichlorodifluoromethane	**5.1**		**2.4**		50	U	**4.5**		**4.5**		**3**		**2.8**		**73**	
Ethanol	**25**		**28**	J	190	UJ	1.9	UJ	**2.6**	J	**47**	J	**74**	J	4.8	UJ
Ethyl acetate	0.37	U	0.36	UJ	36	U	0.36	UJ	0.36	UJ	**0.58**	J	**1.3**	J	0.9	UJ
Ethyl benzene	**1.6**		**13**		44	U	**2.9**		**2.3**		**3.7**		**3.6**		**3.9**	
Heptane	0.41	U	**32**		40	U	**3.3**	J	**2.3**	J	**0.82**		**0.57**		**39**	
Hexane	**2.5**		**12**		36	U	**5.9**		**5.4**		**2**		0.36	U	**9.2**	
Methylene chloride	**14**		2.4	U	**790**		3.6	U	**10**		8.5	U	1.3	U	2.3	U
o-Xylene	**1.7**		**37**		44	U	**2.8**		**2.6**		**4.7**		**4**		**39**	
Propylene	0.18	U	**8**		69	U	**19**		**17**		**13**		0.69	U	**47**	
Styrene	0.9	U	**0.43**		42	U	0.42	U	0.42	U	**1**		**1.2**		1.1	U
Tetrachloroethene	**3.3**		**230**		**48000**		**2800**		**3200**		**110**		**210**		**9100**	
Toluene	**5.2**		**49**		38	U	**7**		**5.4**		**6.6**		**7.3**		**7.9**	
trans-1,2-Dichloroethene	0.39	U	0.4	U	40	U	**1.5**		**1.3**		0.4	U	0.4	U	1	U
Trichloroethene	0.55	U	0.54	U	**760**		**140**		**150**		0.54	U	0.54	U	**180**	
Trichlorofluoromethane	**1.5**		**1.2**		56	U	**11**		**11**		**1.8**		**1.2**		**530**	
Xylene, m/p	**4.3**		**44**		86	U	**7.3**		**6.3**		**11**		**11**		**63**	

Notes:
Only Detected Compounds shown.
Samples analyzed for VOCs by USEPA Method TO-15.
Results in microgram per cubic meter (µg/m3)
QC Code:
FS = Field Sample
FD = Field Duplicate
Detections are indicated in **BOLD**
Qualifiers:
U = Not detected at a concentration greater than the RL
J = Estimated value

Table 4.3: Groundwater VOC Results

	Location	DP-02		DP-03		DP-04		DP-04		DP-05		P-1	
	Field Sample Date	12/12/2007		12/12/2007		12/11/2007		12/11/2007		12/11/2007		12/12/2007	
	Field Sample ID	ECGW02		ECGW03		ECGW04		ECGW04DUP		ECGW05		ECP01	
	QC Code	FS		FS		FS		FD		FS		FS	
Parameter Name	**Criteria**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,2-Dichlorobenzene	3	5	U	**1**	J	5	U	5	U	5	U	**2**	J
Chloromethane	5	5	U	5	U	5	UJ	**1**	J	5	UJ	5	U
Cis-1,2-Dichloroethene	5	5	U	5	U	**1**	J	**1**	J	5	U	**2**	J
Tetrachloroethene	5	5	U	5	U	5	U	**1**	J	**1**	J	5	U
Trichloroethene	5	5	U	5	U	5	U	5	U	5	U	5	U
Vinyl chloride	2	5	U	5	U	5	U	5	U	5	U	**2**	J

Notes:
Results in microgram per liter (µg/L)
Only detected compounds shown.
Samples analyzed for VOCs by EPA Method 8260B
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the reporting limit
J = Estimated value
Criteria = Values from Technical and Operational Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance values and Groundwater Effluent Limitations (NYSDEC, 2008).
Detections are indicated in **BOLD**
Highlighted results exceed criteria

Table 4.3: Groundwater VOC Results

	Location	PW-1		PW-2		PW-3		PW-8		SUMP-2	
	Field Sample Date	12/12/2007		12/11/2007		12/12/2007		12/11/2007		12/19/2007	
	Field Sample ID	ECPW1		ECPW2		ECPW3		ECPW8		EC02SUMP	
	QC Code	FS		FS		FS		FS		FS	
Parameter Name	**Criteria**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,2-Dichlorobenzene	3	5	U	5	U	5	U	5	U	5	U
Chloromethane	5	5	U	5	UJ	5	U	**1**	J	5	U
Cis-1,2-Dichloroethene	5	5	U	5	U	5	U	**9**		5	U
Tetrachloroethene	5	5	U	**1**	J	**3**	J	**25**		5	U
Trichloroethene	5	5	U	5	U	**1**	J	5	U	5	U
Vinyl chloride	2	5	U	5	U	5	U	5	U	5	U

Notes:
Results in microgram per liter (µg/L)
Only detected compounds shown.
Samples analyzed for VOCs by EPA Method 8260B
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the reporting limit
J = Estimated value
Criteria = Values from Technical and Operational Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance values and Groundwater Effluent Limitations (NYSDEC, 2008).
Detections are indicated in **BOLD**
Highlighted results exceed criteria

Table 4.4: Soil VOC Results

	Location	DP-02		DP-03		DP-04		DP-04		DP-05		DP-06	
	Field Sample Date	12/12/2007		12/12/2007		12/11/2007		12/11/2007		12/11/2007		12/11/2007	
	Field Sample ID	ECGS0203		ECGS0303		ECGS0403		ECGS0403DUP		ECGS0502		ECGS0602	
	Sample Depth (feet bgs)	3		3		3		3		2		2	
	QC Code	FS		FS		FS		FD		FS		FS	
Parameter Name	**Criteria**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Acetone	0.05		R		R	**0.002**	J	**0.002**	J	**0.002**	J	**0.016**	J
Ethyl benzene	1	0.003	U	0.003	UJ	0.003	U	0.003	U	0.003	UJ	**0.001**	J
Naphthalene	12	0.003	U	0.003	UJ	0.003	UJ	0.003	UJ	0.003	UJ	0.004	UJ
Tetrachloroethene	1.3	**0.001**	J	**2.4**	D	**0.011**	J	**0.024**	J	**0.008**	J	**0.008**	J
Toluene	0.7	0.003	U	0.003	UJ	**0.001**	J	**0.001**	J	**0.001**	J	**0.006**	J
Trichloroethene	0.47	0.003	U	**0.005**	J	0.003	U	0.003	U	0.003	UJ	0.004	UJ
Xylene, m/p	0.26	0.003	U	0.003	UJ	**0.0006**	J	**0.0006**	J	**0.0008**	J	**0.003**	J
Xylenes, Total	0.26	0.003	U	0.003	UJ	**0.0006**	J	**0.0006**	J	**0.0008**	J	**0.003**	J

Notes:
Results reported in milligrams per kilogram (mg/kg)
Only detected compounds shown.
Samples analyzed for VOC EPA Method 8260B
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the reporting limit
J = Estimated value
R = Result was rejected during validation
D = Result was reported from a diluted analytical run.

Criteria = Values from Subpart 375-6.8(a) Unrestricted Use Soil Cleanup, "Remedial Program Soil Clean-up Objectives" (NYS, 2006).
Detections are indicated in **BOLD**
Highlighted results exceed criteria

Table 4.4: Soil VOC Results

	Location	DP-07		SS-02A		SS-02B		SS-03	
	Field Sample Date	12/11/2007		12/19/2007		12/19/2007		12/19/2007	
	Field Sample ID	ECGS0703		ECSS02A00		ECSS02B00		ECSS0300	
	Sample Depth (feet bgs)	3		0.5		0.5		0.5	
	QC Code	FS		FS		FS		FS	
Parameter Name	**Criteria**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Acetone	0.05	**0.002**	J		R		R		R
Ethyl benzene	1	0.003	U	0.004	UJ	0.004	UJ	0.004	U
Naphthalene	12	0.003	UJ	**0.002**	J	0.004	UJ	0.004	U
Tetrachloroethene	1.3	**0.006**		**0.001**	J	0.004	UJ	0.004	U
Toluene	0.7	**0.001**	J	0.004	UJ	0.004	UJ	0.004	U
Trichloroethene	0.47	0.003	U	**0.0009**	J	0.004	UJ	0.004	U
Xylene, m/p	0.26	0.003	U	0.004	UJ	0.004	UJ	0.004	U
Xylenes, Total	0.26	0.003	U	0.004	UJ	0.004	UJ	0.004	U

Notes:
Results reported in milligrams per kilogram (mg/kg)
Only detected compounds shown.
Samples analyzed for VOC EPA Method 8260B
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the reporting limit
J = Estimated value
R = Result was rejected during validation
D = Result was reported from a diluted analytical run.

Criteria = Values from Subpart 375-6.8(a) Unrestricted Use Soil Cleanup, "Remedial Program Soil Clean-up Objectives" (NYS, 2006).
Detections are indicated in **BOLD**
Highlighted results exceed criteria

APPENDIX A

WASTE CHARACTERIZATION SAMPLE RESULTS

Mitkem Laboratories

Date: *25-Jan-08*

Client: MACTEC Engineering & Consulting
Client Sample ID: ECDS1
Lab ID: G0059-01
Project: Active Industrial Uniform Site
Collection Date: 01/15/08 12:30

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
FLASHPOINT by Pensky-Martens Closed-Cup Method				**SW1010_S**			
Ignitability	FLAME OUT @ 145		200	°F	1	01/17/2008 12:00	R26445
Reactive Cyanide Released from Wastes				**SW7.3.3.2_S**			
Reactive Cyanide	ND		1.1	mg/Kg	1	01/17/2008 11:04	34375
Reactive Sulfide Released from Wastes				**SW7.3.4.2_S**			
Reactive Sulfide	ND		1.1	mg/Kg	1	01/17/2008 6:30	34376
Soil and Waste pH				**SW9045_S**			
pH	10		1.0	S.U.	1	01/17/2008 12:00	R26434

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

ECDS1

Lab Name: MITKEM LABORATORIES Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MG0059

Matrix: (soil/water) SOIL Lab Sample ID: G0059-01B

Sample wt/vol: 8.2 (g/mL) G Lab File ID: V1J3536

Level: (low/med) LOW Date Received: 01/16/08

% Moisture: not dec. 6 Date Analyzed: 01/17/08

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(mL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	3	U
74-87-3	Chloromethane	3	U
75-01-4	Vinyl Chloride	3	U
74-83-9	Bromomethane	3	U
75-00-3	Chloroethane	3	U
75-69-4	Trichlorofluoromethane	3	U
75-35-4	1,1-Dichloroethene	3	U
67-64-1	Acetone	3	U
74-88-4	Iodomethane	3	U
75-15-0	Carbon Disulfide	3	U
75-09-2	Methylene Chloride	1	J
156-60-5	trans-1,2-Dichloroethene	3	U
1634-04-4	Methyl tert-butyl ether	3	U
75-34-3	1,1-Dichloroethane	3	U
108-05-4	Vinyl acetate	3	U
78-93-3	2-Butanone	3	U
156-59-2	cis-1,2-Dichloroethene	3	U
590-20-7	2,2-Dichloropropane	3	U
74-97-5	Bromochloromethane	3	U
67-66-3	Chloroform	3	U
71-55-6	1,1,1-Trichloroethane	3	U
563-58-6	1,1-Dichloropropene	3	U
56-23-5	Carbon Tetrachloride	3	U
107-06-2	1,2-Dichloroethane	3	U
71-43-2	Benzene	3	U
79-01-6	Trichloroethene	0.6	J
78-87-5	1,2-Dichloropropane	3	U
74-95-3	Dibromomethane	3	U
75-27-4	Bromodichloromethane	3	U
10061-01-5	cis-1,3-Dichloropropene	3	U
108-10-1	4-Methyl-2-pentanone	3	U
108-88-3	Toluene	0.8	J
10061-02-6	trans-1,3-Dichloropropene	3	U
79-00-5	1,1,2-Trichloroethane	3	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECDS1

Lab Name: MITKEM LABORATORIES Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MG0059

Matrix: (soil/water) SOIL Lab Sample ID: G0059-01B

Sample wt/vol: 8.2 (g/mL) G Lab File ID: V1J3536

Level: (low/med) LOW Date Received: 01/16/08

% Moisture: not dec. 6 Date Analyzed: 01/17/08

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(mL) Soil Aliquot Volume:_____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
142-28-9	1,3-Dichloropropane	3	U
127-18-4	Tetrachloroethene	71	
591-78-6	2-Hexanone	3	U
124-48-1	Dibromochloromethane	3	U
106-93-4	1,2-Dibromoethane	3	U
108-90-7	Chlorobenzene	3	U
630-20-6	1,1,1,2-Tetrachloroethane	3	U
100-41-4	Ethylbenzene	0.7	J
----------	m,p-Xylene	1	J
95-47-6	o-Xylene	6	
1330-20-7	Xylene (Total)	7	
100-42-5	Styrene	3	U
75-25-2	Bromoform	3	U
98-82-8	Isopropylbenzene	0.8	J
79-34-5	1,1,2,2-Tetrachloroethane	3	U
108-86-1	Bromobenzene	3	U
96-18-4	1,2,3-Trichloropropane	3	U
103-65-1	n-Propylbenzene	0.9	J
95-49-8	2-Chlorotoluene	3	U
108-67-8	1,3,5-Trimethylbenzene	7	
106-43-4	4-Chlorotoluene	3	U
98-06-6	tert-Butylbenzene	3	U
95-63-6	1,2,4-Trimethylbenzene	5	
135-98-8	sec-Butylbenzene	1	J
99-87-6	4-Isopropyltoluene	2	J
541-73-1	1,3-Dichlorobenzene	3	U
106-46-7	1,4-Dichlorobenzene	3	U
104-51-8	n-Butylbenzene	1	J
95-50-1	1,2-Dichlorobenzene	3	U
96-12-8	1,2-Dibromo-3-chloropropane	3	U
120-82-1	1,2,4-Trichlorobenzene	3	U
87-68-3	Hexachlorobutadiene	3	U
91-20-3	Naphthalene	1	JB
87-61-6	1,2,3-Trichlorobenzene	3	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

ECDS1

Lab Name: MITKEM LABORATORIES Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MG0059

Matrix: (soil/water) SOIL Lab Sample ID: G0059-01B

Sample wt/vol: 8.2 (g/mL) G Lab File ID: V1J3536

Level: (low/med) LOW Date Received: 01/16/08

% Moisture: not dec. 6 Date Analyzed: 01/17/08

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(mL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
76-13-1	1,1,2-Trichloro-1,2,2-Triflu	3	U
79-20-9	Methyl Acetate	3	U
110-81-7	Cyclohexane	1	J
108-87-2	Methylcyclohexane	11	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ECDS1

Lab Name: MITKEM LABORATORIES Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MG0059

Matrix: (soil/water) SOIL Lab Sample ID: G0059-01B

Sample wt/vol: 8.2 (g/mL) G Lab File ID: V1J3536

Level: (low/med) LOW Date Received: 01/16/08

% Moisture: not dec. 6 Date Analyzed: 01/17/08

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(mL) Soil Aliquot Volume: _____(uL)

Number TICs found: 11

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	583-57-3	CYCLOHEXANE, 1,2-DIMETHYL-	8.03	12	NJ
2.	2207-04-7	CYCLOHEXANE, 1,4-DIMETHYL-,	8.18	9	NJ
3.	541-05-9	CYCLOTRISILOXANE, HEXAMETHYL	8.31	8	NJ
4.		UNKNOWN	8.70	8	J
5.	1678-91-7	CYCLOHEXANE, ETHYL-	8.77	7	NJ
6.	3073-66-3	CYCLOHEXANE, 1,1,3-TRIMETHYL	8.84	14	NJ
7.	1795-26-2	CYCLOHEXANE, 1,3,5-TRIMETHYL	9.14	8	NJ
8.		UNKNOWN	9.84	13	J
9.	3728-54-9	CYCLOHEXANE, 1-ETHYL-2-METHY	10.25	10	NJ
10.		UNKNOWN	10.54	7	J
11.		UNKNOWN	11.80	15	J
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

U.S. EPA - CLP

1 -

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECDS1

Lab Name: Mitkem Laboratories Contract: 200706322

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MG0059

Matrix (soil/water): WATER Lab Sample ID: G0059-01

Level (low/med): MED Date Received: 01/16/2008

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	13.3	B		P
7440-39-3	Barium	329			P
7440-43-9	Cadmium	0.11	U		P
7440-47-3	Chromium	0.93	B		P
7439-92-1	Lead	92.4			P
7439-97-6	Mercury	0.11	U		CV
7782-49-2	Selenium	91.2			P
7440-22-4	Silver	42.5			P

Comments:

APPENDIX B

SITE PHOTOGRAPHS

APPENDIX B: SITE PHOTOS

Front of Site View South from Street.

Front of Site View West along E. Main Str.

Back of Site View North along East wall.

Back of Site View North at Site.

Back of Site View West.

Back of Site View South.

EC Structure 01 First Floor/Office Air

EC Structure 01 Office Chemicals

EC Structure 01 Sprinkler Room Air

EC Structure 01 Sub-Slab Air

EC Site Sump in basement.

EC Sub-slab Air 02A

EC Site Basement Sub-slab Air 02B.

EC Site Basement Sub-slab Air 03.

EC Structure 02 First Floor Air,

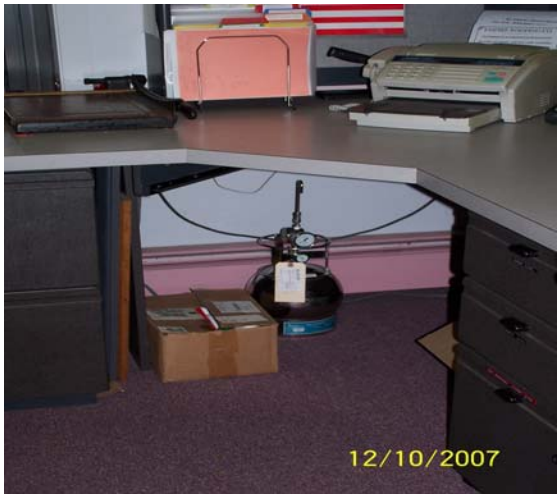
EC Structure 03 First Floor Air.

EC Structure 04 Basement Chemicals.

EC Structure 04 Basement Chemicals.

EC Structure 04 Sub-slab Air.

EC Structure 04 Basement Air.



EC Structure 04 First Floor Air.

EC Structure 05 Basement Air.

EC Structure 05 First Floor Chemicals.

EC Structure 05 First Floor Air.

EC Ambient Air 001.

Ambient Air 002.

EC Well Point P1.

EC Well Point PW-6.

EC Soil Vapor Point 05

EC Soil Vapor Point 07.

APPENDIX C

INDOOR AIR QUALITY QUESTIONNAIRES AND INVENTORY FORMS

OSR – 3

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing. Location EC01

Preparer's Name Phil Muller Date/Time Prepared 12.10.07 / 1130

Preparer's Affiliation MACTEC Phone No. 603 315 - 4402

Purpose of Investigation Vapor Intrusion

1. OCCUPANT: (owner of Pizza Shop)

Interviewed: (Y) / N

Contact Information Provided To NYSDEC And NYSDOH Under Separate Cover

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	(Commercial) / Multi-use
Industrial	Church	Other: _____

Location ECOL

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? _____

If the property is commercial, type?

Business Type(s) Strip Mall (Pizza Shop) ~ 10 units

Does it include residences (i.e., multi-use)? Y / (N) If yes, how many? _____

Other characteristics:

Number of floors 1 Building age 20 yrs

Is the building insulated? (Y) / N How air tight? (Tight) / Average / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors —

Airflow near source —

Outdoor air infiltration —

Infiltration into air ducts —

Location ECOL

5. **BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick blocks
b. Basement type:	full	crawlspace	slab	other _____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with _____	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls:	poured	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y / N			
k. Water in sump?	Y / N / not applicable			

Basement/Lowest level depth below grade: 0 (feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

utilities (gas, sewer)

6. **HEATING, VENTING and AIR CONDITIONING** (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: gas

Boiler/furnace located in:	Basement	Outdoors	Main Floor	Other roof
Air conditioning:	Central Air	Window units	Open Windows	None

Are there air distribution ducts present? (Y)/N Location ECOL

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

—

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom Almost Never N/A

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	—
1st Floor	Pizza shop
2nd Floor	—
3rd Floor	—
4th Floor	—

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

Sprinkler system components (shed)

a. Is there an attached garage?	Y (N)
b. Does the garage have a separate heating unit?	Y / N / (NA)
c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car)	Y / N / (NA) Please specify_____
d. Has the building ever had a fire?	Y / (N) When?_____
e. Is a kerosene or unvented gas space heater present?	Y / (N) Where?_____
f. Is there a workshop or hobby/craft area?	Y / (N) Where & Type?_____
g. Is there smoking in the building?	Y / (N) How frequently?_____
h. Have cleaning products been used recently?	(Y) / N When & Type? regularly
i. Have cosmetic products been used recently?	(Y) / N When & Type? regularly

Location ECOL

j. Has painting/staining been done in the last 6 months? Y / (N) Where & When? _____

k. Is there new carpet, drapes or other textiles? Y / (N) Where & When? _____

l. Have air fresheners been used recently? (Y) / N When & Type? _____

m. Is there a kitchen exhaust fan? (Y) / N If yes, where vented? _____

n. Is there a bathroom exhaust fan? (Y) / N If yes, where vented? _____

o. Is there a clothes dryer? Y / (N) If yes, is it vented outside? Y / N

p. Has there been a pesticide application? (Y) / N When & Type? _____

Are there odors in the building? (Y) / N
If yes, please describe: food, cooking

Do any of the building occupants use solvents at work? Y / (N)
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) — No
Yes, use dry-cleaning infrequently (monthly or less) — Unknown
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / (N) Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply: (Public Water) Drilled Well Driven Well Dug Well Other: _____

Sewage Disposal: (Public Sewer) Septic Tank Leach Field Dry Well Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: N/A

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

c. Responsibility for costs associated with reimbursement explained? Y / N

d. Relocation package provided and explained to residents? Y / N

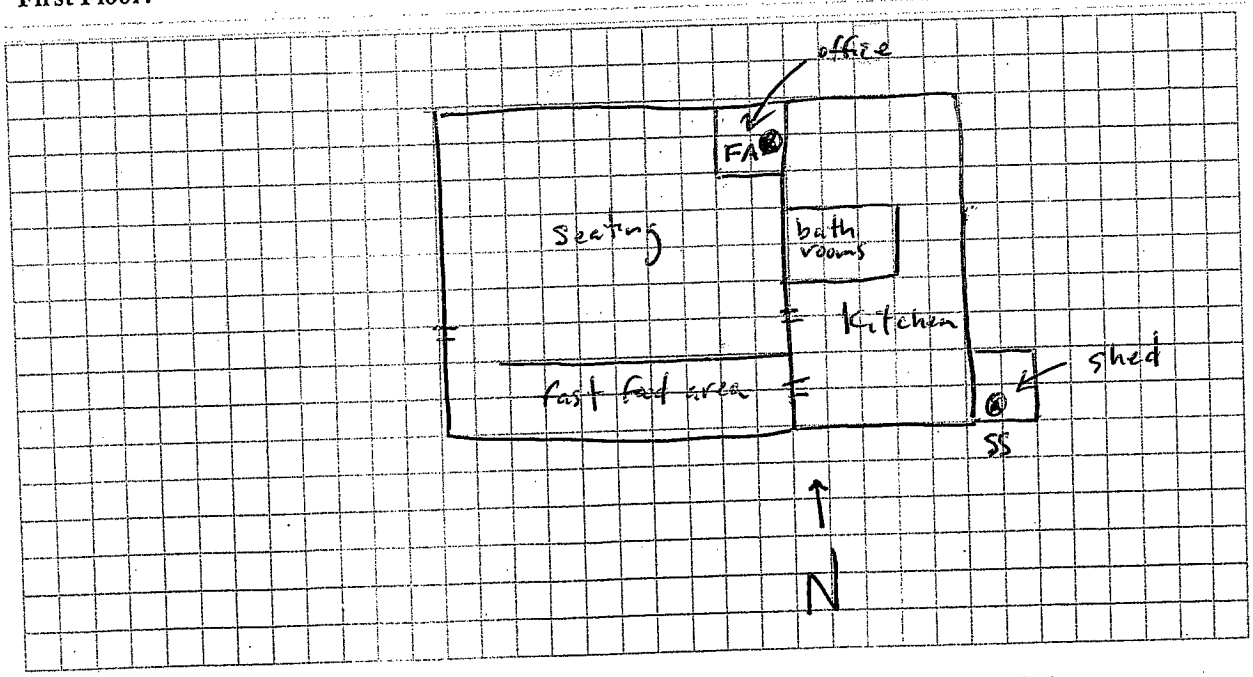
Location ECDI.

11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:

First Floor:

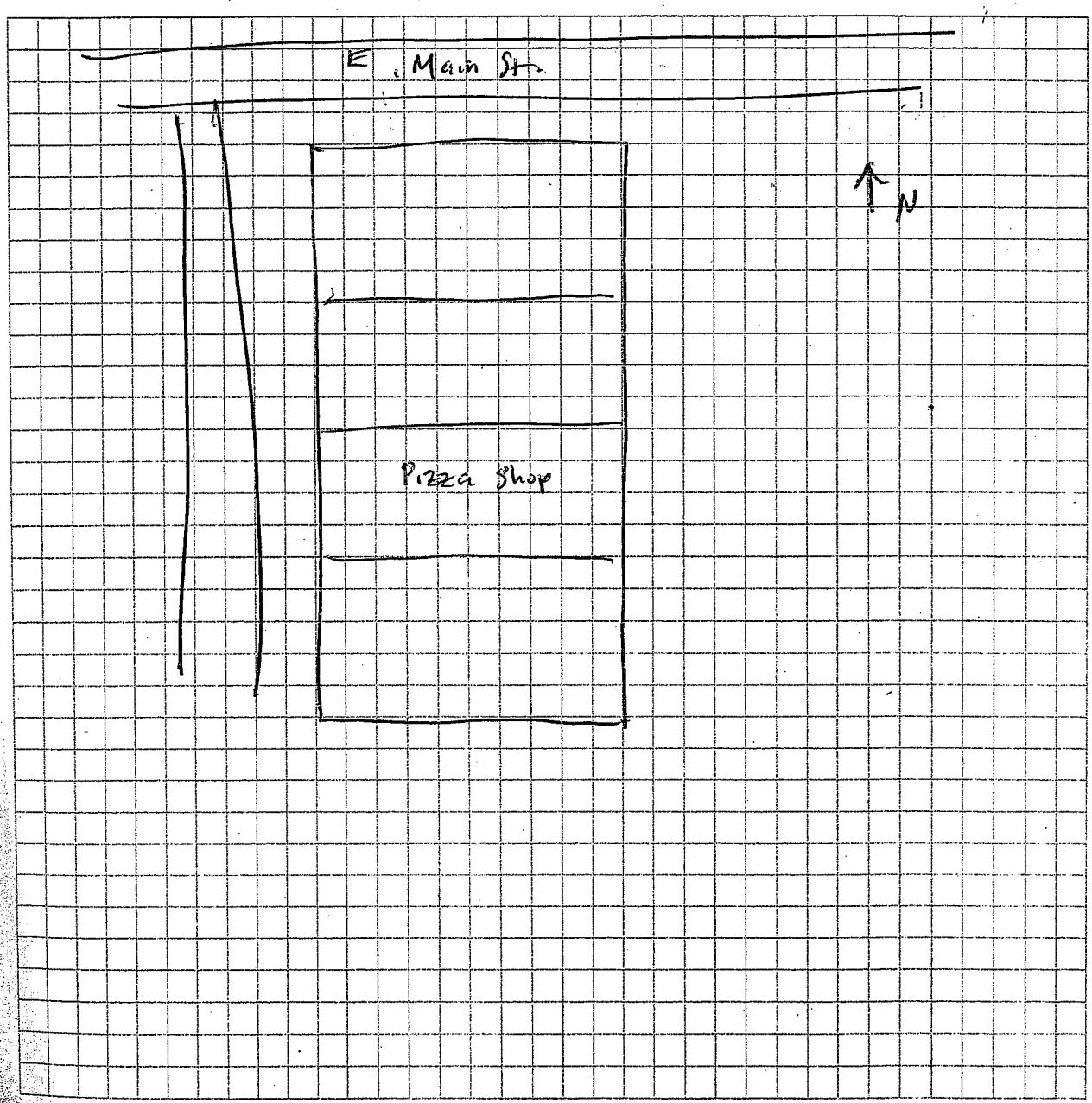


12. OUTDOOR PLOT

Location EC01

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: ppb RAE Location ECOL.

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo ** Y/N
Attached Bldg. (sprinkler)	beverages	multiple cases	UO	—	0	Y
1ST floor office	See photos					

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

O. R. - 3

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing. Location EC03

Preparer's Name Phil Muller Date/Time Prepared 12.10.07/1430

Preparer's Affiliation MACTEC Phone No. 603 315 4402

Purpose of Investigation Vapor Intrusion

1. OCCUPANT:

Interviewed: (Y) / N

Contact Information Provided To NYSDEC And NYSDOH Under Separate Cover

2. OWNER OR LANDLORD: (Check if same as occupant X)

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential School (Commercial/Multi-use)
Industrial Church Other: _____

Location EC03

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? —

If the property is commercial, type?

Business Type(s) Surf Shop (Burger's Surf Shop)

Does it include residences (i.e., multi-use)? (Y) N If yes, how many? ~~4~~ ~~5~~ 3 (Plus)

Other characteristics:

Number of floors Basement + 2 floors Building age unknown (~50 yrs)

Is the building insulated? (Y) N How air tight? Tight / (Average) / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors —

Airflow near source —

Outdoor air infiltration —

Infiltration into air ducts —

Location EC03

5. **BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	(brick)
b. Basement type:	(full)	crawlspace	slab	other _____
c. Basement floor:	(concrete)	dirt	stone	other _____
d. Basement floor:	(uncovered)	covered	covered with _____	
e. Concrete floor:	(unsealed)	sealed	sealed with _____	
f. Foundation walls:	poured	block	stone	other brick
g. Foundation walls:	(unsealed)	sealed	sealed with _____	
h. The basement is:	wet	damp	(dry)	moldy
i. The basement is:	finished	(unfinished)	partially finished	
j. Sump present?	(Y) N	in adjacent basement (common basement)		
k. Water in sump?	(Y) N / not applicable			

Basement/Lowest level depth below grade: 6 (feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

cracks, holes, large hole in basement floor

6. **HEATING, VENTING and AIR CONDITIONING** (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

(Hot air circulation)	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

(Natural Gas)	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: gas

Boiler/furnace located in:	Basement	Outdoors	Main Floor	Other ceiling (inside)
Air conditioning:	(Central Air)	Window units	Open Windows	None

Location EC03

Are there air distribution ducts present? (Y)/N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

—

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom (Almost Never)

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	open
1st Floor	surf shop
2nd Floor	residences
3rd Floor	—
4th Floor	—

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage?	Y (N)
b. Does the garage have a separate heating unit?	Y / N / (NA)
c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car)	Y / N / (NA) Please specify_____
d. Has the building ever had a fire?	Y (N) When?_____
e. Is a kerosene or unvented gas space heater present?	Y (N) Where?_____
f. Is there a workshop or hobby/craft area?	Y (N) Where & Type?_____
g. Is there smoking in the building?	Y (N) How frequently?_____
h. Have cleaning products been used recently?	(Y)/N When & Type?_____
i. Have cosmetic products been used recently?	(Y)/N When & Type?_____

Location EC03

j. Has painting/staining been done in the last 6 months? Y (N) Where & When? _____

k. Is there new carpet, drapes or other textiles? Y (N) Where & When? _____

l. Have air fresheners been used recently? Y (N) When & Type? _____

m. Is there a kitchen exhaust fan? Y / (N) If yes, where vented? _____

n. Is there a bathroom exhaust fan? Y (N) If yes, where vented? _____

o. Is there a clothes dryer? Y (N) If yes, is it vented outside? Y / N

p. Has there been a pesticide application? Y (N) When & Type? _____

Are there odors in the building? (Y) N
If yes, please describe: polyurethane in board area

Do any of the building occupants use solvents at work? Y (N)
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? some solvents on boards brought in

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) — No
Yes, use dry-cleaning infrequently (monthly or less) — Unknown
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / (N) Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply: (Public Water) Drilled Well Driven Well Dug Well Other: _____

Sewage Disposal: (Public Sewer) Septic Tank Leach Field Dry Well Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: N/A

b. Residents choose to: remain in home / relocate to friends/family relocate to hotel/motel

c. Responsibility for costs associated with reimbursement explained? Y / N

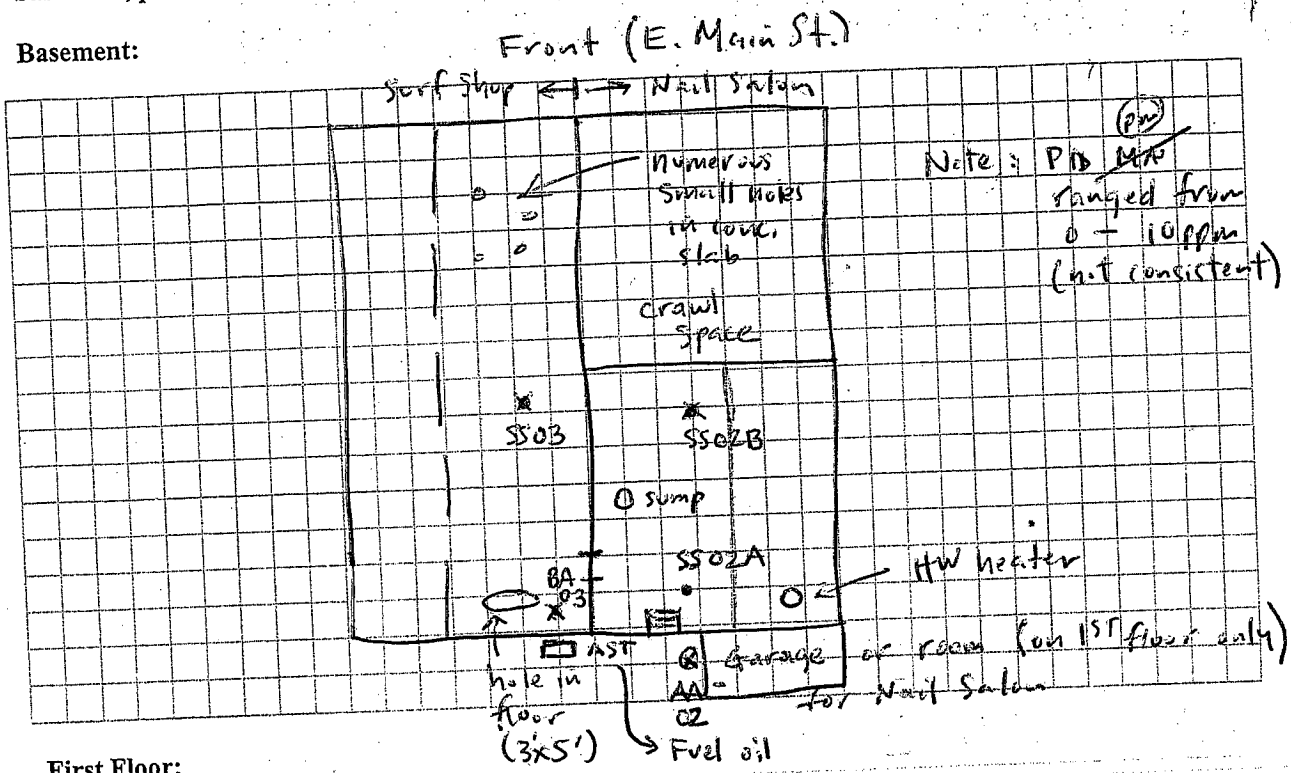
d. Relocation package provided and explained to residents? Y / N

Location #03

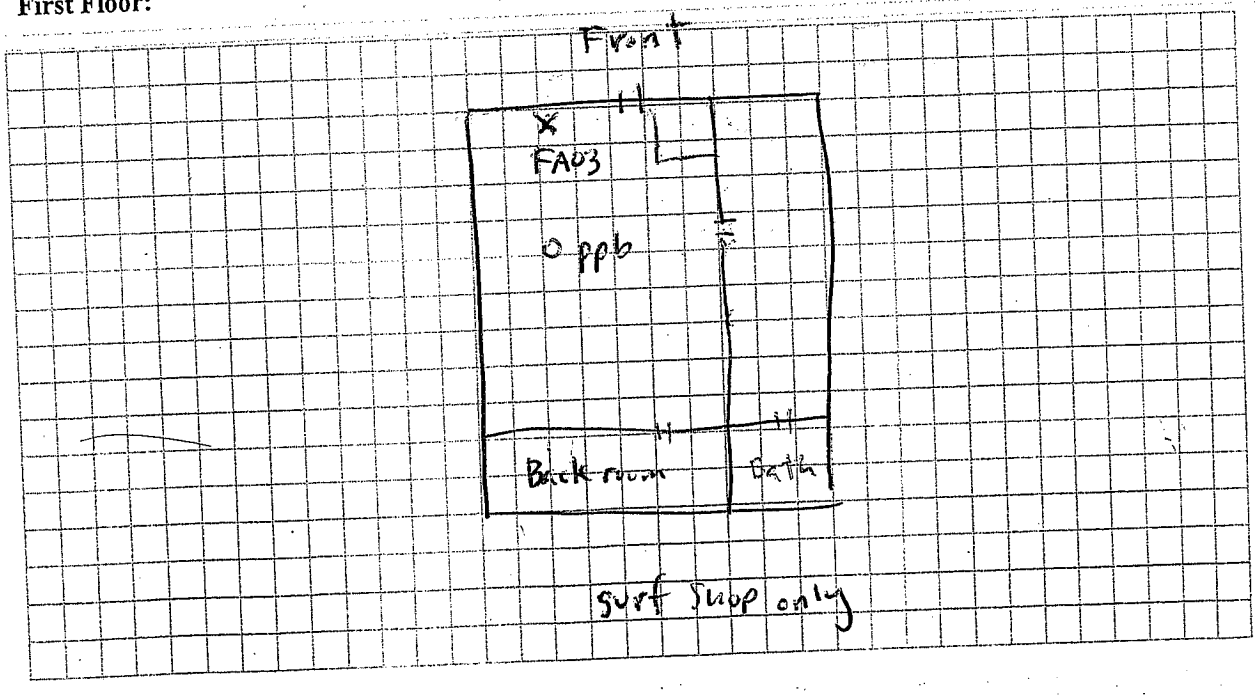
11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:



First Floor:

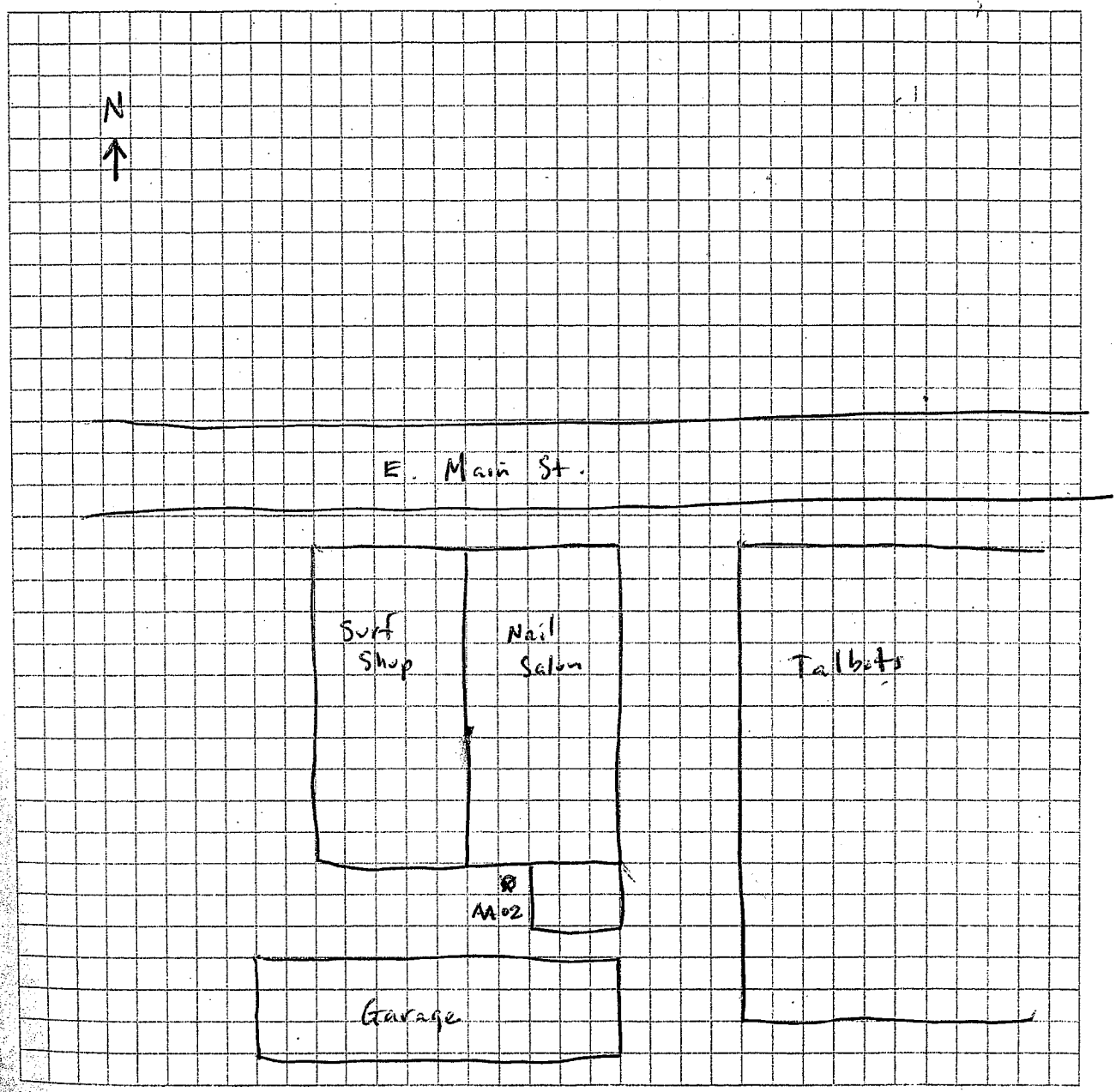


12. OUTDOOR PLOT

Location EC03

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



13. PRODUCT INVENTORY FORM

Location EC03

Make & Model of field instrument used: ppb RAE

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo ** Y/N
B	No products					
1ST	wax, cleaning spray					

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

OSR – 3

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing. Location FC04

Preparer's Name Phil Muller Date/Time Prepared 12.10.07/1650

Preparer's Affiliation MACTEC Phone No. 603 315 4402

Purpose of Investigation Vapor Intrusion

1. OCCUPANT:

Interviewed: (Y)/ N

Contact Information Provided To NYSDEC And NYSDOH Under Separate Cover

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential (School) Commercial/Multi-use
Industrial Church Other: _____

Location EF04

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? _____

If the property is commercial, type?

Business Type(s) First Presbyterian Church of Babylon

Does it include residences (i.e., multi-use)? Y (N) If yes, how many? _____

Other characteristics:

Number of floors Basement + 2 floors Building age ~45 yrs

Is the building insulated? (Y) / N How air tight? Tight / (Average) / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors —

Airflow near source —

Outdoor air infiltration —

Infiltration into air ducts —

Location EC04

5. **BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick block
b. Basement type:	full	crawlspace	slab	other _____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with _____	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls:	poured	block	stone	other brick
g. Foundation walls:	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y / N			
k. Water in sump?	Y / N / not applicable			

Basement/Lowest level depth below grade: 8 (feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

crawl space

6. **HEATING, VENTING and AIR CONDITIONING** (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: Fuel Oil

Boiler/furnace located in: Basement Outdoors Main Floor Other_____

Air conditioning: Central Air Window units Open Windows None

Location EC04

Are there air distribution ducts present? Y / (N)

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom Almost Never

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	Workshop, Storage
1st Floor	Classrooms, offices, gym, bathrooms
2nd Floor	Classrooms, bathrooms
3rd Floor	—
4th Floor	—

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage?	Y / (N)
b. Does the garage have a separate heating unit?	Y / N / (NA)
c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car)	Y / N / (NA) Please specify_____
d. Has the building ever had a fire?	Y (N) When?_____
e. Is a kerosene or unvented gas space heater present?	Y (N) Where?_____
f. Is there a workshop or hobby/craft area?	(Y) N Where & Type? Basement
g. Is there smoking in the building?	Y (N) How frequently?_____
h. Have cleaning products been used recently?	(Y) N When & Type?_____
i. Have cosmetic products been used recently?	(Y) N When & Type?_____

Location ECOG

j. **Has painting/staining been done in the last 6 months?** Y / (N) Where & When? _____

k. **Is there new carpet, drapes or other textiles?** Y / (N) Where & When? _____

l. **Have air fresheners been used recently?** (Y) / N When & Type? _____

m. **Is there a kitchen exhaust fan?** (Y) / N If yes, where vented? outside

n. **Is there a bathroom exhaust fan?** (Y) / N If yes, where vented? outside

o. **Is there a clothes dryer?** Y / (N) If yes, is it vented outside? Y / N

p. **Has there been a pesticide application?** (Y) / N When & Type? Summer 07

Are there odors in the building? Y / (N)
If yes, please describe: cleaning products in basement

Do any of the building occupants use solvents at work? (Y) / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? cleaning products (custodian)

If yes, are their clothes washed at work? Y / (N)

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) — No
Yes, use dry-cleaning infrequently (monthly or less) — Unknown
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / (N) Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply: (Public Water) Drilled Well Driven Well Dug Well Other: _____

Sewage Disposal: (Public Sewer) Septic Tank Leach Field Dry Well Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. **Provide reasons why relocation is recommended:** N/A

b. **Residents choose to:** remain in home relocate to friends/family relocate to hotel/motel

c. **Responsibility for costs associated with reimbursement explained?** Y / N

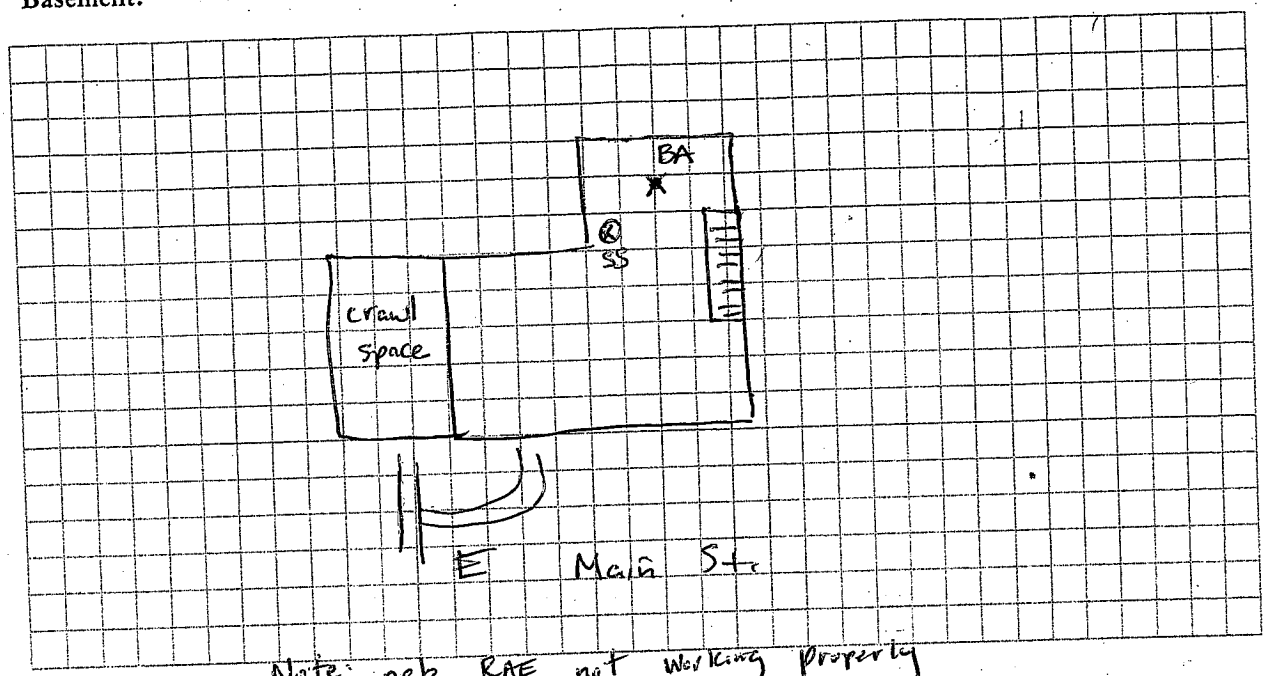
d. **Relocation package provided and explained to residents?** Y / N

Location ECO4

11. FLOOR PLANS

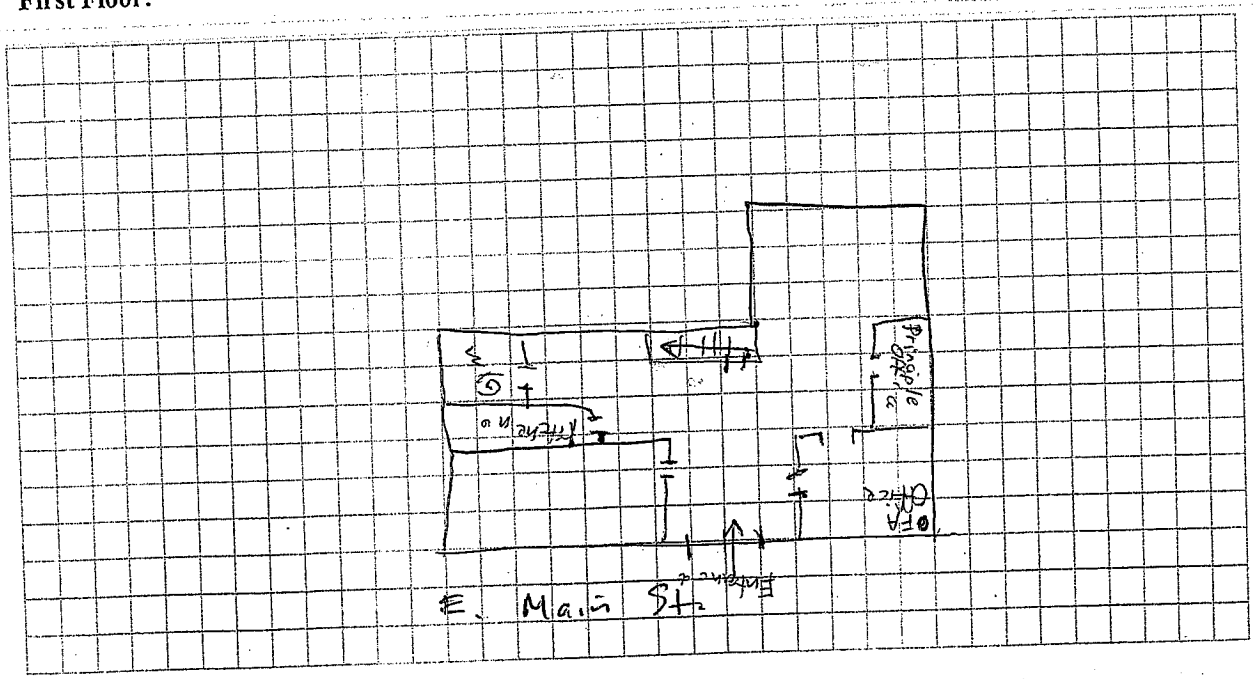
Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:



Note: ppb RAE not working properly

First Floor:

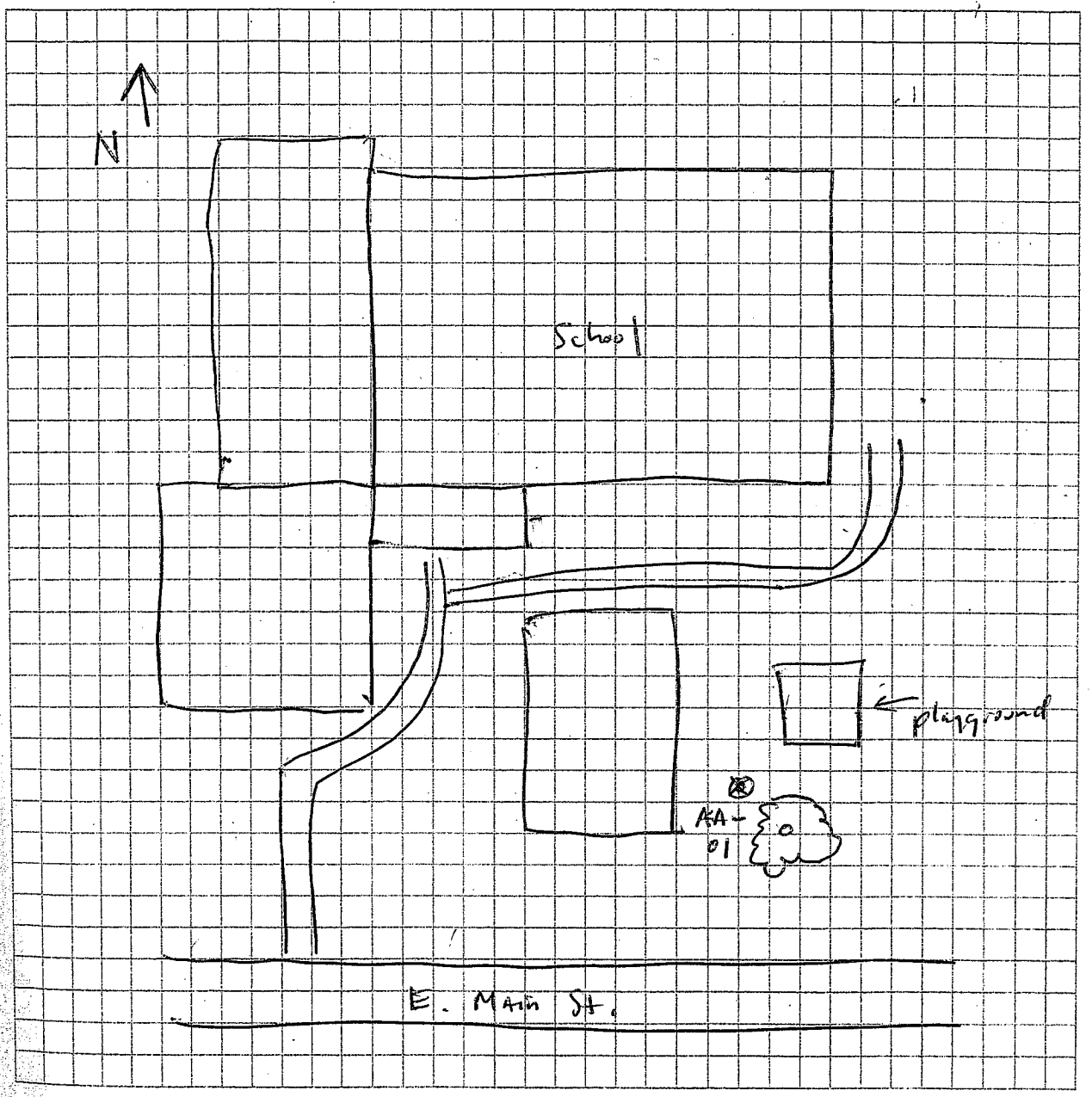


12. OUTDOOR PLOT

Location ECOP

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



13. PRODUCT INVENTORY FORM

Location EC14

Make & Model of field instrument used: ppb RAE

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo ** Y/N
Basement	see photos					Y
"	toilet cleaner					Y
"	Scram ~~(SO_4)~~ (H_2SO_4) (PM)					Y
"	cleaner					Y
"	alcohol					Y
"	windex					Y
"	Silicon Spray					Y
						Y
						Y

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Notes: There are hundreds of cleaners - see photos. Also, ppb RAE not working properly.

OSR – 3

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing. Location EC05

Preparer's Name Phil Muller Date/Time Prepared 1·14·08

Preparer's Affiliation MACTEC Phone No. 781 245 6606

Purpose of Investigation Vapor Intrusion

1. OCCUPANT:

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location >20 Age of Occupants 20 – 70 yrs

2. OWNER OR LANDLORD: (Check if same as occupant ✓)

Contact Information Provided To NYSDEC And NYSDOH Under Separate Cover

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	(Commercial/Multi-use)
Industrial	Church	Other: _____

Location ECOS
ECOS

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? _____

If the property is commercial, type?

Business Type(s) Talbot's, Lawyers, Real Estate, Dress Shop

Does it include residences (i.e., multi-use)? Y / (N) If yes, how many? _____

Other characteristics:

Number of floors 1 + crawlspace Building age ~1950

Is the building insulated? (Y) / N How air tight? (Tight) / Average / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors —

Airflow near source —

Outdoor air infiltration —

Infiltration into air ducts /

Location ECOS

ECOS

5. **BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick
b. Basement type:	full	crawlspace	slab	other _____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with _____	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls:	poured	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y / N			
k. Water in sump?	Y / N / not applicable			

subfloor new 12yrs ago

Basement/Lowest level depth below grade: 4 (feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

utility ports

6. **HEATING, VENTING and AIR CONDITIONING** (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other roof

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: ~~gas~~ electric

Boiler/furnace located in: Basement Outdoors Main Floor Other roof

Air conditioning: Central Air Window units Open Windows None

Are there air distribution ducts present? (Y)/N

Location ECOS
ECOS

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

—

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom (Almost Never)

Level	General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)
crawlspace ~~Basement~~	sprinkler, utilities
1st Floor	commercial
2nd Floor	—
3rd Floor	—
4th Floor	—

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y /(N)

b. Does the garage have a separate heating unit? Y / N /(NA)

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y / N /(NA) Please specify_____

d. Has the building ever had a fire? Y /(N) When?_____

e. Is a kerosene or unvented gas space heater present? Y /(N) Where?_____

f. Is there a workshop or hobby/craft area? Y /(N) Where & Type?_____

g. Is there smoking in the building? Y /(N) How frequently?_____

h. Have cleaning products been used recently? (Y)/N When & Type?_____

i. Have cosmetic products been used recently? (Y)/N When & Type?_____

Location ECO5
ECO5

j. Has painting/staining been done in the last 6 months? Y / (N) Where & When? _____

k. Is there new carpet, drapes or other textiles? (Y) / N Where & When? _____

l. Have air fresheners been used recently? (Y) / N When & Type? _____

m. Is there a kitchen exhaust fan? Y / (N) If yes, where vented? _____

n. Is there a bathroom exhaust fan? Y / (N) If yes, where vented? _____

o. Is there a clothes dryer? Y / (N) If yes, is it vented outside? Y / N

p. Has there been a pesticide application? Y / (N) When & Type? _____

Are there odors in the building? Y / (N)
If yes, please describe: _____

Do any of the building occupants use solvents at work? Y / (N)
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) — No
Yes, use dry-cleaning infrequently (monthly or less) — Unknown
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / (N) Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply:	(Public Water)	Drilled Well	Driven Well	Dug Well	Other: _____
Sewage Disposal:	(Public Sewer)	Septic Tank	Leach Field	Dry Well	Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. **Provide reasons why relocation is recommended:** N/A

b. **Residents choose to:** remain in home / relocate to friends/family / relocate to hotel/motel

c. **Responsibility for costs associated with reimbursement explained?** Y / N

d. **Relocation package provided and explained to residents?** Y / N

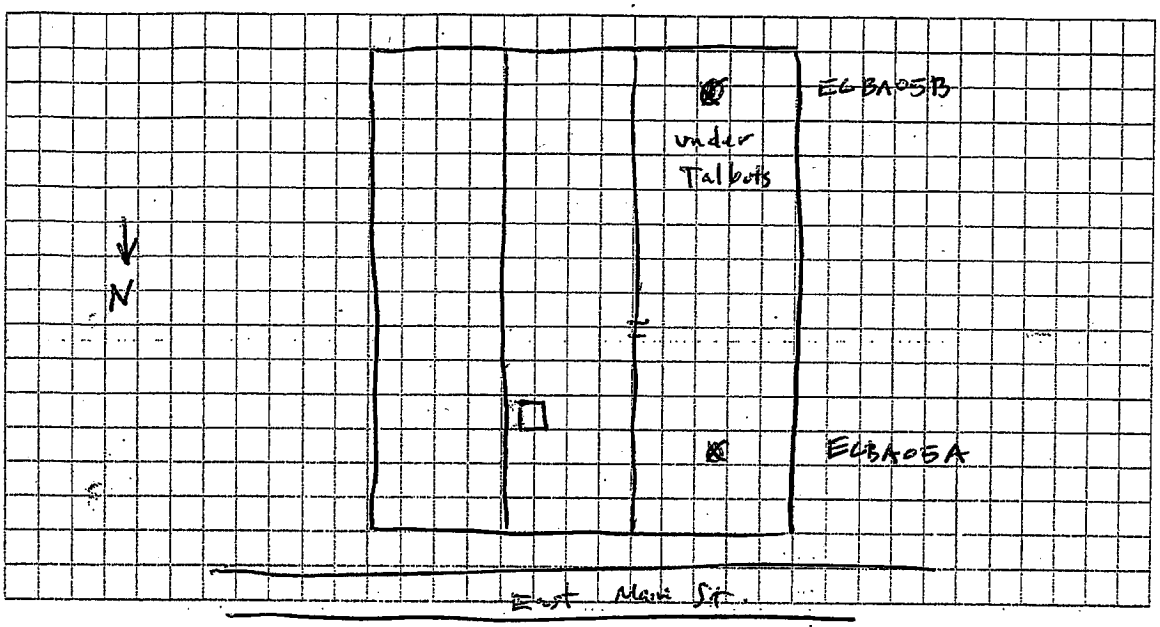
Location ECO5

ECO5

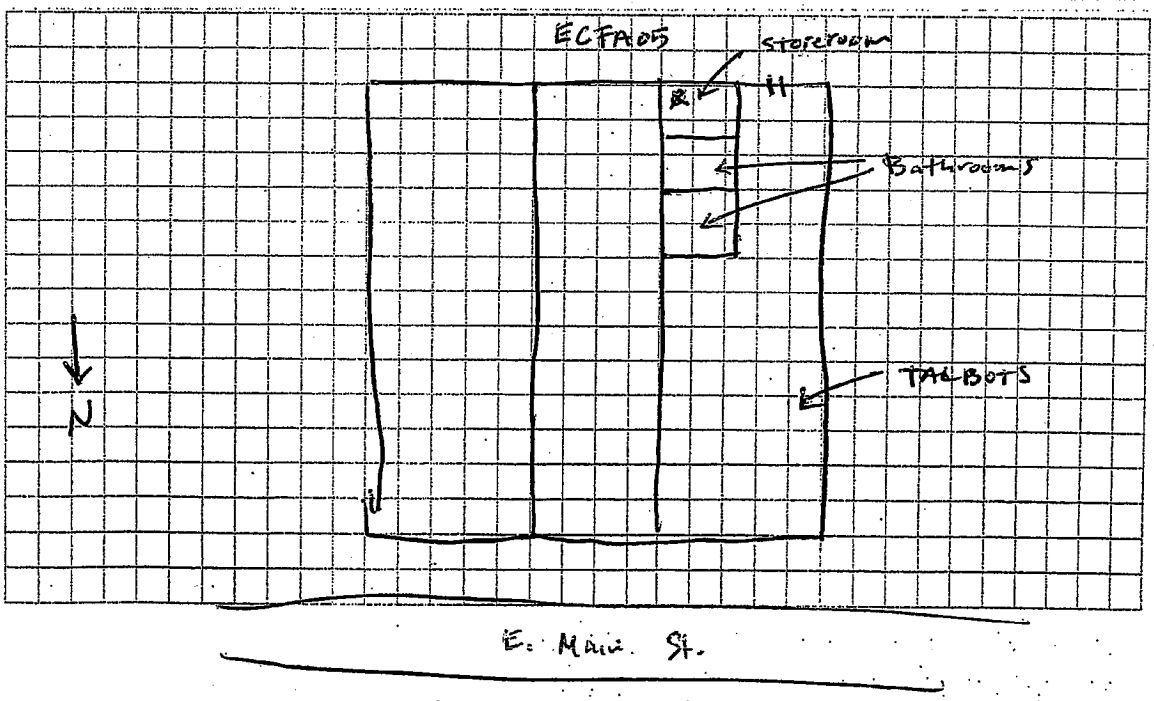
11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:



First Floor:



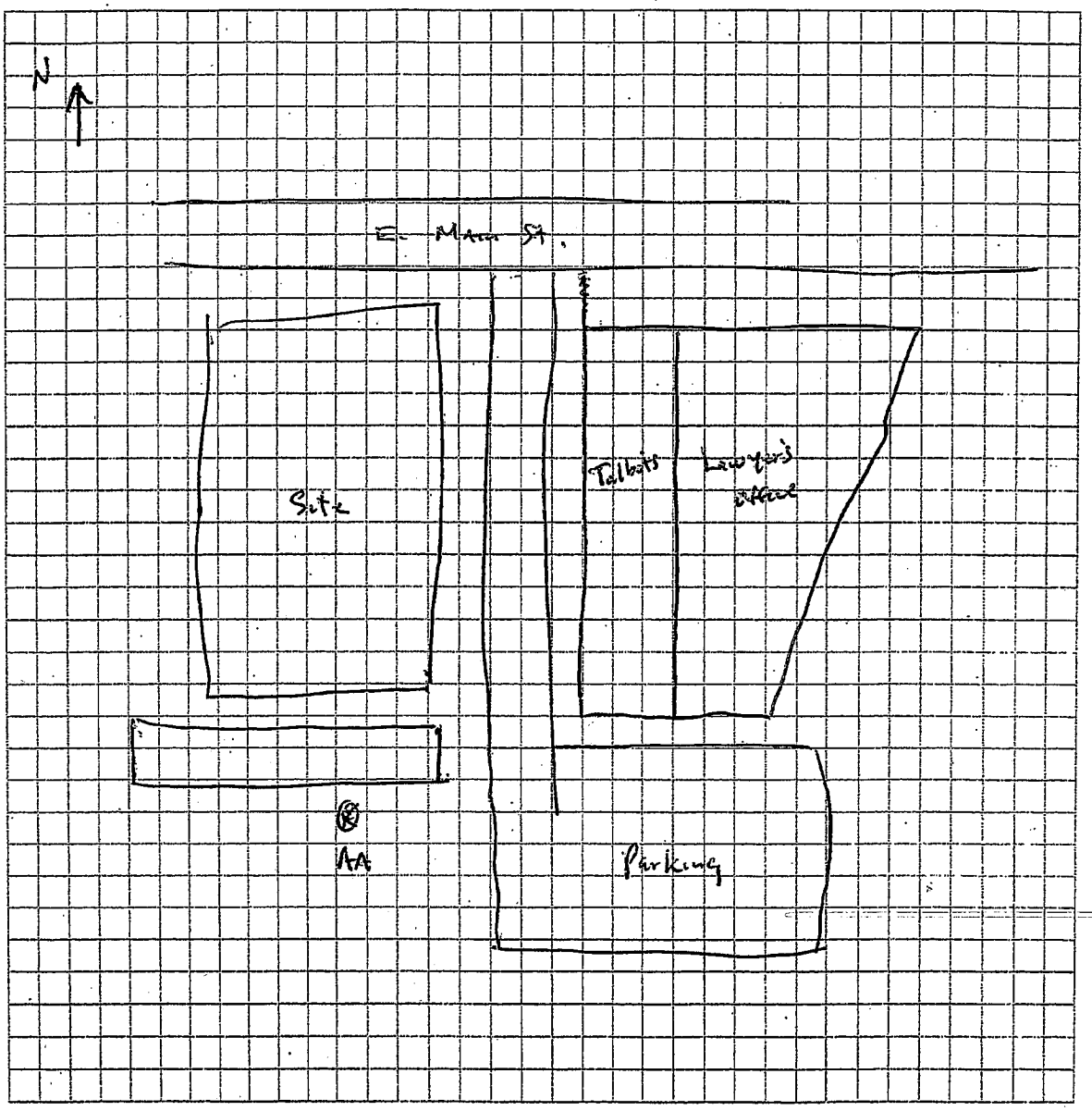
Location ECO5

12. OUTDOOR PLOT

ECO5

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



13. PRODUCT INVENTORY FORM

Location ECO5
ECO5

Make & Model of field instrument used: ppb RAE

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units) ppb	Photo** Y/N
Store Room	Rainbow	12oz	U		0	Y
4	Windex	2x 12oz	U		0	N
4	Roach Killer	12oz	U		0	N

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

APPENDIX D

FIELD DATA RECORDS

SOIL VAPOR IMPLANT SAMPLING RECORD

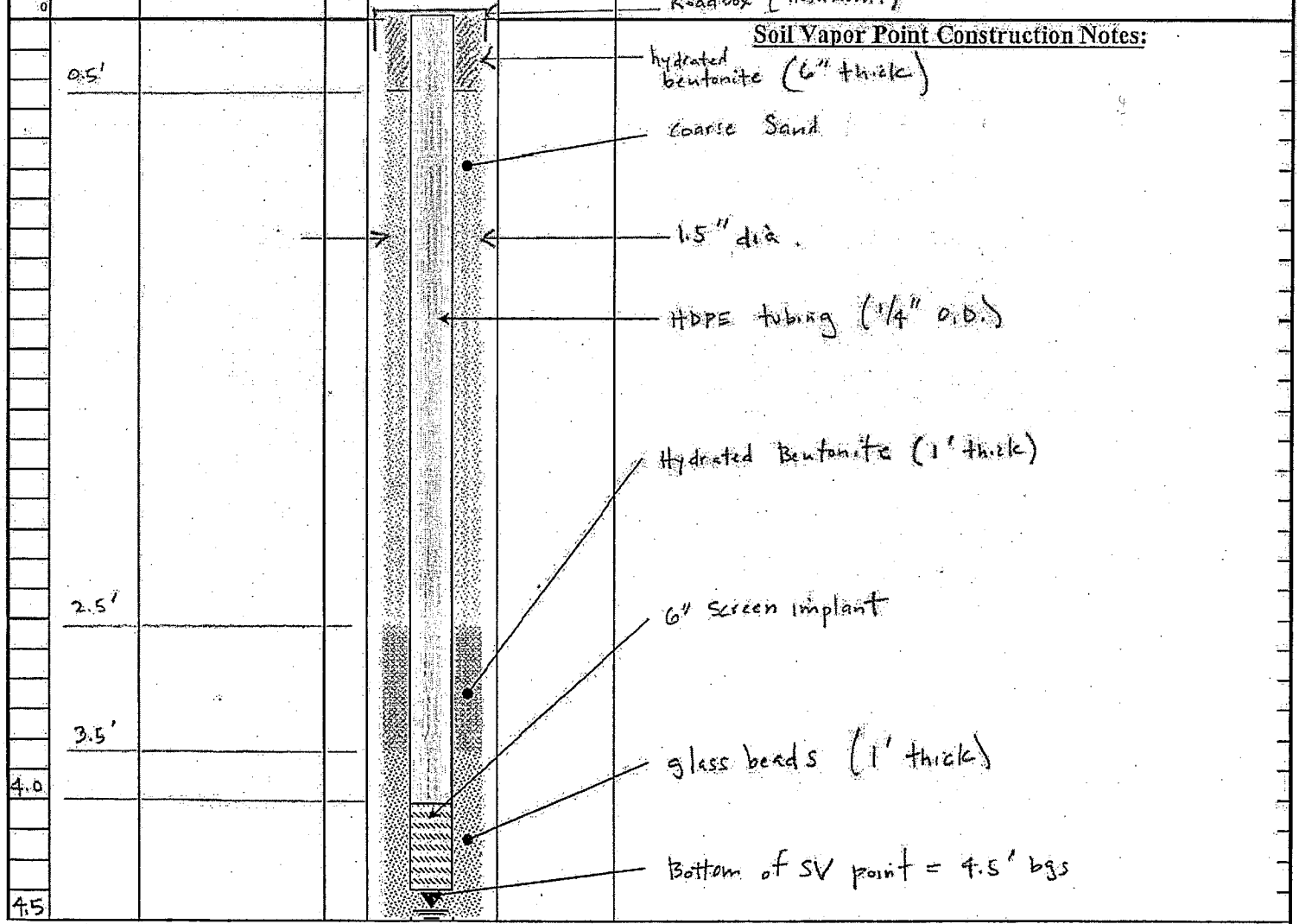
Boring ID: DP-01

Project No.: 3612072087/03.1	Project: Eugene's Dry Cleaners	Checked By:	
Client Name: NYSDEC	Logged By: PJM	Protection Level: D	Ground Elevation: —
Drilling Contractor: MACTEC	Drilling Method: Geoprobe Hand tools	Driller's Name: Phil Muller	
Installation Date/Time: 12.18.07 / 1530	Sample Date/Time: 12.19.07 / 1610	Start Time: 1610	End Time: 1630
Rig Type: —			
He Breakthrough %: 0%	Initial He %: 100%	Final He %: >90%	Auger Size: 1.5"

Overburden Drilling Notes

No Soil samples; therefore no Soil boring log completed

Soil Vapor Point Construction Notes:



MACTEC

511 Congress Street, Portland, Maine 04101

FIGURE 4-11
SOIL VAPOR SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

SOIL VAPOR IMPLANT SAMPLING RECORD

Boring ID: DP-02

Project No.: 3612072087	**Project:** EUGENE'S DRY CLEANER	**Checked By:** ELS	
Client Name: NYSDEC	**Logged By:** PM	**Protection Level:** D	**Ground Elevation:** —
Drilling Contractor: ADT	**Drilling Method:** GEOPROBE	**Driller's Name:** ANDREA BABEL	
Installation Date/Time: 12/12/07	**Sample Date/Time:** 12/13/2007	**Start Time:**	**End Time:** 1033 / **Rig Type:** —
He Breakthrough %: None (0 %)	**Initial He %:** 95%	**Final He %:** 90%	**Auger Size:** —

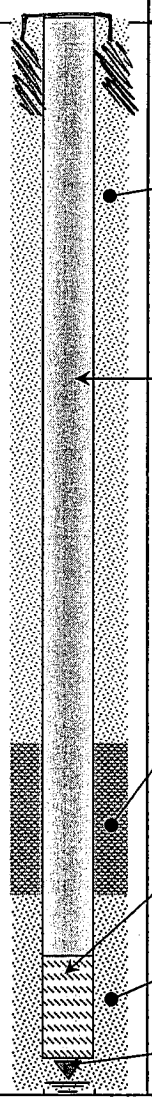
Depth (feet)	Recovery	Blow Counts	Graphic Log	Soil Vapor Diagram	Vapor Point Construction Notes
0					

Overburden Drilling Notes:

See Soil Boring Log DP-02

Sample ID Soil ~~Vapor~~: ECGS0203

Soil Vapor Point Construction Notes:



- Flush-to-grade Road Box
- Bentonite Surface Seal
- Coarse Sand No. 1
- HDPE tubing (1/4" OD)
- Bentonite, hydrated 0.5' to 1.5' bgs
- 6" Screen Implant
- Glass beads (Geoprobe brand) 2.5' to 4.0'
- Bottom of SV point = 4.0' bgs

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FIGURE 4-11
SOIL VAPOR SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

SOIL VAPOR IMPLANT SAMPLING RECORD

Boring ID: DP-03

Project No.: 3612072087	Project: EUGENE'S DRY CLEANER	Checked By: EZS	
Client Name: NYSDEC	Logged By: PM	Protection Level: D	Ground Elevation: —
Drilling Contractor: ADT	Drilling Method: GEOPROBE	Driller's Name: ANDREA BABEL	
Installation Date/Time: 12/12/2007 12:30	Sample Date/Time: 12/13/2007	Start Time:	End Time: 1019
Rig Type: —			
He Breakthrough %: None	Initial He %: 95	Final He %: 90%	Auger Size: —

Depth (feet)	Recovery	Blow Counts	Graphic Log	Soil Vapor Diagram	Vapor Point Construction Notes
0					

Overburden Drilling Notes:

See boring log DP-03

Soil Vapor Point Construction Notes:

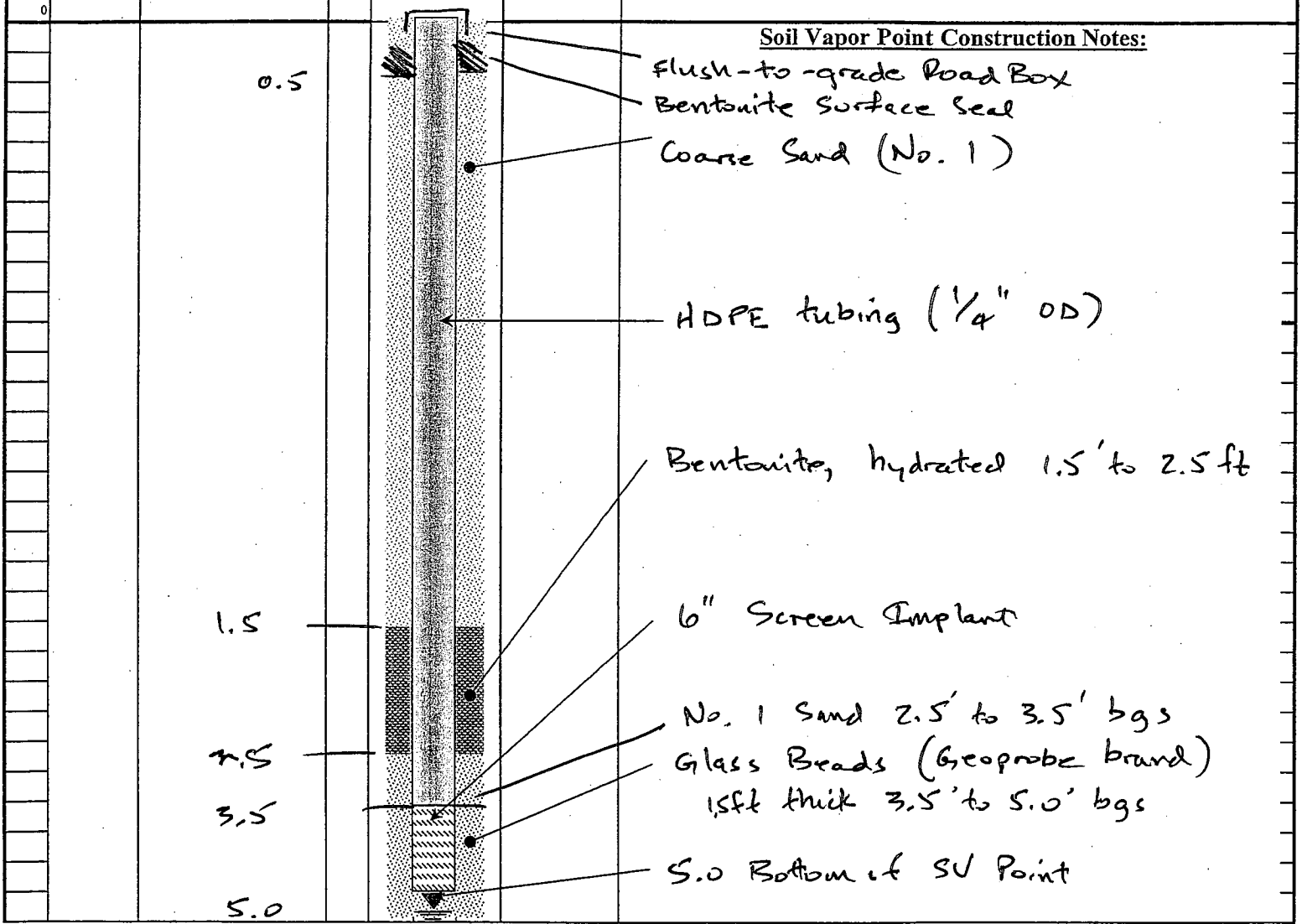

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FIGURE 4-11
SOIL VAPOR SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

SOIL VAPOR IMPLANT SAMPLING RECORD

Boring ID: DP-04

Project No.: 36120720B7	Project: EUGENE'S DRY CLEANER	Checked By: ELS	
Client Name: NYSDEC	Logged By: PM	Protection Level: D	Ground Elevation: —
Drilling Contractor: ADT	Drilling Method: GEOPROBE	Driller's Name: ANDREA BABEL	
Installation Date/Time: 12/11/2007 1400	Sample Date/Time: 12/12/2007 1401	Start Time:	End Time: 1401
He Breakthrough %: 0%	Initial He %: 95%	Final He %: 90%	Auger Size: NA

Rig Type: —

Depth (feet)	Recovery	Blow Counts	Graphic Log	Soil Vapor Diagram	Vapor Point Construction Notes
0					

Overburden Drilling Notes:

See boring log for details

Flush-to-grade Road Box

Soil Vapor Point Construction Notes:

Bentonite Surface Seal - temporary replaced next day with concrete surface seal

Coarse Sand (No. 1)

HDPE Tubing (1/4" OD)

Bentonite, hydrated 0.5' to 1.5' bgs

6" Screen Implant 3.5 to 4.0' bgs

Sand, No. 1 1.5 to 2.5

Glass Beads (Geoprobe brand) 2.5' to 4.0' bgs

Bottom of SV Point 4.0' bgs

MACTEC

511 Congress Street, Portland, Maine 04101

FIGURE 4-11
SOIL VAPOR SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

SOIL VAPOR IMPLANT SAMPLING RECORD

Boring ID: DP-05

Project No.: 3612072087	Project: EUGENE'S DRY CLEANER	Checked By: ELS	
Client Name: NYSDEC	Logged By: PM	Protection Level: D	Ground Elevation: —
Drilling Contractor: ADT	Drilling Method: GEOPROBE	Driller's Name: ANDREA BABEL	
Installation Date/Time: 12/11/2007 11:45	Sample Date/Time: 12/12/2007 1347	Start Time:	End Time: 1347
Rig Type: NA			
He Breakthrough %: 0%	Initial He %: 95%	Final He %: 90%	Auger Size: NA

Depth (feet)	Recovery	Blow Counts	Graphic Log	Soil Vapor Diagram	Vapor Point Construction Notes
0					

Overburden Drilling Notes:

See boring log for details

Flush-to-grade Road Box

Soil Vapor Point Construction Notes:

Bentonite Surface Seal

Coarse Sand (No. 1)

HDPE Tubing (1/4" OD)

Bentonite, hydrated 0.5 - 1.5

6" Screen Implant 3.5 to 4.0' bgs

Coarse Sand 1.5 to 2.5

Glass Beads (Geoprobe brand) 2.5 to 4.0' bgs

Bottom of SV Point 4.0' bgs

MACTEC

511 Congress Street, Portland, Maine 04101

FIGURE 4-11
SOIL VAPOR SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

SOIL VAPOR IMPLANT SAMPLING RECORD

Boring ID: DP-06

Project No.: 36120072087	Project: EUGENE'S DRY CLEANER	Checked By: ELS	
Client Name: NYSDEC	Logged By: PM	Protection Level: D	Ground Elevation: —
Drilling Contractor: ADT	Drilling Method: GEOPROBE	Driller's Name: ANDREA BABEL	
Installation Date/Time: 12/11/2007 10:00	Sample Date/Time: 12/12/07 1332	Start Time:	End Time: 1332
Rig Type: —			
He Breakthrough %: 0%	Initial He %: 95%	Final He %: 90%	Auger Size: NA

Depth (feet)	Recovery	Blow Counts	Graphic Log	Soil Vapor Diagram	Vapor Point Construction Notes
0					

Overburden Drilling Notes:

See boring log for details

Flush-to-grade Road Box

Soil Vapor Point Construction Notes:

Bentonite Surface Seal
0-0.5' bgs

Coarse Sand (No. 1)
0.5-1.0

HDPE Tubing (1/4" OD)

Bentonite, hydrated

6" Screen Implant

Sand, No. 1 Coarse

Glass Beads (Geoprobe brand)

Bottom of SV Point 4.0

0.0

0.5

1.5

2.5

4.0

MACTEC
511 Congress Street, Portland, Maine 04101

FIGURE 4-11
SOIL VAPOR SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

SOIL VAPOR IMPLANT SAMPLING RECORD

Boring ID: DP-07

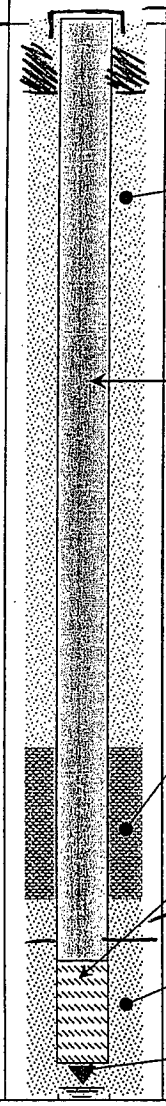
Project No.: 3612072087	Project: EUGENE'S DRY CLEANER	Checked By: ELS	
Client Name: NYSDEC	Logged By: PM	Protection Level: D	Ground Elevation: —
Drilling Contractor: ADT	Drilling Method: GEOPROBE	Driller's Name: ANDREA BABEL	
Installation Date/Time: 12/11/2007 16:05	Sample Date/Time: 12/12/2007	Start Time:	End Time: 1412
He Breakthrough %: No test performed	Initial He %:	Final He %:	Auger Size: —

Rig Type: —

Depth (feet)	Recovery	Blow Counts	Graphic Log	Soil Vapor Diagram	Vapor Point Construction Notes
0					

Overburden Drilling Notes:

See boring log for details.



Flush-to-grade Road Box

Soil Vapor Point Construction Notes:

Bentonite Surface Seal - temporary - replaced with concrete pad

Coarse Sand (No. 1)

HDPE Tubing (1/4" OD)

Bentonite, hydrated 0.5' to 1.5' bgs

6" Screen Implant 3.5 to 4.0' bgs

Sand 1.5 to 2.5

Glass Beads (Geoprobe brand) 2.5 to 4.0' bgs

Bottom of SV Point 4.0' bgs

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FIGURE 4-11
SOIL VAPOR SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

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Soil Boring Log

MACTEC
107 Audubon Road
Wakefield, MA

Boring Location: DP-02

Page 1 of 1

Project Name: Eugene's

Geologist: DLC

Date Started: 12/12/07 cleared

Drilling Company: ADT

Date Completed: 12/12/07

Drilling Method: Direct Push

Total Depth: 10'

Depth to Water: approx 8'

Comments:

Depth (feet)	Stratigraphy Description	Penetration/ Recovery (feet)	Headspace (ppm)	Blows/ 6 inches	Sample ID
0 to 5	Hand augered for 0-3'. Mostly brown-dark brown silty sand some well graded gravel from 0.9-1.1 loose, moist	2.0 3.0/1.1 not available	2.0	/	ECGS0203 @ 3' BGS 9:45
5 to 10	0.0-0.1: Most brown-dark brown; loose, cobbley sand. 0.1-3.3 Mostly light brown, sand, uniform, loose.	5.0/3.7	2.0	/	
	med/fine grained red bands at 0.7 and 1.6, wet, varies 3.3-3.7: Mostly brown-reddish brown gravelly sand, well graded, loose, wet.				Groundwater Grab ECGW02 @ 10' bgs @ 09:50 hrs
					Note: top 3' of boring hand cleared. No utilities present

Prepared by: DLC
Checked by: ECS

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Soil Boring Log

MACTEC
107 Audubon Road
Wakefield, MA

Boring Location: DP-03 | Page 1 of 1

Project Name: Eugene's Cleaners | Geologist: DLC

Date Started: 12/12/07 | Drilling Company: ADT

Date Completed: 12/ | Drilling Method: Direct Push

Total Depth: 10' | Depth to Water: approx 8' BGS

Comments:

Depth (feet)	Stratigraphy Description	Penetration/ Recovery (feet)	Headspace (ppm)	Blows/ 6 inches	Sample ID
0 to 5	Pre-hand augered to 3' BGS 0-0.2: Mostly brown-dark brown silty sand med dense, slightly plastic, moist	2.0/2.0		1	ECGS0303 @ 3' BGS 11:45
	0.2-2.0: Same as above, but drier and lighter brown				
5 to 10	0-0.2: Same as 0.2-2.0 section above 0.2-2.5: Mostly brown-reddish brown gravelly sand, well sorted, damp	5.0/3.8			Groundwater Grab
	2.5-3.8': Same as above, but grey-ish, more gravel, wet				ECGW03 @ 0950 ES 1150 @ 10' bgs
					Hand augered to avoid possible utilities (gas)

Prepared by: DLC
Checked by: ECS

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Soil Boring Log

MACTEC
107 Audubon Road
Wakefield, MA

Boring Location: DP-04	Page 1 of 1
Project Name:	Geologist: DLC
Date Started: 12/11/07	Drilling Company: ADT
Date Completed: 12/11/07	Drilling Method: Direct Push
Total Depth: 10'	Depth to Water: approx 8'
Comments:	

Depth (feet)	Stratigraphy Description	Penetration/ Recovery (feet)	Headspace (ppm)	Blows/ 6 inches	Sample ID
0 to 5	0-0.3: Mostly dry brown gravelly sand 0.3-0.4: Concrete Frags tan-gray. 0.4-0.7: Mostly reddish brown sand, poorly graded, loose, moist.	5.0/1.4		1	~~ECS~~ ECGS04QZ @ 3' BGS @ 13:40
	0.7-1.4: Mostly darker brown, silty sand - med dense, damp.				
5 to 10	~~Mostly~~ 0-0.7: Same as 0.7-1.4 section above. darker, urban material at 0.6'	5.0/4.0		1	Groundwater Grab
	0.7-1.2: Mostly gravelly light brown, brown sand 1.2-2.7: Mostly med-coarse brown-light brown sand, very uniform, loose, damp.				ECGW04 @ 10' bgs @ 13:45

Prepared by: DLC
Checked by: ECS

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Soil Boring Log

MACTEC
107 Audubon Road
Wakefield, MA

Boring Location: DP-05	Page 1 of 1
Project Name: Eugene's Cleaners	Geologist: DLC
Date Started: 12/11/07	Drilling Company: ADT
Date Completed:	Drilling Method: Direct Push
Total Depth: 10'	Depth to Water: approx 8' BGS
Comments:	

Depth (feet)	Stratigraphy Description	Penetration/ Recovery (feet)	Headspace (ppm)	Blows/ 6 Inches	Sample ID
0	0-0.2: Mostly dark brown-black silty asphalt material, dry 0.2-0.9: Mostly gravelly sand w/ some urban Fill, some silt 0.9-1.6: Mostly light brown gravelly sand well graded, loose, moist 1.6-2.5: Mostly silty Sand, brown-dark brown, med dense, moist.	5.0/2.3 brown		/	ECGS05-02 @ 2' BGS @ 11:00
5	0.1-2: Same as 1.6-2.5 section above, but lighter in color	5.0/3.5		/	
10	1.2-2.2: Mostly gravelly sand, very well graded, loose, damp, odorless 2.2-3.5: Mostly brown sand, some gravel. brown - light brown				Groundwater Grab: ECGW05 @ 10' bgs @ 11:05
	wet.				

Prepared by: DLC
Checked by: ECS

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Soil Boring Log

MACTEC
107 Audubon Road
Wakefield, MA

Boring Location: DP-06	Page 1 of 1
Project Name: Eugene's	Geologist: DLC
Date Started: 12/11/07 DPM clearance	Drilling Company: ADT
Date Completed: 12/11/07	Drilling Method: Direct Push
Total Depth: 10'	Depth to Water: 7.80
Comments:	

Depth (feet)	Stratigraphy Description	Penetration/ Recovery (feet)	Headspace (ppm)	Blows/ 6 Inches	Sample ID
0 to 5	0-0.2: Mostly asphalt black loose, dry 0.2-0.3: Mostly dark brown - brown silty sand, moist. 0.3 - @ 1.0: same as above but darker	5.0/2.5		/	ECGS0602 @ 2' BGS 10:15
	and dry. 1.0-2.3: Mostly brown silty sand, some gravel, well graded, moist, dense. 2.3-2.5: Mostly small brick frags				
5 to 10	0-0.3: Mostly brown gravelly silty sand, medenie well graded. Brick frags at 0.4 0.4-1.6: Mostly brown sandy gravel mixture. very well graded; trace cobble 1.6-1.9: same as above but darker 1.9-3.5: Mostly light brown gravelly sand, damp.	5.0/3.5		/	Groundwater Grab Sample ECGW06 @ 10' bgs

Prepared by: DLC
Checked by: ECS

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Soil Boring Log

MACTEC
107 Audubon Road
Wakefield, MA

Boring Location: DP-07 Page 1 of 1

Project Name: Eugene's cleaners | Geologist: DLC

Date Started: 12/11/07 | Drilling Company: ADT

Date Completed: 12/11/07 | Drilling Method: Direct Push

Total Depth: 10' | Depth to Water: 8' (approx)

Comments:

Depth (feet)	Stratigraphy Description	Penetration/ Recovery (feet)	Headspace (ppm)	Blows/ 6 inches	Sample ID
0 to 5	0-0.5: Mostly loose black asphalt. dry. odorless 0.5-1.2: Mostly brown-dark brown med-dense silty sand. moist, odorless some gravel	5.0/3.3	Lc.1	1	ECGS0703 @ 3' BGS @ 15:40
	1.2-2.0: Same as above but less gravel, more uniform 2.0-2.7: Mostly same as above, but lighter in color, more silt				
5 to 10	2.7-3.3 Mostly light brown. gravelly sand very well graded. loose, dry				
5 to 10	0-0.2: Mostly brown silty sand, med dense moist, odorless 0.2-0.5: Mostly gravelly sand, brown-light brown well graded, loose	5.0/4.0	Lc.1	1	
	0.5-0.7: Black, loose ash-like material 0.7-4.0: Mostly brown-reddish brown sandy w/ gravel. well graded, wet, odorless				

Prepared by: DLC
Checked by: ECS

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FIELD DATA RECORD - GROUNDWATER SAMPLING

PROJECT ~~Active Industrial Uniform~~ Eugene's DATE 12.12.07

WELL ID P-1 START 1030 END 1140 BOTTLE TIME 1130

SAMPLE ISIS ID ECP01

☐ QC SAMPLES COLLECTED DUPLICATE ID MS ID MSD ID

WATER LEVEL / WELL DATA

MEASURED WELL DEPTH 14.70 FT (TOR) HISTORICAL WELL DEPTH — FT (TOR) PROTECTIVE CASING STICKUP (FROM GROUND) — FT PROTECTIVE CASING / WELL DIFFERENCE — FT

DEPTH TO WATER 8.01 FT (TOR) SCREEN LENGTH — FT WELL DIAMETER 3/4 IN WELL MATERIAL PVC

HEIGHT OF WATER COLUMN 6.69 FT x ☒ 0.023 gal/ft (3/4") ☐ 0.16 GAL/FT (2 IN) ☐ 0.65 GAL/FT (4 IN) ☐ 1.5 GAL/FT (6 IN) = 0.15 GAL/VOL TOTAL VOLUME PURGED 2.76 GAL

Total purge volume = (ml per min.) x time (min.) x 0.00026 gal/ml AMBIENT AIR 0 PPM WELL MOUTH 5200 ~~PPM~~ ppb

PURGE DATA

not working µS/cm

TIME	DEPTH TO WATER (ft)	PURGE RATE (mL/min)	TEMP. (degrees C)	pH (units)	TURBIDITY (NTU)	SPEC. COND. ~~(ohmios/cm)~~	D.O. (mg/L)	ORP (mV)	Comments
1052	Begin Purging @		300	mL/min					Yellow/brown
1057	14.70	300	15.49	6.42	—	337	2.03	-51.6	clearing
1102	14.70	300	15.80	6.60	—	342	0.78	-75.3	clear
1107	14.70	300	15.92	6.72	—	346	0.46	-94.8	"
1112	14.70	300	15.84	6.74	—	348	0.44	-92.3	"
1117	14.70	300	15.79	6.77	—	348	(FD) 0.45 0.37	-109.4	"
1122	14.70	300	15.85	6.78	—	349	0.36	-114.2	"
1127	14.70	300	15.85	6.78	—	350	0.35	-112.3	
1130	Collect Sample			ECP01					

EQUIPMENT DOCUMENTATION

PURGING: ☒

SAMPLING: ☒ PERISTALTIC PUMP; ☐ SUBMERSIBLE PUMP; ☐ BLADDER PUMP; ☐ PVC/SILICON TUBING; ☐ TEFLON/SILICON TUBING; ☐ WATTERA; ☐ IN LINE FILTER; ☐ PRESS/VAC FILTER; _____

DECON FLUIDS USED: ☐ METHANOL; ☐ LIQUINOX; ☐ POTABLE WATER; ☐ DEIONIZED WATER; ☐ HEXANE; ☐ NITRIC ACID; ☒ NONE- Dedicated Tubing

WATER LEVEL EQUIPMENT USED: ☒ ELECTRIC COND. PROBE; ☐ FLOAT ACTIVATED; ☐ KECK INTERFACE PROBE; ☐ _____

NUMBER OF FILTERS USED _____

ANALYTICAL PARAMETERS

		METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒	TCL VOCs	8260B	N	HCl/4degC	3 x 40mL 2	☒	ECP01

NOTES AND SAMPLE OBSERVATIONS

Stabilization is considered achieved when three consecutive readings are taken at 3 to 5 min. intervals within the following limits:
Temp. - 3 %; Turbidity 10% > than 1 NTU; DO - 10%; Sp. Cond. - 3%; pH - 0.1 unit; ORP - 10 mV.

SIGNATURE: _____

RECEIVED BY: _____

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FIELD DATA RECORD - GROUNDWATER SAMPLING

PROJECT ~~Active Industrial Uniform~~ Eugene's DATE 12.12.07

WELL ID PW-1 BOTTLE

START 1140 END 1240 TIME 1232

SAMPLE ISIS ID EC PW1

☐ QC SAMPLES COLLECTED DUPLICATE ID MS ID MSD ID

WATER LEVEL / WELL DATA

Diff. between Ground + Measure Pt.

MEASURED WELL DEPTH	9.60 FT (TOR)	HISTORICAL WELL DEPTH	— FT (TOR)	PROTECTIVE CASING STICKUP (FROM GROUND)	— FT	PROTECTIVE CASING / WELL DIFFERENCE	0.37 FT
DEPTH TO WATER	6.37 FT (TOR)	SCREEN LENGTH	— FT	WELL DIAMETER	1 IN	WELL MATERIAL	PVC

HEIGHT OF WATER COLUMN 3.23 FT x ☐ 0.16 GAL/FT (2 IN) ☒ 0.041 (1 IN) ☐ 0.65 GAL/FT (4 IN) ☐ 1.5 GAL/FT (6 IN) = 0.13 GAL/VOL TOTAL VOLUME PURGED 2.50 GAL

Total purge volume = (ml per min.) x time (min.) x 0.00026 gal/ml AMBIENT AIR 0 PPM WELL MOUTH 0 PPM

PURGE DATA

Not working µs/cm

TIME	DEPTH TO WATER (ft)	PURGE RATE (mL/min)	TEMP. (degrees C)	pH (units)	TURBIDITY (NTU)	SPEC. COND. (uhmos/cm)	D.O. (mg/L)	ORP (mV)	Comments
1200	Began purging @		306 mL/min						Yellow/Brown
1205	6.37	300	13.23	6.43	—	153	6.03	54.9	clearing
1210	6.37	300	13.30	6.25	—	~~146~~ 146	5.47	72.4	clearing
1215	6.37	300	13.26	6.20	—	143	5.36	79.6	clear
1220	6.37	300	13.24	6.16	—	142	5.44	87.8	"
1225	6.37	300	13.26	6.15	—	142	5.37	94.8	"
1230	6.37	300	13.27	6.14	—	142	5.33	97.2	"
1232	Collect Sample		EC PW1						

EQUIPMENT DOCUMENTATION

PURGING	SAMPLING		DECON FLUIDS USED		WATER LEVEL EQUIPMENT USED	
☒	☒	PERISTALTIC PUMP	☐	METHANOL	☒	ELECTRIC COND. PROBE
☐	☐	SUBMERSIBLE PUMP	☐	LIQUINOX	☐	FLOAT ACTIVATED
☐	☐	BLADDER PUMP	☐	POTABLE WATER	☐	KECK INTERFACE PROBE
☐	☐	PVC/SILICON TUBING	☐	DEIONIZED WATER	☐	_____
☐	☐	TEFLON/SILICON TUBING	☐	HEXANE		
☐	☐	WATTERA	☐	NITRIC ACID		
☐	☐	IN LINE FILTER	☒	NONE- Dedicated Tubing	NUMBER OF FILTERS USED _____	
☐	☐	PRESS/VAC FILTER				
☐	☐	_____				

ANALYTICAL PARAMETERS

		METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒	TCL VOCs	8260B	N	HCl/4degC	2 x 40mL 2	☒	EC / PW1
☐						☐	
☐						☐	
☐						☐	
☐						☐	
☐						☐	
☐						☐	
☐						☐	

NOTES AND SAMPLE OBSERVATIONS

Stabilization is considered achieved when three consecutive readings are taken at 3 to 5 min. intervals within the following limits:

Temp. - 3 %; Turbidity 10% > than 1 NTU; DO - 10%; Sp. Cond. - 3%; pH - 0.1 unit; ORP - 10 mV.

SIGNATURE: _____

RECEIVED BY: _____

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FIELD DATA RECORD - GROUNDWATER SAMPLING

PROJECT ~~Active Industrial Uniform~~ Eugene's DATE 12.11.07

WELL ID PW-2 BOTTLE

START 1300 END 1425 TIME 1414

SAMPLE ISIS ID ECPW2

☐ QC SAMPLES COLLECTED DUPLICATE ID MS ID MSD ID

WATER LEVEL / WELL DATA

MEASURED WELL DEPTH 10.45 FT (TOR) HISTORICAL WELL DEPTH — FT (TOR) PROTECTIVE CASING STICKUP (FROM GROUND) — FT PROTECTIVE CASING / WELL DIFFERENCE — FT

DEPTH TO WATER 8.79 FT (TOR) SCREEN LENGTH ~~10~~ FT WELL DIAMETER 1 IN WELL MATERIAL HDPE

HEIGHT OF WATER COLUMN 1.66 FT x ☐ 0.16 GAL/FT (2 IN) ☐ 0.65 GAL/FT (4 IN) = 0.068 GAL/VOL ☐ 1.5 GAL/FT (6 IN)

x 0.041 (1in) (PW)

TOTAL VOLUME PURGED 4.21 GAL

Total purge volume = (ml per min.) x time (min.) x 0.00026 gal/ml

AMBIENT AIR 0 PPM WELL MOUTH 0.7 PPM

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (mL/min)	TEMP. (degrees C)	pH (units)	TURBIDITY (NTU)	SPEC. COND. ~~uhmos/cm~~ mS/cm	D.O. (mg/L)	ORP (mV)	Comments
(PW) ~~1312~~ 1320	Begin Purging @		300 mL/min						Silty
1325	Hooked to		YSI						
1327	8.79	300	13.73	6.49	>1000	398	1.89	159.3	
1332	8.79	300	13.87	6.55	>1000	402	1.58	125.8	
1337	8.79	300	13.90	6.57	>1000	406	1.44	116.2	
1342	8.79	300	13.93	6.59	399	408	1.42	109.2	
1347	8.79	300	13.89	6.59	307	409	1.37	102.7	
1352	8.78	300	13.95	6.60	286	412	1.37	94.0	
1357	8.78	300	13.89	6.63	234	416	2.41	83.6	Cleaned out Flo-thru cell
1402	8.79	300	14.0	6.61	180	418	1.43	80.1	
1407	8.79	300	14.06	6.61	175	419	1.38	77.0	
1412	8.79	300	13.96	6.61	179	420	1.38	74.9	

EQUIPMENT DOCUMENTATION

PURGING: [X]

SAMPLING: [X] PERISTALTIC PUMP; [ ] SUBMERSIBLE PUMP; [ ] BLADDER PUMP; [ ] PVC/SILICON TUBING; [ ] TEFLON/SILICON TUBING; [ ] WATTERA; [ ] IN LINE FILTER; [ ] PRESS/VAC FILTER

DECON FLUIDS USED: [ ] METHANOL; [ ] LIQUINOX; [ ] POTABLE WATER; [ ] DEIONIZED WATER; [ ] HEXANE; [ ] NITRIC ACID; [X] NONE- Dedicated Tubing

WATER LEVEL EQUIPMENT USED: [X] ELECTRIC COND. PROBE; [ ] FLOAT ACTIVATED; [ ] KECK INTERFACE PROBE; [ ] _____

NUMBER OF FILTERS USED: _____

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
TCL VOCs	8260B	N	HCl/4degC	3 x 40mL 2	[X]	ECPW2

NOTES AND SAMPLE OBSERVATIONS

Cleaned out Flothru Cell @ 1353

Stabilization is considered achieved when three consecutive readings are taken at 3 to 5 min. intervals within the following limits:
Temp. - 3 %; Turbidity 10% > than 1 NTU; DO - 10%; Sp. Cond. - 3%; pH - 0.1 unit; ORP - 10 mV.

SIGNATURE: Philip J. Udell

RECEIVED BY: _____

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER SAMPLING

PROJECT ~~Active Industrial Uniform~~ Eugene's

DATE 12-12-07

WELL ID PW-3

START 0845 END 0950

BOTTLE TIME 0940

SAMPLE ISIS ID ECPW-3

[X] QC SAMPLES COLLECTED — DUPLICATE ID —; MS ID ECPW3 MS; MSD ID ECPW3 MSD

WATER LEVEL / WELL DATA

MEASURED WELL DEPTH 9.80 FT (TOR)

HISTORICAL WELL DEPTH — FT (TOR)

PROTECTIVE CASING STICKUP (FROM GROUND) — FT

PROTECTIVE CASING / WELL DIFFERENCE — FT

DEPTH TO WATER 6.75 FT (TOR)

SCREEN LENGTH — FT

WELL DIAMETER 1 IN

WELL MATERIAL HDPE

HEIGHT OF WATER COLUMN 3.05 FT x [X] 0.041 (1 in) [ ] 0.16 GAL/FT (2 IN) [ ] 0.65 GAL/FT (4 IN) [ ] 1.5 GAL/FT (6 IN) = 0.13 GAL/VOL

TOTAL VOLUME PURGED 2.96 GAL

Total purge volume = (ml per min.) x time (min.) x 0.00026 gal/ml

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

PURGE DATA

not working MS/cm

TIME	DEPTH TO WATER (ft)	PURGE RATE (mL/min)	TEMP. (degrees C)	pH (units)	TURBIDITY (NTU)	SPEC. COND. (uhmos/cm)	D.O. (mg/L)	ORP (mV)	Comments
0902	Begin Purging			@ 300 ml/min					
0911	6.96	300	11.04	5.85	—	96	5.93	187.5	clear
0916	6.96	300	10.99	5.79	—	95	2.22	177.5	"
0921	6.96	300	10.99	5.83	—	95	1.59	160.0	"
0926	6.96	300	11.00	5.85	—	96	1.48	154.2	"
0931	6.96	300	11.00	5.87	—	97	1.46	149.9	"
0936	6.96	300	10.98	5.90	—	98	1.43	146.8	"
0940	Collect Sample [ECPW3]								

EQUIPMENT DOCUMENTATION

PURGING: [X]

SAMPLING: [X] PERISTALTIC PUMP; [ ] SUBMERSIBLE PUMP; [ ] BLADDER PUMP; [ ] PVC/SILICON TUBING; [ ] TEFLON/SILICON TUBING; [ ] WATTERA; [ ] IN LINE FILTER; [ ] PRESS/VAC FILTER; [ ] _____

DECON FLUIDS USED: [ ] METHANOL; [ ] LIQUINOX; [ ] POTABLE WATER; [ ] DEIONIZED WATER; [ ] HEXANE; [ ] NITRIC ACID; [X] NONE- Dedicated Tubing

WATER LEVEL EQUIPMENT USED: [X] ELECTRIC COND. PROBE; [ ] FLOAT ACTIVATED; [ ] KECK INTERFACE PROBE; [ ] _____

NUMBER OF FILTERS USED _____

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
[X] TCL VOCs	8260B	N	HCl/4degC	3 x 40mL	[X]	ECPW3
[X] "	"	"	"	2 "	[X]	ECPW3 MS
[X] "	"	"	"	"	[X]	ECPW3MSD
[ ]					[ ]	
[ ]					[ ]	
[ ]					[ ]	
[ ]					[ ]	
[ ]					[ ]	

NOTES AND SAMPLE OBSERVATIONS

Stabilization is considered achieved when three consecutive readings are taken at 3 to 5 min. intervals within the following limits;

Temp. - 3 %; Turbidity 10% > than 1 NTU; DO - 10%; Sp. Cond. - 3%; pH - 0.1 unit; ORP - 10 mV.

SIGNATURE: _____

RECEIVED BY: _____

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FIELD DATA RECORD - GROUNDWATER SAMPLING

PROJECT ~~Active Industrial Uniform~~ Eugene's DATE 12.11.07

WELL ID PW-8 BOTTLE

START 1440 END TIME 1547

SAMPLE ISIS ID EcPW8

☐ QC SAMPLES COLLECTED DUPLICATE ID MS ID MSD ID

WATER LEVEL / WELL DATA

MEASURED WELL DEPTH 11.25 FT (TOR) HISTORICAL WELL DEPTH — FT (TOR) PROTECTIVE CASING STICKUP (FROM GROUND) — FT PROTECTIVE CASING / WELL DIFFERENCE — FT

DEPTH TO WATER 7.30 FT (TOR) SCREEN LENGTH 10 (gw) FT WELL DIAMETER 1 IN WELL MATERIAL HDPE

HEIGHT OF WATER COLUMN 3.95 FT x ☐ 0.16 GAL/FT (2 IN) ☐ 0.65 GAL/FT (4 IN) = 0.16 GAL/VOL ☐ 1.5 GAL/FT (6 IN)

X 0.041 (1 IN)

TOTAL VOLUME PURGED 4.45 GAL

Total purge volume = (ml per min.) x time (min.) x 0.00026 gal/ml AMBIENT AIR 0 PPM WELL MOUTH 1.8 PPM

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (mL/min)	TEMP. (degrees C)	pH (units)	TURBIDITY (NTU)	SPEC. COND. (mS/cm) (uhmos/cm)	D.O. (mg/L)	ORP (mV)	Comments
1450		Begin	Purging	@	300mL/min				
1500	7.30	300	13.61	6.83	33.4	358	3.36	22.8	
1505	7.30	300	13.74	6.68	11.5	358	2.35	18.8	
1510	7.30	300	13.84	6.62	26.3	359	1.84	13.8	
1515	7.29	300	13.93	6.59	15.3	359	1.35	10.6	
1520	7.29	300	13.96	6.59	5.39	359	1.34	3.4	
1525	7.30	300	14.0	6.58	2.96	360	1.31	-2.9	
1530	7.30	300	13.99	6.58	2.20	360	1.14	-7.3	
1535	7.29	300	14.0	6.57	2.24	360	1.05	-10.4	
1540	7.30	300	13.99	6.58	2.22	360	1.03	-11.5	
1545	7.30	300	13.99	6.58	2.15	360	1.02	-12.0	

EQUIPMENT DOCUMENTATION

PURGING: [X]

SAMPLING: [X] PERISTALTIC PUMP; [ ] SUBMERSIBLE PUMP; [ ] BLADDER PUMP; [ ] PVC/SILICON TUBING; [ ] TEFLON/SILICON TUBING; [ ] WATTERA; [ ] IN LINE FILTER; [ ] PRESS/VAC FILTER

DECON FLUIDS USED: [ ] METHANOL; [ ] LIQUINOX; [ ] POTABLE WATER; [ ] DEIONIZED WATER; [ ] HEXANE; [ ] NITRIC ACID; [X] NONE- Dedicated Tubing

WATER LEVEL EQUIPMENT USED: [X] ELECTRIC COND. PROBE; [ ] FLOAT ACTIVATED; [ ] KECK INTERFACE PROBE; [ ] _____

NUMBER OF FILTERS USED _____

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
☐ TCL VOCs	8260B	N	HCl/4degC	3 x 40mL 2	[X]	EC PW8

NOTES AND SAMPLE OBSERVATIONS

Stabilization is considered achieved when three consecutive readings are taken at 3 to 5 min. intervals within the following limits:

Temp. - 3 %; Turbidity 10% > than 1 NTU; DO - 10%; Sp. Cond. - 3%; pH - 0.1 unit; ORP - 10 mV.

SIGNATURE: _____

RECEIVED BY: _____

MACTEC ENGINEERING & CONSULTING, INC. PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER SAMPLING

PROJECT ~~Active Industrial Uniform~~ Eugene's DATE 12-12-07

WELL ID PW-6 BOTTLE

START 1000 END 1010 TIME —

SAMPLE ISIS ID

☐ QC SAMPLES COLLECTED DUPLICATE ID MS ID MSD ID

WATER LEVEL / WELL DATA

No Flushmount

MEASURED WELL DEPTH	HISTORICAL WELL DEPTH	PROTECTIVE CASING STICKUP (FROM GROUND)	PROTECTIVE CASING / WELL DIFFERENCE
6.20 FT (TOR)	FT (TOR)	— FT	— FT

DEPTH TO WATER	SCREEN LENGTH	WELL DIAMETER	WELL MATERIAL
— FT (TOR)	FT	1 IN	HDPE

HEIGHT OF WATER COLUMN FT x ☐ 0.16 GAL/FT (2 IN) ☐ 0.65 GAL/FT (4 IN) = GAL/VOL ☐ 1.5 GAL/FT (6 IN)

TOTAL VOLUME PURGED GAL

Total purge volume = (ml per min.) x time (min.) x 0.00026 gal/ml

AMBIENT AIR PPM WELL MOUTH PPM

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (mL/min)	TEMP. (degrees C)	pH (units)	TURBIDITY (NTU)	SPEC. COND. (uhmos/cm)	D.O. (mg/L)	ORP (mV)	Comments
Well	Not	Purged	— no water						

EQUIPMENT DOCUMENTATION

PURGING: [X]

SAMPLING: [X] PERISTALTIC PUMP; [ ] SUBMERSIBLE PUMP; [ ] BLADDER PUMP; [ ] PVC/SILICON TUBING; [ ] TEFLON/SILICON TUBING; [ ] WATTERA; [ ] IN LINE FILTER; [ ] PRESS/VAC FILTER; [ ] _____

DECON FLUIDS USED: [ ] METHANOL; [ ] LIQUINOX; [ ] POTABLE WATER; [ ] DEIONIZED WATER; [ ] HEXANE; [ ] NITRIC ACID; [X] NONE- Dedicated Tubing

WATER LEVEL EQUIPMENT USED: [X] ELECTRIC COND. PROBE; [ ] FLOAT ACTIVATED; [ ] KECK INTERFACE PROBE; [ ] _____

NUMBER OF FILTERS USED _____

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
[X] TCL VOCs	8260B	N	HCl/4degC	3 x 40mL 2	[X]	ECL PW6

No Sample Collected
Well is Dry !

NOTES AND SAMPLE OBSERVATIONS

Stabilization is considered achieved when three consecutive readings are taken at 3 to 5 min. intervals within the following limits:
Temp. - 3 %; Turbidity 10% > than 1 NTU; DO - 10%; Sp. Cond. - 3%; pH - 0.1 unit; ORP - 10 mV.

SIGNATURE: _____

RECEIVED BY: _____

APPENDIX E

DATA USABILITY SUMMARY REPORT

DATA USABILITY SUMMARY REPORT
DECEMBER 2007
EUGENE'S DRY CLEANERS
LINDENHURST, NEW YORK

Introduction:

Eleven groundwater, ten soil, thirteen soil vapor, and nine air samples were collected by MACTEC at the Eugene's Dry Cleaners site in December 2007 and submitted for off-site laboratory analyses. Air and soil vapor samples were analyzed by Contest Analytical Laboratory located in East Longmeadow, Massachusetts and groundwater and soil samples were analyzed by Mitkem Laboratories located in Warwick, RI. A listing of samples included in this investigation is presented in Table 1. Samples were analyzed for the following parameters:

- Volatile organic compounds (VOCs) in air and soil vapor by EPA Method TO-15.
- Volatile organic compounds (VOCs) in groundwater by EPA Method 8260B.
- Volatile organic compounds (VOCs) in soil by EPA Method 8260B.

Deliverables for the off-site laboratory analyses included a Category B deliverable as defined in the New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocols (NYSDEC, 2000).

A project chemist review was completed based on NYSDEC Division of Environmental Remediation guidance for Data Usability Summary Reports (NYSDEC, 2002). Laboratory QC limits were used during the data evaluation unless noted otherwise. The project chemist review included evaluations of sample collection, data package completeness, holding times, QC data (blanks, instrument calibrations, duplicates, surrogate recovery, and spike recovery), data transcription, electronic data reporting, calculations, and data qualification. With the exception of the items discussed below, results are interpreted to be usable as reported by the laboratory. The following laboratory or data validation qualifiers are used in the final data presentation.

U = target analyte is not detected above the reported detection limit
UJ = target analyte is not detected at the reported detection limit and is estimated
J = concentration is estimated
R = result was rejected during validation
D = result was reported from a diluted analytical run.

A summary of the final field sample data is presented in Table 2. Results are interpreted to be usable as reported by the laboratory unless discussed in the following sections.

Volatile Organic Compounds - Groundwater

Blank Contamination

The method blank (VBLK2N) reported a result for trichloroethene (1.0µg/L). An action level was calculated at five times the detections reported in the blank. The results for trichloroethene in samples ECGW04, ECGW04DUP, ECPW8, and ECPW2 were less than the action level and were qualified as non-detect (U).

Initial Calibration

The initial calibration had relative response factors that were below the control limit of 0.05 for acetone (0.011) and 2-butanone (0.018). The results for these compounds were non-detect in samples ECGW05, ECGW04, ECGW04DUP, ECPW8, and ECPW2 and were qualified as rejected (R) due to the low response factors. In addition, the percent relative standard deviation between relative response factors was greater than the control limit of 30 for chloromethane (35). The results for chloromethane were qualified as estimated (J/UJ) in the samples listed above.

The initial calibration had relative response factors that were below the control limit of 0.05 for acetone (0.020) and 2-butanone (0.030). The results for these compounds were non-detect in samples ECGW02, ECGW03, ECPW3, ECPW1, ECP01, and EC02SUMP and were qualified as rejected (R) due to the low response factors.

Continuing Calibration

The continuing calibration had relative response factors that were below the control limit of 0.05 for acetone (0.011) and 2-butanone (0.023). The results for these compounds were non-detect in samples ECGW05, ECGW04, ECGW04DUP, ECPW8, and ECPW2 and were qualified as rejected (R) due to the low response factors. In addition, the percent differences between the initial and continuing calibration factors were greater than the control limit of 20 for methyl-tert-buty-ether (42), 2-butanone (28), 2,2-dichloropropane (23), 4-methyl-2-pentanone (36), 2-hexanone (36), naphthalene (29), 1,1,2-trichloro-1,2,2-trifluoromethane (30), methyl acetate (31), and methylcyclohexane (26). The results for these compounds were all non-detect in the samples listed above and were qualified as estimated (UJ) except 2-butanone which was rejected (R) due to low response factors.

The continuing calibration had relative response factors that were below the control limit of 0.05 for acetone (0.015) and 2-butanone (0.026). In addition, the percent difference between the initial and continuing calibration response factors was greater than the control limit of 20 for acetone (25). The results for these compounds were non-detect in sample ECPW3 and were qualified as rejected (R) due to the low response factors.

The continuing calibration had relative response factors that were below the control limit of 0.05 for acetone (0.016) and 2-butanone (0.026). The results for these compounds were non-detect in samples ECGW02, ECGW03, ECPW1, and ECP01 and were qualified as rejected (R) due to the low response factors.

The continuing calibration had relative response factors that were below the control limit of 0.05 for acetone (0.027) and 2-butanone (0.032). In addition, the percent difference between the initial and continuing calibration response factors was greater than the control limit of 20 for acetone (35). The results for these compounds were non-detect in sample EC02SUMP and were qualified as rejected (R) due to the low response factors.

Tentatively Identified Compounds

Tentatively Identified Compounds (TICS) were reported in accordance with method 8260B guidelines. No TICs were identified in the groundwater samples associated with this data set.

Volatile Organic Compounds - Soil

Blank Contamination

The method blank reported a result for naphthalene (2.0µg/kg). An action level was calculated at five times the detections reported in the blank. The result for naphthalene in sample ECGS0403DUP was less than the action level and was qualified as non-detect (U).

Surrogates

Samples ECGS0602, ECGS0502, and ECGS0303 reported percent recoveries for the surrogates toluene-d8 (138, 140, 130) and bromofluorobenzene (67, 68, 72) that were outside laboratory control limits. The samples were reanalyzed with similar results. All results associated with the initial analyses of samples ECGS0602, ECGS0502, and ECGS0303 were qualified as estimated (J/UJ).

Sample ECGS0403DUP reported a percent recovery for toluene-d8 (118) that was greater than laboratory control limits indicating a potential high bias. Positive results in sample ECGS0403DUP were qualified as estimated (J).

Samples ECSS02A00 and ECSS02B00 reported percent recoveries for the surrogate dibromofluorobenzene (23, 23) that were below laboratory control limits indicating a potential low bias. All results associated with samples ECSS02A00 and ECSS02B00 were qualified as estimated (J/UJ).

Internal Standards

Samples ECGS0403, ECGS0403DUP, and ECGS0703 reported low recoveries for the internal standard 1,4-dichlorobenzene-d4. The samples were reanalyzed with similar results. All compounds associated with this internal standard were non-detect in samples ECGS0403, ECGS0403DUP, and ECGS0703 and were qualified as estimated (UJ).

Sample ECGS0602 reported low recoveries for all three internal standards and samples ECGS0502 and ECGS0303 reported low recoveries for the internal standards chlorobenzene-d5 and 1,4-dichlorobenzene-d4. The samples were re-analyzed with similar results. All compounds associated with these internal standards were qualified as estimated (J/UJ) in the samples listed above.

Initial Calibration

The initial calibration had relative response factors that were below the control limit of 0.05 for acetone (0.025) and 2-butanone (0.020). All results for acetone were positive in samples ECGS0602, ECGS0502, ECGS0403, ECGS0403DUP, and ECGS0703 and were qualified as estimated (J). All results for 2-butanone were non-detect and were rejected (R) in the samples listed above due to the low response factors.

The initial calibration had relative response factors that were below the control limit of 0.05 for acetone (0.025) and 2-butanone (0.020). All results for acetone and 2-butanone were non-detect and were rejected (R) in samples ECGS0203 and ECGS0303 due to the low response factors.

The initial calibration had relative response factors that were below the control limit of 0.05 for acetone (0.038) and 2-butanone (0.049). All results for acetone and 2-butanone were non-detect and were rejected (R) in samples ECSS02A00, ECSS02B00, and ECSS0300 due to the low response factors.

Continuing Calibration

The continuing calibration had relative response factors that were below the control limit of 0.05 for acetone (0.021) and 2-butanone (0.019). All results for acetone were positive in samples ECGS0602, ECGS0502, ECGS0403, ECGS0403DUP, and ECGS0703 and were qualified as estimated (J). All results for 2-butanone were non-detect and were rejected (R) in the samples listed above due to the low response factors. In addition, the percent difference between the initial and continuing calibration factors was greater than the control limit of 20 for cyclohexane (22). The results for cyclohexane were non-detect in the samples listed above and were qualified as estimated (UJ).

The continuing calibration had relative response factors that were below the control limit of 0.05 for acetone (0.027) and 2-butanone (0.021). All results for acetone and 2-butanone were non-detect and were rejected (R) in samples ECGS0203 and ECGS0303 due to the low response factors. In addition, the percent difference between the initial and continuing calibration response factors was greater than the

control limit of 20 for iodomethane (21) and vinyl acetate (21). The results for these compounds were non-detect in the samples listed above and were qualified as estimated (UJ).

Duplicates

The relative percent difference between sample ECGS0403 and its field duplicate was greater than the control limit of 50 for tetrachloroethene (74). The results for tetrachloroethene were qualified as estimated (J) in samples ECGS0403 and ECGS0403DUP.

Laboratory Control Sample

The LCSD had a percent recovery for naphthalene that was greater than laboratory control limits indicating a potential high bias. The result for naphthalene in sample ECSS02A00 was positive and was qualified as estimated (J).

Matrix Spike/Matrix Spike Duplicate

The MS/MSD associated with sample ECGS0403 reported a percent recovery for tetrachloroethene (143) that was greater than laboratory control limits indicating a potential high bias. The results for tetrachloroethene in samples ECGS0403 and ECGS0403DUP were positive and were qualified as estimated (J). In addition, the percent recoveries for 1,2,4-trichlorobenzene (57) and 1,2,3-trichlorobenzene (57) were below laboratory control limits indicating a potential low bias. The results for these compounds were non-detect in samples ECGS0403 and ECGS0403DUP and were qualified as estimated (UJ).

Tentatively Identified Compounds

Tentatively Identified Compounds (TICS) were reported in accordance with method 8260B guidelines. TICs were reported in the soil samples ECGS0602, ECGS0403, and ECSS02A00 and are identified in Table 2.5.

Volatile Organic Compounds – Air/Soil Vapor

Blank Contamination

The method blank reported a detection of methylene chloride (0.26 $\mu g/m^3$). An action level was calculated at ten times the detection reported in the blank for methylene chloride and was then multiplied by any applicable dilution factors. The results for methylene chloride were less than the action level in samples ECSS01, ECFA01A, ECFA01B, ECFA02, ECSS02B, ECSS02A, ECFA03, ECSS04, ECFA04, ECBA03-02, ECAA01, ECAA02, EXSV06, ECSV05, ECSV04, ECSV07 and ECSV02 and were qualified as non-detect (U).

Continuing Calibration

The continuing calibration had percent differences between the initial and continuing calibration response factors that were greater than the control limit of 25 for ethanol (-36), 2-butanone (34), vinyl acetate (29), ethyl acetate (36), tetrahydrofuran (34), cyclohexane (26), 4-methyl-2-pentanone (35), 2-hexanone (32), 1,2,4-trichlorobenzene (-27) and hexachlorobutadiene (33). The results for these compounds were qualified as estimated (J/UJ) in samples ECSS01, ECFA01A, ECFA01B, ECFA02, ECSS02B, ECSS02A, ECFA03, ECSS04, ECBA04, ECFA04, ECSS03-02, ECBA03-02, ECAA01, ECAA02, ECSV06, ECSV05, ECSV04, ECSV07, ECSV04-DUP, and ECSV02.

The continuing calibration had percent differences between the initial and continuing calibration response factors that were greater than the control limit of 25 for acetone (-34), ethanol (-34), and cyclohexane (26). The results for these compounds were non-detect in sample ECSV03 and were qualified as estimated (UJ).

Laboratory Control Sample

The LCS had percent recoveries for 2-butanone (65) and 4-methyl-2-pentanone (61) that were less than the control limit of 70-130 indicating a potential low bias. In addition, the result for ethanol (157) was greater than the control limit of 50-150 indicating a potential high bias. Results for 2-butanone and 4-methyl-2-pentanone were qualified as estimated (J/UJ) in samples ECSS01, ECFA01A, ECFA01B, ECFA02, ECSS02B, ECSS02A, ECFA03, ECSS04, ECBA04, ECFA04, ECSS03-02, ECBA03-02, ECAA01, ECAA02, ECSV06, ECSV05, ECSV04, ECSV07, ECSV04-DUP, and ECSV02. Positive results for ethanol, in the samples listed above, were qualified as estimated (J).

The LCS had a percent recovery for 4-methyl-2-pentanone (69) that was less than the control limit of 70-130 indicating a potential low bias. The result for 4-methyl-2-pentanone was non-detect in sample ECSV03 and was qualified as estimated (UJ).

Duplicates

The relative percent differences between sample ECSV04 and its field duplicate were greater than the control limit of 30 for acetone (80), benzene (33), carbon disulfide (53), and heptane (36). The results for these compounds were qualified as estimated (J) in samples ECSV04 and ECSV04DUP. In addition, the results for 2-butanone, ethanol, and 4-methyl-2-pentanone were inconsistent. The results from the original sample were all non-detect while the results reported in the field duplicate were greater than two times the reporting limit. The results for these compounds were qualified as estimated (J/UJ) in samples ECSV04 and ECSV04DUP.

Miscellaneous

Samples ECFA02 and ECFA03 had final pressure readings of +1"Hg upon receipt at the laboratory. Based on the positive pressure readings at the time of receipt, the sampling intervals and flow rates for the canisters are in question. All results associated with the samples above were qualified as estimated (J/UJ).

The results for ethanol in samples ECSS01, ECFA01B, ECBA04, and ECFA04 were found to be greater than the calibration range of the instrument and were qualified as estimated (J).

The result for acetone in samples ECFA01B, ECFA02, ECFA03, ECSS04, ECBA03-02, ECSV06, ECSV05, and ECSV02 were found to be greater than the calibration range of the instrument and were qualified as estimated (J).

TABLE 1
Sample Summary

SDG	Sample Name	Date Collected	Method	Parameter	Type
LIMT-12191	ECSS01	12/11/2007	TO-15	VOC	FS
LIMT-12191	ECFA01A	12/11/2007	TO-15	VOC	FS
LIMT-12191	ECFA01B	12/11/2007	TO-15	VOC	FS
LIMT-12191	ECFA02	12/11/2007	TO-15	VOC	FS
LIMT-12404	ECSV01	12/19/2007	TO-15	VOC	FS
LIMT-12191	ECSS02B	12/12/2007	TO-15	VOC	FS
LIMT-12191	ECSS02A	12/11/2007	TO-15	VOC	FS
LIMT-12191	ECFA03	12/11/2007	TO-15	VOC	FS
LIMT-12191	ECSS04	12/11/2007	TO-15	VOC	FS
LIMT-12191	ECBA04	12/11/2007	TO-15	VOC	FS
LIMT-12191	ECFA04	12/11/2007	TO-15	VOC	FS

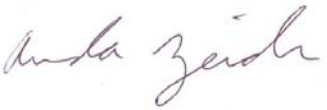
LIMT-12191	ECSS03-02	12/12/2007	TO-15	VOC	FS
LIMT-12191	ECBA03-02	12/12/2007	TO-15	VOC	FS
LIMT-12191	ECAA01	12/13/2007	TO-15	VOC	FS
LIMT-12191	ECAA02	12/13/2007	TO-15	VOC	FS
LIMT-12191	ECSV06	12/12/2007	TO-15	VOC	FS
LIMT-12191	ECSV05	12/12/2007	TO-15	VOC	FS
LIMT-12191	ECSV04	12/12/2007	TO-15	VOC	FS
LIMT-12191	ECSV07	12/12/2007	TO-15	VOC	FS
LIMT-12191	ECSV04-DUP	12/12/2007	TO-15	VOC	FD
LIMT-12191	ECSV03	12/13/2007	TO-15	VOC	FS
LIMT-12191	ECSV02	12/13/2007	TO-15	VOC	FS
F1857	ECGS0203	12/12/2007	SW8260	VOC	FS
F1857	ECGW02	12/12/2007	SW8260	VOC	FS
F1857	ECGS0303	12/12/2007	SW8260	VOC	FS
F1857	ECGS0303	12/12/2007	SW8260	VOC	FS
F1857	ECGW03	12/12/2007	SW8260	VOC	FS
F1839	ECGS0602	12/11/2007	SW8260	VOC	FS
F1839	ECGS0602	12/11/2007	SW8260	VOC	FS
F1839	ECGS0502	12/11/2007	SW8260	VOC	FS
F1839	ECGS0502	12/11/2007	SW8260	VOC	FS
F1839	ECGW05	12/11/2007	SW8260	VOC	FS
F1839	ECGS0403	12/11/2007	SW8260	VOC	FS
F1839	ECGS0403DUP	12/11/2007	SW8260	VOC	FD
F1839	ECGS0403DUP	12/11/2007	SW8260	VOC	FD
F1839	ECGW04	12/11/2007	SW8260	VOC	FS
F1839	ECGW04DUP	12/11/2007	SW8260	VOC	FD
F1839	ECGS0703	12/11/2007	SW8260	VOC	FS
F1839	ECGS0703	12/11/2007	SW8260	VOC	FS
F1857	ECPW3	12/12/2007	SW8260	VOC	FS
F1857	ECPW1	12/12/2007	SW8260	VOC	FS
F1839	ECPW8	12/11/2007	SW8260	VOC	FS
F1857	ECP01	12/12/2007	SW8260	VOC	FS
F1839	ECPW2	12/11/2007	SW8260	VOC	FS
F1839	TRIPBLANK	12/11/2007	SW8260	VOC	TB
F1904	ECSS02A00	12/19/2007	SW8260	VOC	FS
F1904	ECSS02B00	12/19/2007	SW8260	VOC	FS
F1904	ECSS0300	12/19/2007	SW8260	VOC	FS
F1904	EC02SUMP	12/19/2007	SW8260	VOC	FS
F1904	TRIP BLANK	12/19/2007	SW8260	VOC	TB

Reference:

New York State Department of Environmental Conservation (NYSDEC), 2000. "Analytical Services Protocols"; June 2000.

New York State Department of Environmental Conservation (NYSDEC), 2002. "Technical Guidance for Site Investigation and Remediation-Appendix 2B"; Draft DER-10; Division of Environmental Remediation; December 2002.

Data Validator: Amanda Zeidler



Signature_____ Date February 4, 2008

Reviewed by Julie Ricardi for:

Quality Assurance Officer: Chris Ricardi, NRCC-EAC

Date: 2/15/08

DATA USABILITY SUMMARY REPORT
JANUARY 2008
EUGENE'S DRY CLEANERS
LINDENHURST, NEW YORK

Introduction:

Four air samples were collected by MACTEC at the Eugene's Dry Cleaners site in January 2008 and submitted for off-site laboratory analyses. Air samples were analyzed by Contest Analytical Laboratory located in East Longmeadow, Massachusetts. A listing of samples included in this investigation is presented in Table 1. Samples were analyzed for the following parameters:

- Volatile organic compounds (VOCs) in air by EPA Method TO-15.

Deliverables for the off-site laboratory analyses included a Category B deliverable as defined in the New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocols (NYSDEC, 2005).

A project chemist review was completed based on NYSDEC Division of Environmental Remediation guidance for Data Usability Summary Reports (NYSDEC, 2002). Laboratory QC limits were used during the data evaluation unless noted otherwise. The project chemist review included evaluations of sample collection, data package completeness, holding times, QC data (blanks, instrument calibrations, duplicates, surrogate recovery, and spike recovery), data transcription, electronic data reporting, calculations, and data qualification. With the exception of the items discussed below, results are interpreted to be usable as reported by the laboratory. The following laboratory or data validation qualifiers are used in the final data presentation.

U = target analyte is not detected above the reported detection limit
UJ = target analyte is not detected at the reported detection limit and is estimated
J = concentration is estimated

A summary of the final field sample data is presented in Table 2. Results are interpreted to be usable as reported by the laboratory unless discussed in the following sections.

Volatile Organic Compounds – Air

Blank Contamination

Detections for 2-butanone (0.21 µg/m^3) and 2-hexanone (0.09 µg/m^3) are reported in the method blank. Action levels were established at five times the reported blank detections. The results for 2-butanone in samples ECBA05B and ECFA05, and 2-hexanone in samples ECAA03 and ECBA05B are less than the action limits and were qualified non-detect (U).

Initial Calibration

In the initial calibration, the percent relative standard deviation (RSD) for acetone (46) and ethanol (52) exceed the quality control (QC) criteria of 30. The results for acetone and ethanol were qualified estimated (J).

Continuing Calibration

In the continuing calibration, the percent difference for 1,3-butadiene (27), acetone (48), ethanol (37), carbon tetrachloride (26), cyclohexane (29), 4-methyl-2-pentanone (28), 2-hexanone (30) , and 1,2,4-trichlorobenzene (38) exceeds the QC limit of 25. Results for acetone and ethanol were qualified

previously under the initial calibration criteria. Results for 1,3-butadiene, carbon tetrachloride, cyclohexane, 4-methyl-2-pentanone, 2-hexanone, and 1,2,4-trichlorobenzene were qualified estimated (J/UJ).

Miscellaneous

The reported result for ethanol in sample ECFA05 exceeds the calibration range of the instrument. The result was qualified estimated (J).

TABLE 1
Sample Summary

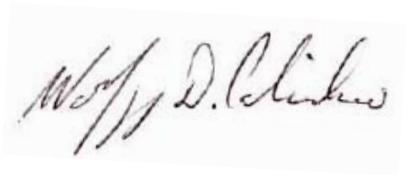
SDG	Sample Name	Date Collected	Method	Parameter	Type
LIMT-12926	ECBA05A	1/15/2008	TO-15	VOC	FS
LIMT-12926	ECBA05B	1/15/2008	TO-15	VOC	FS
LIMT-12926	ECFA05	1/15/2008	TO-15	VOC	FS
LIMT-12926	ECAA03	1/15/2008	TO-15	VOC	FS

Reference:

New York State Department of Environmental Conservation (NYSDEC), 2005. "Analytical Services Protocols"; July 2005.

New York State Department of Environmental Conservation (NYSDEC), 2002. "Technical Guidance for Site Investigation and Remediation-Appendix 2B"; Draft DER-10; Division of Environmental Remediation; December 2002.

Data Validator: Wolfgang D. Calicchio

Signature  Date February 19, 2008

Reviewed by:

Quality Assurance Officer: Chris Ricardi, NRCC-EAC

Date: 3/18/08

Table 2.1: Groundwater VOC Results

Lab Sample Id	F1839-03A		F1839-06A		F1839-07A		F1839-09A		F1839-10A		F1839-11A		F1857-02A	
Lab Sample Delivery Group	F1839		F1839		F1839		F1839		F1839		F1839		F1857	
Loc Name	DP-05		DP-04		DP-04		PW-8		PW-2		QC		DP-02	
Field Sample Id	ECGW05		ECGW04		ECGW04DUP		ECPW8		ECPW2		TRIPBLANK		ECGW02	
Field Sample Date	12/11/2007		12/11/2007		12/11/2007		12/11/2007		12/11/2007		12/11/2007		12/12/2007	
Qc Code	FS		FS		FD		FS		FS		TB		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1,2-Tetrachloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1,1-Trichloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ	5	U	5	U
1,1,2-Trichloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2,3-Trichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2,3-Trichloropropane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2,4-Trichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2,4-Trimethylbenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dibromo-3-chloropropane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dibromoethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,3,5-Trimethylbenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,3-Dichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,3-Dichloropropane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,4-Dichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2,2-Dichloropropane	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ	5	U	5	U
2-Butanone		R		R		R		R		R	5	U		R
2-Chlorotoluene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2-Hexanone	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ	5	U	5	U
4-Chlorotoluene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
4-iso-Propyltoluene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ	5	U	5	U
Acetic acid, methyl ester	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ	5	U	5	U
Acetone		R		R		R		R		R	5	U		R
Benzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromochloromethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromodichloromethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromoform	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromomethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Carbon disulfide	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Carbon tetrachloride	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Chlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Chlorodibromomethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Chloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U

Table 2.1: Groundwater VOC Results

Lab Sample Id	F1839-03A		F1839-06A		F1839-07A		F1839-09A		F1839-10A		F1839-11A		F1857-02A	
Lab Sample Delivery Group	F1839		F1839		F1839		F1839		F1839		F1839		F1857	
Loc Name	DP-05		DP-04		DP-04		PW-8		PW-2		QC		DP-02	
Field Sample Id	ECGW05		ECGW04		ECGW04DUP		ECPW8		ECPW2		TRIPBLANK		ECGW02	
Field Sample Date	12/11/2007		12/11/2007		12/11/2007		12/11/2007		12/11/2007		12/11/2007		12/12/2007	
Qc Code	FS		FS		FD		FS		FS		TB		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Chloroform	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Chloromethane	5	UJ	5	UJ	1	J	1	J	5	UJ	5	U	5	U
Cis-1,2-Dichloroethene	5	U	1	J	1	J	9		5	U	5	U	5	U
cis-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Cyclohexane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Dibromomethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Dichlorodifluoromethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Ethyl benzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Hexachlorobutadiene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Iodomethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Isopropylbenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Methyl cyclohexane	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ	5	U	5	U
Methyl Tertbutyl Ether	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ	5	U	5	U
Methylene chloride	5	U	5	U	5	U	5	U	5	U	5	U	5	U
n-Butylbenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Naphthalene	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ	5	U	5	U
o-Xylene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Propylbenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
sec-Butylbenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
tert-Butylbenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	1	J	5	U	1	J	25		1	J	5	U	5	U
Toluene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
trans-1,2-Dichloroethene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
trans-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Trichloroethene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Trichlorofluoromethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Vinyl acetate	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Vinyl chloride	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Xylene, m/p	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Xylenes, Total	5	U	5	U	5	U	5	U	5	U	5	U	5	U

Notes:
Results in micrograms per liter (µg/L)
Samples analyzed for VOCs by EPA Method 8260B
QC Code:
FS = Field Sample
FD = Field Duplicate
TB = Trip Blank
Qualifiers:
U = Not detected at a concentration greater than the reporting limit
J = Estimated value
R = Result was rejected during validation

Table 2.1: Groundwater VOC Results

Lab Sample Id	F1857-04A		F1857-05A		F1857-06A		F1857-07A		F1904-04A		F1904-05A	
Lab Sample Delivery Group	F1857		F1857		F1857		F1857		F1904		F1904	
Loc Name	DP-03		PW-3		PW-1		P-1		SUMP-2		QC	
Field Sample Id	ECGW03		ECPW3		ECPW1		ECP01		EC02SUMP		TRIP BLANK	
Field Sample Date	12/12/2007		12/12/2007		12/12/2007		12/12/2007		12/19/2007		12/19/2007	
Qc Code	FS		FS		FS		FS		FS		TB	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1,2-Tetrachloroethane	5	U	5	U	5	U	5	U	5	U	5	U
1,1,1-Trichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U
1,2,3-Trichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
1,2,3-Trichloropropane	5	U	5	U	5	U	5	U	5	U	5	U
1,2,4-Trichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
1,2,4-Trimethylbenzene	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dibromo-3-chloropropane	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dibromoethane	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichlorobenzene	1	J	5	U	5	U	2	J	5	U	5	U
1,2-Dichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane	5	U	5	U	5	U	5	U	5	U	5	U
1,3,5-Trimethylbenzene	5	U	5	U	5	U	5	U	5	U	5	U
1,3-Dichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
1,3-Dichloropropane	5	U	5	U	5	U	5	U	5	U	5	U
1,4-Dichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
2,2-Dichloropropane	5	U	5	U	5	U	5	U	5	U	5	U
2-Butanone		R		R		R		R		R	5	U
2-Chlorotoluene	5	U	5	U	5	U	5	U	5	U	5	U
2-Hexanone	5	U	5	U	5	U	5	U	5	U	5	U
4-Chlorotoluene	5	U	5	U	5	U	5	U	5	U	5	U
4-iso-Propyltoluene	5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone	5	U	5	U	5	U	5	U	5	U	5	U
Acetic acid, methyl ester	5	U	5	U	5	U	5	U	5	U	5	U
Acetone		R		R		R		R		R	5	U
Benzene	5	U	5	U	5	U	5	U	5	U	5	U
Bromobenzene	5	U	5	U	5	U	5	U	5	U	5	U
Bromochloromethane	5	U	5	U	5	U	5	U	5	U	5	U
Bromodichloromethane	5	U	5	U	5	U	5	U	5	U	5	U
Bromoform	5	U	5	U	5	U	5	U	5	U	5	U
Bromomethane	5	U	5	U	5	U	5	U	5	U	5	U
Carbon disulfide	5	U	5	U	5	U	5	U	5	U	5	U
Carbon tetrachloride	5	U	5	U	5	U	5	U	5	U	5	U
Chlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
Chlorodibromomethane	5	U	5	U	5	U	5	U	5	U	5	U
Chloroethane	5	U	5	U	5	U	5	U	5	U	5	U

Table 2.1: Groundwater VOC Results

Lab Sample Id	F1857-04A		F1857-05A		F1857-06A		F1857-07A		F1904-04A		F1904-05A	
Lab Sample Delivery Group	F1857		F1857		F1857		F1857		F1904		F1904	
Loc Name	DP-03		PW-3		PW-1		P-1		SUMP-2		QC	
Field Sample Id	ECGW03		ECPW3		ECPW1		ECP01		EC02SUMP		TRIP BLANK	
Field Sample Date	12/12/2007		12/12/2007		12/12/2007		12/12/2007		12/19/2007		12/19/2007	
Qc Code	FS		FS		FS		FS		FS		TB	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Chloroform	5	U	5	U	5	U	5	U	5	U	5	U
Chloromethane	5	U	5	U	5	U	5	U	5	U	5	U
Cis-1,2-Dichloroethene	5	U	5	U	5	U	2	J	5	U	5	U
cis-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U
Cyclohexane	5	U	5	U	5	U	5	U	5	U	5	U
Dibromomethane	5	U	5	U	5	U	5	U	5	U	5	U
Dichlorodifluoromethane	5	U	5	U	5	U	5	U	5	U	5	U
Ethyl benzene	5	U	5	U	5	U	5	U	5	U	5	U
Hexachlorobutadiene	5	U	5	U	5	U	5	U	5	U	5	U
Iodomethane	5	U	5	U	5	U	5	U	5	U	5	U
Isopropylbenzene	5	U	5	U	5	U	5	U	5	U	5	U
Methyl cyclohexane	5	U	5	U	5	U	5	U	5	U	5	U
Methyl Tertbutyl Ether	5	U	5	U	5	U	5	U	5	U	5	U
Methylene chloride	5	U	5	U	5	U	5	U	5	U	5	U
n-Butylbenzene	5	U	5	U	5	U	5	U	5	U	5	U
Naphthalene	5	U	5	U	5	U	5	U	5	U	5	U
o-Xylene	5	U	5	U	5	U	5	U	5	U	5	U
Propylbenzene	5	U	5	U	5	U	5	U	5	U	5	U
sec-Butylbenzene	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	5	U	5	U	5	U	5	U	5	U	5	U
tert-Butylbenzene	5	U	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	5	U	3	J	5	U	5	U	5	U	5	U
Toluene	5	U	5	U	5	U	5	U	5	U	5	U
trans-1,2-Dichloroethene	5	U	5	U	5	U	5	U	5	U	5	U
trans-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U
Trichloroethene	5	U	1	J	5	U	5	U	5	U	5	U
Trichlorofluoromethane	5	U	5	U	5	U	5	U	5	U	5	U
Vinyl acetate	5	U	5	U	5	U	5	U	5	U	5	U
Vinyl chloride	5	U	5	U	5	U	2	J	5	U	5	U
Xylene, m/p	5	U	5	U	5	U	5	U	5	U	5	U
Xylenes, Total	5	U	5	U	5	U	5	U	5	U	5	U

Notes:
Results in micrograms per liter (µg/L)
Samples analyzed for VOCs by EPA Method 8260B
QC Code:
FS = Field Sample
FD = Field Duplicate
TB = Trip Blank
Qualifiers:
U = Not detected at a concentration greater than the reporting limit
J = Estimated value
R = Result was rejected during validation

Table 2.2: Soil VOC Results

Lab Sample Id	F1839-01B		F1839-02B		F1839-04B		F1839-05B		F1839-08B		F1857-01B		F1857-03B	
Lab Sample Delivery Group	F1839		F1839		F1839		F1839		F1839		F1857		F1857	
Loc Name	DP-06		DP-05		DP-04		DP-04		DP-07		DP-02		DP-03	
Field Sample Id	ECGS0602		ECGS0502		ECGS0403		ECGS0403DUP		ECGS0703		ECGS0203		ECGS0303	
Field Sample Date	12/11/2007		12/11/2007		12/11/2007		12/11/2007		12/11/2007		12/12/2007		12/12/2007	
Qc Code	FS		FS		FS		FD		FS		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1,2-Tetrachloroethane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
1,1,1-Trichloroethane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
1,1,2,2-Tetrachloroethane	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
1,1,2-Trichloroethane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
1,1-Dichloroethane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
1,1-Dichloroethene	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
1,1-Dichloropropene	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
1,2,3-Trichlorobenzene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
1,2,3-Trichloropropane	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
1,2,4-Trichlorobenzene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
1,2,4-Trimethylbenzene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
1,2-Dibromo-3-chloropropane	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
1,2-Dibromoethane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
1,2-Dichlorobenzene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
1,2-Dichloroethane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
1,2-Dichloropropane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
1,3,5-Trimethylbenzene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
1,3-Dichlorobenzene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
1,3-Dichloropropane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
1,4-Dichlorobenzene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
2,2-Dichloropropane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
2-Butanone		R		R		R		R		R		R		R
2-Chlorotoluene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
2-Hexanone	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
4-Chlorotoluene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
4-iso-Propyltoluene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
4-Methyl-2-pentanone	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Acetic acid, methyl ester	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
Acetone	16	J	2	J	2	J	2	J	2	J		R		R
Benzene	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Bromobenzene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
Bromochloromethane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Bromodichloromethane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Bromoform	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ

Table 2.2: Soil VOC Results

Lab Sample Id	F1839-01B		F1839-02B		F1839-04B		F1839-05B		F1839-08B		F1857-01B		F1857-03B	
Lab Sample Delivery Group	F1839		F1839		F1839		F1839		F1839		F1857		F1857	
Loc Name	DP-06		DP-05		DP-04		DP-04		DP-07		DP-02		DP-03	
Field Sample Id	ECGS0602		ECGS0502		ECGS0403		ECGS0403DUP		ECGS0703		ECGS0203		ECGS0303	
Field Sample Date	12/11/2007		12/11/2007		12/11/2007		12/11/2007		12/11/2007		12/12/2007		12/12/2007	
Qc Code	FS		FS		FS		FD		FS		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Bromomethane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Carbon disulfide	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Carbon tetrachloride	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Chlorobenzene	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Chlorodibromomethane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Chloroethane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Chloroform	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Chloromethane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Cis-1,2-Dichloroethene	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
cis-1,3-Dichloropropene	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Cyclohexane	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
Dibromomethane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Dichlorodifluoromethane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Ethyl benzene	1	J	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Hexachlorobutadiene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
Iodomethane	4	UJ	3	UJ	3	U	3	U	3	U	3	UJ	3	UJ
Isopropylbenzene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
Methyl cyclohexane	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
Methyl Tertbutyl Ether	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Methylene chloride	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
n-Butylbenzene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
Naphthalene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
o-Xylene	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Propylbenzene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
sec-Butylbenzene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
Styrene	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
tert-Butylbenzene	4	UJ	3	UJ	3	UJ	3	UJ	3	UJ	3	U	3	UJ
Tetrachloroethene	8	J	8	J	11	J	24	J	6		1	J	2400	D
Toluene	6	J	1	J	1	J	1	J	1	J	3	U	3	UJ
trans-1,2-Dichloroethene	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
trans-1,3-Dichloropropene	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Trichloroethene	4	UJ	3	UJ	3	U	3	U	3	U	3	U	5	J
Trichlorofluoromethane	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ
Vinyl acetate	4	UJ	3	UJ	3	U	3	U	3	U	3	UJ	3	UJ
Vinyl chloride	4	UJ	3	UJ	3	U	3	U	3	U	3	U	3	UJ

Table 2.2: Soil VOC Results

Lab Sample Id	F1839-01B		F1839-02B		F1839-04B		F1839-05B		F1839-08B		F1857-01B		F1857-03B	
Lab Sample Delivery Group	F1839		F1839		F1839		F1839		F1839		F1857		F1857	
Loc Name	DP-06		DP-05		DP-04		DP-04		DP-07		DP-02		DP-03	
Field Sample Id	ECGS0602		ECGS0502		ECGS0403		ECGS0403DUP		ECGS0703		ECGS0203		ECGS0303	
Field Sample Date	12/11/2007		12/11/2007		12/11/2007		12/11/2007		12/11/2007		12/12/2007		12/12/2007	
Qc Code	FS		FS		FS		FD		FS		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Xylene, m/p	3	J	0.8	J	0.6	J	0.6	J	3	U	3	U	3	UJ
Xylenes, Total	3	J	0.8	J	0.6	J	0.6	J	3	U	3	U	3	UJ

Notes:
Results in micrograms per kilogram (µg/kg)
Samples analyzed for VOCs by EPA Method 8260B
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the reporting limit
J = Estimated value
R = Result was rejected during validation
D = Result was reported from a diluted analytical run.

Table 2.2: Soil VOC Results

Lab Sample Id	F1904-01B		F1904-02B		F1904-03B	
Lab Sample Delivery Group	F1904		F1904		F1904	
Loc Name	SS-02A		SS-02B		SS-03	
Field Sample Id	ECSS02A00		ECSS02B00		ECSS0300	
Field Sample Date	12/19/2007		12/19/2007		12/19/2007	
Qc Code	FS		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1,2-Tetrachloroethane	4	UJ	4	UJ	4	U
1,1,1-Trichloroethane	4	UJ	4	UJ	4	U
1,1,2,2-Tetrachloroethane	4	UJ	4	UJ	4	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	4	UJ	4	UJ	4	U
1,1,2-Trichloroethane	4	UJ	4	UJ	4	U
1,1-Dichloroethane	4	UJ	4	UJ	4	U
1,1-Dichloroethene	4	UJ	4	UJ	4	U
1,1-Dichloropropene	4	UJ	4	UJ	4	U
1,2,3-Trichlorobenzene	4	UJ	4	UJ	4	U
1,2,3-Trichloropropane	4	UJ	4	UJ	4	U
1,2,4-Trichlorobenzene	4	UJ	4	UJ	4	U
1,2,4-Trimethylbenzene	4	UJ	4	UJ	4	U
1,2-Dibromo-3-chloropropane	4	UJ	4	UJ	4	U
1,2-Dibromoethane	4	UJ	4	UJ	4	U
1,2-Dichlorobenzene	4	UJ	4	UJ	4	U
1,2-Dichloroethane	4	UJ	4	UJ	4	U
1,2-Dichloropropane	4	UJ	4	UJ	4	U
1,3,5-Trimethylbenzene	4	UJ	4	UJ	4	U
1,3-Dichlorobenzene	4	UJ	4	UJ	4	U
1,3-Dichloropropane	4	UJ	4	UJ	4	U
1,4-Dichlorobenzene	4	UJ	4	UJ	4	U
2,2-Dichloropropane	4	UJ	4	UJ	4	U
2-Butanone		R		R		R
2-Chlorotoluene	4	UJ	4	UJ	4	U
2-Hexanone	4	UJ	4	UJ	4	U
4-Chlorotoluene	4	UJ	4	UJ	4	U
4-iso-Propyltoluene	4	UJ	4	UJ	4	U
4-Methyl-2-pentanone	4	UJ	4	UJ	4	U
Acetic acid, methyl ester	4	UJ	4	UJ	4	U
Acetone		R		R		R
Benzene	4	UJ	4	UJ	4	U
Bromobenzene	4	UJ	4	UJ	4	U
Bromochloromethane	4	UJ	4	UJ	4	U
Bromodichloromethane	4	UJ	4	UJ	4	U
Bromoform	4	UJ	4	UJ	4	U

Table 2.2: Soil VOC Results

Lab Sample Id	F1904-01B		F1904-02B		F1904-03B	
Lab Sample Delivery Group	F1904		F1904		F1904	
Loc Name	SS-02A		SS-02B		SS-03	
Field Sample Id	ECSS02A00		ECSS02B00		ECSS0300	
Field Sample Date	12/19/2007		12/19/2007		12/19/2007	
Qc Code	FS		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Bromomethane	4	UJ	4	UJ	4	U
Carbon disulfide	4	UJ	4	UJ	4	U
Carbon tetrachloride	4	UJ	4	UJ	4	U
Chlorobenzene	4	UJ	4	UJ	4	U
Chlorodibromomethane	4	UJ	4	UJ	4	U
Chloroethane	4	UJ	4	UJ	4	U
Chloroform	4	UJ	4	UJ	4	U
Chloromethane	4	UJ	4	UJ	4	U
Cis-1,2-Dichloroethene	4	UJ	4	UJ	4	U
cis-1,3-Dichloropropene	4	UJ	4	UJ	4	U
Cyclohexane	4	UJ	4	UJ	4	U
Dibromomethane	4	UJ	4	UJ	4	U
Dichlorodifluoromethane	4	UJ	4	UJ	4	U
Ethyl benzene	4	UJ	4	UJ	4	U
Hexachlorobutadiene	4	UJ	4	UJ	4	U
Iodomethane	4	UJ	4	UJ	4	U
Isopropylbenzene	4	UJ	4	UJ	4	U
Methyl cyclohexane	4	UJ	4	UJ	4	U
Methyl Tertbutyl Ether	4	UJ	4	UJ	4	U
Methylene chloride	4	UJ	4	UJ	4	U
n-Butylbenzene	4	UJ	4	UJ	4	U
Naphthalene	2	J	4	UJ	4	U
o-Xylene	4	UJ	4	UJ	4	U
Propylbenzene	4	UJ	4	UJ	4	U
sec-Butylbenzene	4	UJ	4	UJ	4	U
Styrene	4	UJ	4	UJ	4	U
tert-Butylbenzene	4	UJ	4	UJ	4	U
Tetrachloroethene	1	J	4	UJ	4	U
Toluene	4	UJ	4	UJ	4	U
trans-1,2-Dichloroethene	4	UJ	4	UJ	4	U
trans-1,3-Dichloropropene	4	UJ	4	UJ	4	U
Trichloroethene	0.9	J	4	UJ	4	U
Trichlorofluoromethane	4	UJ	4	UJ	4	U
Vinyl acetate	4	UJ	4	UJ	4	U
Vinyl chloride	4	UJ	4	UJ	4	U

Table 2.2: Soil VOC Results

Lab Sample Id	F1904-01B		F1904-02B		F1904-03B	
Lab Sample Delivery Group	F1904		F1904		F1904	
Loc Name	SS-02A		SS-02B		SS-03	
Field Sample Id	ECSS02A00		ECSS02B00		ECSS0300	
Field Sample Date	12/19/2007		12/19/2007		12/19/2007	
Qc Code	FS		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Xylene, m/p	4	UJ	4	UJ	4	U
Xylenes, Total	4	UJ	4	UJ	4	U

Notes:
Results in micrograms per kilogram (µg/kg)
Samples analyzed for VOCs by EPA Method 8260B
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration
greater than the reporting limit
J = Estimated value
R = Result was rejected during validation
D = Result was reported from a diluted analytical run

Table 2.3: Air VOC Results

Lab Sample Id	07B48779		07B48780		07B48781		07B48784		07B48786		07B48787	
Lab Sample Delivery Group	LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191	
Loc Name	FA-01A		FA-01B		FA-02		FA-03		BA-04		FA-04	
Field Sample Id	ECFA01A		ECFA01B		ECFA02		ECFA03		ECBA04		ECFA04	
Field Sample Date	12/11/2007		12/11/2007		12/11/2007		12/11/2007		12/11/2007		12/11/2007	
Qc Code	FS		FS		FS		FS		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1-Trichloroethane	0.25	U	0.25	U	0.29	J	0.25	UJ	0.25	U	0.25	U
1,1,2,2-Tetrachloroethane	0.31	U	0.31	U	0.31	UJ	0.31	UJ	0.31	U	0.31	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.55		0.76		0.76	J	0.69	J	0.69		0.62	
1,1,2-Trichloroethane	0.25	U	0.25	U	0.25	UJ	0.25	UJ	0.25	U	0.25	U
1,1-Dichloroethane	0.18	U	0.18	U	0.18	UJ	0.18	UJ	0.18	U	0.18	U
1,1-Dichloroethene	0.18	U	0.18	U	0.18	UJ	0.18	UJ	0.18	U	0.18	U
1,2,4-Trichlorobenzene	0.34	UJ	0.34	UJ	0.34	UJ	0.34	UJ	0.34	UJ	0.34	UJ
1,2,4-Trimethylbenzene	0.44		0.93		1.9	J	1.6	J	0.8		0.23	U
1,2-Dibromoethane	0.35	U	0.35	U	0.35	UJ	0.35	UJ	0.35	U	0.35	U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.32	U	0.32	U	0.32	UJ	0.32	UJ	0.32	U	0.32	U
1,2-Dichlorobenzene	0.27	U	0.27	U	0.27	UJ	0.27	UJ	0.27	U	0.27	U
1,2-Dichloroethane	0.18	U	0.18	U	0.18	UJ	0.18	UJ	0.18	U	0.18	U
1,2-Dichloropropane	0.21	U	0.21	U	0.21	UJ	0.21	UJ	0.21	U	0.21	U
1,3,5-Trimethylbenzene	0.23	U	0.23	U	0.66	J	0.53	J	0.23	U	0.23	U
1,3-Dichlorobenzene	0.27	U	0.27	U	0.27	UJ	0.27	UJ	0.27	U	0.27	U
1,4-Dichlorobenzene	0.27	U	0.92		1.1	J	0.27	UJ	0.27		0.27	U
2-Butanone	3.2	J	5.3	J	13	J	2.6	J	1.8	J	1.5	J
2-Hexanone	0.48	J	1.1	J	0.18	UJ	0.18	UJ	0.18	UJ	0.18	UJ
2-Propanol	1.5		20		500	J	18	J	16		48	
4-Ethyltoluene	0.23	U	0.27		0.88	J	0.4	J	0.23	U	0.23	U
4-Methyl-2-pentanone	0.18	UJ	0.18	UJ	0.18	UJ	0.18	UJ	0.18	UJ	0.18	UJ
Acetone	10		100	J	5700	J	280	J	43		47	
Benzene	1.1		2.2		1.5	J	1.6	J	1.1		1	
Benzyl chloride	0.24	U	0.24	U	0.24	UJ	0.24	UJ	0.24	U	0.24	U
Bromodichloromethane	0.3	U	0.3	U	0.3	UJ	0.3	UJ	0.3	U	0.3	U
Bromoform	0.46	U	0.46	U	0.46	UJ	0.46	UJ	0.46	U	0.46	U
Bromomethane	0.18	U	0.18	U	0.18	UJ	0.18	UJ	0.18	U	0.18	U
Butadiene, 1,3-	0.1	U	0.1	U	0.1	UJ	0.1	UJ	0.1	U	0.1	U
Carbon disulfide	1.5	U	1.5	U	1.5	UJ	1.5	UJ	1.5	U	1.5	U
Carbon tetrachloride	0.4		0.57		0.51	J	0.57	J	0.57		0.45	
Chlorobenzene	0.21	U	0.21	U	0.21	UJ	0.21	UJ	0.21	U	0.21	U
Chlorodibromomethane	0.39	U	0.39	U	0.39	UJ	0.39	UJ	0.39	U	0.39	U
Chloroethane	0.12	U	0.12	U	0.12	UJ	0.12	UJ	0.12	U	0.12	U
Chloroform	0.22	U	0.66		4.3	J	0.22	UJ	2.6		0.35	
Chloromethane	1.2		1.7		1.6	J	1.6	J	1.5		1.4	
Cis-1,2-Dichloroethene	0.18	U	0.18	U	0.18	UJ	0.18	UJ	0.18	U	0.18	U

Table 2.3: Air VOC Results

Lab Sample Id	07B48779		07B48780		07B48781		07B48784		07B48786		07B48787	
Lab Sample Delivery Group	LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191	
Loc Name	FA-01A		FA-01B		FA-02		FA-03		BA-04		FA-04	
Field Sample Id	ECFA01A		ECFA01B		ECFA02		ECFA03		ECBA04		ECFA04	
Field Sample Date	12/11/2007		12/11/2007		12/11/2007		12/11/2007		12/11/2007		12/11/2007	
Qc Code	FS		FS		FS		FS		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
cis-1,3-Dichloropropene	0.2	U	0.2	U	0.2	UJ	0.2	UJ	0.2	U	0.2	U
Cyclohexane	0.16	UJ	0.43	J	0.62	J	0.5	J	0.53	J	1.7	J
Dichlorodifluoromethane	2.4		3.2		3.2	J	3.3	J	4.6		7.3	
Ethanol	15	J	960	J	270	J	39	J	110	J	680	J
Ethyl acetate	0.17	UJ	6.8	J	200	J	4.2	J	0.17	UJ	0.17	UJ
Ethyl benzene	0.39		0.78		1.3	J	1.1	J	0.9		0.74	
Heptane	0.33		0.77		3.9	J	0.7	J	0.96		1.8	
Hexachlorobutadiene	2	UJ	2	UJ	2	UJ	2	UJ	2	UJ	2	UJ
Hexane	0.7		1.4		0.17	UJ	3.4	J	3.3		2.2	
Methyl Tertbutyl Ether	0.17	U	0.17	U	0.17	UJ	0.17	UJ	0.17	U	0.17	U
Methylene chloride	2.5	U	2.4	U	2	UJ	3	UJ	15		2.6	U
Naphthalene	0.58	U	0.58	U	0.58	UJ	0.9	J	0.66		0.58	U
o-Xylene	0.43		0.82		1.6	J	1	J	0.7		0.51	
Propylene	0.31	U	0.31	U	0.31	UJ	0.31	UJ	0.31	U	0.31	U
Styrene	0.19		0.61		3.9	J	47	J	1.1		0.19	
Tetrachloroethene	0.55		0.92		78	J	14	J	10		3.6	
Tetrahydrofuran	0.66	J	0.27	UJ	0.27	UJ	0.27	UJ	0.27	J	0.27	UJ
Toluene	2.4		6.8		140	J	19	J	5		26	
trans-1,2-Dichloroethene	0.18	U	0.18	U	0.18	UJ	0.18	UJ	0.18	U	0.18	U
trans-1,3-Dichloropropene	0.2	U	0.2	U	0.2	UJ	0.2	UJ	0.2	U	0.2	U
Trichloroethene	0.25	U	0.25	U	0.53	J	0.25	UJ	0.25	U	0.25	U
Trichlorofluoromethane	1.2		1.8		1.6	J	1.6	J	1.6		1.6	
Vinyl acetate	0.32	UJ	0.32	UJ	0.32	UJ	0.32	UJ	0.32	UJ	0.32	UJ
Vinyl chloride	0.12	U	0.12	U	0.12	UJ	0.12	UJ	0.12	U	0.12	U
Xylene, m/p	1.1		2.1		3.9	J	2.5	J	1.9		1.5	

Notes:

Results in micrograms per cubic meter ($\mu g/m^3$)
Air samples analyzed for VOCs by EPA Method TO-15
QC Code:
FS = Field Sample
Qualifiers:
U = Not detected at a concentration greater than the reporting limit
J = Estimated value

Table 2.3: Air VOC Results

Lab Sample Id	07B48789		07B48790		07B48791		08B02194		08B02195		08B02196		08E
Lab Sample Delivery Group	LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12926		LIMT-12926		LIMT-12926		LIM
Loc Name	BA-03		AA-01		AA-02		BA-05A		BA-05B		FA-05		A
Field Sample Id	ECBA03-02		ECAA01		ECAA02		ECBA05A		ECBA05B		ECFA05		EC
Field Sample Date	12/12/2007		12/13/2007		12/13/2007		1/15/2008		1/15/2008		1/15/2008		1/1
Qc Code	FS		FS		FS		FS		FS		FS		
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**
1,1,1-Trichloroethane	0.29		0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25
1,1,2,2-Tetrachloroethane	0.31	U	0.31	U	0.31	U	0.31	U	0.31	U	0.31	U	0.31
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.62		0.62		0.69		0.69	U	0.69	U	0.69	U	0.69
1,1,2-Trichloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25
1,1-Dichloroethane	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18
1,1-Dichloroethene	0.18	U	0.18	U	0.18	U	0.36	U	0.36	U	0.36	U	0.36
1,2,4-Trichlorobenzene	0.34	UJ	0.34	UJ	0.34	UJ	0.67	UJ	0.67	UJ	0.67	UJ	0.67
1,2,4-Trimethylbenzene	1.8		0.35		0.4		4.1		4.4		3.3		0.4
1,2-Dibromoethane	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.32	U	0.32	U	0.32	U	0.63	U	0.63	U	0.63	U	0.63
1,2-Dichlorobenzene	0.27	U	0.27	U	0.27	U	0.43		0.32		0.81		0.27
1,2-Dichloroethane	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18
1,2-Dichloropropane	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21
1,3,5-Trimethylbenzene	0.53		0.23	U	0.23	U	1.2		1.5		0.93		0.23
1,3-Dichlorobenzene	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U	0.38		0.27
1,4-Dichlorobenzene	0.27	U	0.27	U	0.27	U	16		8		35		0.27
2-Butanone	1.4	J	3.5	J	3.4	J	3		0.77	U	0.77	U	2.5
2-Hexanone	0.18	UJ	0.96	J	0.59	J	0.55	J	0.18	UJ	0.18	UJ	0.44
2-Propanol	1.2	U	1.8		3		6.4		4.2		8.9		2.1
4-Ethyltoluene	0.44		0.23	U	0.23	U	1.3		1.8		1.1		0.23
4-Methyl-2-pentanone	0.18	UJ	0.18	UJ	0.18	UJ	0.22	J	0.18	UJ	0.29	J	0.18
Acetone	110	J	15		43		16	J	9.4	J	7.9	J	11
Benzene	0.83		0.83		0.92		0.86		0.98		0.92		0.92
Benzyl chloride	0.24	U	0.24	U	0.24	U	0.24	U	0.24	U	0.24	U	0.24
Bromodichloromethane	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3
Bromoform	0.46	U	0.46	U	0.46	U	0.46	U	0.46	U	0.46	U	0.46
Bromomethane	0.18	U	0.18	U	0.18	U	0.35	U	0.35	U	0.35	U	0.35
Butadiene, 1,3-	0.1	U	0.1	U	0.1	U	0.2	UJ	0.2	UJ	0.2	UJ	0.2
Carbon disulfide	1.5	U	1.5	U	1.5	U	0.29	U	0.29	U	0.29	U	0.29
Carbon tetrachloride	0.45		0.51		0.51		0.34	J	0.34	J	0.34	J	0.34
Chlorobenzene	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21
Chlorodibromomethane	0.39	U	0.39	U	0.39	U	0.39	U	0.39	U	0.39	U	0.39
Chloroethane	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12
Chloroform	0.22	U	0.22	U	0.22	U	0.22	U	0.22	U	0.22	U	0.83
Chloromethane	1.4		1.6		1.4		1.1		0.99		1		1
Cis-1,2-Dichloroethene	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18

Table 2.3: Air VOC Results

Lab Sample Id	07B48789		07B48790		07B48791		08B02194		08B02195		08B02196		08E
Lab Sample Delivery Group	LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12926		LIMT-12926		LIMT-12926		LIM
Loc Name	BA-03		AA-01		AA-02		BA-05A		BA-05B		FA-05		A
Field Sample Id	ECBA03-02		ECAA01		ECAA02		ECBA05A		ECBA05B		ECFA05		EC
Field Sample Date	12/12/2007		12/13/2007		12/13/2007		1/15/2008		1/15/2008		1/15/2008		1/1
Qc Code	FS		FS		FS		FS		FS		FS		
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**
cis-1,3-Dichloropropene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2
Cyclohexane	0.16	UJ	0.16	UJ	0.16	UJ	0.16	UJ	0.16	UJ	0.16	UJ	0.16
Dichlorodifluoromethane	2.8		2.8		2.8		2.2		0.45	U	2.3		2.3
Ethanol	6.7	J	18	J	19	J	49	J	40	J	80	J	9
Ethyl acetate	0.17	UJ	0.17	UJ	0.17	UJ	0.33	U	0.33	U	0.32		0.33
Ethyl benzene	0.31		0.35		0.35		0.47		0.59		0.62		0.27
Heptane	0.37		0.26		0.33		0.7		1		2.7		0.22
Hexachlorobutadiene	2	UJ	2	UJ	2	UJ	0.96	U	0.96		0.96	U	0.96
Hexane	0.73		0.54		0.6		0.63		0.82		0.82		0.57
Methyl Tertbutyl Ether	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17
Methylene chloride	2.2	U	1.9	U	1.6	U	1.8		0.69		1.4		4.8
Naphthalene	0.58	U	0.58	U	0.58	U	2.3		0.58	U	3.9		0.58
o-Xylene	0.43		0.35		0.39		0.74		0.94		0.78		0.27
Propylene	0.31	U	1.5		0.31	U	1.4		0.16	U	1.7		1.5
Styrene	2.5		0.19	U	0.19	U	0.19	U	0.19	U	0.31		0.19
Tetrachloroethene	39		0.43		0.73		1.6		9.8		1.6		0.61
Tetrahydrofuran	0.27	UJ	0.27	UJ	0.27	UJ	0.14	U	0.14	U	0.14	U	0.14
Toluene	4.2		2		2.5		3		4		11		1.7
trans-1,2-Dichloroethene	0.18	U	0.18	U	0.18	U	0.36	U	0.36	U	0.36	U	0.36
trans-1,3-Dichloropropene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2
Trichloroethene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25
Trichlorofluoromethane	1.4		1.4		1.4		1.1		1.2		1.1		1.1
Vinyl acetate	0.32	UJ	0.32	UJ	0.32	UJ	1.4		0.89		0.41		1.1
Vinyl chloride	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12
Xylene, m/p	0.86		0.94		1.1		1.2		1.4		1.4		0.66

Notes:

Results in micrograms per cubic meter ($\mu g/m^3$)
Air samples analyzed for VOCs by EPA Method TO-15
QC Code:
FS = Field Sample
Qualifiers:
U = Not detected at a concentration greater than the reporting limit
J = Estimated value

Table 2.3: Air VOC Results

Lab Sample Id	**02197**
Lab Sample Delivery Group	**T-12926**
Loc Name	**A-03**
Field Sample Id	**AA03**
Field Sample Date	**5/2008**
Qc Code	**FS**
Parameter	**Qualifier**
1,1,1-Trichloroethane	U
1,1,2,2-Tetrachloroethane	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	U
1,1,2-Trichloroethane	U
1,1-Dichloroethane	U
1,1-Dichloroethene	U
1,2,4-Trichlorobenzene	UJ
1,2,4-Trimethylbenzene	
1,2-Dibromoethane	U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	U
1,2-Dichlorobenzene	U
1,2-Dichloroethane	U
1,2-Dichloropropane	U
1,3,5-Trimethylbenzene	U
1,3-Dichlorobenzene	U
1,4-Dichlorobenzene	U
2-Butanone	
2-Hexanone	UJ
2-Propanol	
4-Ethyltoluene	U
4-Methyl-2-pentanone	UJ
Acetone	J
Benzene	
Benzyl chloride	U
Bromodichloromethane	U
Bromoform	U
Bromomethane	U
Butadiene, 1,3-	UJ
Carbon disulfide	U
Carbon tetrachloride	J
Chlorobenzene	U
Chlorodibromomethane	U
Chloroethane	U
Chloroform	
Chloromethane	
Cis-1,2-Dichloroethene	U

Table 2.3: Air VOC Results

Lab Sample Id	**02197**
Lab Sample Delivery Group	**T-12926**
Loc Name	**A-03**
Field Sample Id	**AA03**
Field Sample Date	**5/2008**
Qc Code	**FS**
Parameter	**Qualifier**
cis-1,3-Dichloropropene	U
Cyclohexane	UJ
Dichlorodifluoromethane	
Ethanol	J
Ethyl acetate	U
Ethyl benzene	
Heptane	
Hexachlorobutadiene	U
Hexane	
Methyl Tertbutyl Ether	U
Methylene chloride	
Naphthalene	U
o-Xylene	
Propylene	
Styrene	U
Tetrachloroethene	
Tetrahydrofuran	U
Toluene	
trans-1,2-Dichloroethene	U
trans-1,3-Dichloropropene	U
Trichloroethene	U
Trichlorofluoromethane	
Vinyl acetate	
Vinyl chloride	U
Xylene, m/p	

Notes:

Results in micrograms per cubic meter ($\mu g/m^3$)
Air samples analyzed for VOCs by EPA Method TO-15
QC Code:
FS = Field Sample
Qualifiers:
U = Not detected at a concentration greater than the reporting limit
J = Estimated value

Table 2.4: Soil Vapor VOC Results

Lab Sample Id	07B48778		07B48782		07B48783		07B48785		07B48788		07B48792	
Lab Sample Delivery Group	LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191	
Loc Name	SS-01		SS-02B		SS-02A		SS-04		SS-03		DP-06	
Field Sample Id	ECSS01		ECSS02B		ECSS02A		ECSS04		ECSS03-02		ECSV06	
Field Sample Date	12/11/2007		12/12/2007		12/11/2007		12/11/2007		12/12/2007		12/12/2007	
Qc Code	FS		FS		FS		FS		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1-Trichloroethane	0.29		0.44		54	U	0.39		0.25		0.54	U
1,1,2,2-Tetrachloroethane	0.31	U	0.31	U	68	U	0.31	U	0.31	U	0.68	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.55		0.55		76	U	0.69		0.55		0.76	U
1,1,2-Trichloroethane	0.25	U	0.25	U	54	U	0.25	U	0.25	U	0.54	U
1,1-Dichloroethane	0.18	U	0.18	U	40	U	0.18	U	0.18	U	0.4	U
1,1-Dichloroethene	0.18	U	0.18	U	40	U	0.18	U	0.18	U	0.4	U
1,2,4-Trichlorobenzene	0.34	UJ	0.34	UJ	74	UJ	0.34	UJ	0.34	UJ	0.74	UJ
1,2,4-Trimethylbenzene	0.23	U	2.7		1500		3.6		0.53		4.1	
1,2-Dibromoethane	0.35	U	0.35	U	76	U	0.35	U	0.35	U	0.76	U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.32	U	0.32	U	70	U	0.32	U	0.32	U	0.7	U
1,2-Dichlorobenzene	0.27	U	0.27	U	60	U	0.27	U	0.27	U	0.6	U
1,2-Dichloroethane	0.18	U	0.18	U	40	U	0.18	U	0.18	U	0.4	U
1,2-Dichloropropane	0.21	U	0.21	U	46	U	0.21	U	0.21	U	0.46	U
1,3,5-Trimethylbenzene	0.23	U	0.66		900		1		0.23	U	1.2	
1,3-Dichlorobenzene	0.27	U	0.27	U	60	U	0.27	U	0.27	U	0.6	U
1,4-Dichlorobenzene	0.27	U	0.27	U	60	U	0.27	U	0.27	U	0.6	U
2-Butanone	2.4	J	1.4	UJ	300	UJ	17	J	2.7	J	7.2	J
2-Hexanone	0.18	UJ	0.18	UJ	40	UJ	1.3	J	0.48	J	0.98	J
2-Propanol	2.1		1.2	U	250	U	6.4		1.2	U	25	
4-Ethyltoluene	0.23	U	0.4		360		0.53		0.23	U	0.98	
4-Methyl-2-pentanone	0.18	UJ	0.18	UJ	40	UJ	0.18	UJ	0.18	UJ	1.1	J
Acetone	21		39		450		330	J	19		760	J
Benzene	0.17		0.89		32	U	0.32		0.15	U	0.77	
Benzyl chloride	0.24	U	0.24	U	52	U	0.24	U	0.24	U	0.52	U
Bromodichloromethane	0.3	U	0.3	U	66	U	0.3	U	0.3	U	0.66	U
Bromoform	0.46	U	0.46	U	110	U	0.46	U	0.46	U	1.1	U
Bromomethane	0.18	U	0.18	U	38	U	0.18	U	0.18	U	0.38	U
Butadiene, 1,3-	0.1	U	0.1	U	22	U	0.1	U	0.1	U	0.22	U
Carbon disulfide	1.5	U	1.5	U	320	U	1.5	U	1.5	U	3.2	
Carbon tetrachloride	0.34		0.34		62	U	0.28	U	0.28	U	0.62	U
Chlorobenzene	0.21	U	0.21	U	46	U	0.21	U	0.21	U	0.46	U
Chlorodibromomethane	0.39	U	0.39	U	86	U	0.39	U	0.39	U	0.86	U
Chloroethane	0.12	U	0.12	U	26	U	0.12	U	0.12	U	0.26	U
Chloroform	17		0.7		48	U	1.1		11		0.48	U
Chloromethane	0.09	U	0.5		20	U	0.09	U	0.3		0.2	U
Cis-1,2-Dichloroethene	0.18	U	0.29		40	U	0.18	U	0.18	U	0.4	U

Table 2.4: Soil Vapor VOC Results

Lab Sample Id	07B48778		07B48782		07B48783		07B48785		07B48788		07B48792	
Lab Sample Delivery Group	LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191	
Loc Name	SS-01		SS-02B		SS-02A		SS-04		SS-03		DP-06	
Field Sample Id	ECSS01		ECSS02B		ECSS02A		ECSS04		ECSS03-02		ECSV06	
Field Sample Date	12/11/2007		12/12/2007		12/11/2007		12/11/2007		12/12/2007		12/12/2007	
Qc Code	FS		FS		FS		FS		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
cis-1,3-Dichloropropene	0.2	U	0.2	U	44	U	0.2	U	0.2	U	0.44	U
Cyclohexane	0.16	UJ	1.4	J	110	J	0.22	J	0.16	UJ	0.34	UJ
Dichlorodifluoromethane	2.7		2.7		50	U	8.3		2.6		2.8	
Ethanol	180	J	19	J	190	UJ	10	J	5.8	J	74	J
Ethyl acetate	0.17	UJ	0.17	UJ	36	UJ	0.17	UJ	0.17	UJ	1.3	J
Ethyl benzene	0.2	U	0.43		61		0.43		0.2	U	3.6	
Heptane	0.18	U	0.44		40	U	0.33		0.22		0.57	
Hexachlorobutadiene	2	UJ	2	UJ	430	UJ	2	UJ	2	UJ	4.3	UJ
Hexane	0.17	U	0.82		56		0.38		0.79		0.36	U
Methyl Tertbutyl Ether	0.17	U	0.17	U	36	U	0.17	U	0.17	U	0.36	U
Methylene chloride	1.7	U	2.6	U	240	U	2.5	U	8.1		1.3	U
Naphthalene	0.58	U	0.61		150		1.2		0.58	U	1.3	U
o-Xylene	0.2	U	0.74		240		0.7		0.2	U	4	
Propylene	0.31	U	0.31	U	69	U	0.73		0.53		0.69	U
Styrene	0.19	U	0.34		140		0.23		0.19	U	1.2	
Tetrachloroethene	4.2		590		6500		27		180		210	
Tetrahydrofuran	0.27	UJ	0.27	UJ	59	UJ	0.27	UJ	0.27	UJ	0.59	UJ
Toluene	0.47		2.8		180		2.2		0.44		7.3	
trans-1,2-Dichloroethene	0.18	U	0.18	U	40	U	0.18	U	0.18	U	0.4	U
trans-1,3-Dichloropropene	0.2	U	0.2	U	44	U	0.2	U	0.2	U	0.44	U
Trichloroethene	0.25	U	1.1		54	U	0.29		0.29		0.54	U
Trichlorofluoromethane	2.3		1.3		56	U	3		1.4		1.2	
Vinyl acetate	0.32	UJ	0.32	UJ	71	UJ	0.32	UJ	0.32	UJ	0.71	UJ
Vinyl chloride	0.12	U	0.12	U	26	U	0.12	U	0.12	U	0.26	U
Xylene, m/p	0.39	U	1.5		230		1.6		0.39		11	

Notes:

Results in micrograms per cubic meter ($\mu g/m^3$)
Soil Vapor samples analyzed for VOCs by EPA Method TO-15
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the reporting limit
J = Estimated value

Table 2.4: Soil Vapor VOC Results

Lab Sample Id	07B48793		07B48794		07B48795		07B48796		07B48797		07B48798	
Lab Sample Delivery Group	LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191	
Loc Name	DP-05		DP-04		DP-07		DP-04		DP-03		DP-02	
Field Sample Id	ECSV05		ECSV04		ECSV07		ECSV04-DUP		ECSV03		ECSV02	
Field Sample Date	12/12/2007		12/12/2007		12/12/2007		12/12/2007		12/13/2007		12/13/2007	
Qc Code	FS		FS		FS		FD		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1-Trichloroethane	0.54	U	1.9		2.5		1.9		54	U	0.54	U
1,1,2,2-Tetrachloroethane	0.68	U	0.68	U	1.7	U	0.68	U	68	U	0.68	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.76	U	0.76	U	1.9	U	0.76	U	76	U	0.76	U
1,1,2-Trichloroethane	0.54	U	0.54	U	1.4	U	0.54	U	54	U	0.54	U
1,1-Dichloroethane	0.4	U	0.4	U	1	U	0.4	U	40	U	0.4	U
1,1-Dichloroethene	0.4	U	0.4	U	1	U	0.4	U	40	U	0.4	U
1,2,4-Trichlorobenzene	0.74	UJ	0.74	UJ	1.9	UJ	0.74	UJ	74	U	0.74	UJ
1,2,4-Trimethylbenzene	7.6		3.5		66		4.2		50	U	17	
1,2-Dibromoethane	0.76	U	0.76	U	1.9	U	0.76	U	76	U	0.76	U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.7	U	0.7	U	1.8	U	0.7	U	70	U	0.7	U
1,2-Dichlorobenzene	0.6	U	0.6	U	1.5	U	0.6	U	60	U	0.6	U
1,2-Dichloroethane	0.4	U	0.4	U	1	U	0.4	U	40	U	0.4	U
1,2-Dichloropropane	0.46	U	0.46	U	1.2	U	0.46	U	46	U	0.46	U
1,3,5-Trimethylbenzene	2.5		1.4		63		1.6		50	U	11	
1,3-Dichlorobenzene	0.6	U	0.6	U	1.5	U	0.6	U	60	U	0.6	U
1,4-Dichlorobenzene	0.6	U	0.6	U	1.5	U	0.6	U	60	U	0.6	U
2-Butanone	5.8	J	3	UJ	7.4	UJ	4.2	J	300	U	3.1	J
2-Hexanone	1.6	J	1.2	J	1	UJ	2	J	40	U	0.4	UJ
2-Propanol	2.5	U	2.5	U	6.2	U	2.5	U	250	U	8.3	
4-Ethyltoluene	1.8		0.88		11		0.98		50	U	3.7	
4-Methyl-2-pentanone	1.1	J	0.4	UJ	1	UJ	1.3	J	40	UJ	0.4	UJ
Acetone	410	J	12	J	100		28	J	240	UJ	190	J
Benzene	1.6		6.3	J	2.4		4.5	J	32	U	3.9	
Benzyl chloride	0.52	U	0.52	U	1.3	U	0.52	U	52	U	0.52	U
Bromodichloromethane	0.66	U	0.66	U	1.7	U	0.66	U	66	U	0.66	U
Bromoform	1.1	U	1.1	U	2.6	U	1.1	U	110	U	1.1	U
Bromomethane	0.38	U	0.38	U	0.95	U	0.38	U	38	U	0.38	U
Butadiene, 1,3-	0.22	U	0.22	U	0.55	U	0.22	U	22	U	0.22	U
Carbon disulfide	25		38	J	7.8	U	22	J	320	U	3.2	U
Carbon tetrachloride	0.62	U	0.62	U	1.6	U	0.62	U	62	U	0.62	U
Chlorobenzene	0.46	U	0.46	U	1.2	U	0.46	U	46	U	0.46	U
Chlorodibromomethane	0.86	U	0.86	U	2.2	U	0.86	U	86	U	0.86	U
Chloroethane	0.26	U	0.26	U	0.65	U	0.26	U	26	U	0.26	U
Chloroform	0.48	U	3.7		2.2		3.6		48	U	1.4	
Chloromethane	0.2	U	0.2	U	0.5	U	0.2	U	20	U	0.2	U
Cis-1,2-Dichloroethene	0.56		23		4.2		19		40	U	0.4	U

Table 2.4: Soil Vapor VOC Results

Lab Sample Id	07B48793		07B48794		07B48795		07B48796		07B48797		07B48798	
Lab Sample Delivery Group	LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191		LIMT-12191	
Loc Name	DP-05		DP-04		DP-07		DP-04		DP-03		DP-02	
Field Sample Id	ECSV05		ECSV04		ECSV07		ECSV04-DUP		ECSV03		ECSV02	
Field Sample Date	12/12/2007		12/12/2007		12/12/2007		12/12/2007		12/13/2007		12/13/2007	
Qc Code	FS		FS		FS		FD		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
cis-1,3-Dichloropropene	0.44	U	0.44	U	1.1	U	0.44	U	44	U	0.44	U
Cyclohexane	0.89	J	2.9	J	76	J	2.8	J	34	UJ	51	J
Dichlorodifluoromethane	3		4.5		73		4.5		50	U	2.4	
Ethanol	47	J	1.9	UJ	4.8	UJ	2.6	J	190	UJ	28	J
Ethyl acetate	0.58	J	0.36	UJ	0.9	UJ	0.36	UJ	36	U	0.36	UJ
Ethyl benzene	3.7		2.9		3.9		2.3		44	U	13	
Heptane	0.82		3.3	J	39		2.3	J	40	U	32	
Hexachlorobutadiene	4.3	UJ	4.3	UJ	11	UJ	4.3	UJ	430	U	4.3	UJ
Hexane	2		5.9		9.2		5.4		36	U	12	
Methyl Tertbutyl Ether	0.36	U	0.36	U	0.9	U	0.36	U	36	U	0.36	U
Methylene chloride	8.5	U	3.6	U	2.3	U	10		790		2.4	U
Naphthalene	1.3	U	1.3	U	3.2	U	1.3	U	130	U	1.3	U
o-Xylene	4.7		2.8		39		2.6		44	U	37	
Propylene	13		19		47		17		69	U	8	
Styrene	1		0.42	U	1.1	U	0.42	U	42	U	0.43	
Tetrachloroethene	110		2800		9100		3200		48000		230	
Tetrahydrofuran	0.59	UJ	0.59	UJ	1.5	UJ	0.59	UJ	59	U	0.59	UJ
Toluene	6.6		7		7.9		5.4		38	U	49	
trans-1,2-Dichloroethene	0.4	U	1.5		1	U	1.3		40	U	0.4	U
trans-1,3-Dichloropropene	0.44	U	0.44	U	1.1	U	0.44	U	44	U	0.44	U
Trichloroethene	0.54	U	140		180		150		760		0.54	U
Trichlorofluoromethane	1.8		11		530		11		56	U	1.2	
Vinyl acetate	0.71	UJ	0.71	UJ	1.8	UJ	0.71	UJ	71	U	0.71	UJ
Vinyl chloride	0.26	U	0.26	U	0.65	U	0.26	U	26	U	0.26	U
Xylene, m/p	11		7.3		63		6.3		86	U	44	

Notes:

Results in micrograms per cubic meter ($\mu g/m^3$)
Soil Vapor samples analyzed for VOCs by EPA Method TO-1
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the reporting limit
J = Estimated value

Table 2.4: Soil Vapor VOC Results

Lab Sample Id	**07B50031**	
Lab Sample Delivery Group	**LIMT-12404**	
Loc Name	**DP-01**	
Field Sample Id	**ECSV01**	
Field Sample Date	**12/19/2007**	
Qc Code	**FS**	
Parameter	**Result**	**Qualifier**
1,1,1-Trichloroethane	0.55	U
1,1,2,2-Tetrachloroethane	0.7	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.8	U
1,1,2-Trichloroethane	0.55	U
1,1-Dichloroethane	0.4	U
1,1-Dichloroethene	0.39	U
1,2,4-Trichlorobenzene	0.75	U
1,2,4-Trimethylbenzene	2.7	
1,2-Dibromoethane	0.8	U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.7	U
1,2-Dichlorobenzene	1.3	U
1,2-Dichloroethane	0.4	U
1,2-Dichloropropane	0.46	U
1,3,5-Trimethylbenzene	1	U
1,3-Dichlorobenzene	0.6	U
1,4-Dichlorobenzene	0.6	U
2-Butanone	4.8	
2-Hexanone	0.41	U
2-Propanol	32	
4-Ethyltoluene	1	U
4-Methyl-2-pentanone	0.41	U
Acetone	160	
Benzene	0.32	U
Benzyl chloride	0.55	U
Bromodichloromethane	0.7	U
Bromoform	1.1	U
Bromomethane	0.38	U
Butadiene, 1,3-	0.22	U
Carbon disulfide	0.31	U
Carbon tetrachloride	0.65	U
Chlorobenzene	0.46	U
Chlorodibromomethane	0.85	U
Chloroethane	0.26	U
Chloroform	0.48	U
Chloromethane	0.2	U
Cis-1,2-Dichloroethene	0.39	U

Table 2.4: Soil Vapor VOC Results

Lab Sample Id	**07B50031**	
Lab Sample Delivery Group	**LIMT-12404**	
Loc Name	**DP-01**	
Field Sample Id	**ECSV01**	
Field Sample Date	**12/19/2007**	
Qc Code	**FS**	
Parameter	**Result**	**Qualifier**
cis-1,3-Dichloropropene	0.45	U
Cyclohexane	0.34	U
Dichlorodifluoromethane	5.1	
Ethanol	25	
Ethyl acetate	0.37	U
Ethyl benzene	1.6	
Heptane	0.41	U
Hexachlorobutadiene	1.1	U
Hexane	2.5	
Methyl Tertbutyl Ether	0.36	U
Methylene chloride	14	
Naphthalene	0.65	U
o-Xylene	1.7	
Propylene	0.18	U
Styrene	0.9	U
Tetrachloroethene	3.3	
Tetrahydrofuran	0.3	U
Toluene	5.2	
trans-1,2-Dichloroethene	0.39	U
trans-1,3-Dichloropropene	0.45	U
Trichloroethene	0.55	U
Trichlorofluoromethane	1.5	
Vinyl acetate	0.35	U
Vinyl chloride	0.25	U
Xylene, m/p	4.3	

Notes:

Results in micrograms per cubic meter ($\mu g/m^3$)
Soil Vapor samples analyzed for VOCs by EPA Method TO-1
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration
greater than the reporting limit
J = Estimated value

Table 2.5: TIC Results

SDG	Sample ID	Lab ID	Sample Date	Compound	Result	Qualifier	Type	Matrix
MF1839	ECGS0602	F1839-01B	12/11/2007	Unknown	16	J	FS	Soil
MF1839	ECGS0602	F1839-01B	12/11/2007	Unknown	6	J	FS	Soil
MF1839	ECGS0602	F1839-01B	12/11/2007	Unknown	21	J	FS	Soil
MF1839	ECGS0403	F1839-04B	12/11/2007	Unknown	21	J	FS	Soil
MF1904	ECSS02A00	F1904-01B	12/19/2007	Unknown	5	J	FS	Soil
MF1904	ECSS02A00	F1904-01B	12/19/2007	2,3,4,5,6,7-Hexahydro-1H-Cy	4	NJ	FS	Soil
MF1904	ECSS02A00	F1904-01B	12/19/2007	2-methyl naphthalene	8	NJ	FS	Soil
MF1904	ECSS02A00	F1904-01B	12/19/2007	1,6-dimethyl naphthalene	6	NJ	FS	Soil
MF1904	ECSS02A00	F1904-01B	12/19/2007	Unknown	5	J	FS	Soil

Notes:
Qualifiers:
J = Estimated Value
N = Tentative identification based on presumptive evidence
Type:
FS = Field Sample