

# **COMPLIANCE STATUS REPORT**

**Former Dry Cleaning Depot  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia 30075  
HSI #10880**

**Prepared For:**

**Mr. Edwin Chang  
KIC Management, LLC  
2270 Evergreen Lane  
Lawrenceville, Georgia 30043**

**JULY 2016**

**AEC Project Number ECC-3056**



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Peter T. Kallay, P.E.

7/22/16



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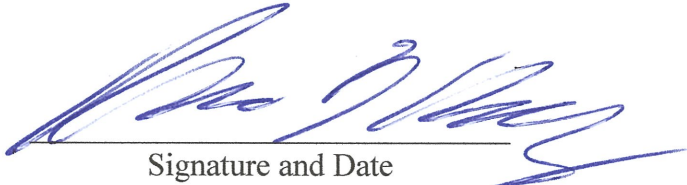
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## LIST OF ACRONYMS

ACL	Advanced Chemistry Labs
AEC	Atlanta Environmental Consultants, LLC
BRL	Below laboratory method reporting limit
bls	Below land surface
CESQG	[RCRA] Conditionally Exempt Small Quantity Generator
CSM	Conceptual Site Model
CSR	Compliance Status Report
DCD	[Former] Dry Cleaning Depot
DCE	Dichloroethene, aka dichloroethylene
cis-DCE	cis-Dichloroethene
trans-DCE	trans-Dichloroethene
EPD	[Georgia] Environmental Protection Division
ESA	Environmental Site Assessment
FTS	FTS Analytical Services
GAEPD	Georgia Environmental Protection Division
GC/MS	Gas chromatography/mass spectrometry
HSI	[Georgia] Hazardous Site Inventory
HSRA	Hazardous Site Response Act
MCL	[USEPA Drinking Water] Maximum contaminant level
mg/kg	Milligram per kilogram
mg/L	Milligram per liter
MNA	Monitored natural attenuation
msl	mean sea level
MW	Monitoring well
NC	[GAEPD HSRA Soil] Notification Concentration
OVA	Organic vapor analyzer
PID	Photo-ionization detector
QA/QC	Quality Assurance and Quality Control
PCE	Tetrachloroethene, aka tetrachloroethylene and perchloroethylene
PPCAP	Prospective Purchaser Corrective Action Plan
PPE	Personal protective equipment
RAGS	<i>Risk Assessment Guidance for Superfund</i>
RCRA	Resource Conservation and Recovery Act
RRS	Risk Reduction Standard
SASR	Semi-Annual Status Report
SIC	Standard Industrial Classification
SVOC	Semivolatile organic compound
TCE	Trichloroethene, aka trichloroethylene
TPH	Total petroleum hydrocarbons
µg/L	Microgram per liter
µg/kg	Microgram per kilogram
USGS	United States Geologic Survey
VC	Vinyl chloride
VOC	Volatile organic compound
VRP	Georgia EPD Voluntary Remediation Program

## QUALIFIED GROUND-WATER SCIENTIST CERTIFICATION

I certify that I am a qualified ground-water scientist who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and have sufficient training and experience in groundwater hydrology and related fields, as demonstrated by state registration and completion of accredited university courses, that enable me to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport. I further certify that this report was prepared by myself or by a subordinate working under my direction.

  
Signature and Date  
07/22/2016

Peter T. Kallay, P.E., Georgia Reg. No. PE024002  
Name, Title and Registration Number



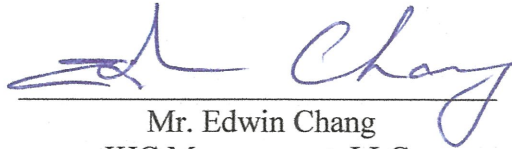
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## CERTIFICATION OF COMPLIANCE

I certify under penalty of law that this report and all attachments were prepared under my direction in accordance with a system designed to insure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Based on my review of the findings of this report with respect to the risk reduction standards of the Rules for Hazardous Site Response, Rule 391-3-19-07, I have determined that this site does not currently meet Risk Reduction Standards for groundwater; the site is in compliance with Type I Risk Reduction Standards for soil, based on available information.

A handwritten signature in blue ink, appearing to read 'Edwin Chang', is positioned above a horizontal line.

Mr. Edwin Chang  
KIC Management, LLC  
2270 Evergreen Lane  
Lawrenceville, Georgia 30043  
404-273-6767

## EXECUTIVE SUMMARY

This Compliance Status Report (CSR) has been prepared for the property located at 1073 Alpharetta Street, Roswell, Fulton County, Georgia. The site is comprised of one parcel, Tax Parcel ID number 12-1902-0412-049-1. The subject property encompasses 0.30 acre, of which approximately 2,511 square feet is the commercial building onsite. The site contains one building that has historically been used as a dry cleaner. The building currently contains a Metro PCS store and A Second Chance Bail Bonds.

The former Dry Cleaning Depot, 1073 Alpharetta Street, Roswell, Fulton County, Georgia, was located in a building constructed in 1968, according to records of the Fulton County Tax Assessor. Records indicate that it has been used as a dry cleaner for approximately 38 years. The dry cleaner was originally known as One Hour Martinizing, then, in turn, Sapphire Cleaners, O'Hara's Cleaners, Care Cleaners, and Dry Cleaning Depot. The building was unoccupied from late 2005 until 2009. Since then, tenants have included a computer and video game store, Stargate Technologies, Metro PCS and A Second Chance Bail Bonds. Current tenants are Metro PCS and A Second Chance Bail Bonds. The property is currently owned by KIC Management, LLC.

### Chemicals of Interest

Volatile Organic Compounds (VOC), in particular, PCE and its biodegradation products, are the primary chemicals of interest. Based on numerous sampling events onsite, chemicals of interest onsite are:

#### **Soils**

tetrachloroethene (PCE)

#### **Groundwater**

tetrachloroethene (PCE)  
trichloroethene (TCE)

### History of Investigations

Atlanta Environmental Consultants (AEC) conducted Phase II Environmental Site Assessment (ESA) field activities at the Site on September 9, 2005; a copy is in Appendix A. Following identification of PCE in soils, and PCE and TCE in groundwater, a Release Notification Form was completed and submitted to the Georgia Department of Natural Resources Environmental Protection Division (EPD). The Georgia EPD notified Mr. Chang by letter dated December 11, 2007 that the site has been listed on Georgia's Hazardous Site Inventory (HSI) as HSI # 10880. The former Dry Cleaning Depot applied for, and was accepted into, the Georgia EPD Voluntary Remediation Program (VRP) by letter dated July 10, 2011. Regularly scheduled Semi-Annual Status Reports (SASR) and Conceptual Site Model (CSM) reports were completed and submitted to the Georgia EPD under the VRP. Items listed on the VRP milestone schedule have been completed by submittal of this Compliance Status Report to the Georgia EPD.

## **1.0 INTRODUCTION**

This Compliance Status Report (CSR) for the property located at 1073 Alpharetta Street, Roswell, Fulton County, Georgia was prepared by Atlanta Environmental Consultants (AEC) for submittal to the Georgia Environmental Protection Division (GAEPD) in accordance with the Milestone Schedule approved by the Georgia EPD as part of acceptance of the former Dry Cleaning Depot into the Voluntary Remediation Program (VRP) by letter dated July 11, 2011. This section provides a description of the property, a summary of the property history, investigation activities, and the organization of this CSR. Previous reports and data relied on in preparing this CSR are provided in the Appendices.

### **1.1 Site Location and Description**

The Site is located at 1073 Alpharetta Street, Roswell, Fulton County, Georgia, and is currently developed with a commercial building housing Metro PCS and A Second Chance Bail Bonds. The property is located immediately north of, and adjoining, the Roswell Village Shopping Center. A Site Location Map is presented as Figure 1, a site plan is in Figure 2, an aerial view of the site is presented as Figure 3 and a site area plan is presented in Figure 4.

The subject property size is approximately 0.30 acre (tax parcel ID 12-1902-0412-061-6), of which approximately 2,511 square feet is a commercial building currently housing Metro PCS and A Second Chance Bail Bonds. No other buildings are located onsite.

### **1.2 Site History**

Historical information reviewed indicates that the site and site area were developed for agricultural uses since at least 1938. Between the 1930s and the 1960s, single family residences were developed onsite and/or in the site area along Alpharetta Street. Old aerial photos suggest that a residence or another building, a street and/or a driveway were onsite in the 1960s. In 1968, the property was developed with the current concrete block building designed for use as a dry cleaner, based on available records of the Fulton County Tax Assessor.

Hertman Casablanca reportedly installed a dry-to-dry machine in 1992, which resulted in reduced use of tetrachloroethene (PCE), to approximately 180 gallons of PCE per year. Yoan Yun reportedly installed another dry-to-dry machine in 1999, reportedly resulting in further reduction of PCE usage to approximately 80 gallons per year. At some time between 1999 and 2005 (date unknown), dry cleaning onsite was discontinued, and the business operated only as a drop-off location. After dry cleaning onsite was discontinued, clothing requiring dry cleaning was transported offsite for dry cleaning.

The Georgia Department of Transportation initiated planning for a major widening of State Route #9, also known as Alpharetta Highway, in 1976, which required removal of existing buildings (or parts of buildings) that would protrude too close to the proposed new right-of-way. In 1980, Mark Smith Construction Company removed 450 square feet of building



space from the front of the building and constructed a 450-square-foot building addition on the north side of the building. In 2006, plumbing, electrical and HVAC/mechanical work was performed on the building, as well as work to make the building handicap accessible.

### **1.3 Organization of the Compliance Status Report**

This CSR is organized to address the items specified in the Rules of the Georgia Department of Natural Resources (DNR) Environmental Protection Division (Rules), Chapter 391-3-19, Hazardous Site Response, Section 391-3-19-.06(3) titled Compliance Status Report, Completion of a Compliance Status Report in the rules of the Voluntary Remediation Program. The organization is as follows:

- ☐ Section 1.0 Introduction
- ☐ Section 2.0 Source Description
- ☐ Section 3.0 Previous Investigations
- ☐ Section 4.0 Evaluation of Soil Contamination
- ☐ Section 5.0 Evaluation of Groundwater Contamination
- ☐ Section 6.0 Evaluation of Soil Vapor Intrusion Potential
- ☐ Section 7.0 Receptors Survey
- ☐ Section 8.0 Affected Property Owner Description
- ☐ Section 9.0 Risk Reduction Standards Evaluation
- ☐ Section 10.0 Potentially Responsible Parties
- ☐ Section 11.0 References

### **1.4 Previous Investigations**

BAT Associates, Inc. conducted a Soil Sampling event in August 2005 (Appendix A), indicating the presence of tetrachloroethene (PCE) in shallow soils near the north property boundary. A Phase II Environmental Site Assessment report dated September 2005 indicated the presence of PCE in soils. Following detection of PCE, an Initial Release Notification Form, as specified in Georgia's Hazardous Site Response Act (HSRA), was completed and submitted to the Georgia EPD (Appendix B). Subsequently, a more thorough assessment was completed, application was made, and the site was accepted into the Voluntary Remediation Program (VRP). A milestone schedule was developed and Semiannual Status Reports (SASR) and Conceptual Site Model (CSM) reports were submitted to the Georgia EPD on a regular schedule in accordance with the VRP milestone schedule.

### **1.5 Chemicals of Interest**

Volatile Organic Compounds (VOC), in particular, PCE and its biodegradation products, are the primary chemicals of interest. Based on numerous sampling events onsite, chemicals of interest onsite are:

#### **Soils**

tetrachloroethene (PCE)

#### **Groundwater**

tetrachloroethene (PCE)  
trichloroethene (TCE)

## **1.6 Site Status**

This site was placed on the Georgia Hazardous Site Inventory (HSI) as Site Number 10880 on December 11, 2007 (Appendix B)

The former Dry Cleaning Depot site was accepted into the Georgia EPD Voluntary Remediation Program (VRP) by a letter from the Georgia EPD dated July 11, 2011. This CSR constitutes the last item scheduled to be submitted under the approved VRP Milestone schedule.

The former Dry Cleaning Depot facility was identified as a Resources Conservation and Recovery Act - Small Quantity Generator (RCRA-SQG) #1004686377, Facilities Index System (FINDS) listing #GAD981216716, and as a dry cleaner site (Kallay, 2006).

## **2.0 SOURCE DESCRIPTION**

This section provides a description, to the extent known to AEC, of each known source as described in Section 391-3-10-.06(3)(b)(1) of the applicable rules.

The following potential sources have been identified.

### **Former Dry Cleaning Depot**

The only known source onsite is the former Dry Cleaning Depot dry cleaning facility and dry cleaning businesses previously operated under other business names at this location. This facility reportedly had one dry cleaning machine located inside the building. The facility had operated continuously as a dry cleaner for approximately 38 years under various business names. Areas in which potential releases may have occurred include the dry cleaning machine, drum loading and unloading, drum storage, used filter storage and disposal, and cleaning and mop water disposal. The principle concentration area of PCE onsite is located in the back of the building. During the first 18 years of operation (1968 to 1986), little or no regulation of disposal of PCE existed. Some spent PCE may have been discarded outside before the 1980s, when no rules or regulations prohibiting this practice existed. Most dry cleaners did not start shipping waste (spent) PCE offsite as hazardous waste until 1986 (State Coalition for Remediation of Drycleaners 2007).

### **Other Businesses**

Other businesses currently or previously located hydraulically upgradient of the site include Pest USA. Other businesses now or formerly located upgradient or nearby include an Esso service station formerly located on a parcel adjacent to the Site, which may have used PCE or TCE for parts cleaning, and Perfect Performance Tires. Except for Pest USA, these were generally historical businesses; Pest USA is currently located up-gradient. Little or no specific information is available regarding cleaning chemical use, handling, disposal practices, etc. PCE and/or TCE may or may not have been used by any of these or other former businesses. If used, PCE and/or TCE may or may not have been released to the environment.



Some former businesses closed many years or decades ago. During earlier years, particularly before 1986, release reporting was not required, and was generally not done. No known listing of releases or a chronology of releases, if any, is available.

### **3.0 PREVIOUS INVESTIGATIONS**

A number of previous environmental investigations have been conducted by Atlanta Environmental Consultants at this site.

#### Soil Sampling

BAT Associates, Inc. conducted a Soil Sampling event in August 2005, indicating the presence of tetrachloroethene (PCE) in shallow soils near the north property boundary (Appendix A). The highest concentration identified by BAT Associates, Inc. was 2.7 mg/kg at 2.5 to 3 feet deep in sample number SS-5 collected on April 13, 2005. Only a hand-drawn not-to-scale site sketch was available, and hand-augered borings in bare soil are typically soon covered with weeds, grass, leaves, etc. Therefore, the precise locations of the borings BAT Associates installed and backfilled could not be verified.

#### Phase II Environmental Site Assessment

Atlanta Environmental Consultants conducted a Phase II ESA on September 9, 2005 onsite. Five soil borings were installed in the area of the site in the rear stated to be the most likely for environmental contamination associated with dry cleaning. The scope of work did not include drilling through competent rock; all 5 soil borings encountered auger refusal on rock before reaching groundwater; therefore, only soil samples were analyzed. Soil borings were advanced using hollow-stem augers on a truck-mounted drilling rig. Soil samples were placed into separate containers, laboratory-supplied pre-cleaned jars for analysis, and zip-lock baggies for PID readings. Depending on photo-ionization detector (PID) readings detected, soil samples were selected for laboratory analysis from the 5-foot, 10-foot, 15-foot or 20-foot and/or the deepest soil sample depth obtainable. The deepest soil sample obtainable using a hollow-stem auger drilling rig was analyzed regardless of the PIS reading. AEC identified soil concentrations of tetrachloroethene (PCE) up to 0.096 milligrams per kilogram (mg/kg), in B-1 at 5-ft deep. AEC recommended sampling groundwater by drilling through rock using drilling equipment (e.g., air rotary) capable of penetrating competent rock, as needed, to sufficiently penetrate the shallow aquifer.

#### Additional Investigation

On March 27, 28, and 31, 2008, Peter T. Kallay, P.E., with AEC, conducted a field investigation at the former Dry Cleaning Depot facility. Soil and groundwater sampling locations were identified with the intent to reasonably cover the size and extent of the Dry Cleaning Depot facility. Soil borings were advanced using hollow-stem augers on a truck-mounted drilling rig. Soil samples were placed into separate containers, laboratory-supplied pre-cleaned sample jars for analysis, and zip-lock baggies for PID readings. Depending on photo-ionization detector (PID) readings detected, soil samples for laboratory analysis were selected from the 2-foot, 5 foot, 10-foot, 15-foot, and/or 20-foot depths. Each soil sample was placed into pre-cleaned, laboratory-supplied 4-ounce sample jars, labeled, and placed on ice in a cooler. Each sample was entered onto a Chain of Custody form, and all sample

handling followed appropriate Chain-of-Custody protocol. The samples were then transported to a qualified analytical laboratory, Advanced Chemistry Laboratories (ACL), Atlanta, Georgia, where they were analyzed for volatile organic compounds (VOCs) using EPA Method 8260B. Soil borings encountering auger refusal on rock before reaching their intended depths were completed using air hammer drilling equipment. Soil boring logs are presented in Appendix D. Permanent monitoring wells MW-1, MW-2, MW-3, MW-4 and MW-5 were completed in the soil boring locations.

Soil borings encountered competent rock and auger refusal at depths ranging from 19 to 33 feet deep in 4 out of 5 soil borings. Air hammer drilling was employed to complete these holes to their intended depths. Soil samples were not collected for analysis when competent rock was encountered and/or the sample was below the water table. All borings were completed to their intended depths, using air-hammer drilling as required.

Soil/rock borings that reached or appeared to have reached groundwater were completed as monitoring wells. Two-inch 0.10-inch slot screens, a total of 20 feet in length, were installed onto two-inch PVC casings and completed in flush-mounted manholes. The wells were developed by removing a minimum of 5 well volumes of water or until the turbidity readings were substantially lower, and turbidity and other parameters monitored indicated their values were approaching stabilization. The water in the wells was then allowed to equilibrate, and the wells were gauged and the data was recorded.

On the scheduled day of groundwater sampling, the wells were purged by removing a minimum of 3 well volumes of groundwater, or a sufficient quantity until the water ran relatively clear, or water quality parameters stabilized within 10% of final values in 3 consecutive readings and/or the wells were purged dry. Groundwater samples were collected using a low-flow method involving relatively slow water removal using dedicated, pre-wrapped pre-cleaned disposable bailers. Groundwater parameters were measured using a Horiba U-22 water quality monitoring instrument and recorded. The Horiba U-22 was calibrated prior to use. Samples were placed into pre-cleaned, laboratory-supplied glass sample jars, labeled, and placed on ice in a cooler. Each sample identification was entered onto a Chain of Custody form, and all sample handling followed appropriate Chain-of-Custody protocol. The samples were then packaged and transported to a qualified analytical laboratory, Advanced Chemistry Labs, Inc. (ACL) of Atlanta, Georgia, where they were analyzed using EPA Method 8260B. ACL is a certified analytical laboratory for analysis of environmental samples.

EPA Method 8260 utilizes both gas chromatography and mass spectrometry (GCMS) to provide positive, reliable identification of volatile organic compounds

#### HSRA Notification

Subsequent to the findings of the Phase II ESA, AEC completed a draft Hazardous Site Response Act (HSRA) Notification and forwarded it to Richard Wingate, with Decker, Hallman, Barber & Briggs, for final review and submittal to the Georgia EPD.



Semi-Annual Status Reports (SASR) and Conceptual Site Model (CSM) Reports  
KIC Management LLC applied for, and was accepted into, Georgia's Voluntary Remediation Program (VRP). A milestone schedule was specified for regular completion and submittal of SASR and CSM reports. Findings during the 5 years the site was in the VRP, which included installation of additional monitoring wells MW-6 immediately down-gradient of the building, MW-7 in the source area, and MW-8D, a deep well, included:

- The source area was located near the fence line along the north side of the property; MW-2 and MW-7 monitor groundwater flow in this area.
- Depth to bedrock under the site varies from 19 feet to over 40 feet deep.
- Groundwater samples collected down-gradient of the site (offsite) by others indicated decreasing dissolved concentrations over distance and decreasing dissolved concentrations over time.
- Groundwater concentrations both onsite and offsite generally continue to decrease over time.
- Soils under the building may have some PCE concentrations. Concentrations of PCE and associated compounds can best be investigated in the future, after the building is no longer present.
- Investigation of soils and/or groundwater under the building is not recommended as long as the building remains onsite. Design detail and locations of structural components of the elevated floor are unknown; breaching the floor by drilling through it would risk the integrity of the floor's structural support; it is impracticable to safely access soils without potentially compromising the integrity of the building's foundation.
- It is recommended that Monitored Natural Attenuation (MNA) be the selected remedy for groundwater.
- It is recommended that soils under the building be investigated in the future, after the building is no longer present. Soils can then be sampled, and if concentrations exceed then-applicable standards, appropriate remedies can then be proposed, including excavation and offsite disposal, if warranted.

#### Soils

Soils exhibited concentrations of up to 0.449 mg/kg PCE in MW-2 at 2 feet deep on March 27, 2008. Re-sampling in boring B-2B, by MW-2, at 2 feet deep on April 5, 2016 demonstrated that concentrations have now decreased to 0.0103, below Notification Concentration. No significant soil concentrations meeting or exceeding NC have been identified in any areas of the site since 2008 (Table 1).

#### Groundwater

Groundwater exhibited the highest concentrations in MW-5, a down-gradient well, 1.040 milligrams per liter (mg/l) PCE and 0.005 mg/l TCE in 2008. The highest groundwater concentration in the most recent groundwater sampling event on April 2, 2016 was 0.944 mg/l PCE in MW-7 near the building (Table 3; Figure 6; Appendix C). However, this is considered an anomalous concentration, which occurred after a year of unusually heavy rainfall. Water table elevations on April 4, 2016, the date of groundwater sampling, were the highest ever recorded onsite (Table 2, Figure 7). It is the professional opinion of Peter Kallay, P.E., that this is an anomalous concentration most likely resulting from the highest

water table elevation ever recorded onsite during the entire course of this investigation, exceeding 10 years. Groundwater concentrations onsite have generally been decreasing significantly over time, excepting the anomalous concentrations most likely due to the highest water table elevation ever recorded onsite. Groundwater concentrations are expected to resume their decreasing trend once water table elevations return to more normal ranges (e.g., lower water table elevations).

#### Surface Water

Surface water impacts were evaluated as part of this investigation. In 2014 and 2016, a down-gradient well (TMW-9; TMW-9A) located near Hog Wallow Creek, was sampled. No detectable concentrations of any EPA Method 8260B analytes were identified during either sampling event.

### **4.0 EVALUATION OF SOIL CONTAMINATION**

On September 9, 2005, March 27, 2008, June 27, 2012, December 11, 2013 and April 5, 2016, Peter T. Kallay, P.E., with AEC, conducted field investigation work at the former Dry Cleaning Depot facility. Potential soil sampling locations were identified with the intent to identify areas and depths at which significant soil concentrations were potentially present and to delineate and estimate the size and extent of the release. Additional soil investigations were conducted from time to time to improve delineation of soil concentrations and to acquire more current soil analytical data. The general investigational approach consisted of:

- Installation of soil borings using hollow-stem augers. Observe and describe soils, and enter soil descriptions on field boring logs.
- Collection of soil samples using split spoons on dates that soil investigation activities were conducted. Separate soil samples were collected for field screening and for laboratory analysis. Samples were submitted to a qualified analytical laboratory, and were analyzed by EPA Method 8260B, a combination gas chromatography/mass spectrometry (GC/MS) method.
- Calculation of several types of Risk Reduction Standards (RRS) that may be potentially applicable to soil concentrations that exceeded laboratory method detection limits onsite were completed.

#### **4.1 Areas Investigated**

Areas investigated started with areas believed to be most likely areas of potential contamination. As the investigation proceeded, areas investigated were extended to other potential areas of contamination, areas down-gradient of potential sources, and completion of further delineation activities. Soil analytical results are presented in Table 1. Soil sampling locations are presented in Figure 5.

#### **4.2 General Approach**

Atlanta Environmental Consultants conducted a Phase II ESA on September 9, 2005 utilizing five soil borings near the general areas in which BAT Associates, Inc. had sampled



soils using hand-augered soil borings. During August 25 to 27, 2008, AEC conducted further investigation, including the area believed to have the highest concentrations, delineation locations, a down-gradient location and an up-gradient location.

After these investigations were completed, the Voluntary Remediation Program (VRP) was enacted into law in Georgia. AEC, in coordination with Richard Wingate of Hallman and Wingate, submitted an application to the VRP. The former Dry Cleaning Depot site was accepted into the VRP on July 11, 2011. Semi-Annual Status Reports (SASR) and regularly updated Conceptual Site Model (CSM) reports were prepared and submitted to the Georgia EPD from 2012 through 2015 in accordance with the milestone schedule submitted with the VRP application. During site investigation under the VRP, Peter Kallay and Richard Wingate held a number of meetings with representatives of the Georgia EPD in order to coordinate investigation strategies.

#### **4.3 Analytical Parameters Selected and Rationale for Selection**

The only known potentially likely source identified onsite was PCE, from use as a dry cleaning fluid. A minor amount of acetone detected may have resulted from release of minor amounts of compounds used for spot cleaning clothing. A minor amount of toluene detected during soil investigation most likely resulted from minor drips and spills of automotive fluids from automobiles and/or delivery trucks traversing and parking onsite. These compounds all appeared to be in minor amounts normal for a historical dry cleaner and/or automotive fluids normally encountered in a parking lot. Concentrations, other than PCE, were present in only minor quantities, and did not constitute reportable releases. The analytical parameters (chemicals of interest) selected for further investigation onsite were PCE and its degradation products, if any, that were identified in soil samples above laboratory detection limits or above Notification Concentrations (NC), namely PCE. No other PCE-related compounds were identified in soils onsite.

#### **4.4 Sampling and Analytical Procedures**

Sampling procedures were conducted in accordance with the USEPA Region IV Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (November 2001) and/or Field Branches Quality System and Technical Procedures (August 2014). Soil borings were advanced using a hollow stem auger drilling rig with split spoon sampling every five feet during site investigations. Split spoon soil samples were collected every 5 feet; samples for field screening and laboratory analysis were timely collected and placed into the appropriate containers, zip-lock bags for field screening and laboratory-supplied pre-cleaned sample jars for laboratory analysis. Each soil sample was field screened for volatile organic compounds (VOC) vapors using either a MiniRAE 2000 photo-ionization detector (PID) or a MiniRAE 3000 PID. Results were recorded in the field. Soil samples from split spoons were also described and the descriptions were entered on field soil boring logs.

On September 9, 2005, soil samples at the 5-ft, 10-ft, 15-ft, 20-ft and/or the deepest soil sample obtainable before auger refusal on rock was encountered, were collected and analyzed by EPA Method 8260B in all 5 soil borings (B-1, B-2 and B-3, B-4 and B-5). On

March 27, 2008, soil samples at 2-ft and 15-ft (and also a 30-ft sample in MW-1) were collected for analysis from all additional soil borings onsite (MW-1, MW-2, MW-3, MW-4 and MW-5). On June 27, 2012, soil samples were collected at 5-ft and 20-ft from soil boring MW-6. On December 11, 2013, soil samples were collected at 5-ft, 10-ft and 15-ft for analysis in soil borings MW-7 and MW-8. On April 5, 2016, a 2-ft soil sample at B-2B (by MW-2) was collected. All soil samples were analyzed by EPA Method 8260B.

Samples were collected for analysis by a sampler wearing clean disposable nitrile sampling gloves that were changed between each sample collected. Appropriate sampling and preservation techniques were followed, to ensure quality control and to ensure appropriate chain-of-custody documentation. Samples collected for analysis were placed in laboratory supplied containers containing the appropriate preservative(s), according to the applicable EPA Method.

Upon completion of soil sampling activities, if well installation was not scheduled, the soil borings were properly abandoned in accordance with GAEPD rules and regulations. The soil samples (and groundwater samples, if any) were placed on ice and delivered under appropriate chain-of-custody documentation to Advanced Chemistry Labs, Inc. (ACL) in Atlanta, Georgia. Where well installation was scheduled, wells were installed and completed in Section 5.0.

All drilling and sampling equipment was decontaminated between boreholes using standard procedures consisting of steam cleaning using heated potable water (drilling equipment) and/or Alconox rinsing with potable water and allowing the equipment to air dry (sampling equipment).

#### **4.5 Soil Contamination Evaluation**

Table 1 summarizes soil analytical results from all soil sampling events conducted onsite. Figure 5 depicts soil sampling locations and a summary of analytical results.

The 2005 Phase II ESA included the installation and sampling of 5 soil borings (B-1, B-2, B-3, B-4 and B-5) using a hollow-stem auger drill rig with split spoon sampling every 5 feet. Five permanent monitoring wells were installed in 2008, generally at locations near identified soil concentrations and in down-gradient locations. One well, MW-1, was located up-gradient. The soil sample exhibiting the highest PID reading in each boring was submitted for analysis for Volatile Organic Compounds (VOC) and Semi-Volatile Organic Compounds (SVOC) by EPA method 8260B.

Analyses of soils onsite by AEC indicated the presence of concentrations of PCE ranging from non-detectable to 0.449 mg/kg. The highest concentration identified by BAT Associates, Inc. was 2.7 mg/kg at 2.5 to 3 feet deep in sample number SS-5 collected on April 13, 2005. Since only a hand-drawn not-to-scale site sketch was available, and hand-augered borings in bare soil are typically covered with weeds, grass, leaves, etc. soon after abandonment, exact locations of the borings could not be verified. Therefore, AEC has elected to include the BAT Report and hand-drawn sketch in Appendix A, and has elected not to include the data in our Soil Analytical Results table. Nevertheless, Yoan Yun,



previous property owner, verified the general area of the soil samples collected by BAT Associates onsite. AEC has installed a number of wells near to and down-gradient of the areas sampled by BAT Associates. The highest soil concentration detected by AEC was MW-2 at the 2-ft depth, 0.449 mg/kg PCE collected on March 27, 2008. This was the only soil sample exceeding Georgia Notification Concentrations (NC) for PCE in soil. A soil sample collected by AEC at the 2-ft depth in B-2B adjacent to MW-2 on April 5, 2016 indicated that PCE concentration at this location and depth is now 0.0103 mg/kg, verifying that PCE in soils at this location is now below NC.

Soil samples were generally collected at various depths on various dates, often based on the depths at which the highest PID readings were observed, or for other reasons applicable to the sampling plan for each specific sampling date. Soil concentrations detected onsite are shown in Table 1 and on Figures 11A through 11D.

## **5.0 EVALUATION OF GROUNDWATER CONTAMINATION**

Groundwater investigation at the former Dry Cleaning Depot site has been conducted since 2005 and included semi-annual sampling in recent years. After initial investigation using soil borings, permanent monitoring wells were installed in 2008. Semi-annual sampling was conducted under the VRP. Groundwater investigation included the following tasks:

- 1) Boring logs were completed during soil boring activities to document depths with significant concentrations of target compounds, water-bearing zones, likely high permeability zones, likely low permeability zones and depth to bedrock.
- 2) Monitoring well (MW) tops of casings (TOC) were surveyed using an assumed onsite elevation to develop a database on relative elevations of MW TOCs.
- 3) Depth to groundwater was measured during each monitoring event, and relative elevations of groundwater in each monitoring well were computed.
- 4) Groundwater samples were collected from each monitoring well during each groundwater monitoring event and analyzed for VOCs by EPA Method 8260B.

### **5.1 Areas investigated**

Areas investigated focused on areas believed to be most likely areas of potential contamination. As investigation proceeded, areas investigated were extended to other potential areas of contamination, areas down-gradient and up-gradient of identified sources, and to address delineation requirements. Groundwater analytical results are presented in Table 3. Groundwater sampling locations are shown in Figure 6.

### **5.2 General Approach**

Atlanta Environmental Consultants conducted a Phase II ESA on September 9, 2005 utilizing five soil borings in the general area down-gradient of the area investigated by BAT Associates. However, all soil borings refused on rock; no groundwater was identified in the borings. On March 31, 2008, AEC conducted further investigation, including the area believed to have the highest concentrations, more widely spaced delineation locations and an up-gradient location.

After these investigations were completed, the Voluntary Remediation Program (VRP) was enacted in Georgia. AEC, in coordination with Richard Wingate of Hallman and Wingate, submitted an application to the VRP. The former Dry Cleaning Depot site was accepted into the VRP on July 11, 2011. Semi-Annual Status Reports (SASR) and updated Conceptual Site Model (CSM) reports were prepared and submitted to the Georgia EPD from 2012 through 2015 pursuant to a milestone schedule submitted with the VRP application. During site investigation under the VRP, Peter Kallay and Richard Wingate held meetings with the representatives of the Georgia EPD in order to coordinate investigation strategies and appropriately address GAEPD requirements.

### **5.3 Analytical Parameters Selected and Rationale for Selection**

The only known potentially likely source onsite was PCE and possibly TCE, from use as a dry cleaning fluid. TCE most likely resulted from reductive dechlorination of PCE. For groundwater, chemicals of interest included PCE and its degradation products that were identified in any groundwater samples above laboratory detection limits and/or at significant concentrations exceeding applicable standards, namely PCE and TCE.

### **5.4 Methods of Characterizing Geology and Hydrogeology**

#### **5.4.1 Subsurface Geology**

Soil borings were advanced using a hollow stem auger drilling rig with split spoon sampling every five feet during site investigations. Split spoon soil samples were collected every 5 feet. The soils were characterized, described, and the data was entered on field soil boring logs. Depth to auger refusal was recorded, where applicable. Geological references, including geologic maps and literature, were reviewed and compared to soil descriptions observed and recorded on boring logs.

#### **5.4.2 Groundwater Gradients, Flow Rates, and Flow Directions**

The direction of groundwater movement beneath the site was determined by AEC using relative groundwater elevations in the groundwater monitoring wells onsite. An experienced environmental engineer surveyed the locations and relative elevations of all well tops of casings. Depths to groundwater were measured in the groundwater monitoring wells using an electronic water level indicator on dates that depth to groundwater were measured (Table 2). The relative groundwater elevations were then calculated. Table 2 summarizes groundwater elevations onsite.

The groundwater gradient and flow direction beneath the former Dry Cleaning Depot site was determined using a potentiometric surface map prepared using relative groundwater elevations. Figure 7 shows the most current (2016) groundwater flow gradient and direction. Ground-water gradients and flow directions were calculated on various dates and compared; groundwater gradient direction has been remarkably consistent, not varying by more than a few degrees over eight years of groundwater monitoring.



## **5.5 Groundwater and Surface Water Sampling Locations**

In 2008, five permanent monitoring wells, MW-1 through MW-5, were installed. MW-1 is an up-gradient well. MW-2 through MW-5 are down-gradient of areas identified by BAT Associates. MW-6 and MW-7 were installed later for additional horizontal definition and MW-8D was installed for vertical definition. On certain occasions, when offsite data was made available, offsite data was evaluated in the context of evaluating potential down-gradient migration from onsite.

No surface water samples were collected. A temporary well was installed on the flood plain on the west side of Hog Wallow Creek and sampled. No detectable VOCs were identified. The temporary well was replaced with another temporary well in 2016 and sampled. Again, no detectable VOCs were identified. The temporary wells were installed to determine the likelihood of any contaminants from the site reaching Hog Wallow Creek. Since no target compounds were identified in the temporary wells, surface water was not sampled.

## **5.6 Groundwater Sampling Procedures**

Sampling procedures were conducted in accordance with the USEPA Region IV Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (November 2001) and/or Field Branches Quality System and Technical Procedures (March 2013) for sampling events conducted since 2013. Development consisted of removing most of the sediment-containing water prior to beginning sample collection. Following sample collection, the temporary monitoring wells were properly abandoned, and patched with asphalt to match existing pavement.

The groundwater samples were collected in vials provided by Advanced Chemistry Labs for analysis of VOCs by method 8260B. The samples were handled using standard protocols, packed on ice and delivered to the laboratory under chain-of-custody protocol.

## **5.7 Analytical Procedures**

The groundwater samples and associated trip blanks were analyzed for VOCs by EPA Method 8260B. All analyses were conducted by ACL in Atlanta, Georgia or FTS Analytical Services in Atlanta. Standard Quality Assurance/Quality Control (QA/QC) procedures appropriate for EPA Method 8260B were conducted. EPA Method 8260B was selected for analysis, as this method accurately detects and quantifies all of the analytical parameters of interest over a wide dynamic range.

## **5.8 Results of Groundwater Evaluation**

### **5.8.1 Physiography and Drainage**

According to the United States Department of Agriculture, Natural Resources Conservation Service, *Soil Survey of Fulton County, Georgia* (USDA 2008) the soils underlying the Site are described as Urban Land. Urban land consists of areas that have been altered by cutting,

filling and shaping, generally to such a degree that the original native soil horizons are no longer present or recognizable over most of these areas. Urban development, such as schools, parking lots, streets, commercial buildings, and residential dwellings are typically located in these areas. Older Soil Conservation Service State Soil Geographic database (STATSGO) data describes predominant shallow native soil types as sandy clay loam, loam and fine sandy loam, and deeper soils as clay, sandy clay, gravelly loam, and sandy loam grading to weathered bedrock consisting of Precambrian paragneiss and schist.

The site and site area are mostly paved, and, therefore, most stormwater runs off rather than infiltrates into soils where it falls. Stormwater onsite largely flows onto Frazier Street. On Frazier Street, storm water flows north along the gutter and drains into a storm drain located along the west side of Frazier Street.

According to the 1992 *Roswell, Georgia* United States Geological Survey (USGS) topographic map, the elevation of the Site (pre-development) is approximately 1,080 feet above mean sea level (msl). The topography of the site vicinity consists of rolling hills, which is typical of the Piedmont. The general topographic down-slope of the Site is to the east. Site topography appears to be largely unchanged from its pre-development state; minor amounts of cutting and/or filling may have been performed to smooth the ground surface. Cross-sections are presented in Figures 8, 9 and 10.

#### 5.8.2 Geology and Hydrogeology

The former Dry Cleaning Depot facility is located in the Powers Ferry Formation in the Sandy Springs Group in the Northern Piedmont physiographic province of Georgia. The Powers Ferry Formation consists of undifferentiated biotite-quartz-plagioclase gneiss (metagraywacke), mica schist and amphibolite; a mappable mica schist unit; and a banded iron formation (McConnell and Abrams 1984).

Relatively undisturbed split spoon soil samples from the soil borings installed onsite indicated the presence of foliated thin layers of weathered rock characteristic of gneisses and schists, with varying quantities of mica. It was concluded that actual site observations were consistent with descriptions of the outcropping geologic formation at the site described in the literature. Bedrock was identified at 30 feet deep at boring location MW-8D. Competent rock was overlain by approximately 10 feet of progressively more weathered rock.

A potentiometric contour map was prepared for the site utilizing the groundwater elevation measurements collected from onsite monitoring wells. Figure 7 presents a potentiometric map. Based on the measured groundwater elevations, the groundwater flow direction in the shallow zone was computed to be towards the east-southeast. Groundwater flow direction has remained remarkably consistent over the years AEC has been monitoring this site.

#### 5.8.3 Groundwater Quality

During investigation on March 31, 2008, groundwater samples were collected and analyzed at ACL. The sample from MW-5, the down-gradient well located closest to Frazier Street,



indicated the presence of 1.04 milligrams per liter (mg/l) PCE and 0.005 mg/l TCE (Table 3). No other VOCs were detected.

In the most recent groundwater sampling event on February 25, 2016 concentrations included 0.944 mg/l PCE in MW-7. This result was higher than any concentration onsite since 2008. This result is considered anomalous, and may have occurred because the water table was at its highest elevation ever recorded onsite during the most recent sampling event. No compounds other than PCE were detected in any well. The most recent groundwater laboratory analytical report is presented in Appendix C. Table 3 presents all groundwater analytical results from 2008 through the present. Figure 12 shows current PCE concentration contours in groundwater.

#### 5.8.4 Surface Water Quality

No surface water samples were collected. A temporary well was installed near Hog Wallow Creek in 2014 and sampled (TMW-9). No detectable VOCs were identified. The temporary well was replaced with another temporary well in 2016 (TMW-9A) and sampled. Again, no detectable VOCs were identified. The temporary wells were installed to determine the likelihood of any contaminants from the site reaching Hog Wallow Creek. The results suggest that no contaminants from the site have reached Hog Wallow Creek or vicinity.

### 6.0 EVALUATION OF SOIL VAPOR INTRUSION POTENTIAL

The former Dry Cleaning Depot building containing is constructed partially of slab-on-grade construction (in the front of the building) and partially elevated with a crawl space. Evaluation of potential vapor intrusion focused on vapors under the floor. AEC does not recommend drilling through the building floor due to the unknown design of structural support and locations of its structural support components (e.g., beams, joists, supports). A small diameter access hole into the crawl space was identified on the south side of the building. The sub-slab vapor sample was collected on November 29, 2013 in a laboratory-cleaned and supplied SUMMA Canister shipped from EMSL Analytical, Inc. in Cinnaminson, New Jersey. The laboratory-provided sampling tube was threaded through the access hole into the crawl space below the floor slab. The annular space around the tubing was loosely filled with CETCO Super Gel-X extra high yield drilling fluid, supplied as bagged bentonite in a dry powder form. The bentonite-filled annular space was hydrated with clean tap water until the bentonite powder was fully saturated and had a gel-like consistency with no visible void spaces. Then, the regulator was attached to the canister, tubing from the access hole was connected, the valve was opened and sampling began. The SUMMA canister was delivered with -31" Hg pressure (e.g., a vacuum). Sample collection methodology followed laboratory instructions. Sample collection time lasted 14 minutes, during which time crawl space gas was drawn into the canister by vacuum in the canister. Canister pressure was -3"Hg upon completion of sampling. The canister and regulator were repacked into the packaging provided by the laboratory and shipped to EMSL Analytical, Inc. in Cinnaminson, New Jersey via Fedex. The sample was analyzed by EPA Method TO-15, including Total Volatile Organic Compounds (TVOC).

Analysis of the crawl space vapor sample detected PCE in vapor phase at 51 parts per billion by volume (ppbv) or 350 micrograms per cubic meter (ug/m<sup>3</sup>); no other PCE-related compounds were detected (Table 4). Minor concentrations of acetone, ethanol and cyclohexane were also identified.

PCE present in soils may occur in liquid and/or vapor phases that are generally in equilibrium with each other, for substances that are normally liquids at typical subsurface temperatures.

Modeling of vapor intrusion was conducted using the Johnson and Ettinger Vapor Intrusion Model. The Johnson and Ettinger Vapor Intrusion model was run for PCE. Results of vapor intrusion modeling indicated Best Estimate Target Concentrations of PCE in soil gas of 41.26 ug/m<sup>3</sup> or 30.86 ppbv and groundwater concentration of 0.9026 ug/L (Appendix F). The detected sub-floor concentrations of PCE suggest that vapor intrusion is not a significant issue at this site at this time. Groundwater concentrations have spiked recently due to a record high water table, but have otherwise been on a long-term decreasing trend. Groundwater concentrations have all been below Best Estimate Target Concentrations of PCE in groundwater for many years, excepting the anomalous concentration in MW-7 in the most recent groundwater sample, most likely due to a record high water table elevation. Soil concentrations have also been trending downward, particularly near-surface source concentrations.

The former Dry Cleaning Depot is located inside a well-ventilated building specifically designed for use as a dry cleaner. The above described laboratory analysis, Johnson and Ettinger modeling and PID screening suggest that vapor intrusion is not a significant issue in the former Dry Cleaning Depot building at this time. PID reading in and around the building have been uniformly low, usually 0.0 ppm, occasionally 0.1 to 0.2 ppm, and always below 1.0 ppm.

## **7.0 RECEPTOR SURVEY**

The site is bordered on the north by a vacant lot beyond which is a dental office, by Roswell Village Shopping Center on the south, by Alpharetta Street on the west, and Frazier Street on the east. The area is largely commercial, with commercial development on both sides of Alpharetta Street. Residential properties, including single family residences and Roswell City Walk Apartments (formerly the location of the Frazier Street Apartments) are located along the east side of Frazier Street, hydraulically down-gradient of the site. Soils and groundwater down-gradient of the site have been sampled and analyzed by others over the years. Groundwater samples collected down-gradient of the site (offsite) by others indicated decreasing dissolved concentrations over distance and decreasing dissolved concentrations over time.

### **7.1 Potential Environmental Receptors**

A USGS topographic map and an Environmental Data Resources Overview map were reviewed for the presence of wetlands near the site. No wetlands identified on the National Wetland Inventory were identified within a ½ mile of the site. Those identified more than ½ mile away were all either up-gradient of the site or along Hog Wallow Creek up-gradient of where any groundwater from the site would likely potentially enter Hog Wallow Creek.



No floodplains occur within 1/4 mile of the site. Limited flood plains occur along Hog Wallow Creek, which is located between 1/4 and 1/2 mile east of the site. No impact is expected, as groundwater concentrations generally decrease rapidly over distance from the site, as well as over time.

## **7.2 Potential Human Receptors**

Exposure to human receptors, including building occupants and others that may utilize the facility, will be limited as access to site soils and groundwater is generally restricted by paved surfaces and buildings. Most of the property, except a grass covered area in the rear, is paved or within the footprint of the building and sidewalks. Other potential human receptors possibly include contractors, property maintenance personnel and underground utility workers. In the event underground work is required, appropriate personal protective equipment (PPE) and precautions should be provided to such workers to minimize potential contact with environmental contaminants.

## **7.3 Water Well Survey**

A water well survey was conducted. The nearest water well used for drinking water purposes was identified as located approximately 2 1/2 miles away from the site, located at 8945 N. Island Road. This was confirmed by the Georgia EPD. This area has had public water supplies available for many decades; virtually all businesses and residents in this area are connected to public water supplies. Public water supplies in this area are provided by the City of Roswell Water Resources Division.

## **8.0 AFFECTED PROPERTY OWNER INFORMATION**

This section of the CSR provides a description of all properties which are part of the HSRA regulated Site, including the address and location of such property, its legal description, and the property owner name, address and telephone number, as required by Section 391-3-19-.02(2)(v), the "Site means that portion of the owner's contiguous property and any other owner's property affected by a release exceeding a reportable quantity."

The property consists of a single 0.30 acre parcel that contains a single building formerly occupied by Dry Cleaning Depot and currently occupied by Metro PCS and A Second Chance Bail Bonds, and is located at 1073 Alpharetta Street, Roswell, Fulton County, Georgia 30075. The Fulton County Tax Assessor's office lists the property as Parcel Number 12-1902-0412-049-1 (also known as a tax parcel ID number). It is currently zoned C3-commercial.

The legal description of this property is as follows:

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 412. 1<sup>ST</sup> DISTRICT, 2<sup>ND</sup> SECTION, FULTON COUNTY, GEORGIA, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT AN IRON PIN FOUND ON THE SOUTHEASTERLY RIGHT OF WAY LINE OF ALPHARETTA STREET (A VARIABLE RIGHT OF WAY, SAID POINT BEING 42 FEET FROM THE CENTER LINE OF ALPHARETTA STREET AT THIS POINT), WHICH IRON PIN IS 296.50 FEET SOUTHWESTERLY AS MEASURED ALONG SAID RIGHT OF WAY LINE FROM THE INTERSECTION FORMED BY THE SOUTHEASTERLY RIGHT OF WAY LINE OF ALPHARETTA STREET AND THE WESTERLY RIGHT OF WAY LINE OF FRAZIER STREET, IF SAID RIGHT OF WAY LINES WERE EXTENDED TO FORM AN ANGLE INSTEAD OF A CURVE; RUNNING THENCE SOUTH 75 DEGREES 22 MINUTES 04 SECONDS EAST A DISTANCE OF 79.56 FEET TO AN IRON PIN SET; RUNNING THENCE SOUTH 82 DEGREES 30 MINUTES 40 SECONDS EAST A DISTANCE OF 123.53 FEET TO AN IRON PIN SET ON THE WESTERLY RIGHT OF WAY LINE OF FRAZIER STREET (A 30 FOOT RIGHT OF WAY); RUNNING THENCE SOUTH 00 DEGREES 55 MINUTES 53 SECONDS WEST ALONG AND FOLLOWING SAID RIGHT OF WAY LINE OF FRAZIER STREET A DISTANCE OF 48.60 FEET TO IRON PIN FOUND; RUNNING THENCE NORTH 86 DEGREES 46 MINUTES 37 SECONDS WEST A DISTANCE OF 150.60 FEET TO AN IRON PIN SET; RUNNING THENCE NORTH 74 DEGREES 31 MINUTES 47 SECONDS WEST A DISTANCE IF 53.00 FEET TO AN IRON PIN FOUND; RUNNING THENCE SOUTH 07 DEGREES 18 MINUTES 35 SECONDS WEST A DISTANCE OF 6.98 FEET TO AN IRON PIN FOUND; RUNNING THENCE NORTH 66 DEGREES 25 MINUTES 25 SECONDS WEST A DISTANCE OF 46.94 FEET TO AN IRON PIN FOUND ON THE SOUTHEASTERLY RIGHT OF WAY LINE OF ALPHARETTA STREET; RUNNING THENCE NORTHEASTERLY ALONG THE FOLLOWING SAID RIGHT OF WAY LINE ARC HAVING A RADIUS OF 1373.39 FEET, A CHORD BEARING OF NORTH 42 DEGREES 50 MINUTES 53 SECONDS EAST AND A CHORD LENGTH OF 68.66 FEET TO AN IRON PIN FOUND AND THE POINT OF BEGINNING, SAID PROPERTY BEING SHOWN ON THAT PLAT OF SURVEY FOR GRAD ENTERPRISES, INC. AND THE BUSINESS DEVELOPMENT CORPORATION OF GEORGIA, INC., DATED MARCH 8, 1993 AND LAST REVISED MARCH 17, 1993, PREPARED BY SOLAR LAND SURVEYING COMPANY, CERTIFIED TO BY JOHN W. STANZILIS, JR., GEORGIA REGISTERED LAND SURVEYOR NO. 2109, CONTAINING 0.30 ACRES AND BEING KNOWN AS 1073 ALPHARETTA STREET ACCORDING TO THE PRESENT SYSTEM OF NUMBERING STREETS IN THE CITY OF ROSWELL TOGETHER WITH THAT CERTAIN ENCROACHMENT EASEMENT AGREEMENT BETWEEN PERRY S. ALTERMAN, AS TRUSTEE UNDER DECLARATION OF TRUST DATED FEBRUARY 14, 1989, EFFECTIVE JANUARY 1, 1989 AND GRAD ENTERPRISES, INC., DATED MARCH 31, 1993 FILED AND RECORDED MAY 10, 1993, RECORDED IN DEED BOOK 16559, PAGE 318, RECORDS OF FULTON COUNTY, GEORGIA.

A copy of a warranty deed and a survey are presented in Appendix E.

## **9.0 RISK REDUCTION STANDARDS**

This section presents a summary of the Risk Reduction Standards (RRSs) applicable to the site. The HSRA Type 1 RRSs for soil and Type 1, 2, 3 and 4 RRSs groundwater constituents were compared to analytical data from the Site investigations.

### **9.1 Soil Risk Reduction Standard**

The Site's soils were first evaluated using Type 1. The Type 1 RRSs are the most stringent standards that provide criteria that pose no significant risk on the basis of standardized exposure assumptions for residential properties. Type 2 standards provide for regulated substance concentrations that pose no significant risk on the basis of site-specific exposure standards and define risk levels for the residential use scenario. Type 3 standards provide for regulated substance concentrations that pose no significant risk on the basis of standardized exposure assumptions and define risk levels for the non-residential use scenario. The



activities being conducted on the Site satisfy the definition for non-residential property defined in Rule 391-3-19-.02(2)(i). The Type 3 RRSs were calculated utilizing the RAGS, Part B equations. Type 4 RRS are the same as Type 3 RRS, as different site-specific exposure standards were not used.

Three constituents were detected in soils at the site. Exposure factor values and chemical-specific toxicity values used in the calculations are detailed in **Appendix G**. All soils meet the Type 1 RRS.

**Table G-6** summarizes the calculated Type 1 Soil RRS for the Site, and indicates that no constituents exceed the Type 1 Soil RRS for samples collected at the Site.

## 9.2 Groundwater Risk Reduction Standard

There are no known or potential receptors of groundwater from the Site. However, Rule 391-3-19-.07 (6) (b) states that at any point within groundwater that has been affected by a release, concentrations of regulated substances in groundwater samples shall not exceed concentrations given in Table 1 of Appendix III or, for those substances not listed, the background or reporting limit concentration. Furthermore, if two or more regulated organic compounds are present in groundwater, their sum in a single sample shall not exceed 10 mg/L if the Table 1 value for each compound is less than 5 mg/L, or, where at least one compound has a Table 1 value greater than or equal to 5 mg/L, the sum of the concentrations shall not exceed the maximum Table 1 value for a detected compound plus 10 mg/L.

Two constituents were detected in the groundwater at this site (tetrachloroethylene and trichloroethylene; Table 3). These constituents are listed in Table 1 of Appendix III. The site groundwater meets the Type 1 RRS for trichloroethylene.

For the regulated substance not in compliance with the Type 1 Risk Reduction Standard in groundwater (PCE), the Type 2 and 4 Risk Reduction Standards were calculated. Note that Type 3 groundwater RRS are equivalent to Type 1 RRS.

In accordance with Rule 391-3-19-.07 (9) (c), concentrations of regulated substances in groundwater samples must not exceed, at any point within the property boundaries, the lesser of the following calculated values:

- Concentrations which are unlikely to result in any non-cancer toxic effects on human health via ingestion of, or inhalation of volatiles from, groundwater, determined using Equation 2 from USEPA's *Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part B: Development of Risk-Based Preliminary Remediation Goals)* (RAGS Part B - USEPA, 1991), and site-specific exposure factors for the non-residential use scenario; or
- Concentrations for which the upper bound on the estimated cancer risk is less than  $10^{-5}$  via ingestion of, and inhalation of volatiles from, groundwater, determined using Equation 1 from RAGS Part B, and site-specific exposure factors for the non-residential use scenario.

The residential and nonresidential exposure assumptions are used in the above equations to determine Type 2 and Type 4 RRS, respectively.

Exposure factor values and chemical-specific toxicity values used in the calculations are detailed in **Appendix G. Tables G-10 through G-12** summarize the Type 2 Groundwater RRSs for the Site. **Tables G-13 through G-14** summarize the Type 4 Groundwater RRSs for the Site.

MW-1, MW-2, MW-3, and MW-8 meet the Type 2 RRS. MW-4 and MW-6 currently meet the Type 4 RRS. MW-5 does not currently meet any of the RRS, but has met the Type 4 RRS in 2013. MW-7 does not currently meet any of the RRS, but has met the Type 4 RRS in 2013 and 2015. The higher concentrations detected during sampling events in 2015/2016 may be due to the increase in precipitation leading to a higher groundwater table enabling greater groundwater contact with normally unsaturated soils at the site. The concentrations are expected to decrease as the groundwater elevation decreases. The overall trend of constituent concentration has been predominantly decreasing. The only wells that may not now or have previously met Type 2 RRS for groundwater are MW-4, MW-5 and MW-7.

## **10.0 POTENTIALLY RESPONSIBLE PARTIES**

This section of the CSR provides, as required by Section 391-3-19-.06(3)(b)(6) of the Rules, the name, address and telephone numbers of any other person who may be a responsible party for the Site, and a description of the type and amount of regulated substances such party may have contributed to a release.

The following are potentially responsible parties at this Site:

William E. Morris, property owner, November 1965 to April 1971. It is not known whether Mr. Morris or others operated the dry cleaner. Current address and contact information unknown.

National Service Industries, Inc. property owner, from April 1971 to December 1971. It is not known whether National Service Industries or others operated the dry cleaner. Current address and contact information unknown.

Alban William Dupree, property owner from December 1971 to February 1980. It is not known whether Mr. Dupree or others operated the dry cleaner. Current address and contact information unknown.

W.J. O'Hara (aka James O'Hara) and Joanna O'Hara, owner of real property and dry cleaner operators from February 1980 to April 1993. Last known address Ms. Karen O'Hara, 10080 Kinross Road, Roswell, GA 30076-2406



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([http://rais.ornl.gov/tox/tox\\_values.shtml](http://rais.ornl.gov/tox/tox_values.shtml))  
(<https://hhpprtv.ornl.gov/quickview/pprtv.php>)  
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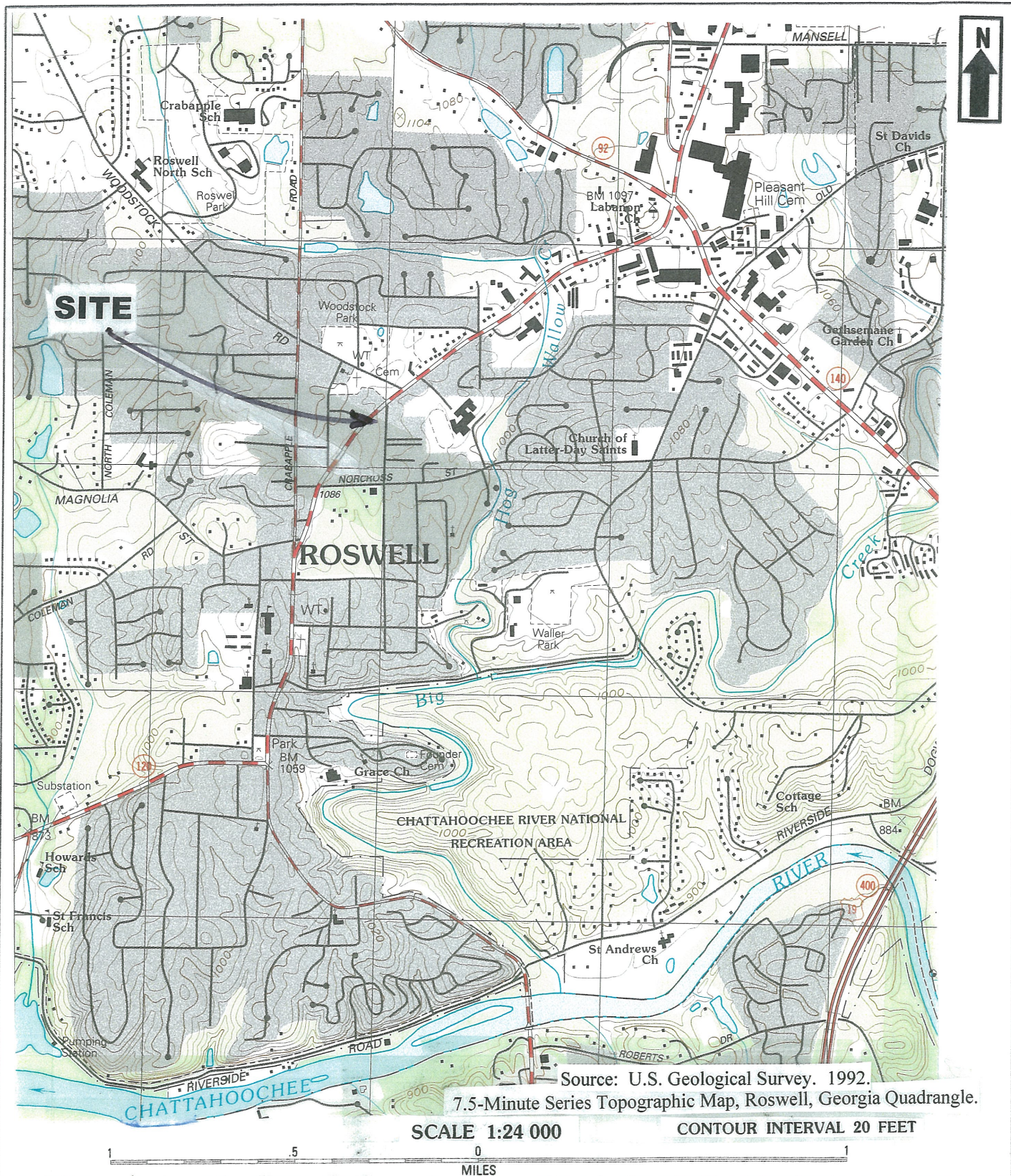
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## FIGURES





**Figure 1: SITE LOCATION MAP**  
 Dry Cleaning Depot  
 1073 Alpharetta Street  
 Roswell, Fulton County, Georgia

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 Checked By: Peter Kallay, P.E.



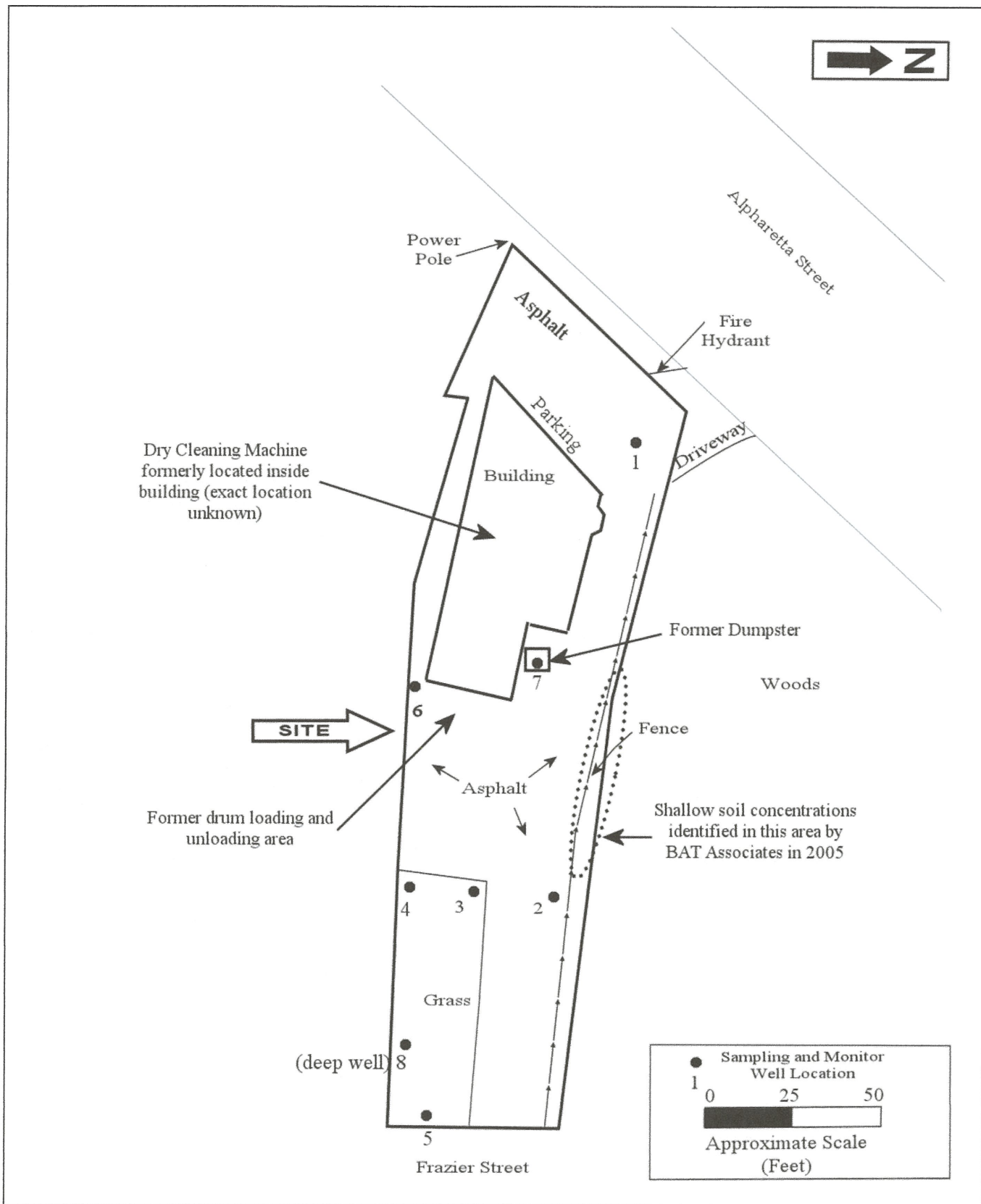
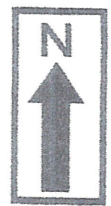


Figure 2: Site Plan

Former Dry Cleaning Depot  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia

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Checked By: Peter Kallay,  
P.E.



Source: Google Earth © Google. Downloaded on or about June 30, 2016

Figure 3: Site Location Aerial View  
Former Dry Cleaning Depot  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia

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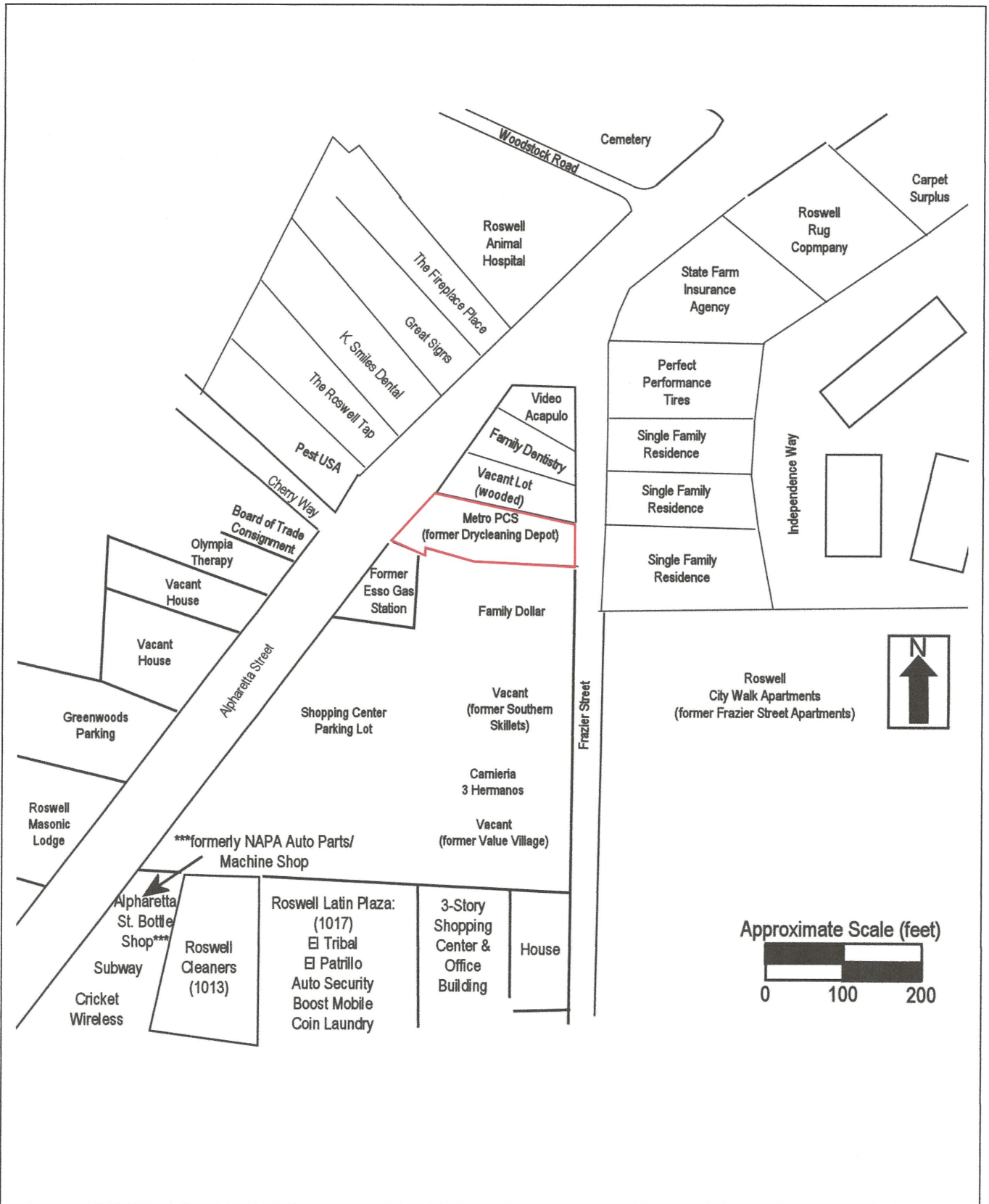


Figure 4: Site Area Plan

Former Dry Cleaning Depot  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia

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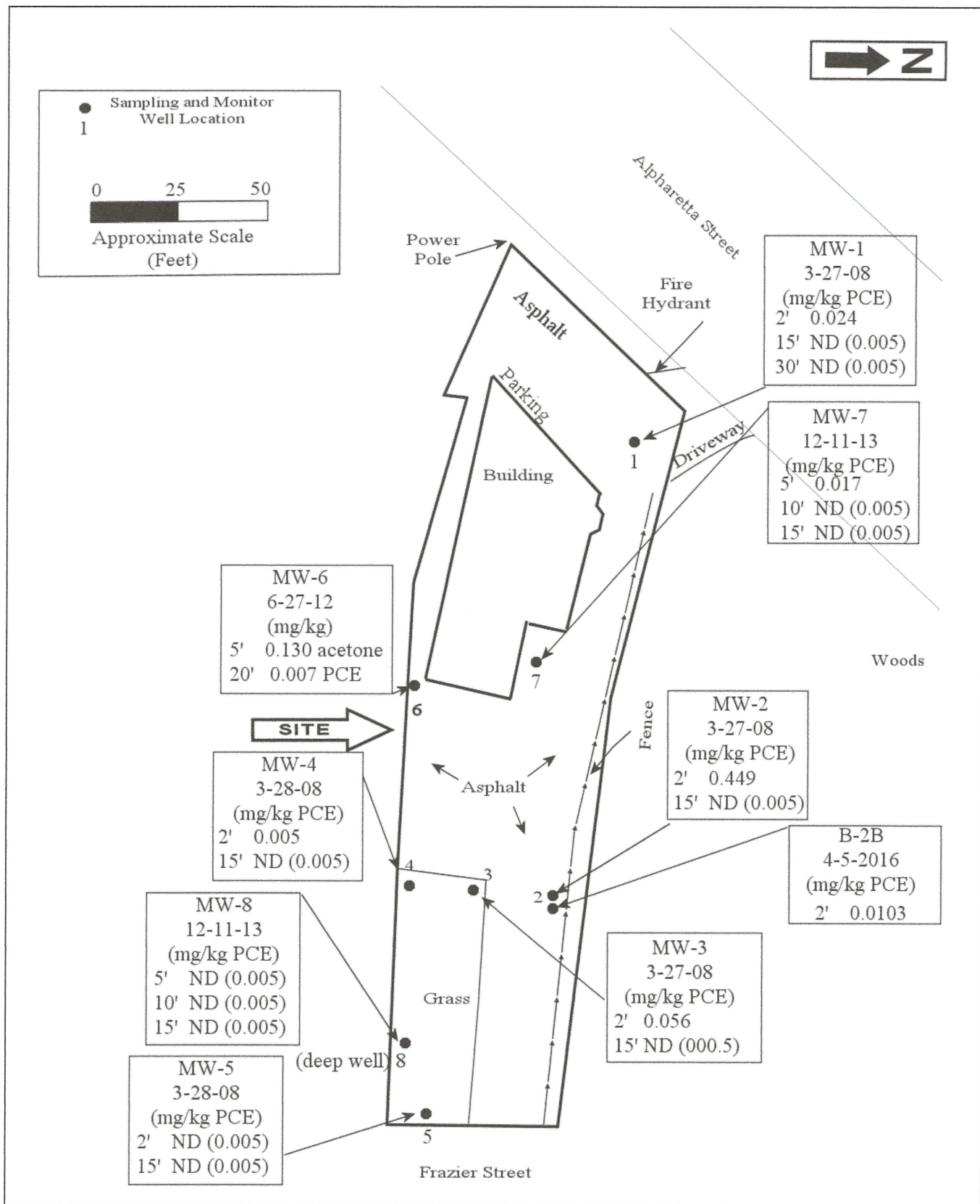


Figure 5: Soil Boring Results

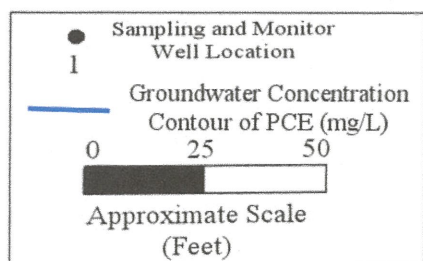
Former Dry Cleaning Depot  
 1073 Alpharetta Street  
 Roswell, Fulton County, Georgia

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Note: Only compounds detected are shown.  
Sampled 4-2-2016

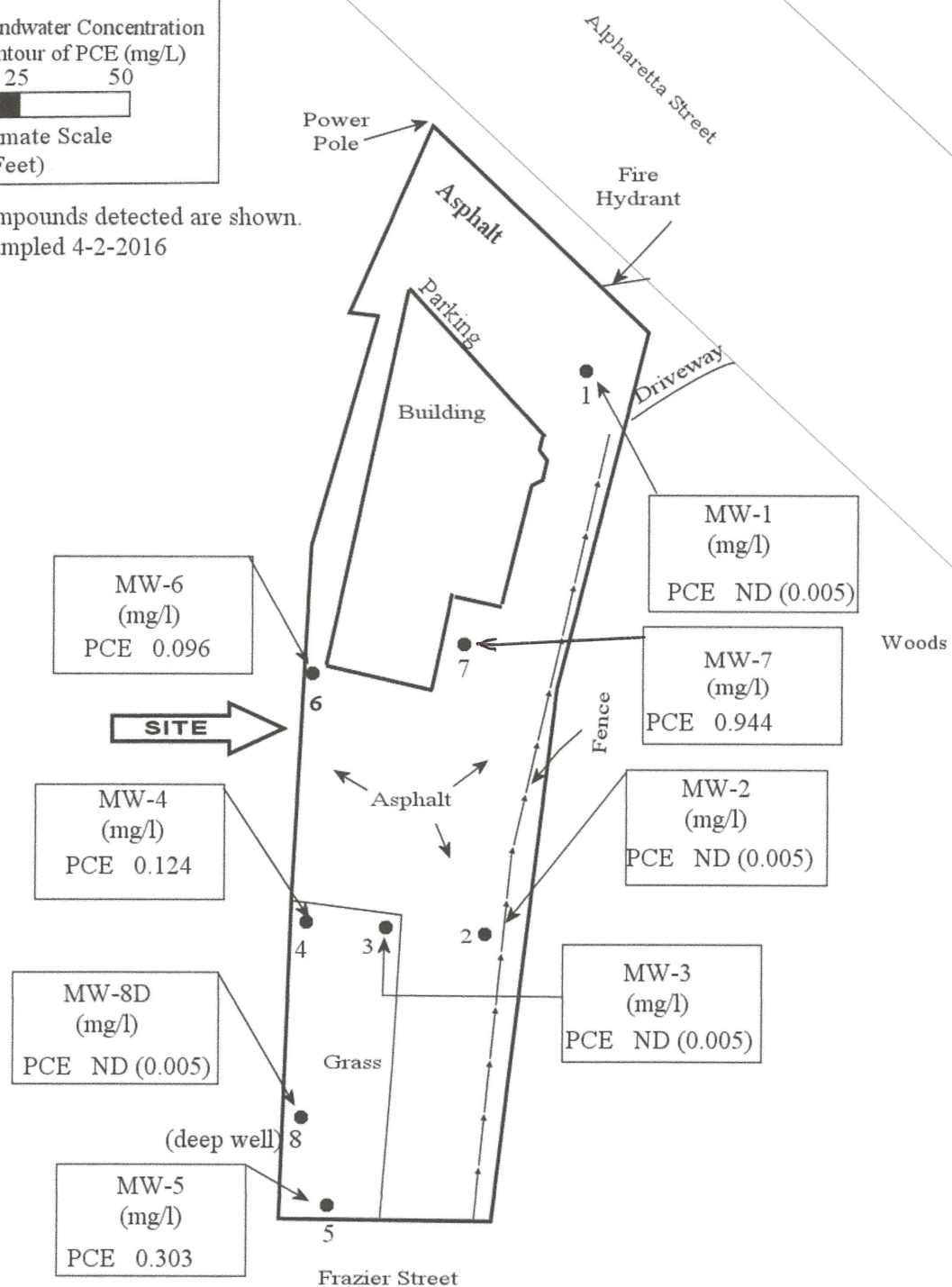


Figure 6: Monitor Wells and Groundwater Analytical Results  
Former Dry Cleaning Depot  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia

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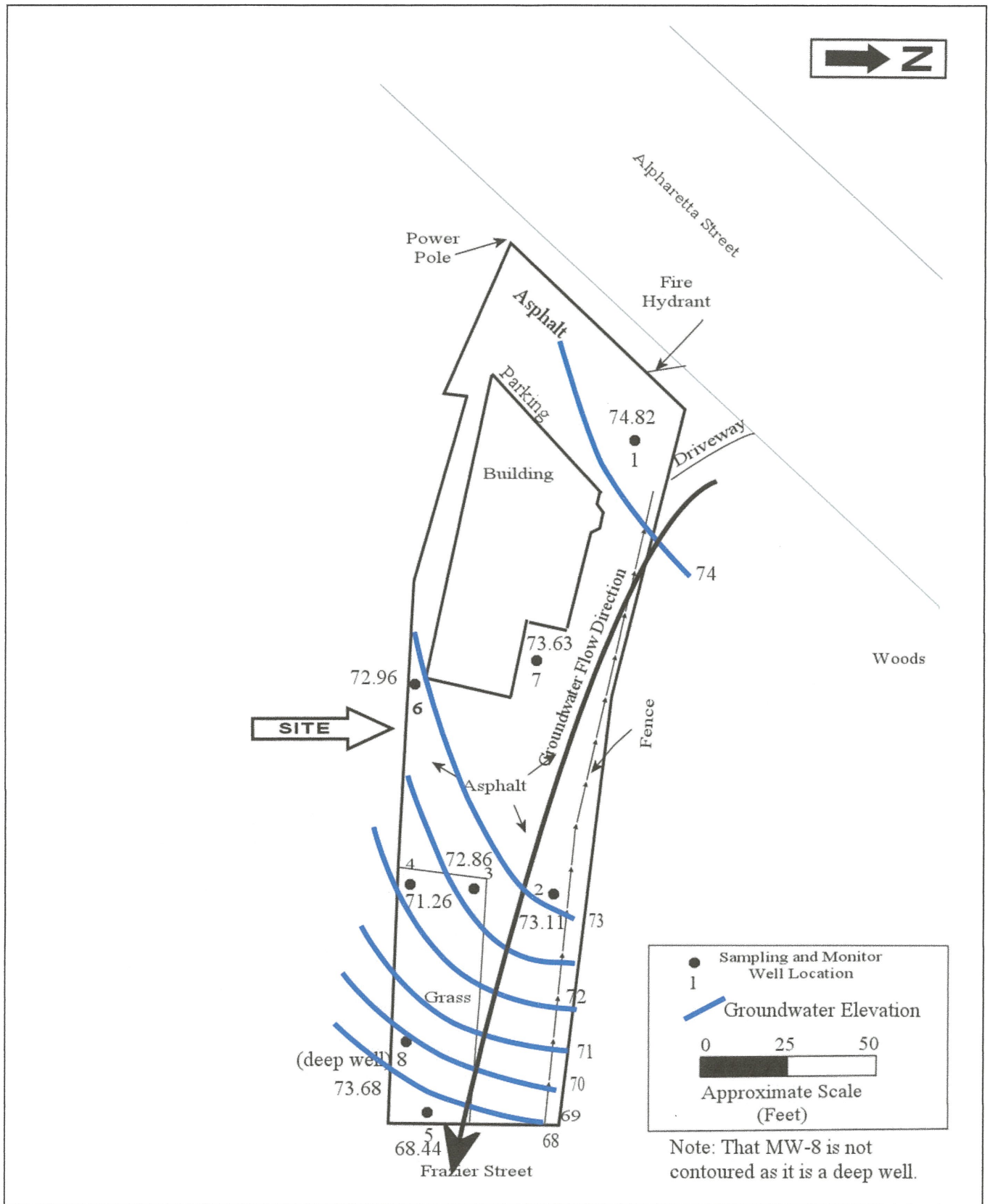


Figure 7: Potentiometric Map  
 Former Dry Cleaning Depot  
 1073 Alpharetta Street  
 Roswell, Fulton County, Georgia

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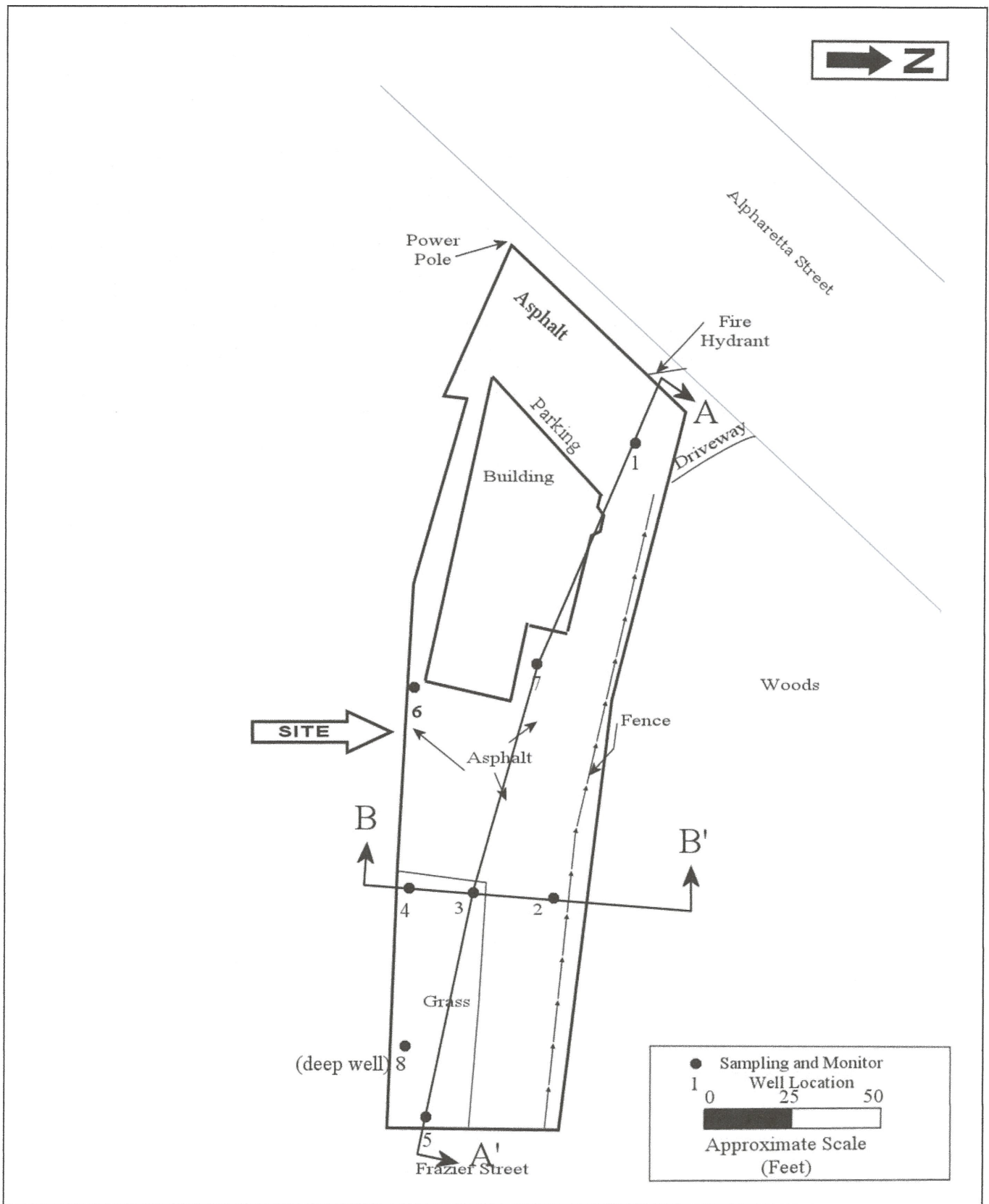


Figure 8: Cross-Section Locations

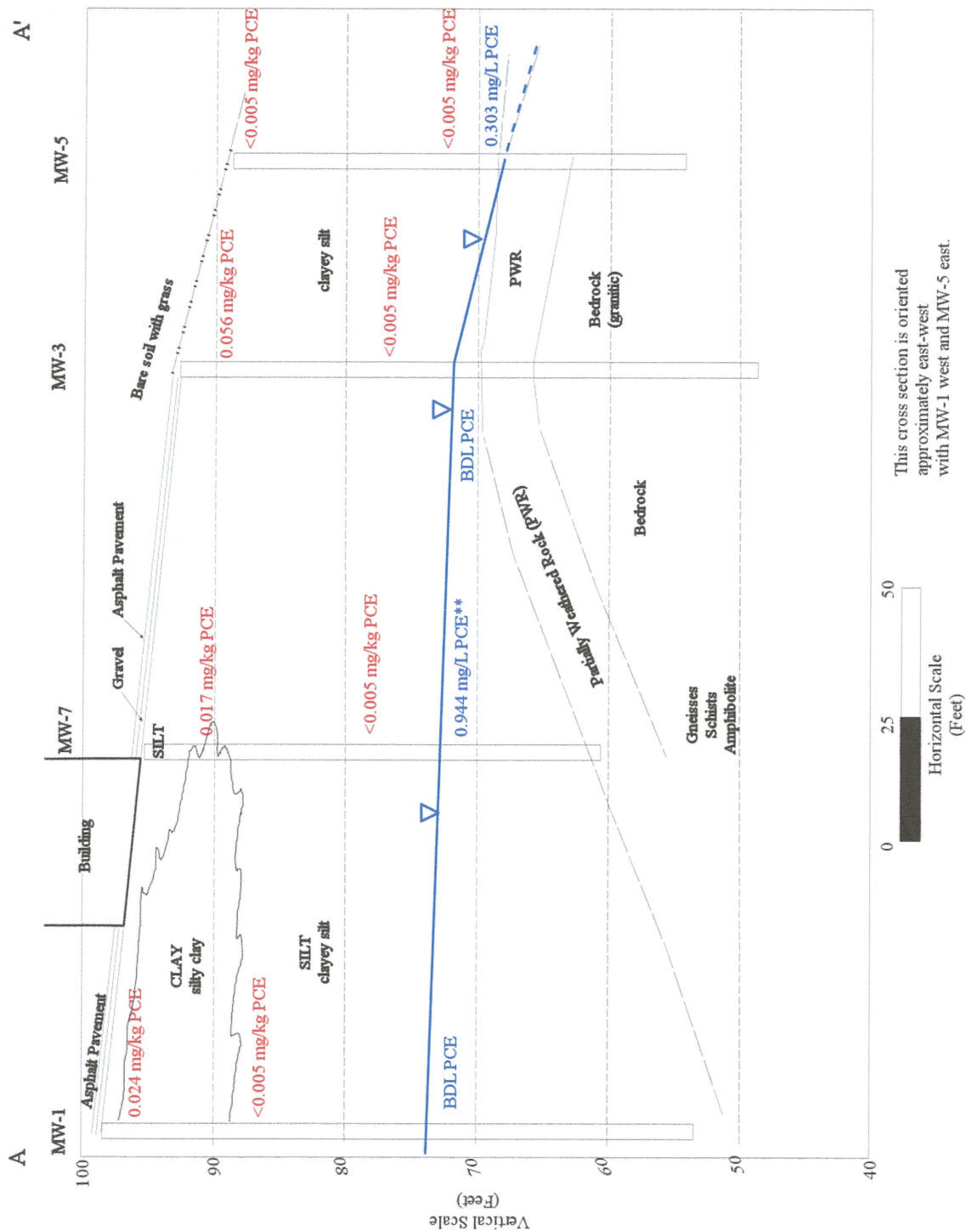
Former Dry Cleaning Depot  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia

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\*\* This result is considered anomalous (See report)

Figure 9: Cross-Section A-A'

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Roswell, Fulton County, Georgia

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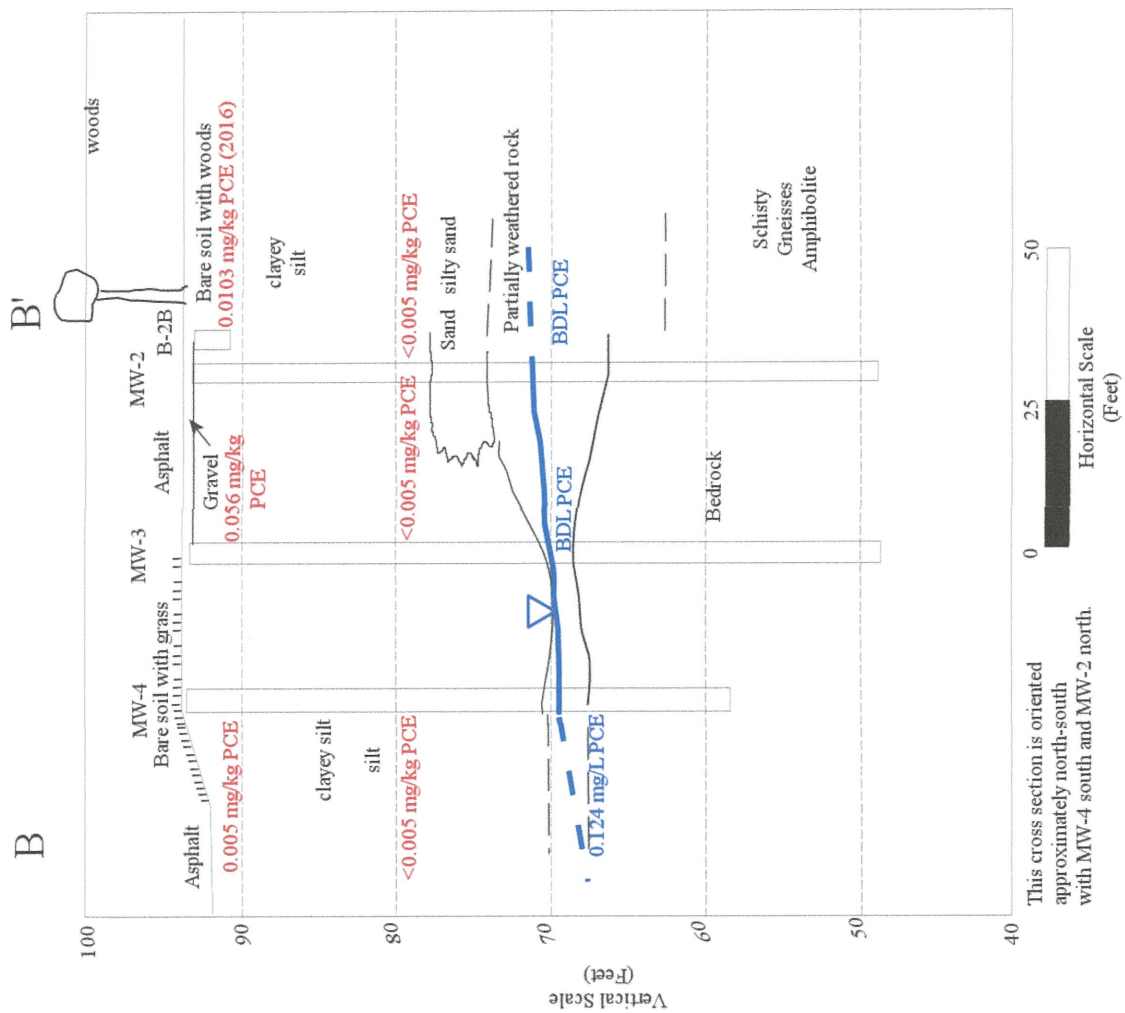


Figure 10: Cross-Section B-B'

Former Dry Cleaning Depot  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia

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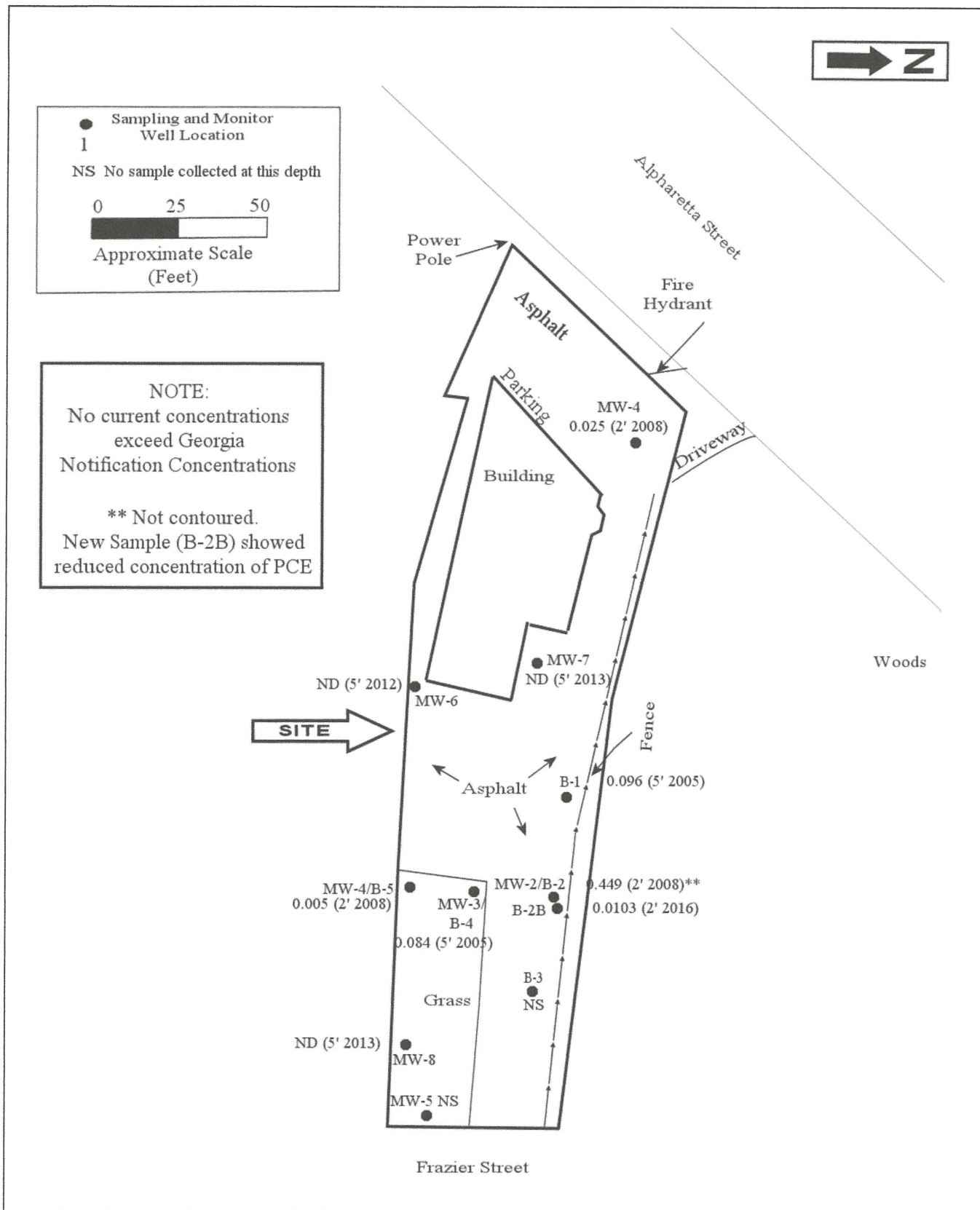


Figure 11A: PCE Concentrations  
In Soil 1 to 5 Feet  
Former Dry Cleaning Depot  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia

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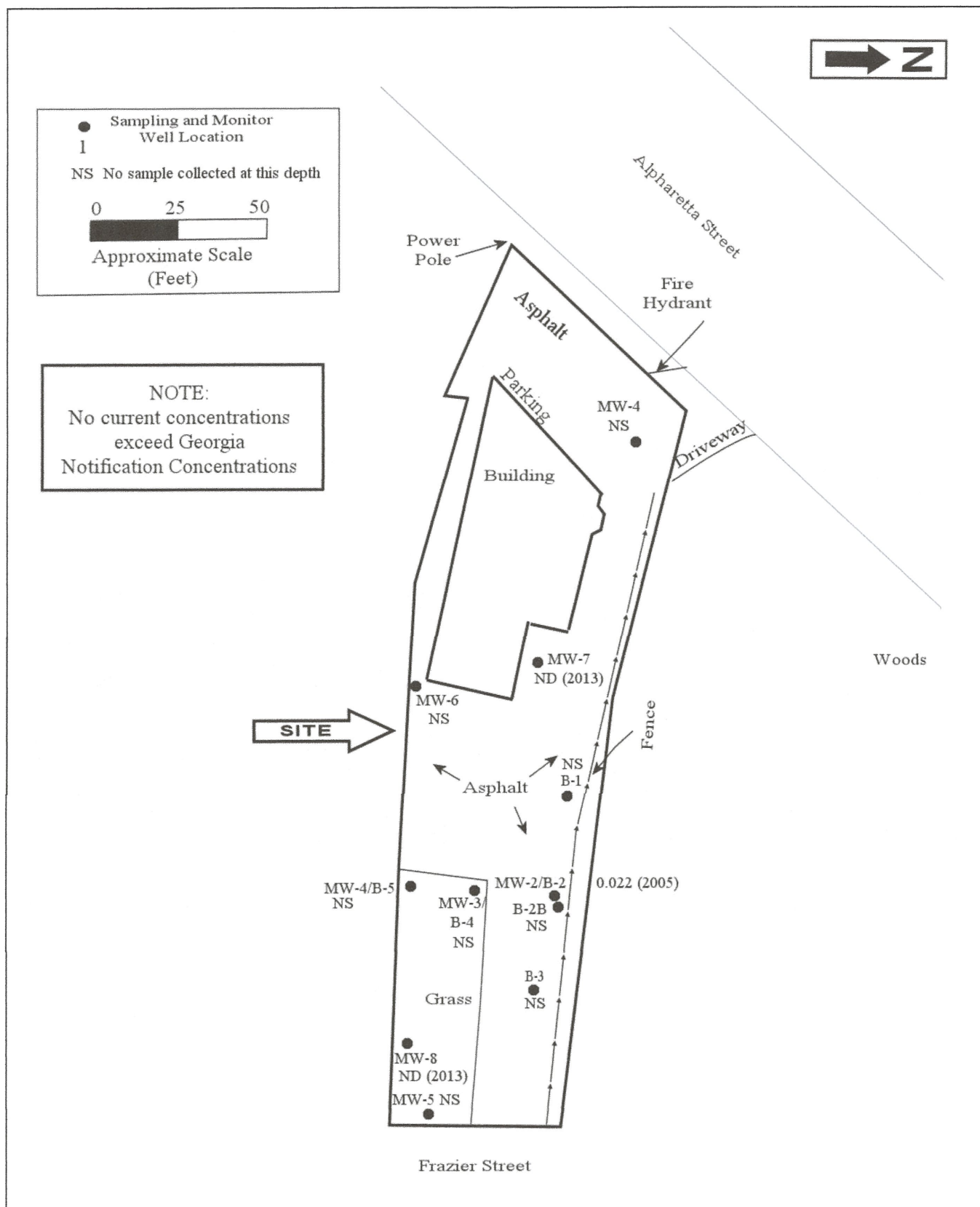


Figure 11B: PCE Concentrations  
In Soil 10 Feet  
Former Dry Cleaning Depot  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia

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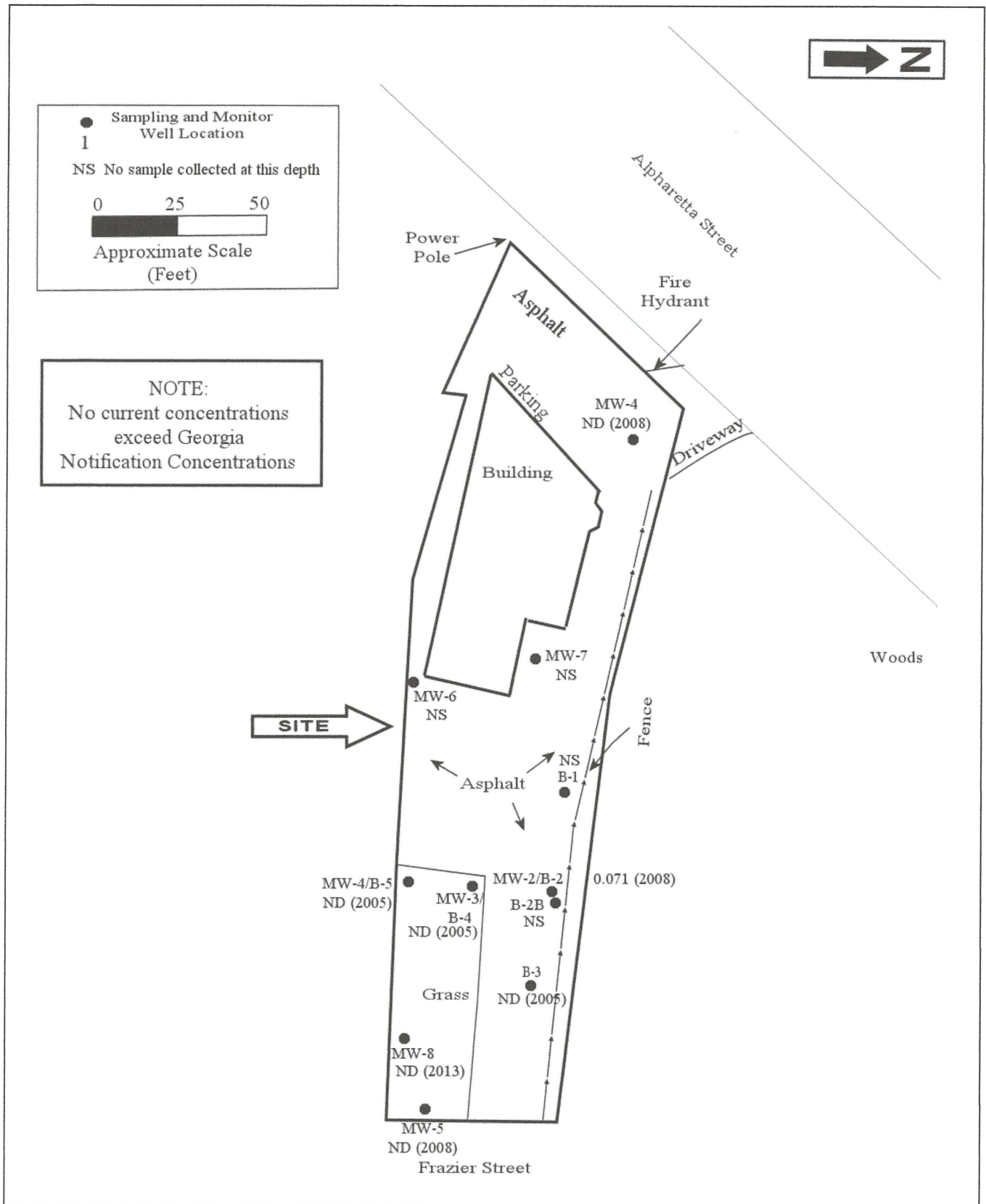


Figure 11C: PCE Concentrations  
In Soil 15 Feet  
Former Dry Cleaning Depot  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia

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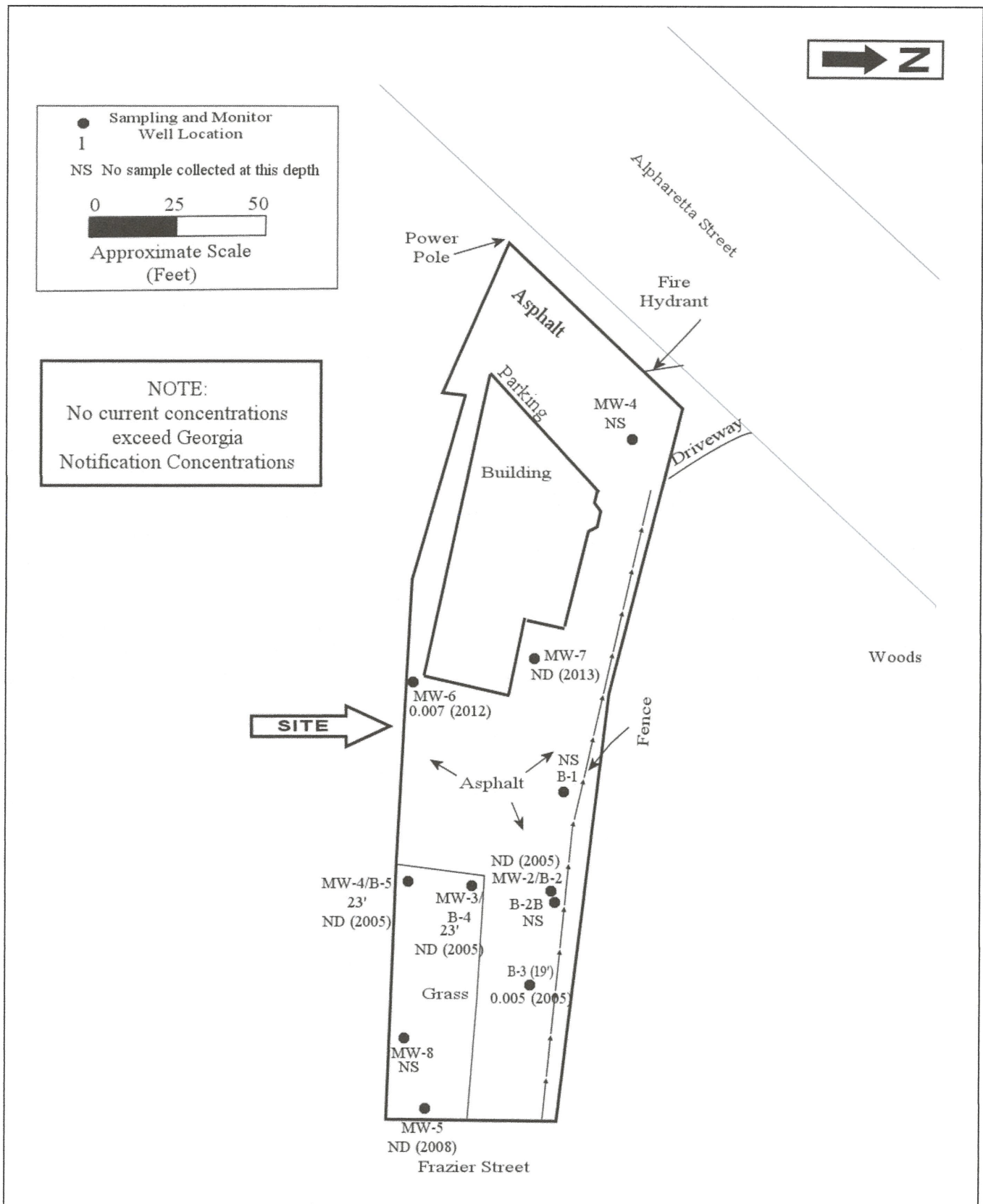
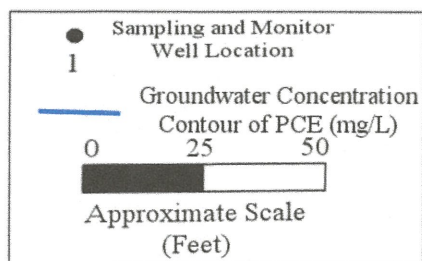


Figure 11D: PCE Concentrations  
In Soil 20 Feet  
Former Dry Cleaning Depot  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia

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Note: Only compounds detected are shown.  
Sampled 4-2-2016

Note: MW-8D was not contoured as it is a deep well.

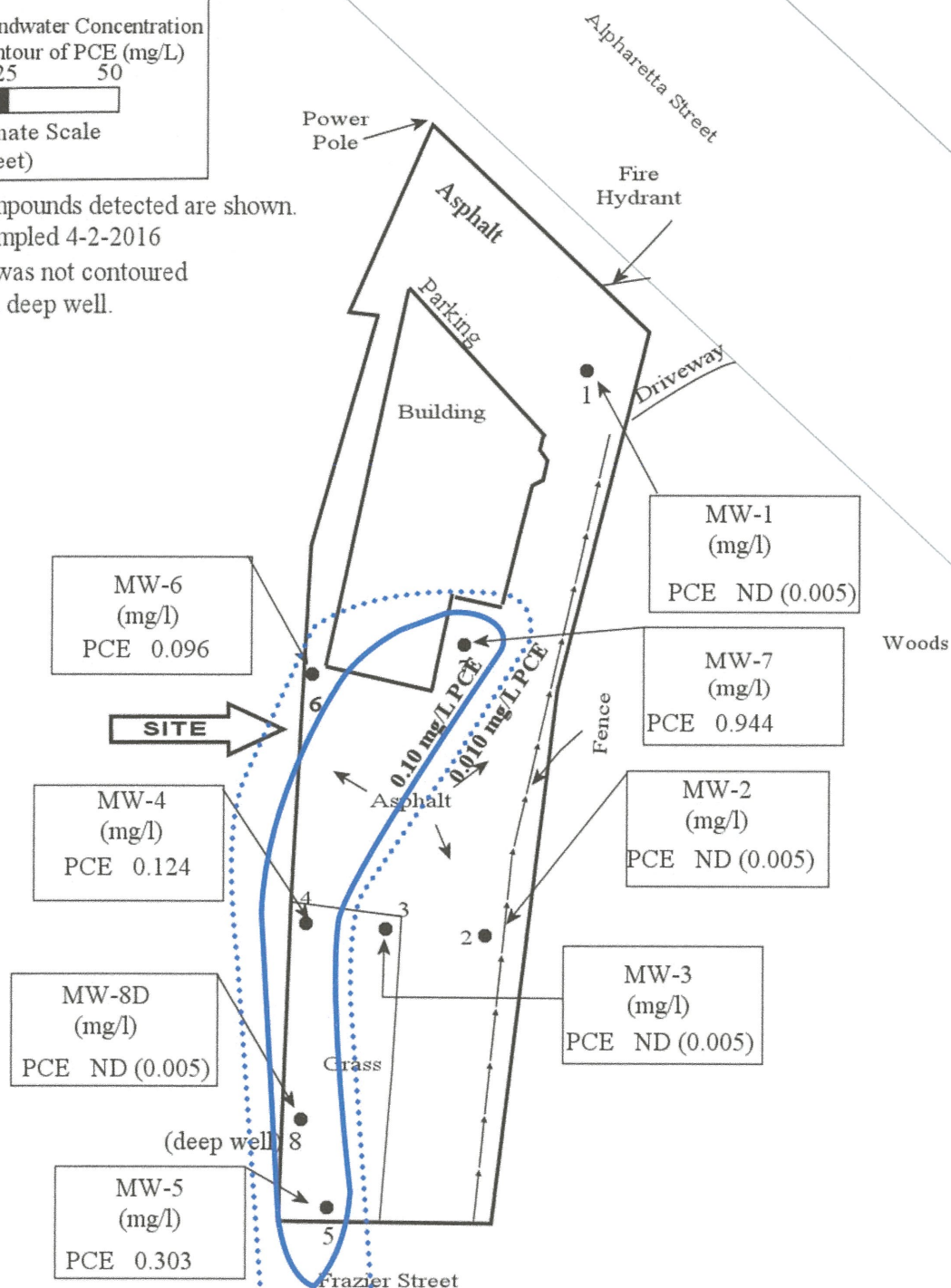


Figure 12: PCE Concentrations  
In Groundwater  
Former Dry Cleaning Depot  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia

**aec**  
Atlanta Environmental Consultants

Drawn By: Terri Drabek  
Checked By: Peter Kallay,  
P.E.

## **TABLES**

**TABLE 1. Soil Analytical Results**  
**Former Dry Cleaning Depot**  
**1073 Alpharetta Street**  
**Roswell, Fulton County, Georgia 30075**

SAMPLE ID	SAMPLE DEPTH (ft)	SAMPLE DATE	ANALYTICAL RESULTS - Milligrams Per Kilogram (mg/kg)			NOTES
			PCE	TCE	OTHER COMPOUNDS	
B-1	5'	9/9/2005	0.096	ND (0.005)	ND	Toluene
B-1	20'	9/9/2005	0.022	ND (0.005)	ND	
B-2(by MW2)	10'	9/9/2005	0.008	ND (0.005)	ND	
B-2(by MW2)	22'	9/9/2005	ND (0.005)	ND (0.005)	ND	
B-3	15'	9/9/2005	ND (0.005)	ND (0.005)	ND	
B-3	19'	9/9/2005	0.005	ND (0.005)	ND	
B-4(by MW3)	5'	9/9/2005	0.084	ND (0.005)	0.007	
B-4(by MW3)	23'	9/9/2005	0.005	ND (0.005)	ND	
B-5(by MW4)	20'	9/9/2005	ND (0.005)	ND (0.005)	ND	
B-5(by MW4)	23'	9/9/2005	ND (0.005)	ND (0.005)	ND	
MW-1	2'	3/27/2008	0.024	ND (0.005)	ND	
MW-1	15'	3/27/2008	ND (0.005)	ND (0.005)	ND	
MW-1	30'	3/27/2008	ND (0.005)	ND (0.005)	ND	
MW-2	2'	3/27/2008	0.449	ND (0.005)	ND	
MW-2	15'	3/27/2008	0.071	ND (0.005)	ND	
B-2B (by MW2)	2'	4/5/2016	0.0103	ND (0.005)	0.0061	*
						see footnote
MW-3	2'	3/27/2008	0.056	ND (0.005)	ND	
MW-3	15'	3/27/2008	ND (0.005)	ND (0.005)	ND	
MW-4	2'	3/28/2008	0.005	ND (0.005)	ND	
MW-4	15'	3/28/2008	ND (0.005)	ND (0.005)	ND	
MW-5	2'	3/28/2008	ND (0.005)	ND (0.005)	ND	
MW-5	15'	3/28/2008	ND (0.005)	ND (0.005)	ND	
MW-6	5'	6/27/2012	ND	ND (0.005)	0.130	Acetone
MW-6	20'	6/27/2012	0.007	ND (0.005)	ND	
MW-7	5'	12/11/2013	0.017	ND (0.005)	ND	
MW-7	10'	12/11/2013	ND (0.005)	ND (0.005)	ND	
MW-7	20'	12/11/2013	ND (0.005)	ND (0.005)	ND	
MW-8	5'	12/11/2013	ND (0.005)	ND (0.005)	ND	
MW-8	10'	12/11/2013	ND (0.005)	ND (0.005)	ND	
MW-8	15'	12/11/2013	ND (0.005)	ND (0.005)	ND	

NOTES: footnotes are on the following page.



**NOTES:**

Concentrations are given in milligrams per kilogram (mg/kg).

Volatile Organic Compounds (VOC) were extracted by EPA Method 5035 and were analyzed by EPA Method 8260B

ND = Not Detected (i.e., compound, if present, is Below Quantitation Limits)

PCE = Tetrachloroethene, also known as perchloroethylene, tetrachloroethylene, or perc

TCE = Trichloroethene, also known as trichloroethylene

\* Methylene Chloride was detected at 0.00610 mg/kg. The laboratory, FTS Analytical Services, stated that methylene chloride is suspected laboratory contamination B2B was sampled on April 5, 2016 adjacent to MW-2. Both were 2 ft deep soil samples. The analytical results at B2B were 0.0103 mg/kg, considered the current soil concentration. The 2008 soil sample result at MW-2 is, therefore, no longer considered current.

**Table 2. Water Table Elevations  
Former Dry Cleaning Depot  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia**

MONITORING WELL	DATE MEASURED	TOP-OF-CASING ELEVATION	DEPTH TO WATER	WATER TABLE ELEVATION	NOTES
		(feet)	(feet)	(feet)	
MW-1	3/28/2008	98.72	29.73	68.99	
MW-1	3/31/2008	98.72	29.64	69.08	
MW-1	6/27/2012	98.72	27.89	70.83	
MW-1	6/28/2012	98.72	27.88	70.84	
MW-1	6/21/2013	98.72	24.90	73.82	
MW-1	12/12/2013	98.72	26.11	72.61	
MW-1	11/28/2015	98.72	27.67	71.05	
MW-1	4/2/2016	98.72	23.90	74.82	
MW-2	3/28/2008	93.77	26.54	67.23	
MW-2	3/31/2008	93.77	26.49	67.28	
MW-2	6/27/2012	93.77	24.89	68.88	
MW-2	6/28/2012	93.77	24.91	68.86	
MW-2	6/21/2013	93.77	21.25	72.52	
MW-2	12/12/2013	93.77	22.94	70.83	
MW-2	11/28/2015	93.77	24.51	69.26	
MW-2	4/2/2016	93.77	20.66	73.11	
MW-3	3/28/2008	93.51	27.56	65.95	
MW-3	3/31/2008	93.51	27.12	66.39	
MW-3	6/27/2012	93.51	24.91	68.60	
MW-3	6/28/2012	93.51	25.01	68.50	
MW-3	6/21/2013	93.51	21.27	72.24	
MW-3	12/12/2013	93.51	22.83	70.68	
MW-3	11/28/2015	93.51	24.52	68.99	
MW-3	4/2/2016	93.51	20.65	72.86	
MW-4	3/28/2008	93.39	33.47	59.92	
MW-4	3/31/2008	93.39	27.50	65.89	
MW-4	6/27/2012	93.39	25.25	68.14	
MW-4	6/28/2012	93.39	25.29	68.10	
MW-4	6/21/2013	93.39	22.54	70.85	
MW-4	12/12/2013	93.39	23.83	69.56	
MW-4	11/28/2015	93.39	24.89	68.50	
MW-4	4/2/2016	93.39	22.13	71.26	
MW-5	3/28/2008	89.37	26.42	62.95	
MW-5	3/31/2008	89.37	26.38	62.99	
MW-5	6/27/2012	89.37	24.88	64.49	
MW-5	6/28/2012	89.37	24.89	64.48	
MW-5	6/21/2013	89.37	21.37	68.00	
MW-5	12/12/2013	89.37	23.49	65.88	
MW-5	11/28/2015	89.37	24.20	65.17	
MW-5	4/2/2016	89.37	20.93	68.44	
MW-6	6/27/2012	96.71	32.53	64.18	
MW-6	6/28/2012	96.71	27.83	68.88	
MW-6	6/21/2013	96.71	24.43	72.28	
MW-6	12/12/2013	96.71	25.91	70.80	
MW-6	11/28/2015	96.71	27.22	69.49	
MW-6	4/2/2016	96.71	23.75	72.96	

Table 2. Water Table Elevations Cont.)

MONITORING WELL	DATE MEASURED	TOP-OF-CASING ELEVATION (feet)	DEPTH TO WATER (feet)	WATER TABLE ELEVATION (feet)	NOTES
MW-7	12/12/2013	97.23	25.72	71.51	
MW-7	11/28/2015	97.23	27.01	70.22	
MW-7	4/2/2016	97.23	23.60		
MW-8D	12/12/2013	90.34	40.96	49.38	Deep well
MW-8D	11/28/2015	90.34	20.59	69.75	
MW-8D	4/2/2016	90.34	16.66	73.68	
TMW-9	1/24/2014	*	1.93	*	See note 4.
TMW-9A	4/2/2016	*	0.63	*	See note 4.

#### **FOOTNOTES**

1. Top of Casing Elevations are relative elevations, relative to an assumed height of instrument (H.I.) of 100.00 feet (on the initial elevation survey)
2. On subsequent elevation surveys, the difference between the Height of Instrument (H.I.) and H.I. in the current survey is calculated. All newly determined elevations are computed to properly correlate to the original set of elevations before entering them on the Table.
2. MW-7 and MW-8D were installed on December 12, 2013.
3. MW-8D is a deep well set at 60 feet deep.
4. TMW-9 is a temporary well installed near Hog Wallow Creek as a Point-of-Demonstration (POD) well. A precise elevation was not determined. The USGS topographic map indicates the area of TMW-9 is approximately 80 feet lower elevation than the center of the former Dry Cleaning Depot property. On April 1, 2016, TMW-9 was re-installed and is now referred to as TMW-9A. It was relocated farther from the creek after the original one was destroyed. TOC relative elevation is estimated to be approximately 12 feet.



**TABLE 3. Groundwater Analytical Results  
Former Dry Cleaning Depot  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia 30075**

SAMPLE ID and DATE sampled	ANALYTICAL RESULTS - Milligrams Per Liter (mg/L)			
	PCE	TCE	OTHER COMPOUNDS	NOTES
MW-1 3-31-08	0.006	ND(0.005)	ND	
MW-1 6-28-12	ND(0.005)	ND(0.005)	ND	
MW-1 6-21-13	ND(0.005)	ND(0.005)	ND	
MW-1 12-12-13	ND(0.005)	ND(0.005)	ND	No 8260 VOCs detected
MW-1 11-28-15	ND(0.005)	ND(0.005)	ND	
MW-1 04-02-16	ND(0.005)	ND(0.005)	ND	
MW-2 3-31-08	0.109	ND(0.005)	ND	
MW-2 6-28-12	ND(0.005)	ND(0.005)	ND	
MW-2 6-21-13	0.0031 J	ND(0.005)	ND	
MW-2 12-12-13	ND(0.005)	ND(0.005)	ND	No 8260 VOCs detected
MW-2 11-28-15	ND(0.005)	ND(0.005)	ND	
MW-2 04-02-16	ND(0.005)	ND(0.005)	ND	
MW-3 3-31-08	0.089	ND(0.005)	ND	
MW-3 6-28-12	0.086	ND(0.005)	ND	
MW-3 6-21-13	0.014	ND(0.005)	ND	
MW-3 12-12-13	ND(0.005)	ND(0.005)	ND	
MW-3 11-28-15	0.073	ND(0.005)	ND	
MW-3 04-02-16	ND(0.005)	ND(0.005)	ND	
MW-4 3-31-08	0.244	ND(0.005)	ND	
MW-4 6-28-12	0.195	ND(0.005)	ND	
MW-4 6-21-13	0.256	ND(0.005)	ND	
MW-4 12-12-13	0.102	ND(0.005)	ND	
MW-4 11-28-15	0.278	ND(0.005)	ND	
MW-4 04-02-16	0.124	ND(0.005)	ND	
MW-5 3-31-08	1.040	0.005	ND	
MW-5 6-28-12	0.249	ND(0.005)	ND	
MW-5 6-21-13	0.309	ND(0.005)	ND	
MW-5 12-12-13	0.074	ND(0.005)	ND	
MW-5 11-28-15	0.274	ND(0.005)	ND	
MW-5 04-02-16	0.303	ND(0.005)	ND	
MW-6 6-28-12	0.145	ND(0.005)	ND	
MW-6 6-21-13	0.085	ND(0.005)	ND	
MW-6 12-12-13	0.027	ND(0.005)	ND	
MW-6 11-28-15	0.105	ND(0.005)	ND	
MW-6 04-02-16	0.096	ND(0.005)	ND	

TABLE 3. Groundwater Analytical Results (Cont.)

SAMPLE ID and DATE sampled	ANALYTICAL RESULTS - Milligrams Per Liter (mg/L)			NOTES
	PCE	TCE	OTHER COMPOUNDS	
MW-7 12-12-13	0.079	ND(0.005)	ND	
MW-7 11-28-15	0.214	ND(0.005)	ND	
MW-7 04-02-16	0.944	ND(0.005)	ND	
MW-8D 12-12-13	0.015	ND(0.005)	ND	
MW-8D 11-28-15	ND(0.005)	ND(0.005)	ND	
MW-8D 04-02-16	ND(0.005)	ND(0.005)	ND	
TMW-9 01-24-14	ND(0.005)	ND(0.005)	ND	No 8260 VOCs detected
TMW-9A 04-02-16	ND(0.005)	ND(0.005)	ND	

**NOTES:**

Concentrations are given in milligrams per liter (mg/L)

Volatile Organic Compounds (VOC) were analyzed by EPA Method 8260B

ND = Not Detected (Below Quantitation Limits)

PCE = Tetrachloroethene, also known as perchloroethylene, tetrachloroethylene, or perc

TCE = Trichloroethene, also known as trichloroethylene

**TABLE 4. Sub-Slab Soil Vapor Analytical Results**  
**Former Dry Cleaning Depot**  
**1073 Alpharetta Street**  
**Roswell, Fulton County, Georgia 30075**  
Sub-slab vapor was sampled on November 29, 2013

SAMPLE ID	Compound	SUB-SLAB VAPOR SAMPLE ANALYTICAL RESULTS		
		parts per billion by volume(ppbv)	micrograms/cubic meter (ug/m3)	NOTES
	<b><u>PRIMARY TARGET COMPOUNDS</u></b>			
SSV-1	Tetrachloroethene (PCE)	51.00	350.00	
SSV-1	Trichloroethene (TCE)	ND(5.0)	ND(2.7)	not detected
SSV-1	cis-1,2-Dichloroethene	ND(5.0)	ND(2.0)	not detected
SSV-1	trans-1,2-Dichloroethene	ND(5.0)	ND(2.0)	not detected
SSV-1	Vinyl Chloride	ND(5.0)	ND(1.3)	not detected
	<b><u>OTHER TO-15 TARGET COMPOUNDS</u></b>			
SSV-1	Acetone	13.00	31.00	
SSV-1	Ethanol	8.40	16.00	
SSV-1	Cyclohexane	5.80	20.00	
	<b><u>TENTATIVELY IDENTIFIED COMPOUNDS (TICs)</u></b>			
SSV-1	Decane	11.00	62.00	
SSV-1	Undecane	11.00	73.00	
	<b><u>Total Volatile Organic Compounds</u></b>			
SSV-1	TVOC TO-15 Target Compounds	78.00	420.00	
SSV-1	TVOC TICs only	22.00	135.00	
SSV-1	TVOC Total of all VOCs detected	100.00	455.00	

**NOTES:** ND = Not Detected

1. Concentrations are given in parts per billion by volume (ppbv) and micrograms per cubic meter (ug/m3)
2. Compounds not detected are not listed (except primary targets). See Laboratory Analytical Report.
4. The number of decimal places are equalized to improve comparisons between relative concentrations. Number of decimal places shown do not necessarily represent number of significant figures (see lab report).



## **APPENDICES**

**APPENDIX A**

**PHASE II**

**ENVIRONMENTAL SITE ASSESSMENTS**

August 16, 2005

Mr. Edwin Chang  
5419 Chamblee-Dunwoody Road  
Dunwoody, Georgia 30338

Re: Results of Soil Sampling  
Alpharetta Street  
Roswell, Georgia

Dear Mr. Faruqi:

BAT Associates, Inc. (BAT) is pleased to submit this letter report presenting the results of the soil sampling performed at the dry cleaning facility on Alpharetta Street, Roswell, Georgia.

The site is located south of the intersection of Alpharetta Street and Frazier Street in Roswell, Georgia and contains a dry cleaners. The site is relatively flat and slopes to the east, away from Alpharetta Street. The client requested that soil samples be collected to determine if contamination was present as the result of previous dry cleaning activities at the site. As the majority of the site was paved and there were no visual indication of contamination such as stained soil or stressed vegetation, BAT chose to collect one soil sample from the grassy area nearest to the rear door of the building, and four samples from the wooded area at the rear of the property, which was the location most likely to have been used for any past improper disposal of solvents.

### **Soil Sampling Procedures**

On August 8, 2005, BAT performed hand auger soil borings at five locations at the site: Boring B-1 was performed at a low spot in the grassy area closest to the rear door of the building, on the southern property line. Borings B-2 through B-5 were performed in the wooded area northeast of the rear of the dry cleaners.

Each hand auger boring was advanced to a maximum depth of 3.5 feet below the ground surface, except for Boring 2, where a rock prevented sample collection beyond 2.5 feet. Soil samples were collected at four intervals within each boring. Soil samples were retrieved by the hand auger bucket and split into two halves. One half was placed in a Ziploc® bag and chilled in a cooler for laboratory analyses. The second half of the sample was placed in a separate Ziploc® bag and placed in the sun to release any volatile organic compounds (VOCs) that might be present. After a period of approximately 20 minutes, the volatilized samples were scanned by a hand-held photoionization detector (PID) instrument. This instrument was used in the field to select those soil samples having the greatest likelihood of volatile organic compound contamination. The soils having the highest PID reading were retained for laboratory analyses. Table 1 summarizes the PID readings detected in the field and identifies those samples retained for laboratory analyses.



No obvious odors were detected from any of the samples collected. Each soil sample retained for analyses was placed in a laboratory-furnished container, labeled, chilled, and delivered to AES Laboratories in Atlanta, Georgia. Soil samples were analyzed by EPA Method 8260B for VOCs.

#### **4.2 Analytical Results**

Analysis of the soil samples revealed that all five samples contained the dry cleaning solvent tetrachloroethene at concentrations ranging from 3.7 to 2,700 micrograms per kilogram ( $\mu\text{g/Kg}$ ). Two of the samples (SS-4 and SS-5) were found to contain tetrachloroethene in concentrations above the Georgia Environmental Protection Division (EPD) notification level of 180  $\mu\text{g/Kg}$ . No other VOC constituents were detected. Table 2 summarizes the analytical results for the five soil samples retained from the borings. The Analytical Report from AES Laboratories is included as an attachment.

#### **Conclusions**

Based on the soil sample analytical results, it appears that a release of tetrachloroethene has occurred at the site due to past dry cleaning operations. BAT recommends that further soil and groundwater sampling be conducted to determine the extent of contamination.

#### **Recommendations**

Two of the soil samples were found to contain concentrations of tetrachloroethene above the Georgia EPD notification level. Georgia regulations require that the property owner notify the Georgia EPD of this release within 30 days of discovery of the release. BAT recommends that the Georgia EPD be notified and that further soil and groundwater sampling be conducted to determine the extent of contamination.

If you have any questions regarding these results please feel free to contact me at 770-242-3908 at your convenience. BAT would be happy to assist you with any further actions concerning this property.

Sincerely,



BAT Associates, Inc.  
Keith A. Kaylor, P.E.  
Project Manager

**TABLE 1**  
**Photoionization Detector Results**

Alpharetta Road  
Roswell, Georgia  
August 8, 2005

Sample Depth Interval(f t.)	PID Reading Soil Boring B-1 (ppmv)	PID Reading Soil Boring B-2 (ppmv)	PID Reading Soil Boring B-3 (ppmv)	PID Reading Soil Boring B-4 (ppmv)	PID Reading Soil Boring B-5 (ppmv)
0-1	48.6	29.1	25.1	16.2	10.4
1-2	13.2	49.2	31.6*	15.1	11.7
2-2.5	71.6*	64.9*	20.1	14.5	19.6
2.5-3.0	67.5	N/A	22.7	18.2*	20.5*

ppmv = parts per million by volume

\* denotes sample retained for laboratory analyses

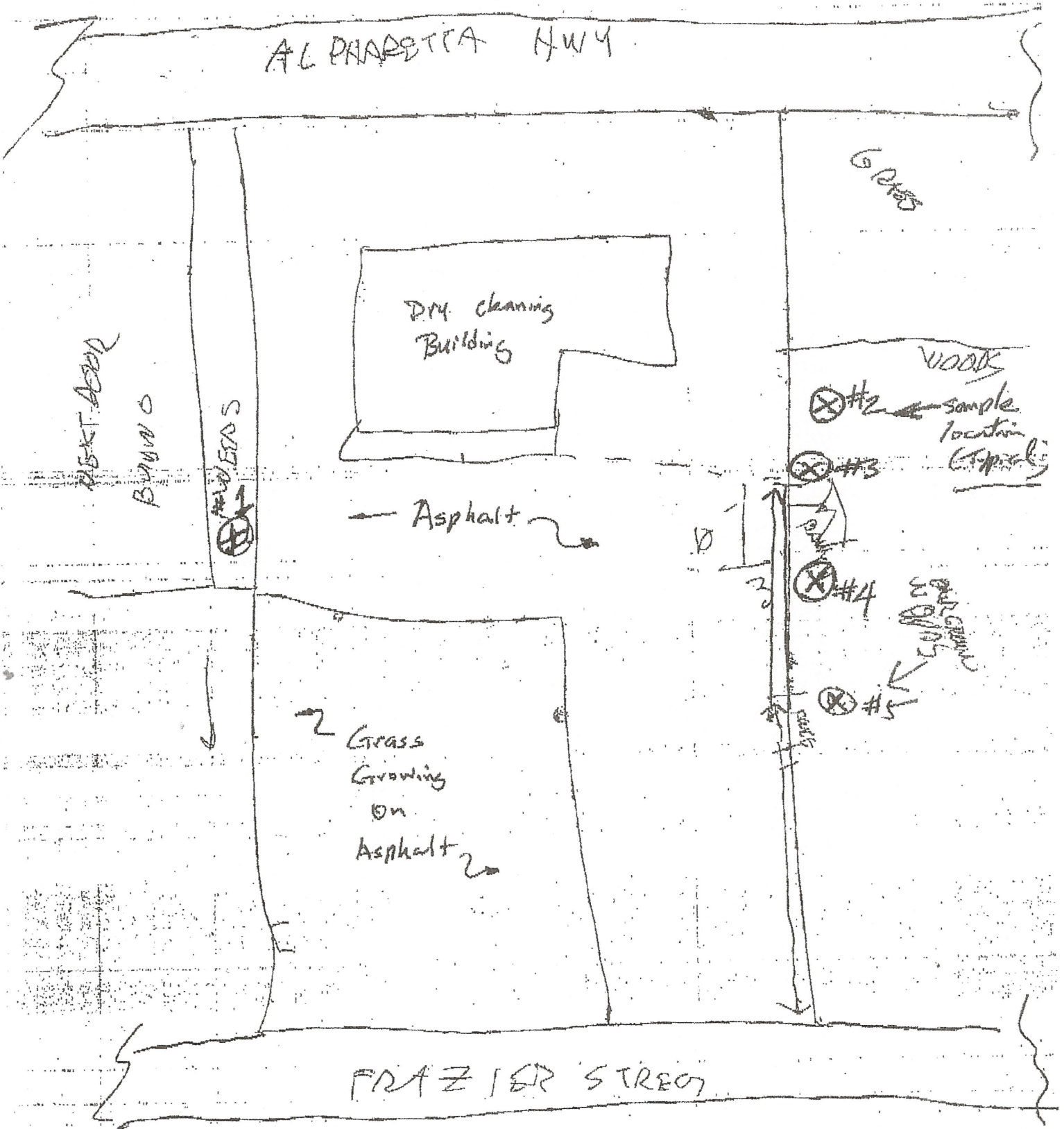
**TABLE 2**  
**Summary of Soil**  
**Analytical Laboratory Results**

702 Athens Highway  
Loganville, Georgia 30352  
April 13, 2005

Sample Number	Sample Depth Interval (ft.)	Tetrachloroethene Concentration (µg/Kg)
SS-1	2-2.5	110
SS-2	2-2.5	3.7
SS-3	1-2	31
SS-4	2.5-3	600
SS-5	2.5-3	2,700

mg/Kg = milligrams per kilogram  
BRL = below reportable limit





**ATTACHMENT**

**ANALYTICAL LABORATORY REPORT**

# Analytical Environmental Services, Inc.

Date: 12-Aug-05

CLIENT: BAT Associates  
Project: 051099-Roswell  
Lab ID: 0508423-001

Client Sample ID: 01  
Collection Date: 8/8/2005 11:30:00 AM  
Matrix: SOIL

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed
<b>TCL VOLATILE ORGANICS</b>		<b>SW8260B</b>		<b>(SW5035)</b>	Analyst: NWH		
1,1,1-Trichloroethane	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
1,1,2,2-Tetrachloroethane	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
1,1,2-Trichloroethane	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
1,1-Dichloroethane	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
1,1-Dichloroethene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
1,2,4-Trichlorobenzene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
1,2-Dibromo-3-chloropropane	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
1,2-Dibromoethane	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
1,2-Dichlorobenzene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
1,2-Dichloroethane	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
1,2-Dichloropropane	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
1,3-Dichlorobenzene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
1,4-Dichlorobenzene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
2-Butanone	BRL	30		µg/Kg	60889	1	8/10/2005 7:09 PM
2-Hexanone	BRL	6.1		µg/Kg	60889	1	8/10/2005 7:09 PM
4-Methyl-2-pentanone	BRL	6.1		µg/Kg	60889	1	8/10/2005 7:09 PM
Acetone	BRL	61		µg/Kg	60889	1	8/10/2005 7:09 PM
Benzene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Bromodichloromethane	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Bromoform	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Bromomethane	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Carbon disulfide	BRL	6.1		µg/Kg	60889	1	8/10/2005 7:09 PM
Carbon tetrachloride	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Chlorobenzene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Chloroethane	BRL	6.1		µg/Kg	60889	1	8/10/2005 7:09 PM
Chloroform	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Chloromethane	BRL	6.1		µg/Kg	60889	1	8/10/2005 7:09 PM
cis-1,2-Dichloroethene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
cis-1,3-Dichloropropene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Cyclohexane	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Dibromochloromethane	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Dichlorodifluoromethane	BRL	6.1		µg/Kg	60889	1	8/10/2005 7:09 PM
Ethylbenzene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Freon-113	BRL	6.1		µg/Kg	60889	1	8/10/2005 7:09 PM
Isopropylbenzene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
m,p-Xylene	BRL	6.1		µg/Kg	60889	1	8/10/2005 7:09 PM
Methyl acetate	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Methyl tert-butyl ether	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Methylcyclohexane	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Methylene chloride	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
o-Xylene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
BRL Below Reporting Limit  
H Holding times for preparation or analysis exceeded  
N Analyte not NELAC certified  
B Analyte detected in the associated Method Blank

E Estimated (Value above quantitation range)  
S Surrogate Recovery outside accepted recovery limits  
Narr See Case Narrative  
NC Not Confirmed



**Analytical Environmental Services, Inc.**

Date: 12-Aug-05

CLIENT: BAT Associates  
Project: 051099-Roswell  
Lab ID: 0508423-001

Client Sample ID: 01  
Collection Date: 8/8/2005 11:30:00 AM  
Matrix: SOIL

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed
TCL VOLATILE ORGANICS		SW8260B		(SW5035)	Analyst: NWH		
Styrene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Tetrachloroethene	110	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Toluene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
trans-1,2-Dichloroethene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
trans-1,3-Dichloropropene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Trichloroethene	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Trichlorofluoromethane	BRL	3.0		µg/Kg	60889	1	8/10/2005 7:09 PM
Vinyl chloride	BRL	6.1		µg/Kg	60889	1	8/10/2005 7:09 PM
Surr: 4-Bromofluorobenzene	107	66.9-120		%REC	60889	1	8/10/2005 7:09 PM
Surr: Dibromofluoromethane	113	70.4-133		%REC	60889	1	8/10/2005 7:09 PM
Surr: Toluene-d8	112	71.5-140		%REC	60889	1	8/10/2005 7:09 PM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
BRL Below Reporting Limit  
H Holding times for preparation or analysis exceeded  
N Analyte not NELAC certified  
B Analyte detected in the associated Method Blank

E Estimated (Value above quantitation range)  
S Surrogate Recovery outside accepted recovery limits  
Narr See Case Narrative  
NC Not Confirmed

# Analytical Environmental Services, Inc.

Date: 12-Aug-05

CLIENT: BAT Associates  
Project: 051099-Roswell  
Lab ID: 0508423-002

Client Sample ID: 02  
Collection Date: 8/8/2005 11:50:00 AM  
Matrix: SOIL

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed
<b>TCL VOLATILE ORGANICS</b>		<b>SW8260B</b>		<b>(SW5035)</b>	Analyst: NWH		
1,1,1-Trichloroethane	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
1,1,2,2-Tetrachloroethane	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
1,1,2-Trichloroethane	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
1,1-Dichloroethane	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
1,1-Dichloroethene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
1,2,4-Trichlorobenzene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
1,2-Dibromo-3-chloropropane	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
1,2-Dibromoethane	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
1,2-Dichlorobenzene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
1,2-Dichloroethane	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
1,2-Dichloropropane	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
1,3-Dichlorobenzene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
1,4-Dichlorobenzene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
2-Butanone	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
2-Hexanone	BRL	6.8		µg/Kg	60889	1	8/10/2005 7:37 PM
4-Methyl-2-pentanone	BRL	6.8		µg/Kg	60889	1	8/10/2005 7:37 PM
Acetone	BRL	6.8		µg/Kg	60889	1	8/10/2005 7:37 PM
Benzene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Bromodichloromethane	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Bromoform	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Bromomethane	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Carbon disulfide	BRL	6.8		µg/Kg	60889	1	8/10/2005 7:37 PM
Carbon tetrachloride	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Chlorobenzene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Chloroethane	BRL	6.8		µg/Kg	60889	1	8/10/2005 7:37 PM
Chloroform	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Chloromethane	BRL	6.8		µg/Kg	60889	1	8/10/2005 7:37 PM
cis-1,2-Dichloroethene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
cis-1,3-Dichloropropene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Cyclohexane	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Dibromochloromethane	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Dichlorodifluoromethane	BRL	6.8		µg/Kg	60889	1	8/10/2005 7:37 PM
Ethylbenzene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Freon-113	BRL	6.8		µg/Kg	60889	1	8/10/2005 7:37 PM
Isopropylbenzene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
m,p-Xylene	BRL	6.8		µg/Kg	60889	1	8/10/2005 7:37 PM
Methyl acetate	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Methyl tert-butyl ether	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Methylcyclohexane	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Methylene chloride	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
o-Xylene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
BRL Below Reporting Limit  
H Holding times for preparation or analysis exceeded  
N Analyte not NELAC certified  
B Analyte detected in the associated Method Blank

E Estimated (Value above quantitation range)  
S Surrogate Recovery outside accepted recovery limits  
Narr See Case Narrative  
NC Not Confirmed

**Analytical Environmental Services, Inc.**

Date: 12-Aug-05

CLIENT: BAT Associates  
Project: 051099-Roswell  
Lab ID: 0508423-002

Client Sample ID: 02  
Collection Date: 8/8/2005 11:50:00 AM  
Matrix: SOIL

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed
<b>TCL VOLATILE ORGANICS</b>		<b>SW8260B</b>		<b>(SW5035)</b>		Analyst: NWH	
Styrene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Tetrachloroethene	3.7	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Toluene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
trans-1,2-Dichloroethene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
trans-1,3-Dichloropropene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Trichloroethene	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Trichlorofluoromethane	BRL	3.4		µg/Kg	60889	1	8/10/2005 7:37 PM
Vinyl chloride	BRL	6.8		µg/Kg	60889	1	8/10/2005 7:37 PM
Surr: 4-Bromofluorobenzene	111	66.9-120		%REC	60889	1	8/10/2005 7:37 PM
Surr: Dibromofluoromethane	117	70.4-133		%REC	60889	1	8/10/2005 7:37 PM
Surr: Toluene-d8	112	71.5-140		%REC	60889	1	8/10/2005 7:37 PM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
BRL Below Reporting Limit  
H Holding times for preparation or analysis exceeded  
N Analyte not NELAC certified  
B Analyte detected in the associated Method Blank

E Estimated (Value above quantitation range)  
S Surrogate Recovery outside accepted recovery limits  
Narr See Case Narrative  
NC Not Confirmed



# Analytical Environmental Services, Inc.

Date: 12-Aug-05

CLIENT: BAT Associates  
Project: 051099-Roswell  
Lab ID: 0508423-003

Client Sample ID: 03  
Collection Date: 8/8/2005 12:35:00 PM  
Matrix: SOIL

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed
<b>TCL VOLATILE ORGANICS</b>		<b>SW8260B</b>		<b>(SW5035)</b>	Analyst: NWH		
1,1,1-Trichloroethane	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
1,1,2,2-Tetrachloroethane	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
1,1,2-Trichloroethane	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
1,1-Dichloroethane	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
1,1-Dichloroethene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
1,2,4-Trichlorobenzene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
1,2-Dibromo-3-chloropropane	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
1,2-Dibromoethane	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
1,2-Dichlorobenzene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
1,2-Dichloroethane	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
1,2-Dichloropropane	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
1,3-Dichlorobenzene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
1,4-Dichlorobenzene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
2-Butanone	BRL	35		µg/Kg	60889	1	8/10/2005 8:05 PM
2-Hexanone	BRL	7.0		µg/Kg	60889	1	8/10/2005 8:05 PM
4-Methyl-2-pentanone	BRL	7.0		µg/Kg	60889	1	8/10/2005 8:05 PM
Acetone	BRL	70		µg/Kg	60889	1	8/10/2005 8:05 PM
Benzene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Bromodichloromethane	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Bromoform	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Bromomethane	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Carbon disulfide	BRL	7.0		µg/Kg	60889	1	8/10/2005 8:05 PM
Carbon tetrachloride	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Chlorobenzene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Chloroethane	BRL	7.0		µg/Kg	60889	1	8/10/2005 8:05 PM
Chloroform	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Chloromethane	BRL	7.0		µg/Kg	60889	1	8/10/2005 8:05 PM
cis-1,2-Dichloroethene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
cis-1,3-Dichloropropene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Cyclohexane	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Dibromochloromethane	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Dichlorodifluoromethane	BRL	7.0		µg/Kg	60889	1	8/10/2005 8:05 PM
Ethylbenzene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Freon-113	BRL	7.0		µg/Kg	60889	1	8/10/2005 8:05 PM
Isopropylbenzene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
m,p-Xylene	BRL	7.0		µg/Kg	60889	1	8/10/2005 8:05 PM
Methyl acetate	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Methyl tert-butyl ether	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Methylcyclohexane	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Methylene chloride	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
o-Xylene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level	E	Estimated (Value above quantitation range)
	BRL	Below Reporting Limit	S	Surrogate Recovery outside accepted recovery limits
	H	Holding times for preparation or analysis exceeded	Narr	See Case Narrative
	N	Analyte not NELAC certified	NC	Not Confirmed
	B	Analyte detected in the associated Method Blank		

**Analytical Environmental Services, Inc.**

Date: 12-Aug-05

CLIENT: BAT Associates  
Project: 051099-Roswell  
Lab ID: 0508423-003

Client Sample ID: 03  
Collection Date: 8/8/2005 12:35:00 PM  
Matrix: SOIL

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed
<b>TCL VOLATILE ORGANICS</b>		<b>SW8260B</b>		<b>(SW5035)</b>			Analyst: NWH
Styrene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Tetrachloroethene	31	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Toluene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
trans-1,2-Dichloroethene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
trans-1,3-Dichloropropene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Trichloroethene	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Trichlorofluoromethane	BRL	3.5		µg/Kg	60889	1	8/10/2005 8:05 PM
Vinyl chloride	BRL	7.0		µg/Kg	60889	1	8/10/2005 8:05 PM
Surr: 4-Bromofluorobenzene	108	66.9-120		%REC	60889	1	8/10/2005 8:05 PM
Surr: Dibromofluoromethane	116	70.4-133		%REC	60889	1	8/10/2005 8:05 PM
Surr: Toluene-d8	115	71.5-140		%REC	60889	1	8/10/2005 8:05 PM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
BRL Below Reporting Limit  
H Holding times for preparation or analysis exceeded  
N Analyte not NELAC certified  
B Analyte detected in the associated Method Blank

E Estimated (Value above quantitation range)  
S Surrogate Recovery outside accepted recovery limits  
Narr See Case Narrative  
NC Not Confirmed

**Analytical Environmental Services, Inc.**

Date: 12-Aug-05

 CLIENT: BAT Associates  
 Project: 051099-Roswell  
 Lab ID: 0508423-004

 Client Sample ID: 04  
 Collection Date: 8/8/2005 12:50:00 PM  
 Matrix: SOIL

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed
<b>TCL VOLATILE ORGANICS</b>		<b>SW8260B</b>		<b>(SW5035)</b>	Analyst: NWH		
1,1,1-Trichloroethane	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
1,1,2,2-Tetrachloroethane	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
1,1,2-Trichloroethane	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
1,1-Dichloroethane	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
1,1-Dichloroethene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
1,2,4-Trichlorobenzene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
1,2-Dibromo-3-chloropropane	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
1,2-Dibromoethane	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
1,2-Dichlorobenzene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
1,2-Dichloroethane	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
1,2-Dichloropropane	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
1,3-Dichlorobenzene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
1,4-Dichlorobenzene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
2-Butanone	BRL	38		µg/Kg	60889	1	8/10/2005 8:33 PM
2-Hexanone	BRL	7.6		µg/Kg	60889	1	8/10/2005 8:33 PM
4-Methyl-2-pentanone	BRL	7.6		µg/Kg	60889	1	8/10/2005 8:33 PM
Acetone	BRL	76		µg/Kg	60889	1	8/10/2005 8:33 PM
Benzene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Bromodichloromethane	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Bromoform	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Bromomethane	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Carbon disulfide	BRL	7.6		µg/Kg	60889	1	8/10/2005 8:33 PM
Carbon tetrachloride	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Chlorobenzene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Chloroethane	BRL	7.6		µg/Kg	60889	1	8/10/2005 8:33 PM
Chloroform	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Chloromethane	BRL	7.6		µg/Kg	60889	1	8/10/2005 8:33 PM
cis-1,2-Dichloroethene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
cis-1,3-Dichloropropene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Cyclohexane	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Dibromochloromethane	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Dichlorodifluoromethane	BRL	7.6		µg/Kg	60889	1	8/10/2005 8:33 PM
Ethylbenzene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Freon-113	BRL	7.6		µg/Kg	60889	1	8/10/2005 8:33 PM
Isopropylbenzene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
m,p-Xylene	BRL	7.6		µg/Kg	60889	1	8/10/2005 8:33 PM
Methyl acetate	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Methyl tert-butyl ether	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Methylcyclohexane	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Methylene chloride	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
o-Xylene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level  
 BRL Below Reporting Limit  
 H Holding times for preparation or analysis exceeded  
 N Analyte not NELAC certified  
 B Analyte detected in the associated Method Blank

E Estimated (Value above quantitation range)  
 S Surrogate Recovery outside accepted recovery limits  
 Narr See Case Narrative  
 NC Not Confirmed



**Analytical Environmental Services, Inc.**

Date: 12-Aug-05

CLIENT: BAT Associates  
Project: 051099-Roswell  
Lab ID: 0508423-004

Client Sample ID: 04  
Collection Date: 8/8/2005 12:50:00 PM  
Matrix: SOIL

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed
<b>TCL VOLATILE ORGANICS</b>			<b>SW8260B</b>		<b>(SW5035)</b>		Analyst: NWH
Styrene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Tetrachloroethene	600	190		µg/Kg	60889	50	8/11/2005 4:14 PM
Toluene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
trans-1,2-Dichloroethene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
trans-1,3-Dichloropropene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Trichloroethene	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Trichlorofluoromethane	BRL	3.8		µg/Kg	60889	1	8/10/2005 8:33 PM
Vinyl chloride	BRL	7.6		µg/Kg	60889	1	8/10/2005 8:33 PM
Surr: 4-Bromofluorobenzene	86.7	66.9-120		%REC	60889	50	8/11/2005 4:14 PM
Surr: 4-Bromofluorobenzene	102	66.9-120		%REC	60889	1	8/10/2005 8:33 PM
Surr: Dibromofluoromethane	81.8	70.4-133		%REC	60889	50	8/11/2005 4:14 PM
Surr: Dibromofluoromethane	119	70.4-133		%REC	60889	1	8/10/2005 8:33 PM
Surr: Toluene-d8	86.8	71.5-140		%REC	60889	50	8/11/2005 4:14 PM
Surr: Toluene-d8	114	71.5-140		%REC	60889	1	8/10/2005 8:33 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level  
BRL Below Reporting Limit  
H Holding times for preparation or analysis exceeded  
N Analyte not NELAC certified  
B Analyte detected in the associated Method Blank

E Estimated (Value above quantitation range)  
S Surrogate Recovery outside accepted recovery limits  
Narr See Case Narrative  
NC Not Confirmed

# Analytical Environmental Services, Inc.

Date: 12-Aug-05

CLIENT: BAT Associates  
Project: 051099-Roswell  
Lab ID: 0508423-005

Client Sample ID: 05  
Collection Date: 8/8/2005 1:25:00 PM  
Matrix: SOIL

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed
<b>TCL VOLATILE ORGANICS</b>		<b>SW8260B</b>		<b>(SW5035)</b>			Analyst: NWH
1,1,1-Trichloroethane	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
1,1,2,2-Tetrachloroethane	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
1,1,2-Trichloroethane	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
1,1-Dichloroethane	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
1,1-Dichloroethene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
1,2,4-Trichlorobenzene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
1,2-Dibromo-3-chloropropane	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
1,2-Dibromoethane	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
1,2-Dichlorobenzene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
1,2-Dichloroethane	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
1,2-Dichloropropane	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
1,3-Dichlorobenzene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
1,4-Dichlorobenzene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
2-Butanone	BRL	37		µg/Kg	60889	1	8/10/2005 9:01 PM
2-Hexanone	BRL	7.5		µg/Kg	60889	1	8/10/2005 9:01 PM
4-Methyl-2-pentanone	BRL	7.5		µg/Kg	60889	1	8/10/2005 9:01 PM
Acetone	BRL	75		µg/Kg	60889	1	8/10/2005 9:01 PM
Benzene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Bromodichloromethane	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Bromoform	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Bromomethane	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Carbon disulfide	BRL	7.5		µg/Kg	60889	1	8/10/2005 9:01 PM
Carbon tetrachloride	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Chlorobenzene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Chloroethane	BRL	7.5		µg/Kg	60889	1	8/10/2005 9:01 PM
Chloroform	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Chloromethane	BRL	7.5		µg/Kg	60889	1	8/10/2005 9:01 PM
cis-1,2-Dichloroethene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
cis-1,3-Dichloropropene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Cyclohexane	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Dibromochloromethane	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Dichlorodifluoromethane	BRL	7.5		µg/Kg	60889	1	8/10/2005 9:01 PM
Ethylbenzene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Freon-113	BRL	7.5		µg/Kg	60889	1	8/10/2005 9:01 PM
Isopropylbenzene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
m,p-Xylene	BRL	7.5		µg/Kg	60889	1	8/10/2005 9:01 PM
Methyl acetate	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Methyl tert-butyl ether	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Methylcyclohexane	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Methylene chloride	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
o-Xylene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level  
BRL Below Reporting Limit  
H Holding times for preparation or analysis exceeded  
N Analyte not NELAC certified  
B Analyte detected in the associated Method Blank

E Estimated (Value above quantitation range)  
S Surrogate Recovery outside accepted recovery limits  
Narr See Case Narrative  
NC Not Confirmed

**Analytical Environmental Services, Inc.**

Date: 12-Aug-05

CLIENT: BAT Associates

Client Sample ID: 05

Project: 051099-Roswell

Collection Date: 8/8/2005 1:25:00 PM

Lab ID: 0508423-005

Matrix: SOIL

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed
<b>TCL VOLATILE ORGANICS</b>		<b>SW8260B</b>		<b>(SW5035)</b>			Analyst: NWH
Styrene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Tetrachloroethene	2700	190		µg/Kg	60889	50	8/11/2005 4:56 PM
Toluene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
trans-1,2-Dichloroethene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
trans-1,3-Dichloropropene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Trichloroethene	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Trichlorofluoromethane	BRL	3.7		µg/Kg	60889	1	8/10/2005 9:01 PM
Vinyl chloride	BRL	7.5		µg/Kg	60889	1	8/10/2005 9:01 PM
Surr: 4-Bromofluorobenzene	100	66.9-120		%REC	60889	1	8/10/2005 9:01 PM
Surr: 4-Bromofluorobenzene	87.6	66.9-120		%REC	60889	50	8/11/2005 4:56 PM
Surr: Dibromofluoromethane	80.0	70.4-133		%REC	60889	50	8/11/2005 4:56 PM
Surr: Dibromofluoromethane	120	70.4-133		%REC	60889	1	8/10/2005 9:01 PM
Surr: Toluene-d8	86.8	71.5-140		%REC	60889	50	8/11/2005 4:56 PM
Surr: Toluene-d8	115	71.5-140		%REC	60889	1	8/10/2005 9:01 PM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
BRL Below Reporting Limit  
H Holding times for preparation or analysis exceeded  
N Analyte not NELAC certified  
B Analyte detected in the associated Method Blank

E Estimated (Value above quantitation range)  
S Surrogate Recovery outside accepted recovery limits  
Narr See Case Narrative  
NC Not Confirmed



# Analytical Environmental Services, Inc.

Date: 12-Aug-05

CLIENT: BAT Associates  
Project: 051099-Roswell  
Lab ID: 0508423-006

Client Sample ID: TRIP BLANK  
Collection Date: 8/8/2005  
Matrix: AQUEOUS

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed
<b>TCL VOLATILE ORGANICS</b>							
		<b>SW8260B</b>			<b>(SW5030B)</b>		<b>Analyst: NWH</b>
1,1,1-Trichloroethane	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
1,1,2,2-Tetrachloroethane	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
1,1,2-Trichloroethane	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
1,1-Dichloroethane	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
1,1-Dichloroethene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
1,2,4-Trichlorobenzene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
1,2-Dibromo-3-chloropropane	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
1,2-Dibromoethane	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
1,2-Dichlorobenzene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
1,2-Dichloroethane	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
1,2-Dichloropropane	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
1,3-Dichlorobenzene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
1,4-Dichlorobenzene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
2-Butanone	BRL	50		µg/L	60954	1	8/11/2005 6:14 PM
2-Hexanone	BRL	10		µg/L	60954	1	8/11/2005 6:14 PM
4-Methyl-2-pentanone	BRL	10		µg/L	60954	1	8/11/2005 6:14 PM
Acetone	BRL	50		µg/L	60954	1	8/11/2005 6:14 PM
Benzene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Bromodichloromethane	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Bromoform	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Bromomethane	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Carbon disulfide	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Carbon tetrachloride	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Chlorobenzene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Chloroethane	BRL	10		µg/L	60954	1	8/11/2005 6:14 PM
Chloroform	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Chloromethane	BRL	10		µg/L	60954	1	8/11/2005 6:14 PM
cis-1,2-Dichloroethene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
cis-1,3-Dichloropropene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Cyclohexane	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Dibromochloromethane	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Dichlorodifluoromethane	BRL	10		µg/L	60954	1	8/11/2005 6:14 PM
Ethylbenzene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Freon-113	BRL	10		µg/L	60954	1	8/11/2005 6:14 PM
Isopropylbenzene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
m,p-Xylene	BRL	10		µg/L	60954	1	8/11/2005 6:14 PM
Methyl acetate	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Methyl tert-butyl ether	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Methylcyclohexane	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Methylene chloride	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
o-Xylene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level  
BRL Below Reporting Limit  
H Holding times for preparation or analysis exceeded  
N Analyte not NELAC certified  
B Analyte detected in the associated Method Blank

E Estimated (Value above quantitation range)  
S Surrogate Recovery outside accepted recovery limits  
Narr See Case Narrative  
NC Not Confirmed

**Analytical Environmental Services, Inc.**

Date: 12-Aug-05

CLIENT: BAT Associates  
Project: 051099-Roswell  
Lab ID: 0508423-006

Client Sample ID: TRIP BLANK  
Collection Date: 8/8/2005  
Matrix: AQUEOUS

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed
<b>TCL VOLATILE ORGANICS</b>		<b>SW8260B</b>		<b>(SW5030B)</b>	Analyst: NWH		
Styrene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Tetrachloroethene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Toluene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
trans-1,2-Dichloroethene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
trans-1,3-Dichloropropene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Trichloroethene	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Trichlorofluoromethane	BRL	5.0		µg/L	60954	1	8/11/2005 6:14 PM
Vinyl chloride	BRL	2.0		µg/L	60954	1	8/11/2005 6:14 PM
Surr: 4-Bromofluorobenzene	86.6	66.7-128		%REC	60954	1	8/11/2005 6:14 PM
Surr: Dibromofluoromethane	83.6	72.1-121		%REC	60954	1	8/11/2005 6:14 PM
Surr: Toluene-d8	89.6	75.2-121		%REC	60954	1	8/11/2005 6:14 PM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
BRL Below Reporting Limit  
H Holding times for preparation or analysis exceeded  
N Analyte not NELAC certified  
B Analyte detected in the associated Method Blank

E Estimated (Value above quantitation range)  
S Surrogate Recovery outside accepted recovery limits  
Narr See Case Narrative  
NC Not Confirmed

**PHASE II ENVIRONMENTAL SITE ASSESSMENT**

**DRY CLEANING DEPOT**

**1073 Alpharetta Street  
Roswell, Fulton County, Georgia 30075**

**PREPARED FOR:**

**MR. EDWIN CHANG  
5419 Chamblee-Dunwoody Road  
Dunwoody, Georgia 30338**

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**SEPTEMBER 2005**

**AEC PROJECT No. ECC - 3045**

**ATLANTA ENVIRONMENTAL CONSULTANTS  
255 Norcross Street  
Roswell, Georgia 30075**

**770-594-9073  
Fax: 770-594-9093**



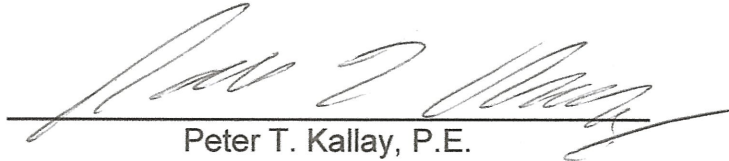
**PHASE II ENVIRONMENTAL SITE ASSESSMENT**

**DRY CLEANING DEPOT  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia 30075**

**PREPARED FOR:**

**MR. EDWIN CHANG  
5419 Chamblee-Dunwoody Road  
Dunwoody, Georgia 30338**

**SEPTEMBER 2005**

A handwritten signature in black ink, appearing to read "Peter T. Kallay", is written over a horizontal line.

**Peter T. Kallay, P.E.  
Project Manager**

**ATLANTA ENVIRONMENTAL CONSULTANTS  
255 Norcross Street  
Roswell, Georgia 30075**

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## **EXECUTIVE SUMMARY**

Mr. Edwin Chang, EC Steam Jet SLC Investment, LLC, 5419 Chamblee-Dunwoody Road, Dunwoody, Georgia 30338, retained Atlanta Environmental Consultants, Inc. (AEC) to conduct a Phase II Environmental Site Assessment (ESA) for a 0.325 acre parcel with one building housing one business located at 1073 Alpharetta Street, Roswell, Georgia 30075. The business is Dry Cleaning Depot, a dry cleaning business that has operated here for a number of years. The objective was to estimate depth and horizontal extent of shallow soil contamination previously identified, and to determine groundwater impacts, if any. The work was requested in conjunction with a pending transaction involving purchase of the subject property.

This assessment was performed in accordance with discussions with Mr. Chang and good environmental practice regarding Phase II Environmental Site Assessments at dry cleaners. Limitations of this assessment are described in this report. The scope of services provided by AEC is described in AEC's Proposal Number 05-025, dated September 1, 2005. Details regarding the work performed, sources of information, and findings are presented in the report.

The Subject Property parcel extends from Alpharetta Street in the front to Frazier Street in the rear and is developed with one single-story commercial building housing Dry Cleaning Depot, a dry cleaner. The property also contains driveways, paved parking and driveway areas, grassed areas, and some woods.

Field observation and field screening using a portable Flame Ionization Detector (FID) indicated the presence of relatively low concentrations of volatile compounds believed to be predominantly tetrachloroethene (PCE). The concentrations appeared to be over a sizable area, and at shallow to intermediate depths, interspersed with soils that did not contain any detectable organic vapors. All borings encountered auger refusal on bedrock at between 19 and 23 feet total depth. Soil samples taken at the soil/rock interface did not exhibit the presence of any detectable organic vapors on the FID field instrument.

Laboratory analysis indicated that low concentrations of tetrachloroethene exist over the area of the site assessed. The highest concentration detected, 0.096 mg/kg, was identified at a boring location relatively near concentrations identified in shallow soils by BAT Associates. No concentrations near the levels found in shallow soils in a limited area by BAT Associates were found in this assessment. In particular, concentrations deeper than 5 feet were minimal. This assessment did not identify any concentrations exceeding Georgia Notification Concentrations (NC), 0.130 mg/kg for tetrachloroethene.

Although groundwater was not reached in any boring due to auger refusal on rock, the nonexistent to low concentrations in soil samples collected just above the soil/rock interface suggest that there may be little or no groundwater impact. It must be recognized that this is an inference that does not conclusively demonstrate presence or absence of groundwater concentrations. Drilling techniques capable of penetrating competent rock would be required to sample groundwater and definitively determine concentrations.



## **INTRODUCTION**

Mr. Edwin Chang, EC Steam Jet SLC Investment, LLC, 5419 Chamblee-Dunwoody Road, Dunwoody, Georgia 30338, retained Atlanta Environmental Consultants, Inc. (AEC) to conduct a Phase II Environmental Site Assessment (ESA) of a 0.325 acre parcel with one building and one business located at 1073 Alpharetta Street, Roswell, Georgia 30075. The business is Dry Cleaning Depot, a dry cleaning business that has been operating here for a number of years.

### **1.1 PURPOSE**

The objective was to estimate depth and horizontal extent of shallow soil contamination previously identified, and to determine groundwater impacts, if any. The work was requested in conjunction with a pending transaction involving purchase of the subject property.

### **1.2 METHODS**

A truck-mounted hollow stem auger drilling rig was used to auger soil borings to groundwater or the maximum depth practically achievable with this type of drilling equipment. Soil samples were collected every 5 feet for field screening and for laboratory analysis. The highest reading in each boring on a portable field Flame Ionization Detector capable of detecting tetrachloroethene was generally used to select soil samples for laboratory analysis. The laboratory sample corresponding to the depth of screening sample so selected was placed into pre-cleaned, laboratory-provided sample jars, labeled, and placed on ice in a cooler. The laboratory samples were promptly transported to a qualified analytical laboratory under Chain of Custody protocol for analysis for volatile organic compounds by EPA Method 8260B.

The Phase II ESA included the following scopes of work:

- Notify the Georgia Utilities Protection Center (UPC) regarding subsurface work.
- Install five soil borings in locations selected to assist in estimating horizontal and vertical extent of PCE concentrations at the site. Collect soil samples for field screening and laboratory analysis for volatile organics. Field screen soils with a portable Flame Ionization Detector; use results to select samples for laboratory analysis..
- Install temporary monitoring wells in soil borings if groundwater is reached or approached. Alternatively, if groundwater is not reached, collect the deepest soil sample just above the soil/rock interface for laboratory analysis.
- Analyze soil and/or groundwater samples collected for volatile organics at a qualified analytical laboratory.
- Abandon and remove any temporary wells; backfill and repave soil boring locations.
- Document findings, conclusions, and recommendations in a Phase II ESA Report.

Peter T. Kallay, P.E., Project Manager, Atlanta Environmental Consultants, Roswell, Georgia, conducted the field drilling, sampling, and screening portion of the assessment

on September 9, 2005. Mr. Edwin Chang and Mr. Yun Yoan visited the work area during the drilling, sampling, and screening activities.

### **1.3 LIMITING CONDITIONS OF ASSESSMENT**

This assessment focused on an area of the site in the general vicinity of boring locations at which BAT Associates had previously identified tetrachloroethene concentrations in shallow soils. The ESA did not and does not address presence or absence of potential contaminants in other areas of the site.

The borings conducted did not reach groundwater due to auger refusal on rock ( which was assumed to be bedrock). Consequently, no groundwater samples were collected. Estimation of absence or presence of groundwater concentrations is based on screening and laboratory results of the deepest soil samples collected from near the soil/rock interface. These results, while they may suggest presence or absence of groundwater concentrations, do not conclusively prove or disprove presence or absence of groundwater concentrations of tetrachloroethene. If definitive groundwater concentrations are desired, alternative drilling methods capable of penetrating competent rock (e.g., air hammer, air or mud rotary, rock coring, etc.) should be employed to reach groundwater, which can then be sampled.

The assessment was limited to volatile organic compounds on the U.S. Environmental Protection Agency (EPA) Method 8260B analyte list. No effort to identify presence or absence of other types of compounds was made.

## **2.0 SUBJECT PROPERTY DESCRIPTION**

### **2.1 CURRENT USE OF SUBJECT PROPERTY**

The subject property, located at 1073 Alpharetta Street, Roswell, Georgia 30075, contains one single one-story commercial building which houses the Dry Cleaning Depot, a dry cleaners business. The building appears to be of slab-on-grade construction, and does not have any usable subsurface space. The property is also identified as Parcel ID # 12 19020412049 and Tax Parcel ID # 12-1902-0412-049-1 in the property tax records of Fulton County. The property has reportedly been operated as a dry cleaners for a number of years.

### **2.2 CURRENT USES OF ADJOINING PROPERTIES**

The area surrounding the Subject Property consists of mostly commercial and some residential property. A mostly undeveloped lot is adjacent on the north side of the subject property. The Value Village Shopping Center adjoins the property on the south. Alpharetta Street adjoins the property on the west, which is uphill. Across Alpharetta Street to the west and uphill of the property are Canterbury Plaza, Pest USA, Ireland's Pizza & Pub, and Dynasty Dental Care. A mostly undeveloped, wooded lot adjoins the property to the north. Frazier Street adjoins the property on the East, downhill of the property. Residences (single-family and apartment buildings) and Paco's Clean Up are located across Frazier Street.



It is not known whether Pest USA, a pest control company, keeps or has kept pest control chemicals at the location uphill of the subject property, and, if so, whether any release of such chemicals to the environment has occurred.

### **2.3 PHYSICAL SETTING**

The Subject Property is located in the Sandy Springs Group (Eastern Belt) of the Northern Piedmont Physiographic Province of Georgia. Specifically, the site is in the Powers Ferry Formation, consisting of undifferentiated biotite-quartz-plagioclase gneiss (metagraywacke), mica schist and amphibolite. The unit also contains a mappable mica schist unit, a banded iron formation, and a continuous amphibolite formation.

Regional groundwater in the Northern Piedmont consists of a surficial aquifer in the shallow soils, which grades into partially weathered rock, which is hydraulically connected to bedrock underlying soils in this area, typically at 40 feet deep or less. Groundwater in the bedrock is found primarily in fractures and other secondary openings. Depth to groundwater on hilltops and mountaintops is typically deeper than in valleys and draws. Therefore, the likelihood that the water table is in bedrock rather than in soil is greater on hilltops and mountaintops. The site is located near the top of a ridge.

The estimated depth to groundwater at the Subject Property is likely to be 25 feet or more, based on borings not reaching groundwater at 23 feet, and soils not appearing to be wet or containing free water at that depth. Groundwater flow direction is most likely toward the east based on topography. The local gradient and flow direction may be influenced by natural zones of lower or higher permeability, bedrock outcrops, and by man-made influences such as cutting and filling, channeling of runoff water, infiltration in pervious areas of the site, runoff and drainage patterns from impervious areas of the site, and leakages (if any) from storm drains and sewers, etc.

## **3.0 FINDINGS**

### **3.1 FIELD WORK**

The soils at the site were very hard, and auger advance was sometimes slow. Due to the hardness of the soil and timelines for completion of field drilling and sampling activities, sampling of auger cuttings was performed in lieu of split spoon sampling.

Auger refusal on rock, believed to be bedrock, was encountered between 19 and 23 feet deep in all borings. Small pieces of what appeared to be granite or granitic textured rock were found in several borings when the soil/rock interface was reached. Four borings exhibited no significant elevated moisture content with depth, and it was concluded that the water table was not reached or even closely approached. One boring, B-5, exhibited moist soils at around 20 feet deep, with auger refusal on rock at 23 feet. A temporary well was set, but no water was present in the well or the borehole after several hours, and it was abandoned. It was believed that the moist soils may have had higher clay content



than soils above, and, since this location was on unpaved soil, some water may have infiltrated soils during recent rainfalls, and then may have been perched in this stratum.

Field screening of soil samples with a portable FID was conducted, with the following results:

**TABLE 1. FLAME IONIZATION DETECTOR (FID) READINGS OF SOIL SAMPLES**

DEPTH (FT)	B-1	B-2	B-3	B-4	B-5
5	3.6*	0.0	0.0	7.9*	1.1
10	2.2	3.5*	0.0	0.2	1.1
15	1.3	1.8	8.1*	4.7	0.0
20	0.0*	4.4	0.0*	2.4	11.3
Deepest Sample	0.0* (20 feet)	0.0* (22 feet)	0.0* (19 feet)	0.0* (23 feet)	1.0* (23 feet)

\* Denotes Samples Selected for Laboratory Analysis

Field screening indicated low concentrations of volatile organic compound vapors, mostly at shallow and intermediate depths, interspersed with nondetectable or very low readings. The deepest sample taken at or near the soil/rock interface was nondetectable or a very low reading in every case.

### 3.2 LABORATORY ANALYSIS

**TABLE 2. LABORATORY ANALYTICAL RESULTS FOR VOLATILE ORGANIC ANALYSIS OF SOIL SAMPLES (mg/kg Tetrachloroethene)**

DEPTH (FT)	B-1	B-2	B-3	B-4	B-5
5	0.096	NS	NS	0.084 *	NS
10	NS	0.008	NS	NS	NS
15	NS	NS	ND (0.005)	NS	NS
20	0.022	NS	0.005	NS	ND (0.005)
Deepest Sample	0.022 (20 feet)	ND (0.005) (22 feet)	0.005 (19 feet)	0.005 (23 feet)	ND (0.005) (23 feet)

#### NOTES:

ND = Not detected (at detection level in parentheses)

NS = Not submitted for analysis

\* = other analyte detected. 0.007 mg/kg toluene was detected in B-4 at 5 feet depth.

Laboratory analysis indicated that low concentrations of tetrachloroethene exist over the area of the site assessed. The highest concentration found, 0.096 mg/kg, was identified at a boring location relatively near concentrations identified in shallow soils by BAT Associates.

### **3.3 DISCUSSION**

These results suggest that the shallow soil concentrations identified in a limited area of the wooded area by BAT Associates may be limited both horizontally and vertically. Soil sampling by AEC indicated limited concentrations of tetrachloroethene in soils. The highest concentration, 0.096 mg/kg, was found in shallow soils at B-1, a boring location relatively near concentrations identified in shallow soils by BAT Associates.

Soils deeper and farther removed from the apparent source appear to have lower or non-detectable concentrations. In particular, the deepest soil samples had non-detectable to negligible FID readings, and non-detectable to very low (the highest was 0.022 kg/kg) concentrations of tetrachloroethene. This suggests that groundwater may possibly have little or no impact. This indication should not be considered conclusive, however. Only actual sampling and testing of groundwater can demonstrate groundwater concentrations conclusively. At this site, groundwater sampling would require the use of drilling equipment capable of penetrating competent rock.

Toluene was identified in one shallow soil sample under asphalt, but near an unpaved area, at 0.007 mg/kg. This is a very low concentration that does not exceed any applicable standards. Toluene is associated with gasoline and some solvents. Such a low concentration may result from minor fuel drips from motor vehicles.

## **4.0 CONCLUSIONS AND RECOMMENDATIONS**

### **4.1 CONCLUSIONS**

A Phase II Environmental Site Assessment has been conducted for the 0.325 acre parcel at which Dry Cleaning Depot, 1073 Alpharetta Street, Roswell, Georgia 30075, is located. The following conclusions can be drawn:

- This limited assessment suggested the presence of relatively low concentrations of tetrachloroethene at depth and some distance horizontally from concentrations identified by BAT Associates in a limited area.
- This assessment indicated minimal concentrations of PCE at or near the soil/rock interface, possibly suggesting little or no groundwater contamination. This indication should not be considered conclusive, however.
- A minor concentration of toluene was identified at boring B-4 at 5 feet deep.

## **4.2 RECOMMENDATIONS**

A Phase II Environmental Site Assessment has been conducted for the 0.325 acre parcel at which Dry Cleaning Depot, 1073 Alpharetta Street, Roswell, Georgia 30075, is located. The following recommendations are made:

- It is recommended that dry cleaning operations, if to be continued, should be conducted in a manner that eliminates or minimizes the potential for release of tetrachloroethene or other compounds to the environment. Proper collection, storage and disposal of spent dry cleaning solvents is a must.
- It is recommended that minor concentrations of tetrachloroethene in soils be allowed to attenuate over time via naturally occurring processes.
- Continue maintenance of spill kits and materials onsite, familiarizing all personnel with their deployment and use in the event of a release.
- Promptly and thoroughly clean up any release, if one occurs, including soils, if affected. Prompt cleanup prevents more costly investigation and cleanup later.

## **5.0 REFERENCES**

Taylor, Keith. 2005. BAT Associates, Inc. Results of Soil Sampling, Alpharetta Street, Roswell, Georgia.

McConnell and Abrams. 1984. Geology of the Greater Atlanta Region. Georgia Geologic Survey, Atlanta, Georgia.

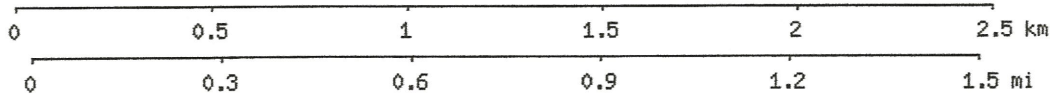
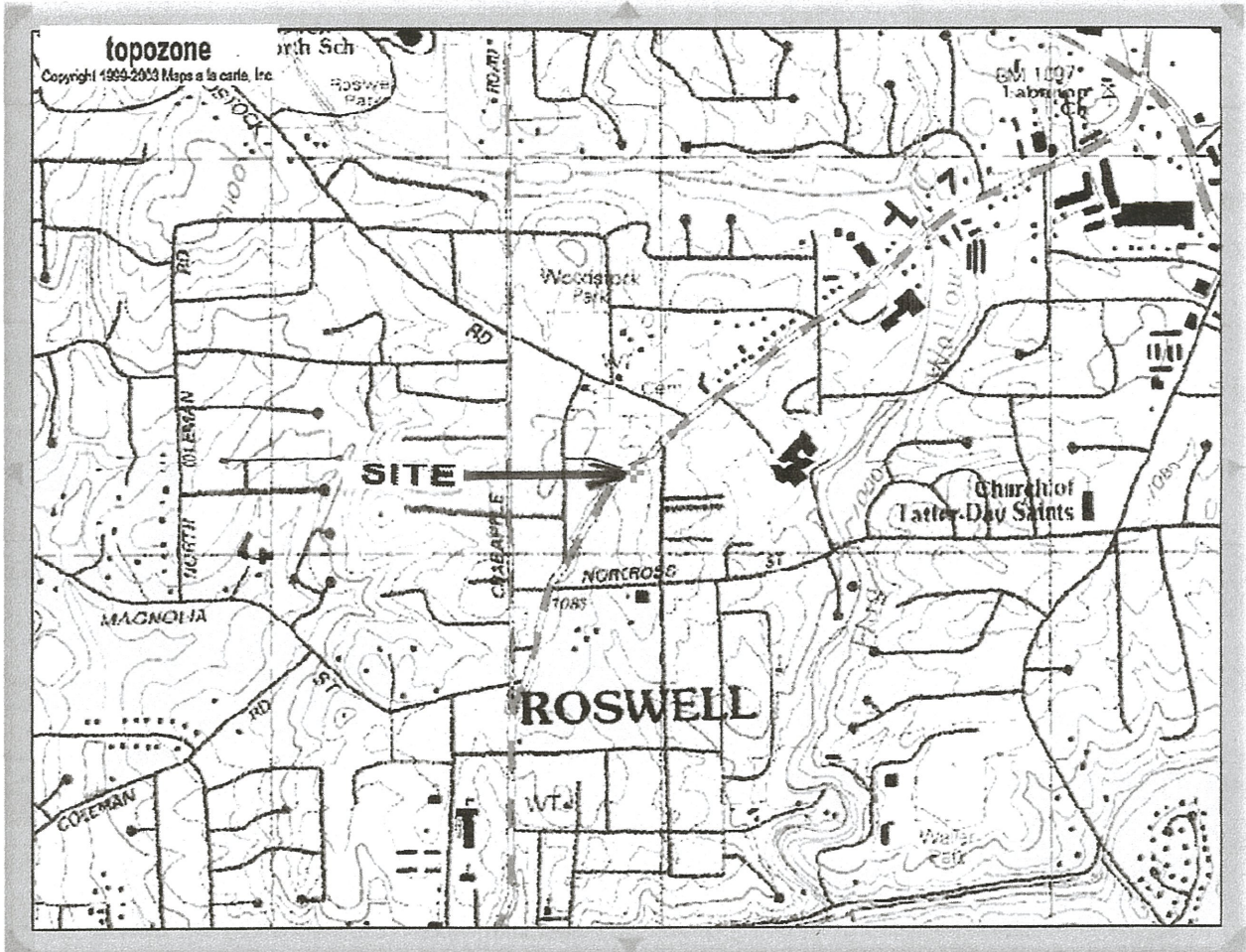


## FIGURES

UTM 16 743922E 3768397N (WGS84/NAD83)

**USGS Roswell Quad**

View *TopoZone Pro* aerial photos, shaded relief, street maps, interactive coordinate display, and elevation data



M=-4.204

Source:

**USGS Roswell Quad**

**Figure 1: SITE LOCATION MAP**  
Dry Cleaning Depot  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia

**aec**  
**Atlanta Environmental Consultants**

Drawn By: Terri Drabek

Checked By: Peter Kallay, P.E.

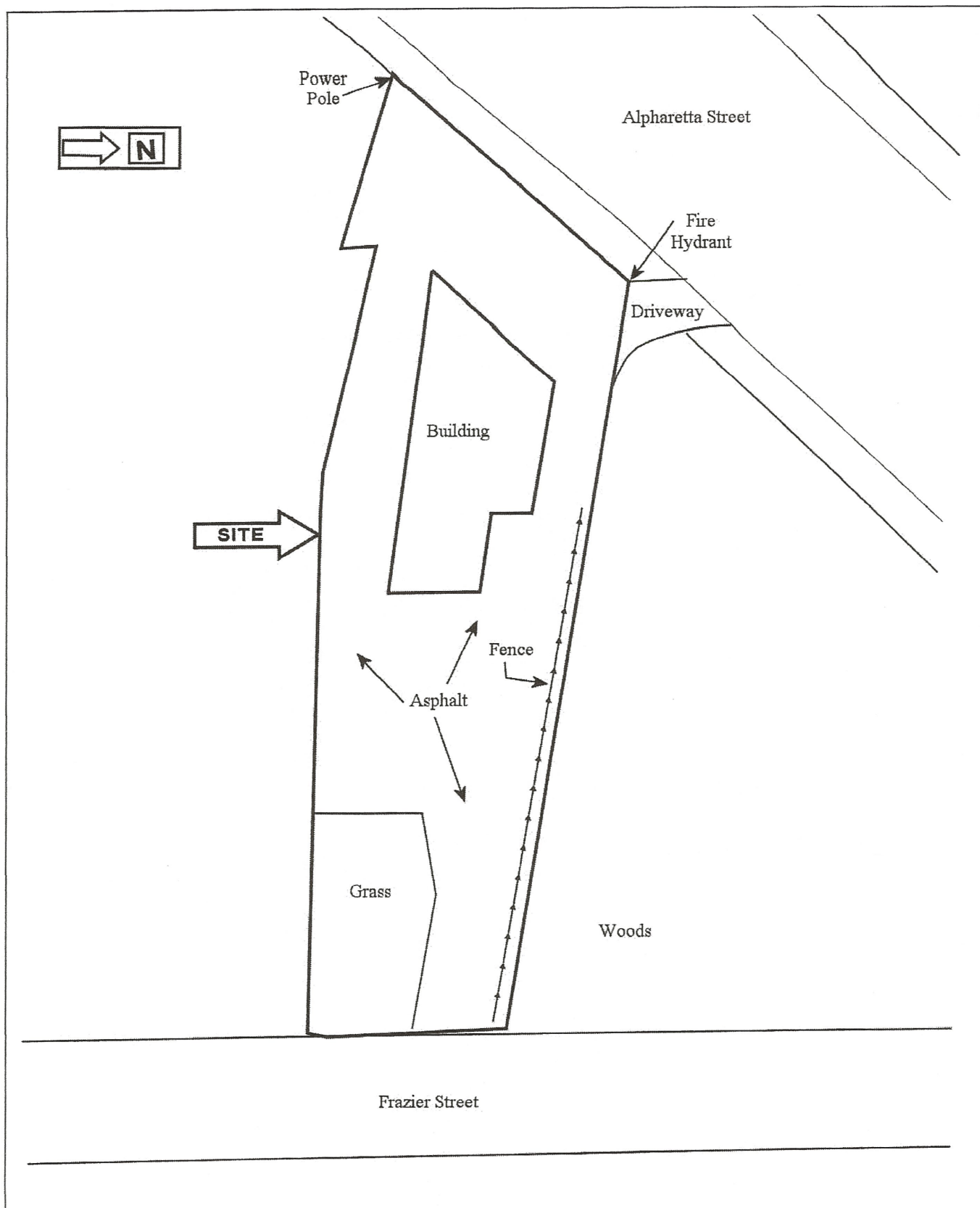
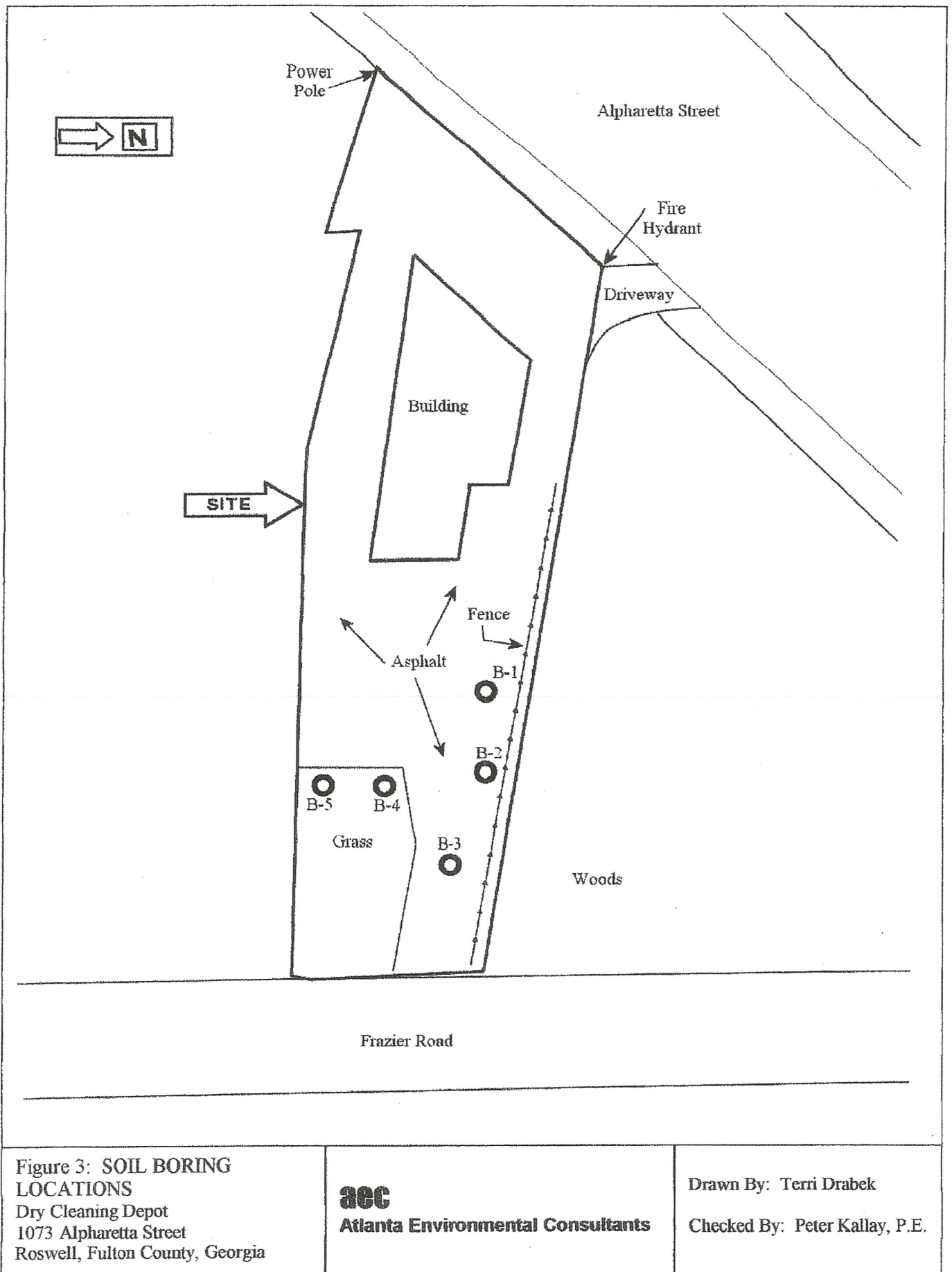


Figure 2: SITE PLAN  
 Dry Cleaning Depot  
 1073 Alpharetta Street  
 Roswell, Fulton County, Georgia

**aec**  
 Atlanta Environmental Consultants

Drawn By: Terri Drabek  
 Checked By: Peter Kallay, P.E.





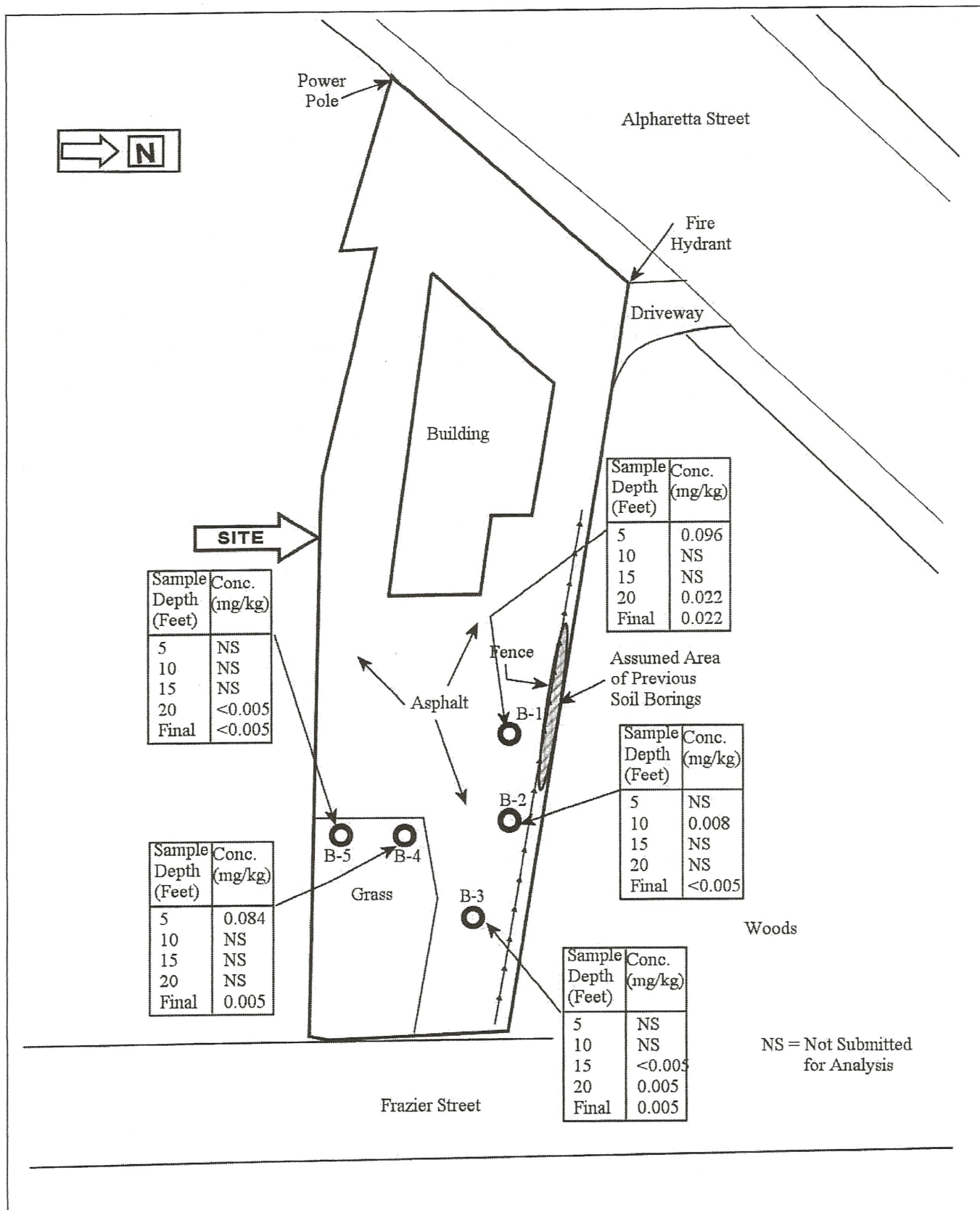


Figure 4: TETRACHLOROETHENE  
CONCENTRATION IN SOIL  
Dry Cleaning Depot  
1073 Alpharetta Street  
Roswell, Fulton County, Georgia

**aec**  
**Atlanta Environmental Consultants**

Drawn By: Terri Drabek  
Checked By: Peter Kallay, P.E.

## **APPENDIX I**



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## Laboratory Report

**ACL Project #: 48862**

**Client Proj #: ECL-3045 / Dry Cleaning Depot**

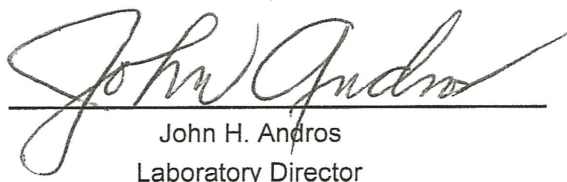
**Prepared For:**

Atlanta Environmental Consultants  
255 Norcross St.  
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Roswell, GA 30075-0000

**Attention:** Mr. Peter Kallay

**Report Date:** 09/13/2005

**This report contains 13 pages.**  
(including this cover page and chain of custody)



John H. Andros  
Laboratory Director

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ACL certifies that the following analytical results meet all the requirements of NELAC.

ACL is accredited by the National Environmental Laboratory Accreditation Program (NELAP).

ACL maintains the following certifications: NELAC (E87212), South Carolina (98009001), North Carolina (362), Florida (E87212), USDA Soil Import License (S-36503).

### Data Qualifier Codes

<u>Code</u>	<u>Description</u>
A	Value reported is the mean of two or more determinations;
B	Indicates the analyte was detected in the sample and method blank;
BQL	Below practical quantitation limit;
DW	Results reported on a dry-weight basis (ex: mg/kg,dw);
E	Estimated value: (i) sample received or analyzed beyond the accepted holding time; (ii) sample received at improper temperature; (iii) the continuing calibration for an analyte did not meet qc criteria;
H	Estimated value; result higher than the highest calibration standard;
J	Reported value is between the method detection limit and the practical quantitation limit;
PQL	Practical quantitation limit;
TIC	Tentatively identified compound;
***	Not analyzed due to interferences;

Upon client request, a statement of the test result estimated uncertainty can be provided.

**NOTE: Unless otherwise noted, all results are reported on an as received basis.**

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**Client Proj #:** ECL-3045 / Dry Cleaning Depot  
**ACL Project #:** 48862  
**Date Received:** 09/09/2005  
**Date Reported:** 09/13/2005

**Contact:** Mr. Peter Kallay

### Volatile Organics (5035/8260B)

**Sample ID:** B-1 5'

**Matrix:** Soil  
**Date Sampled:** 09/09/2005  
**Date Extracted:** 09/09/2005  
**Date Analyzed:** 09/12/2005  
**Analyst:** RP

**ACL Sample #:** 236363 **Units:** mg/kg

Analyte	Result	PQL	Analyte	Result	PQL
Acetone	BQL	0.100	trans-1,2-Dichloroethene	BQL	0.005
Acrolein	BQL	0.050	1,2-Dichloropropane	BQL	0.005
Acrylonitrile	BQL	0.050	1,3-Dichloropropane	BQL	0.005
Benzene	BQL	0.005	2,2-Dichloropropane	BQL	0.005
Bromobenzene	BQL	0.005	1,1-Dichloropropene	BQL	0.005
Bromochloromethane	BQL	0.005	cis-1,3-Dichloropropene	BQL	0.005
Bromodichloromethane	BQL	0.005	trans-1,3-Dichloropropene	BQL	0.005
Bromoform	BQL	0.005	Ethylbenzene	BQL	0.005
Bromomethane	BQL	0.010	Hexachlorobutadiene	BQL	0.005
2-Butanone	BQL	0.100	2-Hexanone	BQL	0.050
n-Butylbenzene	BQL	0.005	Isopropylbenzene	BQL	0.005
sec-Butylbenzene	BQL	0.005	p-Isopropyltoluene	BQL	0.005
tert-Butylbenzene	BQL	0.005	4-Methyl-2-pentanone	BQL	0.050
Carbon disulfide	BQL	0.005	Methylene chloride	BQL	0.005
Carbon tetrachloride	BQL	0.005	Naphthalene	BQL	0.005
Chlorobenzene	BQL	0.005	n-Propylbenzene	BQL	0.005
Chloroethane	BQL	0.010	Styrene	BQL	0.005
2-Chloroethylvinyl ether	BQL	0.010	1,1,1,2-Tetrachloroethane	BQL	0.005
Chloroform	BQL	0.005	1,1,2,2-Tetrachloroethane	BQL	0.005
Chloromethane	BQL	0.010	Tetrachloroethene	0.096	0.005
2-Chlorotoluene	BQL	0.005	Toluene	BQL	0.005
4-Chlorotoluene	BQL	0.005	1,2,3-Trichlorobenzene	BQL	0.005
1,2-Dibromo-3-chloropropane	BQL	0.005	1,2,4-Trichlorobenzene	BQL	0.005
Dibromochloromethane	BQL	0.005	1,1,1-Trichloroethane	BQL	0.005
1,2-Dibromoethane	BQL	0.005	1,1,2-Trichloroethane	BQL	0.005
Dibromomethane	BQL	0.005	Trichloroethene	BQL	0.005
1,2-Dichlorobenzene	BQL	0.005	Trichlorofluoromethane	BQL	0.005
1,3-Dichlorobenzene	BQL	0.005	1,2,3-Trichloropropane	BQL	0.005
1,4-Dichlorobenzene	BQL	0.005	1,2,4-Trimethylbenzene	BQL	0.005
Dichlorodifluoromethane	BQL	0.010	1,3,5-Trimethylbenzene	BQL	0.005
1,1-Dichloroethane	BQL	0.005	Vinyl acetate	BQL	0.050
1,2-Dichloroethane	BQL	0.005	Vinyl chloride	BQL	0.010
1,1-Dichloroethene	BQL	0.005	m & p-Xylenes	BQL	0.010
cis-1,2-Dichloroethene	BQL	0.005	o-Xylene	BQL	0.005



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**Client:** Atlanta Environmental Consultants  
255 Norcross St.  
Suite B  
Roswell, GA 30075-0000

**Client Proj #:** ECL-3045 / Dry Cleaning Depot  
**ACL Project #:** 48862  
**Date Received:** 09/09/2005  
**Date Reported:** 09/13/2005

**Contact:** Mr. Peter Kallay

### Volatile Organics (5035/8260B)

**Sample ID:** B-1 20'

**Matrix:** Soil  
**Date Sampled:** 09/09/2005  
**Date Extracted:** 09/09/2005  
**Date Analyzed:** 09/12/2005  
**Analyst:** RP

**ACL Sample #:** 236364 **Units:** mg/kg

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	0.100	trans-1,2-Dichloroethene	BQL	0.005
Acrolein	BQL	0.050	1,2-Dichloropropane	BQL	0.005
Acrylonitrile	BQL	0.050	1,3-Dichloropropane	BQL	0.005
Benzene	BQL	0.005	2,2-Dichloropropane	BQL	0.005
Bromobenzene	BQL	0.005	1,1-Dichloropropene	BQL	0.005
Bromochloromethane	BQL	0.005	cis-1,3-Dichloropropene	BQL	0.005
Bromodichloromethane	BQL	0.005	trans-1,3-Dichloropropene	BQL	0.005
Bromoform	BQL	0.005	Ethylbenzene	BQL	0.005
Bromomethane	BQL	0.010	Hexachlorobutadiene	BQL	0.005
2-Butanone	BQL	0.100	2-Hexanone	BQL	0.050
n-Butylbenzene	BQL	0.005	Isopropylbenzene	BQL	0.005
sec-Butylbenzene	BQL	0.005	p-Isopropyltoluene	BQL	0.005
tert-Butylbenzene	BQL	0.005	4-Methyl-2-pentanone	BQL	0.050
Carbon disulfide	BQL	0.005	Methylene chloride	BQL	0.005
Carbon tetrachloride	BQL	0.005	Naphthalene	BQL	0.005
Chlorobenzene	BQL	0.005	n-Propylbenzene	BQL	0.005
Chloroethane	BQL	0.010	Styrene	BQL	0.005
2-Chloroethylvinyl ether	BQL	0.010	1,1,1,2-Tetrachloroethane	BQL	0.005
Chloroform	BQL	0.005	1,1,2,2-Tetrachloroethane	BQL	0.005
Chloromethane	BQL	0.010	Tetrachloroethene	0.022	0.005
2-Chlorotoluene	BQL	0.005	Toluene	BQL	0.005
4-Chlorotoluene	BQL	0.005	1,2,3-Trichlorobenzene	BQL	0.005
1,2-Dibromo-3-chloropropane	BQL	0.005	1,2,4-Trichlorobenzene	BQL	0.005
Dibromochloromethane	BQL	0.005	1,1,1-Trichloroethane	BQL	0.005
1,2-Dibromoethane	BQL	0.005	1,1,2-Trichloroethane	BQL	0.005
Dibromomethane	BQL	0.005	Trichloroethene	BQL	0.005
1,2-Dichlorobenzene	BQL	0.005	Trichlorofluoromethane	BQL	0.005
1,3-Dichlorobenzene	BQL	0.005	1,2,3-Trichloropropane	BQL	0.005
1,4-Dichlorobenzene	BQL	0.005	1,2,4-Trimethylbenzene	BQL	0.005
Dichlorodifluoromethane	BQL	0.010	1,3,5-Trimethylbenzene	BQL	0.005
1,1-Dichloroethane	BQL	0.005	Vinyl acetate	BQL	0.050
1,2-Dichloroethane	BQL	0.005	Vinyl chloride	BQL	0.010
1,1-Dichloroethene	BQL	0.005	m & p-Xylenes	BQL	0.010
cis-1,2-Dichloroethene	BQL	0.005	o-Xylene	BQL	0.005

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**Client:** Atlanta Environmental Consultants  
 255 Norcross St.  
 Suite B  
 Roswell, GA 30075-0000

**Client Proj #:** ECL-3045 / Dry Cleaning Depot  
**ACL Project #:** 48862  
**Date Received:** 09/09/2005  
**Date Reported:** 09/13/2005

**Contact:** Mr. Peter Kallay

### Volatile Organics (5035/8260B)

**Sample ID:** B-2 10'

**Matrix:** Soil  
**Date Sampled:** 09/09/2005  
**Date Extracted:** 09/09/2005  
**Date Analyzed:** 09/12/2005  
**Analyst:** RP

**ACL Sample #:** 236365 **Units:** mg/kg

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	0.100	trans-1,2-Dichloroethene	BQL	0.005
Acrolein	BQL	0.050	1,2-Dichloropropane	BQL	0.005
Acrylonitrile	BQL	0.050	1,3-Dichloropropane	BQL	0.005
Benzene	BQL	0.005	2,2-Dichloropropane	BQL	0.005
Bromobenzene	BQL	0.005	1,1-Dichloropropene	BQL	0.005
Bromochloromethane	BQL	0.005	cis-1,3-Dichloropropene	BQL	0.005
Bromodichloromethane	BQL	0.005	trans-1,3-Dichloropropene	BQL	0.005
Bromoform	BQL	0.005	Ethylbenzene	BQL	0.005
Bromomethane	BQL	0.010	Hexachlorobutadiene	BQL	0.005
2-Butanone	BQL	0.100	2-Hexanone	BQL	0.050
n-Butylbenzene	BQL	0.005	Isopropylbenzene	BQL	0.005
sec-Butylbenzene	BQL	0.005	p-Isopropyltoluene	BQL	0.005
tert-Butylbenzene	BQL	0.005	4-Methyl-2-pentanone	BQL	0.050
Carbon disulfide	BQL	0.005	Methylene chloride	BQL	0.005
Carbon tetrachloride	BQL	0.005	Naphthalene	BQL	0.005
Chlorobenzene	BQL	0.005	n-Propylbenzene	BQL	0.005
Chloroethane	BQL	0.010	Styrene	BQL	0.005
2-Chloroethylvinyl ether	BQL	0.010	1,1,1,2-Tetrachloroethane	BQL	0.005
Chloroform	BQL	0.005	1,1,2,2-Tetrachloroethane	BQL	0.005
Chloromethane	BQL	0.010	Tetrachloroethene	0.008	0.005
2-Chlorotoluene	BQL	0.005	Toluene	BQL	0.005
4-Chlorotoluene	BQL	0.005	1,2,3-Trichlorobenzene	BQL	0.005
1,2-Dibromo-3-chloropropane	BQL	0.005	1,2,4-Trichlorobenzene	BQL	0.005
Dibromochloromethane	BQL	0.005	1,1,1-Trichloroethane	BQL	0.005
1,2-Dibromoethane	BQL	0.005	1,1,2-Trichloroethane	BQL	0.005
Dibromomethane	BQL	0.005	Trichloroethene	BQL	0.005
1,2-Dichlorobenzene	BQL	0.005	Trichlorofluoromethane	BQL	0.005
1,3-Dichlorobenzene	BQL	0.005	1,2,3-Trichloropropane	BQL	0.005
1,4-Dichlorobenzene	BQL	0.005	1,2,4-Trimethylbenzene	BQL	0.005
Dichlorodifluoromethane	BQL	0.010	1,3,5-Trimethylbenzene	BQL	0.005
1,1-Dichloroethane	BQL	0.005	Vinyl acetate	BQL	0.050
1,2-Dichloroethane	BQL	0.005	Vinyl chloride	BQL	0.010
1,1-Dichloroethene	BQL	0.005	m & p-Xylenes	BQL	0.010
cis-1,2-Dichloroethene	BQL	0.005	o-Xylene	BQL	0.005



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**Client Proj #:** ECL-3045 / Dry Cleaning Depot  
**ACL Project #:** 48862  
**Date Received:** 09/09/2005  
**Date Reported:** 09/13/2005

**Contact:** Mr. Peter Kallay

### Volatile Organics (5035/8260B)

**Sample ID:** B-2 22'

**Matrix:** Soil  
**Date Sampled:** 09/09/2005  
**Date Extracted:** 09/09/2005  
**Date Analyzed:** 09/12/2005  
**Analyst:** RP

**ACL Sample #:** 236366 **Units:** mg/kg

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	0.100	trans-1,2-Dichloroethene	BQL	0.005
Acrolein	BQL	0.050	1,2-Dichloropropane	BQL	0.005
Acrylonitrile	BQL	0.050	1,3-Dichloropropane	BQL	0.005
Benzene	BQL	0.005	2,2-Dichloropropane	BQL	0.005
Bromobenzene	BQL	0.005	1,1-Dichloropropene	BQL	0.005
Bromochloromethane	BQL	0.005	cis-1,3-Dichloropropene	BQL	0.005
Bromodichloromethane	BQL	0.005	trans-1,3-Dichloropropene	BQL	0.005
Bromoform	BQL	0.005	Ethylbenzene	BQL	0.005
Bromomethane	BQL	0.010	Hexachlorobutadiene	BQL	0.005
2-Butanone	BQL	0.100	2-Hexanone	BQL	0.050
n-Butylbenzene	BQL	0.005	Isopropylbenzene	BQL	0.005
sec-Butylbenzene	BQL	0.005	p-Isopropyltoluene	BQL	0.005
tert-Butylbenzene	BQL	0.005	4-Methyl-2-pentanone	BQL	0.050
Carbon disulfide	BQL	0.005	Methylene chloride	BQL	0.005
Carbon tetrachloride	BQL	0.005	Naphthalene	BQL	0.005
Chlorobenzene	BQL	0.005	n-Propylbenzene	BQL	0.005
Chloroethane	BQL	0.010	Styrene	BQL	0.005
2-Chloroethylvinyl ether	BQL	0.010	1,1,1,2-Tetrachloroethane	BQL	0.005
Chloroform	BQL	0.005	1,1,2,2-Tetrachloroethane	BQL	0.005
Chloromethane	BQL	0.010	Tetrachloroethene	BQL	0.005
2-Chlorotoluene	BQL	0.005	Toluene	BQL	0.005
4-Chlorotoluene	BQL	0.005	1,2,3-Trichlorobenzene	BQL	0.005
1,2-Dibromo-3-chloropropane	BQL	0.005	1,2,4-Trichlorobenzene	BQL	0.005
Dibromochloromethane	BQL	0.005	1,1,1-Trichloroethane	BQL	0.005
1,2-Dibromoethane	BQL	0.005	1,1,2-Trichloroethane	BQL	0.005
Dibromomethane	BQL	0.005	Trichloroethene	BQL	0.005
1,2-Dichlorobenzene	BQL	0.005	Trichlorofluoromethane	BQL	0.005
1,3-Dichlorobenzene	BQL	0.005	1,2,3-Trichloropropane	BQL	0.005
1,4-Dichlorobenzene	BQL	0.005	1,2,4-Trimethylbenzene	BQL	0.005
Dichlorodifluoromethane	BQL	0.010	1,3,5-Trimethylbenzene	BQL	0.005
1,1-Dichloroethane	BQL	0.005	Vinyl acetate	BQL	0.050
1,2-Dichloroethane	BQL	0.005	Vinyl chloride	BQL	0.010
1,1-Dichloroethene	BQL	0.005	m & p-Xylenes	BQL	0.010
cis-1,2-Dichloroethene	BQL	0.005	o-Xylene	BQL	0.005



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**Client Proj #:** ECL-3045 / Dry Cleaning Depot  
**ACL Project #:** 48862  
**Date Received:** 09/09/2005  
**Date Reported:** 09/13/2005

**Contact:** Mr. Peter Kallay

### Volatile Organics (5035/8260B)

**Sample ID:** B-3 15'

**Matrix:** Soil  
**Date Sampled:** 09/09/2005  
**Date Extracted:** 09/09/2005  
**Date Analyzed:** 09/12/2005  
**Analyst:** RP

**ACL Sample #:** 236367 **Units:** mg/kg

Analyte	Result	PQL	Analyte	Result	PQL
Acetone	BQL	0.100	trans-1,2-Dichloroethene	BQL	0.005
Acrolein	BQL	0.050	1,2-Dichloropropane	BQL	0.005
Acrylonitrile	BQL	0.050	1,3-Dichloropropane	BQL	0.005
Benzene	BQL	0.005	2,2-Dichloropropane	BQL	0.005
Bromobenzene	BQL	0.005	1,1-Dichloropropene	BQL	0.005
Bromochloromethane	BQL	0.005	cis-1,3-Dichloropropene	BQL	0.005
Bromodichloromethane	BQL	0.005	trans-1,3-Dichloropropene	BQL	0.005
Bromoform	BQL	0.005	Ethylbenzene	BQL	0.005
Bromomethane	BQL	0.010	Hexachlorobutadiene	BQL	0.005
2-Butanone	BQL	0.100	2-Hexanone	BQL	0.050
n-Butylbenzene	BQL	0.005	Isopropylbenzene	BQL	0.005
sec-Butylbenzene	BQL	0.005	p-Isopropyltoluene	BQL	0.005
tert-Butylbenzene	BQL	0.005	4-Methyl-2-pentanone	BQL	0.050
Carbon disulfide	BQL	0.005	Methylene chloride	BQL	0.005
Carbon tetrachloride	BQL	0.005	Naphthalene	BQL	0.005
Chlorobenzene	BQL	0.005	n-Propylbenzene	BQL	0.005
Chloroethane	BQL	0.010	Styrene	BQL	0.005
2-Chloroethylvinyl ether	BQL	0.010	1,1,1,2-Tetrachloroethane	BQL	0.005
Chloroform	BQL	0.005	1,1,2,2-Tetrachloroethane	BQL	0.005
Chloromethane	BQL	0.010	Tetrachloroethene	BQL	0.005
2-Chlorotoluene	BQL	0.005	Toluene	BQL	0.005
4-Chlorotoluene	BQL	0.005	1,2,3-Trichlorobenzene	BQL	0.005
1,2-Dibromo-3-chloropropane	BQL	0.005	1,2,4-Trichlorobenzene	BQL	0.005
Dibromochloromethane	BQL	0.005	1,1,1-Trichloroethane	BQL	0.005
1,2-Dibromoethane	BQL	0.005	1,1,2-Trichloroethane	BQL	0.005
Dibromomethane	BQL	0.005	Trichloroethene	BQL	0.005
1,2-Dichlorobenzene	BQL	0.005	Trichlorofluoromethane	BQL	0.005
1,3-Dichlorobenzene	BQL	0.005	1,2,3-Trichloropropane	BQL	0.005
1,4-Dichlorobenzene	BQL	0.005	1,2,4-Trimethylbenzene	BQL	0.005
Dichlorodifluoromethane	BQL	0.010	1,3,5-Trimethylbenzene	BQL	0.005
1,1-Dichloroethane	BQL	0.005	Vinyl acetate	BQL	0.050
1,2-Dichloroethane	BQL	0.005	Vinyl chloride	BQL	0.010
1,1-Dichloroethene	BQL	0.005	m & p-Xylenes	BQL	0.010
cis-1,2-Dichloroethene	BQL	0.005	o-Xylene	BQL	0.005

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**Client Proj #:** ECL-3045 / Dry Cleaning Depot  
**ACL Project #:** 48862  
**Date Received:** 09/09/2005  
**Date Reported:** 09/13/2005

**Contact:** Mr. Peter Kallay

### Volatile Organics (5035/8260B)

**Sample ID:** B-3 19'

**Matrix:** Soil  
**Date Sampled:** 09/09/2005  
**Date Extracted:** 09/09/2005  
**Date Analyzed:** 09/12/2005  
**Analyst:** RP

**ACL Sample #:** 236368 **Units:** mg/kg

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	0.100	trans-1,2-Dichloroethene	BQL	0.005
Acrolein	BQL	0.050	1,2-Dichloropropane	BQL	0.005
Acrylonitrile	BQL	0.050	1,3-Dichloropropane	BQL	0.005
Benzene	BQL	0.005	2,2-Dichloropropane	BQL	0.005
Bromobenzene	BQL	0.005	1,1-Dichloropropene	BQL	0.005
Bromochloromethane	BQL	0.005	cis-1,3-Dichloropropene	BQL	0.005
Bromodichloromethane	BQL	0.005	trans-1,3-Dichloropropene	BQL	0.005
Bromoform	BQL	0.005	Ethylbenzene	BQL	0.005
Bromomethane	BQL	0.010	Hexachlorobutadiene	BQL	0.005
2-Butanone	BQL	0.100	2-Hexanone	BQL	0.050
n-Butylbenzene	BQL	0.005	Isopropylbenzene	BQL	0.005
sec-Butylbenzene	BQL	0.005	p-Isopropyltoluene	BQL	0.005
tert-Butylbenzene	BQL	0.005	4-Methyl-2-pentanone	BQL	0.050
Carbon disulfide	BQL	0.005	Methylene chloride	BQL	0.005
Carbon tetrachloride	BQL	0.005	Naphthalene	BQL	0.005
Chlorobenzene	BQL	0.005	n-Propylbenzene	BQL	0.005
Chloroethane	BQL	0.010	Styrene	BQL	0.005
2-Chloroethylvinyl ether	BQL	0.010	1,1,1,2-Tetrachloroethane	BQL	0.005
Chloroform	BQL	0.005	1,1,2,2-Tetrachloroethane	BQL	0.005
Chloromethane	BQL	0.010	Tetrachloroethene	0.005	0.005
2-Chlorotoluene	BQL	0.005	Toluene	BQL	0.005
4-Chlorotoluene	BQL	0.005	1,2,3-Trichlorobenzene	BQL	0.005
1,2-Dibromo-3-chloropropane	BQL	0.005	1,2,4-Trichlorobenzene	BQL	0.005
Dibromochloromethane	BQL	0.005	1,1,1-Trichloroethane	BQL	0.005
1,2-Dibromoethane	BQL	0.005	1,1,2-Trichloroethane	BQL	0.005
Dibromomethane	BQL	0.005	Trichloroethene	BQL	0.005
1,2-Dichlorobenzene	BQL	0.005	Trichlorofluoromethane	BQL	0.005
1,3-Dichlorobenzene	BQL	0.005	1,2,3-Trichloropropane	BQL	0.005
1,4-Dichlorobenzene	BQL	0.005	1,2,4-Trimethylbenzene	BQL	0.005
Dichlorodifluoromethane	BQL	0.010	1,3,5-Trimethylbenzene	BQL	0.005
1,1-Dichloroethane	BQL	0.005	Vinyl acetate	BQL	0.050
1,2-Dichloroethane	BQL	0.005	Vinyl chloride	BQL	0.010
1,1-Dichloroethene	BQL	0.005	m & p-Xylenes	BQL	0.010
cis-1,2-Dichloroethene	BQL	0.005	o-Xylene	BQL	0.005



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**Client Proj #:** ECL-3045 / Dry Cleaning Depot  
**ACL Project #:** 48862  
**Date Received:** 09/09/2005  
**Date Reported:** 09/13/2005

**Contact:** Mr. Peter Kallay

### Volatile Organics (5035/8260B)

**Sample ID:** B-4 5'

**Matrix:** Soil  
**Date Sampled:** 09/09/2005  
**Date Extracted:** 09/09/2005  
**Date Analyzed:** 09/12/2005  
**Analyst:** RP

**ACL Sample #:** 236369 **Units:** mg/kg

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	0.100	trans-1,2-Dichloroethene	BQL	0.005
Acrolein	BQL	0.050	1,2-Dichloropropane	BQL	0.005
Acrylonitrile	BQL	0.050	1,3-Dichloropropane	BQL	0.005
Benzene	BQL	0.005	2,2-Dichloropropane	BQL	0.005
Bromobenzene	BQL	0.005	1,1-Dichloropropene	BQL	0.005
Bromochloromethane	BQL	0.005	cis-1,3-Dichloropropene	BQL	0.005
Bromodichloromethane	BQL	0.005	trans-1,3-Dichloropropene	BQL	0.005
Bromoform	BQL	0.005	Ethylbenzene	BQL	0.005
Bromomethane	BQL	0.010	Hexachlorobutadiene	BQL	0.005
2-Butanone	BQL	0.100	2-Hexanone	BQL	0.050
n-Butylbenzene	BQL	0.005	Isopropylbenzene	BQL	0.005
sec-Butylbenzene	BQL	0.005	p-Isopropyltoluene	BQL	0.005
tert-Butylbenzene	BQL	0.005	4-Methyl-2-pentanone	BQL	0.050
Carbon disulfide	BQL	0.005	Methylene chloride	BQL	0.005
Carbon tetrachloride	BQL	0.005	Naphthalene	BQL	0.005
Chlorobenzene	BQL	0.005	n-Propylbenzene	BQL	0.005
Chloroethane	BQL	0.010	Styrene	BQL	0.005
2-Chloroethylvinyl ether	BQL	0.010	1,1,1,2-Tetrachloroethane	BQL	0.005
Chloroform	BQL	0.005	1,1,2,2-Tetrachloroethane	BQL	0.005
Chloromethane	BQL	0.010	Tetrachloroethene	0.084	0.005
2-Chlorotoluene	BQL	0.005	Toluene	0.007	0.005
4-Chlorotoluene	BQL	0.005	1,2,3-Trichlorobenzene	BQL	0.005
1,2-Dibromo-3-chloropropane	BQL	0.005	1,2,4-Trichlorobenzene	BQL	0.005
Dibromochloromethane	BQL	0.005	1,1,1-Trichloroethane	BQL	0.005
1,2-Dibromoethane	BQL	0.005	1,1,2-Trichloroethane	BQL	0.005
Dibromomethane	BQL	0.005	Trichloroethene	BQL	0.005
1,2-Dichlorobenzene	BQL	0.005	Trichlorofluoromethane	BQL	0.005
1,3-Dichlorobenzene	BQL	0.005	1,2,3-Trichloropropane	BQL	0.005
1,4-Dichlorobenzene	BQL	0.005	1,2,4-Trimethylbenzene	BQL	0.005
Dichlorodifluoromethane	BQL	0.010	1,3,5-Trimethylbenzene	BQL	0.005
1,1-Dichloroethane	BQL	0.005	Vinyl acetate	BQL	0.050
1,2-Dichloroethane	BQL	0.005	Vinyl chloride	BQL	0.010
1,1-Dichloroethene	BQL	0.005	m & p-Xylenes	BQL	0.010
cis-1,2-Dichloroethene	BQL	0.005	o-Xylene	BQL	0.005



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 P.O. Box 88610 • Atlanta, GA 30356  
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**Client:** Atlanta Environmental Consultants  
 255 Norcross St.  
 Suite B  
 Roswell, GA 30075-0000

**Client Proj #:** ECL-3045 / Dry Cleaning Depot  
**ACL Project #:** 48862  
**Date Received:** 09/09/2005  
**Date Reported:** 09/13/2005

**Contact:** Mr. Peter Kallay

### Volatile Organics (5035/8260B)

**Sample ID:** B-4 23'

**Matrix:** Soil  
**Date Sampled:** 09/09/2005  
**Date Extracted:** 09/09/2005  
**Date Analyzed:** 09/12/2005  
**Analyst:** RP

**ACL Sample #:** 236370 **Units:** mg/kg

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	0.100	trans-1,2-Dichloroethene	BQL	0.005
Acrolein	BQL	0.050	1,2-Dichloropropane	BQL	0.005
Acrylonitrile	BQL	0.050	1,3-Dichloropropane	BQL	0.005
Benzene	BQL	0.005	2,2-Dichloropropane	BQL	0.005
Bromobenzene	BQL	0.005	1,1-Dichloropropene	BQL	0.005
Bromochloromethane	BQL	0.005	cis-1,3-Dichloropropene	BQL	0.005
Bromodichloromethane	BQL	0.005	trans-1,3-Dichloropropene	BQL	0.005
Bromoform	BQL	0.005	Ethylbenzene	BQL	0.005
Bromomethane	BQL	0.010	Hexachlorobutadiene	BQL	0.005
2-Butanone	BQL	0.100	2-Hexanone	BQL	0.050
n-Butylbenzene	BQL	0.005	Isopropylbenzene	BQL	0.005
sec-Butylbenzene	BQL	0.005	p-Isopropyltoluene	BQL	0.005
tert-Butylbenzene	BQL	0.005	4-Methyl-2-pentanone	BQL	0.050
Carbon disulfide	BQL	0.005	Methylene chloride	BQL	0.005
Carbon tetrachloride	BQL	0.005	Naphthalene	BQL	0.005
Chlorobenzene	BQL	0.005	n-Propylbenzene	BQL	0.005
Chloroethane	BQL	0.010	Styrene	BQL	0.005
2-Chloroethylvinyl ether	BQL	0.010	1,1,1,2-Tetrachloroethane	BQL	0.005
Chloroform	BQL	0.005	1,1,2,2-Tetrachloroethane	BQL	0.005
Chloromethane	BQL	0.010	Tetrachloroethene	0.005	0.005
2-Chlorotoluene	BQL	0.005	Toluene	BQL	0.005
4-Chlorotoluene	BQL	0.005	1,2,3-Trichlorobenzene	BQL	0.005
1,2-Dibromo-3-chloropropane	BQL	0.005	1,2,4-Trichlorobenzene	BQL	0.005
Dibromochloromethane	BQL	0.005	1,1,1-Trichloroethane	BQL	0.005
1,2-Dibromoethane	BQL	0.005	1,1,2-Trichloroethane	BQL	0.005
Dibromomethane	BQL	0.005	Trichloroethene	BQL	0.005
1,2-Dichlorobenzene	BQL	0.005	Trichlorofluoromethane	BQL	0.005
1,3-Dichlorobenzene	BQL	0.005	1,2,3-Trichloropropane	BQL	0.005
1,4-Dichlorobenzene	BQL	0.005	1,2,4-Trimethylbenzene	BQL	0.005
Dichlorodifluoromethane	BQL	0.010	1,3,5-Trimethylbenzene	BQL	0.005
1,1-Dichloroethane	BQL	0.005	Vinyl acetate	BQL	0.050
1,2-Dichloroethane	BQL	0.005	Vinyl chloride	BQL	0.010
1,1-Dichloroethene	BQL	0.005	m & p-Xylenes	BQL	0.010
cis-1,2-Dichloroethene	BQL	0.005	o-Xylene	BQL	0.005

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**Client:** Atlanta Environmental Consultants  
 255 Norcross St.  
 Suite B  
 Roswell, GA 30075-0000

**Client Proj #:** ECL-3045 / Dry Cleaning Depot  
**ACL Project #:** 48862  
**Date Received:** 09/09/2005  
**Date Reported:** 09/13/2005

**Contact:** Mr. Peter Kallay

### Volatile Organics (5035/8260B)

**Sample ID:** B-5 20'

**Matrix:** Soil  
**Date Sampled:** 09/09/2005  
**Date Extracted:** 09/09/2005  
**Date Analyzed:** 09/12/2005  
**Analyst:** RP

**ACL Sample #:** 236371 **Units:** mg/kg

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	0.100	trans-1,2-Dichloroethene	BQL	0.005
Acrolein	BQL	0.050	1,2-Dichloropropane	BQL	0.005
Acrylonitrile	BQL	0.050	1,3-Dichloropropane	BQL	0.005
Benzene	BQL	0.005	2,2-Dichloropropane	BQL	0.005
Bromobenzene	BQL	0.005	1,1-Dichloropropene	BQL	0.005
Bromochloromethane	BQL	0.005	cis-1,3-Dichloropropene	BQL	0.005
Bromodichloromethane	BQL	0.005	trans-1,3-Dichloropropene	BQL	0.005
Bromoform	BQL	0.005	Ethylbenzene	BQL	0.005
Bromomethane	BQL	0.010	Hexachlorobutadiene	BQL	0.005
2-Butanone	BQL	0.100	2-Hexanone	BQL	0.050
n-Butylbenzene	BQL	0.005	Isopropylbenzene	BQL	0.005
sec-Butylbenzene	BQL	0.005	p-Isopropyltoluene	BQL	0.005
tert-Butylbenzene	BQL	0.005	4-Methyl-2-pentanone	BQL	0.050
Carbon disulfide	BQL	0.005	Methylene chloride	BQL	0.005
Carbon tetrachloride	BQL	0.005	Naphthalene	BQL	0.005
Chlorobenzene	BQL	0.005	n-Propylbenzene	BQL	0.005
Chloroethane	BQL	0.010	Styrene	BQL	0.005
2-Chloroethylvinyl ether	BQL	0.010	1,1,1,2-Tetrachloroethane	BQL	0.005
Chloroform	BQL	0.005	1,1,2,2-Tetrachloroethane	BQL	0.005
Chloromethane	BQL	0.010	Tetrachloroethene	BQL	0.005
2-Chlorotoluene	BQL	0.005	Toluene	BQL	0.005
4-Chlorotoluene	BQL	0.005	1,2,3-Trichlorobenzene	BQL	0.005
1,2-Dibromo-3-chloropropane	BQL	0.005	1,2,4-Trichlorobenzene	BQL	0.005
Dibromochloromethane	BQL	0.005	1,1,1-Trichloroethane	BQL	0.005
1,2-Dibromoethane	BQL	0.005	1,1,2-Trichloroethane	BQL	0.005
Dibromomethane	BQL	0.005	Trichloroethene	BQL	0.005
1,2-Dichlorobenzene	BQL	0.005	Trichlorofluoromethane	BQL	0.005
1,3-Dichlorobenzene	BQL	0.005	1,2,3-Trichloropropane	BQL	0.005
1,4-Dichlorobenzene	BQL	0.005	1,2,4-Trimethylbenzene	BQL	0.005
Dichlorodifluoromethane	BQL	0.010	1,3,5-Trimethylbenzene	BQL	0.005
1,1-Dichloroethane	BQL	0.005	Vinyl acetate	BQL	0.050
1,2-Dichloroethane	BQL	0.005	Vinyl chloride	BQL	0.010
1,1-Dichloroethene	BQL	0.005	m & p-Xylenes	BQL	0.010
cis-1,2-Dichloroethene	BQL	0.005	o-Xylene	BQL	0.005



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**ACL Project #:** 48862  
**Date Received:** 09/09/2005  
**Date Reported:** 09/13/2005

**Contact:** Mr. Peter Kallay

### Volatile Organics (5035/8260B)

**Sample ID:** B-5 23'

**Matrix:** Soil  
**Date Sampled:** 09/09/2005  
**Date Extracted:** 09/09/2005  
**Date Analyzed:** 09/12/2005  
**Analyst:** RP

**ACL Sample #:** 236372 **Units:** mg/kg

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	0.100	trans-1,2-Dichloroethene	BQL	0.005
Acrolein	BQL	0.050	1,2-Dichloropropane	BQL	0.005
Acrylonitrile	BQL	0.050	1,3-Dichloropropane	BQL	0.005
Benzene	BQL	0.005	2,2-Dichloropropane	BQL	0.005
Bromobenzene	BQL	0.005	1,1-Dichloropropene	BQL	0.005
Bromochloromethane	BQL	0.005	cis-1,3-Dichloropropene	BQL	0.005
Bromodichloromethane	BQL	0.005	trans-1,3-Dichloropropene	BQL	0.005
Bromoform	BQL	0.005	Ethylbenzene	BQL	0.005
Bromomethane	BQL	0.010	Hexachlorobutadiene	BQL	0.005
2-Butanone	BQL	0.100	2-Hexanone	BQL	0.050
n-Butylbenzene	BQL	0.005	Isopropylbenzene	BQL	0.005
sec-Butylbenzene	BQL	0.005	p-Isopropyltoluene	BQL	0.005
tert-Butylbenzene	BQL	0.005	4-Methyl-2-pentanone	BQL	0.050
Carbon disulfide	BQL	0.005	Methylene chloride	BQL	0.005
Carbon tetrachloride	BQL	0.005	Naphthalene	BQL	0.005
Chlorobenzene	BQL	0.005	n-Propylbenzene	BQL	0.005
Chloroethane	BQL	0.010	Styrene	BQL	0.005
2-Chloroethylvinyl ether	BQL	0.010	1,1,1,2-Tetrachloroethane	BQL	0.005
Chloroform	BQL	0.005	1,1,2,2-Tetrachloroethane	BQL	0.005
Chloromethane	BQL	0.010	Tetrachloroethene	BQL	0.005
2-Chlorotoluene	BQL	0.005	Toluene	BQL	0.005
4-Chlorotoluene	BQL	0.005	1,2,3-Trichlorobenzene	BQL	0.005
1,2-Dibromo-3-chloropropane	BQL	0.005	1,2,4-Trichlorobenzene	BQL	0.005
Dibromochloromethane	BQL	0.005	1,1,1-Trichloroethane	BQL	0.005
1,2-Dibromoethane	BQL	0.005	1,1,2-Trichloroethane	BQL	0.005
Dibromomethane	BQL	0.005	Trichloroethene	BQL	0.005
1,2-Dichlorobenzene	BQL	0.005	Trichlorofluoromethane	BQL	0.005
1,3-Dichlorobenzene	BQL	0.005	1,2,3-Trichloropropane	BQL	0.005
1,4-Dichlorobenzene	BQL	0.005	1,2,4-Trimethylbenzene	BQL	0.005
Dichlorodifluoromethane	BQL	0.010	1,3,5-Trimethylbenzene	BQL	0.005
1,1-Dichloroethane	BQL	0.005	Vinyl acetate	BQL	0.050
1,2-Dichloroethane	BQL	0.005	Vinyl chloride	BQL	0.010
1,1-Dichloroethene	BQL	0.005	m & p-Xylenes	BQL	0.010
cis-1,2-Dichloroethene	BQL	0.005	o-Xylene	BQL	0.005





**ADVANCED CHEMISTRY LABS, INC.**

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Company Name:

Atlanta Environmental Consultants

Phone #: 770-544-9073

Company Address:

255 Haverhill St.  
Roswell, GA 30075

Fax #: 770-544-9093

Site Location:

Dry Cleaning Depot

Project Manager:

Peter T. Kelley

Client Project: (#) ECL-3045

(Name) Dry Cleaning Depot

Sampler Name (Print):

Peter T. Kelley

I attest that the proper field sampling procedures were used during the collection of these samples.

**CHAIN-OF CUSTODY RECORD  
AND ANALYSIS REQUEST**

**ANALYSIS REQUEST**

Field Sample ID	# Container	Matrix					Method Preserved					Sampling		Remarks
		Water	Soil	Air	Sludge	Product	Other	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	Ice	None	Other	
B-1	5'	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5/35/2008
B-1	20'	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5/35/2008
B-2	10'	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5/35/2008
B-2	22'	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5/35/2008
B-3	15'	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5/35/2008
B-3	19'	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5/35/2008
B-4	5'	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5/35/2008
B-4	23'	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5/35/2008
B-5	20'	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5/35/2008
B-5	23'	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5/35/2008

Special Detection Limits

Remarks:

TAT	Priority (24 hr) <input type="checkbox"/>	Special Handling
	Rush (48 hr) <input type="checkbox"/>	ACL Contact
	Rush (72 hr) <input checked="" type="checkbox"/>	Quote #
	Normal <input type="checkbox"/>	P. O.
Level 1 <input type="checkbox"/> Level 2 <input type="checkbox"/> Other <input type="checkbox"/>		QA/QC Level

Special Reporting Requirements

Lab Use Only:

Cooler Temp.

ACL Project #: 48862

4.0 °C

**CUSTODY  
RECORD**

Relinquished by Sampler:

Relinquished by:

Relinquished by:

Received by:

Received by:

Received by Laboratory:

Waybill #

## **APPENDIX B**

### **HSRA NOTIFICATION AND LISTING**

Site No.: 10880

Site Name: Dry Cleaning Depot

12/14/2007

14:39:33

Location: 1073 Alpharetta St.

Roswell

Lat 34 ° 1 ' 40 " N

Lon 84 ° 21 ' 28 " W

County: Fulton

30075

Parcel ID: 12-1902-0412-049-1

Property Owner: KIC Management, LLC

8370 Royal Melbourne Way

Duluth

GA 30097

Phone: (404) 273-6767

Contact Person: Mr. Ewin Chang

KIC Management, LLC

8370 Royal Melbourne Way

Duluth

GA 30097

Phone: (404) 273-6767

Facility ow/op:

Dry Cleaning Depot

8370 Royal Melbourne Way

Duluth

GA 30097

Phone: (404) 273-6767

EPA ID:

Entered HSI Database on : 11/05/2007

Corrective Action Site Class: 2

Cleanup Code: 1

#### OUTPUT FROM REPORTABLE QUANTITIES SCREENING METHOD

##### GROUNDWATER PATHWAY Pathway Score: 6.50

A. Known (45), Suspected (10), or Pot. Future (5): 45

1B. Higher (6), Average (3), or Lower (0) Susceptibility: 0

2B. Physical State [ stable solid=0; liquid=3]: 0

C. Containment [ very good=0; poor=3]: 0

SUBSTANCE: (CAS: 127184 )	Tetrachloroethene
2D. Toxicity: 4	3D. Quantity: 4 -

1E. Exposure: 4 (If 1E>4 then 2E=16)

2E. Distance to well or spring: 4 (If 1E=0 then 2E=1)

##### ON-SITE EXPOSURE PATHWAY Pathway Score: 29.63

A. Access [ none=0; unlimited=4]: 4

B. Known (25), suspected (15), or no known (0) release: 25

C. Quality of containment [ very good=0; poor=5]: 5

SUBSTANCE: (CAS: 127184 )	Tetrachloroethene
2D. Toxicity: 4	3D. Quantity: 4 -

1E. Distance to resident [<300'=8; >1mile=1]: 8

2E. Sensitive Environment affected [yes=1]: 0



SITE NAME: Dry Cleaning Depot (former)		
HSI NUMBER: 10880		SITE LOCATION: Roswell, Fulton County
NUMBER	DATE	DESCRIPTION OF DOCKET ITEM
1	8/21/2007	Release Notification Form
2	10/2/2007	Trip Report - notification site visit
3	11/5/2007	Supplimental Info- partial info from Brownfield PPCSR
4	11/5/2007	Justification Memo for Listing on HSI & RQSM Scoring
5	12/11/2007	HSI Listing Letter
6	12/21/2007	Change of Address for Property Owner
7	2/7/2008	Returned HSI Letter (KIC management) Resend
8	6/30/2009	Call-In <del>Mr</del> Hertman Casablanca
9	6/30/2009	Call-In Ms <del>Mary Jane</del> Casablanca
10	6/30/2009	Call-In Grad Enterprises c/o <sup>Mr</sup> Richard Gush's
11	6/30/2009	Call-In <sup>Mr</sup> Yoan Yun
12	6/30/2009	Call-In Ms. Karen O'Hara
13	6/30/2009	Call-In KIC Management, LLC do Mr <del>Edwin</del> <sup>Chin</sup>
14	7/8/2009	Returned Call-In (Mr Hertman): Refused
15	7/8/2009	Returned Call-In (Ms Mary Jane Hertman): Refused
16	7/14/2009	Returned Call-In (Grad Enterprises): Unable to forward
17	7/17/2009	Returned Call-In (Mr Yoan Yun): Refused
18	7/27/2009	Returned Call-In (Ms Karen O'Hara): Unclaimed
19	7/25/2009	Intent to submit (SR (Call-In Response KIC)
20	12/17/2009	Extension Request (KIC)
21		
22		
23		
24		
25		
26		

November 5, 2007

**MEMORANDUM**

**TO:** Alex Cleary *ayc*  
**THRU:** Bo Valli  
**FROM:** Abebi Stafford *A.S*  
**SUBJECT:** HSI Recommendation for Dry Cleaning Depot

---

The Dry Cleaning Depot is located at 1073 Alpharetta Street, Roswell, Fulton County, Georgia. The property owner is KIC Management, LLC. BAT Associates, Inc. (BAT), was retained to perform a to perform a Phase I Environmental Site Assessment (ESA) of the site due to a historical presence of a dry cleaner. In August of 2005, as part of their assessment, BAT conducted a shallow soil investigation during which five soil borings were advanced to depths of 3 feet below ground surface (bgs). Tetrachloroethylene (PCE) was detected in soil samples with concentrations ranging from 0.0037 mg/kg to 2.7 mg/kg.

In September of 2005, Atlanta Environmental Consultants (AEC) conducted a Phase II ESA. As part of the Phase II ESA, five additional soil borings were advanced to auger refusal, which ranged from 19 to 23 feet bgs. Two soil samples from each boring were submitted for Volatile Organic Compound (VOC) analysis. PCE was detected in the Phase II ESA at levels exceeding notification concentrations.

On August 2, 2007, a HSRA Notification was submitted to the Environmental Protection Division (EPD) and a site visit was conducted on October 2, 2007 in connection with the RQSM scoring; the Trip Report provides details of the site visit. There is reportedly a pending transaction between the property owner and RE/MAX Communities Commercial Development of Marietta.

**Groundwater**

Groundwater was not sampled during the Phase I and Phase II ESAs for the Dry Cleaning Depot site. Groundwater information was submitted to EPD in a brownfield application for the Frazier Street Apartments, an adjacent down-gradient property less than 300 ft from Dry Cleaning Depot. The groundwater sampling information reported a release of PCE greater than the safe drinking water standard at three wells located towards the northwest side of the property, which is the closest to Dry Cleaning Depot. A well survey was performed within a one-mile radius around the site, and from the search, no wells were found. Wells outside of that radius are unconfirmed; therefore a conservative number (distance=4) was used for scoring. The site was evaluated as a release of a known quantity of PCE into groundwater, and the resulting groundwater pathway score of 6.5 does not exceed the threshold criteria value of 10.



### On-Site Exposure

The site has a known release of PCE (toxicity=4, default quantity=4) and several of the VOC-impacted samples were collected from shallow depths in a grass-covered area within the property. A containment value of 5 is based on a cover value of 3 (no cover) and an assumed sample depth of 6 inches (several VOC-impacted soil samples were collected from within the top 3 feet of the soil column but exact depths were not provided). The site has unlimited access and the nearest resident is located less than 300 feet from the site. The resulting on-site exposure pathway score of 29.63, exceeds the threshold criteria value of 20.

### Conclusion

The on-site pathway score exceeds the threshold criteria; therefore, this site is recommended for listing on the HSI.



Printed 12-13-09

GEORGIA ENVIRONMENTAL PROTECTION DIVISION  
HAZARDOUS SITE INVENTORY  
July 1, 2009

Site Number: 10880

SITE NAME: Dry Cleaning Depot  
LOCATION: 1073 Alpharetta Street  
Roswell, Fulton County, GA 30075

PARCEL ID: 12-1902-0412-049-1  
Latitude 34° 1' 40" N Longitude 84° 21' 28" W

LAST KNOWN PROPERTY OWNER:

KIC Management, LLC  
2270 Evergreen Lane  
Lawrenceville, GA 30043



EPD received notification of a release to the following property(s), and determined on the indicated date that the property should be sublisted as part of this site.

Frazier Street Apartments

Parcel # 12 200404260359

1/31/2008

STATUS OF CLEANUP ACTIVITIES:

EPD has not yet directed the responsible parties to begin investigation or cleanup under the Hazardous Site Response Act for source materials, soil, and groundwater.

CLEANUP PRIORITY: The Director has designated this site as a Class II

GA EPD DIRECTOR'S DETERMINATION REGARDING CORRECTIVE ACTION:

Pending

REGULATED SUBSTANCES RELEASED, AND THREATS TO HUMAN HEALTH AND ENVIRONMENT POSED BY THE RELEASE:

This site has a known release of Tetrachloroethene in soil at levels exceeding the reportable quantity. This site has unlimited access. The nearest resident individual is less than 300 feet from the area affected by the release.

REGULATED SUBSTANCES:

Substance Name	GW	Soil	Substance Name	GW	Soil
Tetrachloroethene	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

**APPENDIX C**

**SOIL AND  
GROUNDWATER  
ANALYTICAL  
REPORTS**

Analytical Report  
**L6D0022**

Project  
**Former Dry Cleaning Depot**

Project Number  
**ECC-3056**



April 15, 2016  
Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144



**Minority Women Business Enterprise**  
**Small Disadvantaged Business Enterprise**





Minority Women Business Enterprise  
Small Disadvantaged Business Enterprise

6017 Financial Dr.  
Norcross, GA, 30071

Phone #: 770-449-8800  
Website: [www.ftsanalytical.com](http://www.ftsanalytical.com)

April 15, 2016

Mr. Peter Kallay  
Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

RE: Former Dry Cleaning Depot

We are reporting the results of the analyses performed on the samples received on 4/5/2016 under the project name referenced above and identified as the lab Work Order L6D0022. All results being reported under this Report apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontracted lab, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reporting using all other available quality control methods.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by FTS Analytical Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise agreed upon. The samples received, and described as recorded in Work Order L6D0022 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise agreed upon. We reserve the right to return to you any unused samples, extracts, or solutions if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding standard practices, controlled/regulated substances, etc.)

We thank you for selecting FTS Analytical to serve your analytical needs. If you have any questions concerning this report, please do not hesitate to contact us at any time. We will be happy to help.

Sincerely,

John Andros  
Senior Project Manager



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NELAC DoD Accredited

Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/15/2016 13:23

### Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
L6D0022-01	B-2B 2'	Solid	05-Apr-2016 11:50	05-Apr-2016 13:30



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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/15/2016 13:23

### Analysis Case Narrative

SW8260B

Batch B6D0119

2-Chloroethyl vinyl ether recovered below QC limits in Blank Spike, Blank Spike Duplicate. Acceptable per NELAC, Appendix D, Marginal Exceedances.

Samples affected: L6D0022-01.

Note: Methylene Chloride is suspected laboratory contamination.





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3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/15/2016 13:23

## Sample Results

Client Sample ID: B-2B 2'  
Lab Sample ID: L6D0022-01 (Solid)

Sampled:  
4/5/16 11:50

Analyte	Result	Qual	RL	Units	Dil	Date Prepared	Date Analyzed	CAS#	Method
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### Inorganic Chemistry Analysis

Batch: B6D0137

Analyst: NS

Percent Moisture	13.3		0.100	%	1	4/6/16 7:00	4/7/16 7:00		SM 2540G
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### VOCs by Method 8260B

Batch: B6D0119

Analyst: MWE/ZHO

1,1,1,2-Tetrachloroethane	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	630-20-6	EPA 8260B
1,1,1-Trichloroethane	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	71-55-6	EPA 8260B
1,1,2,2-Tetrachloroethane	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	79-34-5	EPA 8260B
1,1,2-Trichloroethane	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	79-00-5	EPA 8260B
1,1-Dichloroethane	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	75-34-3	EPA 8260B
1,1-Dichloroethene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	75-35-4	EPA 8260B
1,1-Dichloropropene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	563-58-6	EPA 8260B
1,2,3-Trichlorobenzene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	87-61-6	EPA 8260B
1,2,3-Trichloropropane	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	96-18-4	EPA 8260B
1,2,4-Trichlorobenzene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	120-82-1	EPA 8260B
1,2,4-Trimethylbenzene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	95-63-6	EPA 8260B
1,2-Dibromo-3-Chloropropane (DBCP)	0.0198	U	0.0198	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	96-12-8	EPA 8260B
1,2-Dibromoethane (EDB)	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	106-93-4	EPA 8260B
1,2-Dichlorobenzene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	95-50-1	EPA 8260B
1,2-Dichloroethane	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	107-06-2	EPA 8260B
1,2-Dichloropropane	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	78-87-5	EPA 8260B
1,3,5-Trimethylbenzene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	108-67-8	EPA 8260B
1,3-Dichlorobenzene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	541-73-1	EPA 8260B
1,3-Dichloropropane	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	142-28-9	EPA 8260B
1,4-Dichlorobenzene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	106-46-7	EPA 8260B
2,2-Dichloropropane	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	590-20-7	EPA 8260B
2-Chloroethyl vinyl ether	0.00988	XU	0.00988	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	110-75-8	EPA 8260B
2-Chlorotoluene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	95-49-8	EPA 8260B
2-Hexanone	0.0247	U	0.0247	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	591-78-6	EPA 8260B
4-Chlorotoluene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	106-43-4	EPA 8260B
4-Methyl-2-pentanone (MIBK)	0.0247	U	0.0247	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	108-10-1	EPA 8260B
Acetone	0.0494	U	0.0494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	67-64-1	EPA 8260B
Acrolein	0.0247	U	0.0247	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	107-02-8	EPA 8260B
Acrylonitrile	0.0247	U	0.0247	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	107-13-1	EPA 8260B
Benzene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	71-43-2	EPA 8260B
Bromobenzene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	108-86-1	EPA 8260B
Bromochloromethane	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	74-97-5	EPA 8260B
Bromodichloromethane	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	75-27-4	EPA 8260B
Bromoform	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	75-25-2	EPA 8260B
Bromomethane (Methyl Bromide)	0.00988	U	0.00988	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	74-83-9	EPA 8260B
Carbon disulfide	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	75-15-0	EPA 8260B
Carbon tetrachloride	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	56-23-5	EPA 8260B
Chlorobenzene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	108-90-7	EPA 8260B



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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/15/2016 13:23

### Sample Results (Continued)

Client Sample ID: B-2B 2' (Continued)  
Lab Sample ID: L6D0022-01 (Solid)

Sampled:  
4/5/16 11:50

Analyte	Result	Qual	RL	Units	Dil	Date Prepared	Date Analyzed	CAS#	Method
<b>VOCs by Method 8260B (Continued)</b>			<b>Batch: B6D0119</b>			<b>Analyst: MWE/ZHO</b>			
Chloroethane	0.00988	U	0.00988	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	75-00-3	EPA 8260B
Chloroform	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	67-66-3	EPA 8260B
Chloromethane (Methyl Chloride)	0.00988	U	0.00988	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	74-87-3	EPA 8260B
cis-1,2-Dichloroethene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	156-59-4	EPA 8260B
cis-1,3-Dichloropropene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	10061-01-5	EPA 8260B
Dibromochloromethane	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	124-48-1	EPA 8260B
Dibromomethane	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	74-95-3	EPA 8260B
Dichlorodifluoromethane	0.00988	U	0.00988	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	75-71-8	EPA 8260B
Ethylbenzene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	100-41-4	EPA 8260B
Hexachlorobutadiene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	87-68-3	EPA 8260B
Isopropylbenzene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	98-82-8	EPA 8260B
m,p-Xylenes	0.00988	U	0.00988	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07		EPA 8260B
2-Butanone (MEK)	0.0494	U	0.0494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	78-93-3	EPA 8260B
<b>Methylene Chloride</b>	<b>0.00610</b>		0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	75-09-2	EPA 8260B
Naphthalene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	91-20-3	EPA 8260B
n-Butylbenzene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	104-51-8	EPA 8260B
n-Propylbenzene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	103-65-1	EPA 8260B
o-Xylene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	95-47-6	EPA 8260B
4-Isopropyltoluene (p-Cymene)	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	99-87-6	EPA 8260B
sec-Butylbenzene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	135-98-8	EPA 8260B
Styrene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	100-42-5	EPA 8260B
tert-Butylbenzene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	98-06-6	EPA 8260B
<b>Tetrachloroethylene</b>	<b>0.0103</b>		0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	127-18-4	EPA 8260B
Toluene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	108-88-3	EPA 8260B
trans-1,2-Dichloroethene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	156-60-5	EPA 8260B
trans-1,3-Dichloropropene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	1006-10-26	EPA 8260B
Trichloroethylene	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	79-01-6	EPA 8260B
Trichlorofluoromethane	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	75-69-4	EPA 8260B
Vinyl acetate	0.0247	U	0.0247	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	108-05-4	EPA 8260B
Vinyl chloride	0.00494	U	0.00494	mg/Kg dry	1	4/5/16 15:00	4/5/16 17:07	75-01-4	EPA 8260B
<i>Surrogate: 1,2-Dichloroethane-D4 (SUR)</i>			109%	50-150			4/5/16 17:07	10706-07-0	EPA 8260B
<i>Surrogate: 4-Bromofluorobenzene (SUR)</i>			93%	57-158			4/5/16 17:07	460-00-4	EPA 8260B
<i>Surrogate: Toluene-D8 (SUR)</i>			96%	50-150			4/5/16 17:07	2037-26-5	EPA 8260B



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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/15/2016 13:23

## Quality Control

### Volatile Organic Analysis by GC-MS Method 8260B

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: B6D0119 - E5035 VOAs

##### Blank (B6D0119-BLK1)

Prepared & Analyzed: 4/5/2016

1,1,1,2-Tetrachloroethane	0.00500	U	0.00500	mg/Kg wet
1,1,1-Trichloroethane	0.00500	U	0.00500	mg/Kg wet
1,1,2,2-Tetrachloroethane	0.00500	U	0.00500	mg/Kg wet
1,1,2-Trichloroethane	0.00500	U	0.00500	mg/Kg wet
1,1-Dichloroethane	0.00500	U	0.00500	mg/Kg wet
1,1-Dichloroethene	0.00500	U	0.00500	mg/Kg wet
1,1-Dichloropropene	0.00500	U	0.00500	mg/Kg wet
1,2,3-Trichlorobenzene	0.00500	U	0.00500	mg/Kg wet
1,2,3-Trichloropropane	0.00500	U	0.00500	mg/Kg wet
1,2,4-Trichlorobenzene	0.00500	U	0.00500	mg/Kg wet
1,2,4-Trimethylbenzene	0.00500	U	0.00500	mg/Kg wet
1,2-Dibromo-3-Chloropropane (DBCP)	0.0200	U	0.0200	mg/Kg wet
1,2-Dibromoethane (EDB)	0.00500	U	0.00500	mg/Kg wet
1,2-Dichlorobenzene	0.00500	U	0.00500	mg/Kg wet
1,2-Dichloroethane	0.00500	U	0.00500	mg/Kg wet
1,2-Dichloropropane	0.00500	U	0.00500	mg/Kg wet
1,3,5-Trimethylbenzene	0.00500	U	0.00500	mg/Kg wet
1,3-Dichlorobenzene	0.00500	U	0.00500	mg/Kg wet
1,3-Dichloropropane	0.00500	U	0.00500	mg/Kg wet
1,4-Dichlorobenzene	0.00500	U	0.00500	mg/Kg wet
2,2-Dichloropropane	0.00500	U	0.00500	mg/Kg wet
2-Chloroethyl vinyl ether	0.0100	U	0.0100	mg/Kg wet
2-Chlorotoluene	0.00500	U	0.00500	mg/Kg wet
2-Hexanone	0.0250	U	0.0250	mg/Kg wet
4-Chlorotoluene	0.00500	U	0.00500	mg/Kg wet
4-Methyl-2-pentanone (MIBK)	0.0250	U	0.0250	mg/Kg wet
Acetone	0.0500	U	0.0500	mg/Kg wet
Acrolein	0.0250	U	0.0250	mg/Kg wet
Acrylonitrile	0.0250	U	0.0250	mg/Kg wet
Benzene	0.00500	U	0.00500	mg/Kg wet
Bromobenzene	0.00500	U	0.00500	mg/Kg wet
Bromochloromethane	0.00500	U	0.00500	mg/Kg wet
Bromodichloromethane	0.00500	U	0.00500	mg/Kg wet
Bromoform	0.00500	U	0.00500	mg/Kg wet
Bromomethane (Methyl Bromide)	0.0100	U	0.0100	mg/Kg wet
Carbon disulfide	0.00500	U	0.00500	mg/Kg wet
Carbon tetrachloride	0.00500	U	0.00500	mg/Kg wet
Chlorobenzene	0.00500	U	0.00500	mg/Kg wet
Chloroethane	0.0100	U	0.0100	mg/Kg wet
Chloroform	0.00500	U	0.00500	mg/Kg wet
Chloromethane (Methyl Chloride)	0.0100	U	0.0100	mg/Kg wet





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Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/15/2016 13:23

**Quality Control**  
(Continued)

**Volatile Organic Analysis by GC-MS Method 8260B (Continued)**

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch: B6D0119 - E5035 VOAs (Continued)**

**Blank (B6D0119-BLK1)**

Prepared & Analyzed: 4/5/2016

cis-1,2-Dichloroethene	0.00500	U	0.00500	mg/Kg wet
cis-1,3-Dichloropropene	0.00500	U	0.00500	mg/Kg wet
Dibromochloromethane	0.00500	U	0.00500	mg/Kg wet
Dibromomethane	0.00500	U	0.00500	mg/Kg wet
Dichlorodifluoromethane	0.0100	U	0.0100	mg/Kg wet
Ethylbenzene	0.00500	U	0.00500	mg/Kg wet
Hexachlorobutadiene	0.00500	U	0.00500	mg/Kg wet
Isopropylbenzene	0.00500	U	0.00500	mg/Kg wet
m,p-Xylenes	0.0100	U	0.0100	mg/Kg wet
2-Butanone (MEK)	0.0500	U	0.0500	mg/Kg wet
Methylene Chloride	0.00500	U	0.00500	mg/Kg wet
Naphthalene	0.00500	U	0.00500	mg/Kg wet
n-Butylbenzene	0.00500	U	0.00500	mg/Kg wet
n-Propylbenzene	0.00500	U	0.00500	mg/Kg wet
o-Xylene	0.00500	U	0.00500	mg/Kg wet
4-Isopropyltoluene (p-Cymene)	0.00500	U	0.00500	mg/Kg wet
sec-Butylbenzene	0.00500	U	0.00500	mg/Kg wet
Styrene	0.00500	U	0.00500	mg/Kg wet
tert-Butylbenzene	0.00500	U	0.00500	mg/Kg wet
Tetrachloroethylene	0.00500	U	0.00500	mg/Kg wet
Toluene	0.00500	U	0.00500	mg/Kg wet
trans-1,2-Dichloroethene	0.00500	U	0.00500	mg/Kg wet
trans-1,3-Dichloropropene	0.00500	U	0.00500	mg/Kg wet
Trichloroethylene	0.00500	U	0.00500	mg/Kg wet
Trichlorofluoromethane	0.00500	U	0.00500	mg/Kg wet
Vinyl acetate	0.0250	U	0.0250	mg/Kg wet
Vinyl chloride	0.00500	U	0.00500	mg/Kg wet

Surrogate: 1,2-Dichloroethane-D4 (SUR)	0.0555	mg/Kg wet	0.0500	111	50-150
Surrogate: 4-Bromofluorobenzene (SUR)	0.0472	mg/Kg wet	0.0500	94	57-158
Surrogate: Toluene-D8 (SUR)	0.0493	mg/Kg wet	0.0500	99	50-150



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Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/15/2016 13:23

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: B6D0119 - E5035 VOAs (Continued)

##### LCS (B6D0119-BS1)

Prepared & Analyzed: 4/5/2016

1,1,1,2-Tetrachloroethane	0.0566		0.00500	mg/Kg wet	0.0500		113	83-126		
1,1,1-Trichloroethane	0.0598		0.00500	mg/Kg wet	0.0500		120	75-145		
1,1,2,2-Tetrachloroethane	0.0497		0.00500	mg/Kg wet	0.0500		99	78-120		
1,1,2-Trichloroethane	0.0514		0.00500	mg/Kg wet	0.0500		103	81-115		
1,1-Dichloroethane	0.0468		0.00500	mg/Kg wet	0.0500		94	73-131		
1,1-Dichloroethene	0.0516		0.00500	mg/Kg wet	0.0500		103	67-144		
1,1-Dichloropropene	0.0621		0.00500	mg/Kg wet	0.0500		124	83-141		
1,2,3-Trichlorobenzene	0.0635		0.00500	mg/Kg wet	0.0500		127	59-168		
1,2,3-Trichloropropane	0.0471		0.00500	mg/Kg wet	0.0500		94	73-129		
1,2,4-Trichlorobenzene	0.0578		0.00500	mg/Kg wet	0.0500		116	61-170		
1,2,4-Trimethylbenzene	0.0595		0.00500	mg/Kg wet	0.0500		119	73-145		
1,2-Dibromo-3-Chloropropane (DBCP)	0.0395		0.0200	mg/Kg wet	0.0500		79	62-146		
1,2-Dibromoethane (EDB)	0.0509		0.00500	mg/Kg wet	0.0500		102	81-121		
1,2-Dichlorobenzene	0.0566		0.00500	mg/Kg wet	0.0500		113	70-146		
1,2-Dichloroethane	0.0460		0.00500	mg/Kg wet	0.0500		92	63-150		
1,2-Dichloropropane	0.0532		0.00500	mg/Kg wet	0.0500		106	76-121		
1,3,5-Trimethylbenzene	0.0600		0.00500	mg/Kg wet	0.0500		120	69-152		
1,3-Dichlorobenzene	0.0589		0.00500	mg/Kg wet	0.0500		118	73-145		
1,3-Dichloropropane	0.0516		0.00500	mg/Kg wet	0.0500		103	82-117		
1,4-Dichlorobenzene	0.0576		0.00500	mg/Kg wet	0.0500		115	74-143		
2,2-Dichloropropane	0.0600		0.00500	mg/Kg wet	0.0500		120	67-153		
2-Chloroethyl vinyl ether	0.0517	X	0.0100	mg/Kg wet	0.100		52	57-142		
2-Chlorotoluene	0.0577		0.00500	mg/Kg wet	0.0500		115	74-143		
2-Hexanone	0.0875		0.0250	mg/Kg wet	0.100		87	59-154		
4-Chlorotoluene	0.0582		0.00500	mg/Kg wet	0.0500		116	76-140		
4-Methyl-2-pentanone (MIBK)	0.0893		0.0250	mg/Kg wet	0.100		89	65-132		
Acetone	0.0746		0.0500	mg/Kg wet	0.100		75	43-163		
Acrolein	0.104		0.0250	mg/Kg wet	0.100		104	41-157		
Acrylonitrile	0.0879		0.0250	mg/Kg wet	0.100		88	64-156		
Benzene	0.0566		0.00500	mg/Kg wet	0.0500		113	82-121		
Bromobenzene	0.0542		0.00500	mg/Kg wet	0.0500		108	83-120		
Bromochloromethane	0.0554		0.00500	mg/Kg wet	0.0500		111	79-126		
Bromodichloromethane	0.0554		0.00500	mg/Kg wet	0.0500		111	80-135		
Bromoform	0.0481		0.00500	mg/Kg wet	0.0500		96	71-135		
Bromomethane (Methyl Bromide)	0.0456		0.0100	mg/Kg wet	0.0500		91	51-149		
Carbon disulfide	0.0582		0.00500	mg/Kg wet	0.0500		116	57-151		
Carbon tetrachloride	0.0621		0.00500	mg/Kg wet	0.0500		124	70-156		
Chlorobenzene	0.0569		0.00500	mg/Kg wet	0.0500		114	76-131		
Chloroethane	0.0486		0.0100	mg/Kg wet	0.0500		97	64-131		
Chloroform	0.0557		0.00500	mg/Kg wet	0.0500		111	78-125		
Chloromethane (Methyl Chloride)	0.0486		0.0100	mg/Kg wet	0.0500		97	0-200		



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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/15/2016 13:23

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B6D0119 - E5035 VOAs (Continued)</b>										
<b>LCS (B6D0119-BS1)</b>					Prepared & Analyzed: 4/5/2016					
cis-1,2-Dichloroethene	0.0562		0.00500	mg/Kg wet	0.0500		112	80-123		
cis-1,3-Dichloropropene	0.0504		0.00500	mg/Kg wet	0.0500		101	81-123		
Dibromochloromethane	0.0545		0.00500	mg/Kg wet	0.0500		109	81-136		
Dibromomethane	0.0509		0.00500	mg/Kg wet	0.0500		102	79-128		
Dichlorodifluoromethane	0.0455		0.0100	mg/Kg wet	0.0500		91	33-161		
Ethylbenzene	0.0592		0.00500	mg/Kg wet	0.0500		118	84-129		
Hexachlorobutadiene	0.0616		0.00500	mg/Kg wet	0.0500		123	33-221		
Isopropylbenzene	0.0625		0.00500	mg/Kg wet	0.0500		125	65-153		
m,p-Xylenes	0.121		0.0100	mg/Kg wet	0.100		121	75-141		
2-Butanone (MEK)	0.0843		0.0500	mg/Kg wet	0.100		84	44-158		
Methylene Chloride	0.0511		0.00500	mg/Kg wet	0.0500		102	65-137		
Naphthalene	0.0449		0.00500	mg/Kg wet	0.0500		90	68-151		
n-Butylbenzene	0.0610		0.00500	mg/Kg wet	0.0500		122	43-199		
n-Propylbenzene	0.0606		0.00500	mg/Kg wet	0.0500		121	60-161		
o-Xylene	0.0596		0.00500	mg/Kg wet	0.0500		119	73-141		
4-Isopropyltoluene (p-Cymene)	0.0624		0.00500	mg/Kg wet	0.0500		125	59-127		
sec-Butylbenzene	0.0606		0.00500	mg/Kg wet	0.0500		121	44-179		
Styrene	0.0584		0.00500	mg/Kg wet	0.0500		117	82-129		
tert-Butylbenzene	0.0614		0.00500	mg/Kg wet	0.0500		123	56-163		
Tetrachloroethylene	0.0562		0.00500	mg/Kg wet	0.0500		112	64-148		
Toluene	0.0564		0.00500	mg/Kg wet	0.0500		113	83-115		
trans-1,2-Dichloroethene	0.0513		0.00500	mg/Kg wet	0.0500		103	72-132		
trans-1,3-Dichloropropene	0.0474		0.00500	mg/Kg wet	0.0500		95	82-132		
Trichloroethylene	0.0580		0.00500	mg/Kg wet	0.0500		116	80-126		
Trichlorofluoromethane	0.0530		0.00500	mg/Kg wet	0.0500		106	55-155		
Vinyl acetate	0.0531		0.0250	mg/Kg wet	0.0500		106	57-146		
Vinyl chloride	0.0564		0.00500	mg/Kg wet	0.0500		113	70-130		
<hr/>										
Surrogate: 1,2-Dichloroethane-D4 (SUR)			0.0447	mg/Kg wet	0.0500		89	50-150		
Surrogate: 4-Bromofluorobenzene (SUR)			0.0477	mg/Kg wet	0.0500		95	57-158		
Surrogate: Toluene-D8 (SUR)			0.0489	mg/Kg wet	0.0500		98	50-150		





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3440 Blue Springs Rd. Suite 503  
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Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/15/2016 13:23

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B6D0119 - E5035 VOAs (Continued)</b>										
<b>LCS Dup (B6D0119-BSD1)</b>					Prepared & Analyzed: 4/5/2016					
1,1,1,2-Tetrachloroethane	0.0555		0.00500	mg/Kg wet	0.0500		111	83-126	2	20
1,1,1-Trichloroethane	0.0551		0.00500	mg/Kg wet	0.0500		110	75-145	8	20
1,1,2,2-Tetrachloroethane	0.0537		0.00500	mg/Kg wet	0.0500		107	78-120	8	20
1,1,2-Trichloroethane	0.0516		0.00500	mg/Kg wet	0.0500		103	81-115	0.4	20
1,1-Dichloroethane	0.0452		0.00500	mg/Kg wet	0.0500		90	73-131	4	20
1,1-Dichloroethene	0.0477		0.00500	mg/Kg wet	0.0500		95	67-144	8	20
1,1-Dichloropropene	0.0568		0.00500	mg/Kg wet	0.0500		114	83-141	9	20
1,2,3-Trichlorobenzene	0.0607		0.00500	mg/Kg wet	0.0500		121	59-168	5	20
1,2,3-Trichloropropane	0.0512		0.00500	mg/Kg wet	0.0500		102	73-129	8	20
1,2,4-Trichlorobenzene	0.0552		0.00500	mg/Kg wet	0.0500		110	61-170	5	20
1,2,4-Trimethylbenzene	0.0580		0.00500	mg/Kg wet	0.0500		116	73-145	3	20
1,2-Dibromo-3-Chloropropane (DBCP)	0.0425		0.0200	mg/Kg wet	0.0500		85	62-146	7	20
1,2-Dibromoethane (EDB)	0.0524		0.00500	mg/Kg wet	0.0500		105	81-121	3	20
1,2-Dichlorobenzene	0.0559		0.00500	mg/Kg wet	0.0500		112	70-146	1	20
1,2-Dichloroethane	0.0484		0.00500	mg/Kg wet	0.0500		97	63-150	5	20
1,2-Dichloropropane	0.0512		0.00500	mg/Kg wet	0.0500		102	76-121	4	20
1,3,5-Trimethylbenzene	0.0587		0.00500	mg/Kg wet	0.0500		117	69-152	2	20
1,3-Dichlorobenzene	0.0583		0.00500	mg/Kg wet	0.0500		117	73-145	1	20
1,3-Dichloropropane	0.0522		0.00500	mg/Kg wet	0.0500		104	82-117	1	20
1,4-Dichlorobenzene	0.0564		0.00500	mg/Kg wet	0.0500		113	74-143	2	20
2,2-Dichloropropane	0.0552		0.00500	mg/Kg wet	0.0500		110	67-153	8	20
2-Chloroethyl vinyl ether	0.0555	X	0.0100	mg/Kg wet	0.100		56	57-142	7	20
2-Chlorotoluene	0.0563		0.00500	mg/Kg wet	0.0500		113	74-143	2	20
2-Hexanone	0.0724		0.0250	mg/Kg wet	0.100		72	59-154	19	20
4-Chlorotoluene	0.0565		0.00500	mg/Kg wet	0.0500		113	76-140	3	20
4-Methyl-2-pentanone (MIBK)	0.0971		0.0250	mg/Kg wet	0.100		97	65-132	8	20
Acetone	0.0750		0.0500	mg/Kg wet	0.100		75	43-163	0.5	20
Acrolein	0.113		0.0250	mg/Kg wet	0.100		113	41-157	8	20
Acrylonitrile	0.0884		0.0250	mg/Kg wet	0.100		88	64-156	0.6	20
Benzene	0.0532		0.00500	mg/Kg wet	0.0500		106	82-121	6	20
Bromobenzene	0.0532		0.00500	mg/Kg wet	0.0500		106	83-120	2	20
Bromochloromethane	0.0545		0.00500	mg/Kg wet	0.0500		109	79-126	1	20
Bromodichloromethane	0.0537		0.00500	mg/Kg wet	0.0500		107	80-135	3	20
Bromoform	0.0509		0.00500	mg/Kg wet	0.0500		102	71-135	6	20
Bromomethane (Methyl Bromide)	0.0434		0.0100	mg/Kg wet	0.0500		87	51-149	5	20
Carbon disulfide	0.0531		0.00500	mg/Kg wet	0.0500		106	57-151	9	20
Carbon tetrachloride	0.0577		0.00500	mg/Kg wet	0.0500		115	70-156	7	20
Chlorobenzene	0.0555		0.00500	mg/Kg wet	0.0500		111	76-131	3	20
Chloroethane	0.0447		0.0100	mg/Kg wet	0.0500		89	64-131	8	20
Chloroform	0.0527		0.00500	mg/Kg wet	0.0500		105	78-125	5	20
Chloromethane (Methyl Chloride)	0.0430		0.0100	mg/Kg wet	0.0500		86	0-200	12	20



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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/15/2016 13:23

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B6D0119 - E5035 VOAs (Continued)</b>										
<b>LCS Dup (B6D0119-BSD1)</b>					Prepared & Analyzed: 4/5/2016					
cis-1,2-Dichloroethene	0.0539		0.00500	mg/Kg wet	0.0500		108	80-123	4	20
cis-1,3-Dichloropropene	0.0500		0.00500	mg/Kg wet	0.0500		100	81-123	0.8	20
Dibromochloromethane	0.0552		0.00500	mg/Kg wet	0.0500		110	81-136	1	20
Dibromomethane	0.0519		0.00500	mg/Kg wet	0.0500		104	79-128	2	20
Dichlorodifluoromethane	0.0408		0.0100	mg/Kg wet	0.0500		82	33-161	11	20
Ethylbenzene	0.0559		0.00500	mg/Kg wet	0.0500		112	84-129	6	20
Hexachlorobutadiene	0.0584		0.00500	mg/Kg wet	0.0500		117	33-221	5	20
Isopropylbenzene	0.0609		0.00500	mg/Kg wet	0.0500		122	65-153	3	20
m,p-Xylenes	0.116		0.0100	mg/Kg wet	0.100		116	75-141	4	20
2-Butanone (MEK)	0.0950		0.0500	mg/Kg wet	0.100		95	44-158	12	20
Methylene Chloride	0.0494		0.00500	mg/Kg wet	0.0500		99	65-137	3	20
Naphthalene	0.0460		0.00500	mg/Kg wet	0.0500		92	68-151	3	20
n-Butylbenzene	0.0585		0.00500	mg/Kg wet	0.0500		117	43-199	4	20
n-Propylbenzene	0.0583		0.00500	mg/Kg wet	0.0500		117	60-161	4	20
o-Xylene	0.0574		0.00500	mg/Kg wet	0.0500		115	73-141	4	20
4-Isopropyltoluene (p-Cymene)	0.0602		0.00500	mg/Kg wet	0.0500		120	59-127	4	20
sec-Butylbenzene	0.0589		0.00500	mg/Kg wet	0.0500		118	44-179	3	20
Styrene	0.0570		0.00500	mg/Kg wet	0.0500		114	82-129	2	20
tert-Butylbenzene	0.0602		0.00500	mg/Kg wet	0.0500		120	56-163	2	20
Tetrachloroethylene	0.0533		0.00500	mg/Kg wet	0.0500		107	64-148	5	20
Toluene	0.0535		0.00500	mg/Kg wet	0.0500		107	83-115	5	20
trans-1,2-Dichloroethene	0.0475		0.00500	mg/Kg wet	0.0500		95	72-132	8	20
trans-1,3-Dichloropropene	0.0468		0.00500	mg/Kg wet	0.0500		94	82-132	1	20
Trichloroethylene	0.0533		0.00500	mg/Kg wet	0.0500		107	80-126	8	20
Trichlorofluoromethane	0.0467		0.00500	mg/Kg wet	0.0500		93	55-155	13	20
Vinyl acetate	0.0499		0.0250	mg/Kg wet	0.0500		100	57-146	6	20
Vinyl chloride	0.0488		0.00500	mg/Kg wet	0.0500		98	70-130	15	20
<hr/>										
Surrogate: 1,2-Dichloroethane-D4 (SUR)			0.0450	mg/Kg wet	0.0500		90	50-150		
Surrogate: 4-Bromofluorobenzene (SUR)			0.0489	mg/Kg wet	0.0500		98	57-158		
Surrogate: Toluene-D8 (SUR)			0.0487	mg/Kg wet	0.0500		97	50-150		



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3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/15/2016 13:23

### Quality Control (Continued)

#### Percent Moisture and Total Solids by SM 2540G

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B6D0137 - No_Prep_Wet_Chem</b>										
<b>Duplicate (B6D0137-DUP1)</b>										
			<b>Source: L6D0022-01</b>			Prepared: 4/6/2016 Analyzed: 4/7/2016				
Percent Moisture	13.5		0.100	%		13.3			1	20
<b>Duplicate (B6D0137-DUP2)</b>										
			<b>Source: A6D0026-03</b>			Prepared: 4/6/2016 Analyzed: 4/7/2016				
Percent Moisture	15.9		0.100	%		16.0			0.8	20
<b>Duplicate (B6D0137-DUP3)</b>										
			<b>Source: A6D0026-13</b>			Prepared: 4/6/2016 Analyzed: 4/7/2016				
Percent Moisture	12.1		0.100	%		12.0			0.5	20





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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/15/2016 13:23

### List of Certifications for FTS Analytical Services - Lakeland

Number	Description	Code	Facility	Expires
04176	LA CERTIFICATE	LANELAC	FTSA	06/30/2016
483	NC CERTIFICATE	ANC	FTSA	12/31/2016
85	KENTUKY CERTIFICATE	KENTUKY	FTSA	
98015	SC CERTIFICATE	ASC	FTSA	06/30/2016
E84098	FL NELAC CERTIFICATE	LFLNELAC	FTSL	06/30/2016
E87429	FL NELAC CERTIFICATE	AFLNELAC	FTSA	06/30/2016
LI0-135	DoD CERTIFICATE	DOD	FTSA	06/30/2016
P330-07-00105	USDA CERTIFICATE	USDA	FTSA	

### Notes and Definitions

Qualifier	Definition
Dry	Sample results reported on a dry weight basis.
U	Analyte NOT DETECTED at or above the reporting limit.
A	Suspected adol-condensation product
B	Analyte detected in the method blank
C	Confirmed by GC/MS analysis
E	Concentration exceeds calibration range
K	Hold Time exceeded
J	Estimated Value
N	Tentatively Identified Compound
P	>25% difference between primary and secondary columns
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated.



ANALYTICAL SERVICES

## CHAIN OF CUSTODY

COC# ATR100147

Page \_\_\_\_\_ of \_\_\_\_\_

6017 Financial Drive, Norcross, GA 30071  
Phone # (770) 449-8800 Fax # (770) 449-547Company Name: Atlanta Environmental ConsultantsAddress: 3440 Blue Springs Rd #303, Kennesaw GAResults Sent to: Peter T. Kallay 30144Email address: AtlantaEnviroGCS.comContact Phone #: 770-529-2236 Cell#: 404-944-6731Project Name (Site): Former Dry Cleaning Depot (DCD)Project Number (ID): EC-3056Regulatory Program: Asbestos and Remediation VRP Chemical Preservation Code:Sampler(s): (signature) Peter T. Kallay Sampler(s): (printed)Container Type: GC Analysis Requested

Line No. Sample ID # Sample Depth (Ft) Collection Date / Time Matrix (See below) Composite Grab No. of Containers

1 B-2B-2' 2 4-5-2016 11:50 S ✓ 4 ✓

2

3

4

5

6

7

8

9

10

1) Relinquished By: Peter T. Kallay Date / Time: 04-05-2016 11:30 Received By: Tim Walech Date / Time: 4-5-16 / 350

3) Relinquished By: Date / Time: 4) Received By: Date / Time:

5) Relinquished By: Date / Time: 6) Received By: Date / Time:

Turnaround Time (business days)

TAT Starts when samples are rec'd by 2PM

10 Days; 5-7 Days; 3 Days

2 Days; 1 Day; Same Day

Matrix Guide: (W=Water) (DW=Drinking Water) (GW=Groundwater) (SW=Surface Water) (L=Liquid) (O=Oil) (S=Soil) (SD=Solid) (SL=Sludge) (A=Air) (C=Air Cartridge)

Chemical Preservation Codes: 1 = HCL / 2 = HNO<sub>3</sub> / 3 = H<sub>2</sub>SO<sub>4</sub> / 4 = NaOH + NaAsO<sub>2</sub> / 5 = NaOH + ZnAc / 6 = Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> / 7 = NaHSO<sub>4</sub> & MeOH / 8 = DI Water & MeOH

Container Type: VC=Vial (Clear); VA=Vial (Amber); GC=Glass (Clear); GA=Glass (Amber); P=Plastic (HDPE); TB=Tedlar Bag; ES=EnCore Sampler; ZB=Ziploc Bag; O=Other

Analytical Report  
**A6D0009**

Project  
**Former Dry Cleaning Depot**

Project Number  
**ECC-3056**



April 11, 2016  
Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144



**Minority Women Business Enterprise**  
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Minority Women Business Enterprise  
Small Disadvantaged Business Enterprise

6017 Financial Dr.  
Norcross, GA, 30071

Phone #: 770-449-8800  
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April 11, 2016

Mr. Peter Kallay  
Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

RE: Former Dry Cleaning Depot

We are reporting the results of the analyses performed on the samples received on 4/4/2016 under the project name referenced above and identified as the lab Work Order A6D0009. All results being reported under this Report apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontracted lab, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reporting using all other available quality control methods.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by FTS Analytical Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise agreed upon. The samples received, and described as recorded in Work Order A6D0009 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise agreed upon. We reserve the right to return to you any unused samples, extracts, or solutions if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding standard practices, controlled/regulated substances, etc.)

We thank you for selecting FTS Analytical to serve your analytical needs. If you have any questions concerning this report, please do not hesitate to contact us at any time. We will be happy to help.

Sincerely,

John Andros  
Senior Project Manager



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NELAC DoD Accredited

Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/11/2016 19:01

### Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
A6D0009-01	MW-1	Water	02-Apr-2016 11:25	04-Apr-2016 09:56
A6D0009-02	MW-8D	Water	02-Apr-2016 11:55	04-Apr-2016 09:56
A6D0009-03	MW-2	Water	02-Apr-2016 12:50	04-Apr-2016 09:56
A6D0009-04	MW-3	Water	02-Apr-2016 13:20	04-Apr-2016 09:56
A6D0009-05	MW-6	Water	02-Apr-2016 13:45	04-Apr-2016 09:56
A6D0009-06	MW-7	Water	02-Apr-2016 14:30	04-Apr-2016 09:56
A6D0009-07	MW-5	Water	02-Apr-2016 15:05	04-Apr-2016 09:56
A6D0009-08	MW-4	Water	02-Apr-2016 15:45	04-Apr-2016 09:56
A6D0009-09	TMW-9	Water	02-Apr-2016 17:05	04-Apr-2016 09:56
A6D0009-10	TRIP BLANK	Water	02-Apr-2016 00:00	04-Apr-2016 09:56



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Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/11/2016 19:01

### Analysis Case Narrative

SW8260B

Batch B6D0089

2-chloro-ethyl vinyl ether recovered above QC limits in the Blank Spike, Blank Spike Duplicate. cis-1,2-dichloroethene recovered below QC limits in the Blank Spike. Acceptable per NELAC, Appendix D, Marginal Exceedances.

Samples affected: A6D0009-01, -02, -03, -04, 10.

SW8260B

Batch B6D0122

2-chloro-ethyl vinyl ether, Chloroethane, Vinyl Acetate recovered above QC limits in the Blank Spike, Blank Spike Duplicate. 2,2-Dichloropropane recovered above QC limits in the Blank Spike. Acceptable per NELAC, Appendix D, Marginal Exceedances.

The RPD of the Blank Spike, Blank Spike Duplicate was outside QC limits for Dichlorodifluoromethane. The RPD was within limits in the Matrix Spike, Matrix Spike Duplicate.

Samples affected: A6D0009-05, 06, 07, 08, 09.

Due to HCL preservative, 2-chloro-ethyl vinyl ether recovered below QC limits in the Matrix Spike, Matrix Spike Duplicate.

Tetrachloroethylene recovered below QC limits in the Matrix Spike Duplicate.

Samples affected: A6D0009-05.

SW8260B

Batch B6D0156

2-chloro-ethyl vinyl ether, Chloroethane recovered above QC limits in the Blank Spike, Blank Spike Duplicate.

2,2-Dichloropropane,

Dichlorodifluoromethane, Vinyl acetate recovered above QC limits in the Blank Spike Duplicate. Acceptable per NELAC, Appendix D, Marginal Exceedances.

Samples affected: A6D0009-09.





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3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/11/2016 19:01

## Sample Results

**Client Sample ID: MW-1**  
**Lab Sample ID: A6D0009-01 (Water)**

Sampled:  
4/2/16 11:25

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B</b>		<b>Batch: B6D0089</b>		<b>Analyst: ZHO/MWE</b>			
1,1,1,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,1,1-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,1,2,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,1,2-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,1-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,1-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,1-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,2,3-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,2,3-Trichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,2,4-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,2,4-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,2-Dibromo-3-Chloropropane (DBCP)	< 20.0 U	20.0	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,2-Dibromoethane (EDB)	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,2-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,2-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,2-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,3,5-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,3-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,3-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
1,4-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
2,2-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
2-Chloroethyl vinyl ether	< 10.0 U, H	10.0	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
2-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
2-Hexanone	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
4-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
4-Methyl-2-pentanone (MIBK)	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Acetone	< 100 U	100	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Acrolein	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Acrylonitrile	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Benzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Bromobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Bromochloromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Bromodichloromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Bromoform	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Bromomethane (Methyl Bromide)	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Carbon disulfide	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Carbon tetrachloride	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Chlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Chloroethane	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Chloroform	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Chloromethane (Methyl Chloride)	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
cis-1,2-Dichloroethene	< 5.00 U, L	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.  
No duplication of this report is allowed, except in its entirety.



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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Sample Results (Continued)

Client Sample ID: MW-1 (Continued)  
Lab Sample ID: A6D0009-01 (Water)

Sampled:  
4/2/16 11:25

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B (Continued)</b>		<b>Batch: B6D0089</b>		<b>Analyst: ZHO/MWE</b>			
cis-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Dibromochloromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Dibromomethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Dichlorodifluoromethane	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Diethyl Ether (Ethyl Ether)	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
2-Butanone (MEK)	< 100 U	100	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Ethylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Hexachlorobutadiene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Isopropylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
m,p-Xylenes	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Methylene Chloride	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Naphthalene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
n-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
n-Propylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
o-Xylene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
4-Isopropyltoluene (p-Cymene)	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
sec-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Styrene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
tert-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Tetrachloroethylene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Toluene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
trans-1,2-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
trans-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Trichloroethylene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Trichlorofluoromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Vinyl acetate	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Vinyl chloride	< 2.00 U	2.00	ug/L	1	4/4/16 20:11	4/5/16 5:26	EPA 8260B
Surrogate: 1,2-Dichloroethane-D4 (SUR)		118%	53-159			4/5/16 5:26	EPA 8260B
Surrogate: 4-Bromofluorobenzene (SUR)		91%	30-186			4/5/16 5:26	EPA 8260B
Surrogate: Toluene-D8 (SUR)		100%	70-130			4/5/16 5:26	EPA 8260B

Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/11/2016 19:01

### Sample Results (Continued)

**Client Sample ID: MW-8D**  
**Lab Sample ID: A6D0009-02 (Water)**

Sampled:  
4/2/16 11:55

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B</b>		<b>Batch: B6D0089</b>		<b>Analyst: ZHO/MWE</b>			
1,1,1,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,1,1-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,1,2,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,1,2-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,1-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,1-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,1-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,2,3-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,2,3-Trichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,2,4-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,2,4-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,2-Dibromo-3-Chloropropane (DBCP)	< 20.0 U	20.0	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,2-Dibromoethane (EDB)	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,2-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,2-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,2-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,3,5-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,3-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,3-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
1,4-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
2,2-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
2-Chloroethyl vinyl ether	< 10.0 U, H	10.0	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
2-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
2-Hexanone	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
4-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
4-Methyl-2-pentanone (MIBK)	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Acetone	< 100 U	100	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Acrolein	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Acrylonitrile	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Benzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Bromobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Bromochloromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Bromodichloromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Bromoform	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Bromomethane (Methyl Bromide)	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Carbon disulfide	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Carbon tetrachloride	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Chlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Chloroethane	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Chloroform	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Chloromethane (Methyl Chloride)	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
cis-1,2-Dichloroethene	< 5.00 U, L	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B





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NELAC DoD Accredited

Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Sample Results (Continued)

Client Sample ID: MW-8D (Continued)  
Lab Sample ID: A6D0009-02 (Water)

Sampled:  
4/2/16 11:55

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B (Continued)</b>		<b>Batch: B6D0089</b>		<b>Analyst: ZHO/MWE</b>			
cis-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Dibromochloromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Dibromomethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Dichlorodifluoromethane	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Diethyl Ether (Ethyl Ether)	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
2-Butanone (MEK)	< 100 U	100	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Ethylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Hexachlorobutadiene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Isopropylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
m,p-Xylenes	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Methylene Chloride	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Naphthalene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
n-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
n-Propylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
o-Xylene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
4-Isopropyltoluene (p-Cymene)	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
sec-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Styrene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
tert-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Tetrachloroethylene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Toluene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
trans-1,2-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
trans-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Trichloroethylene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Trichlorofluoromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Vinyl acetate	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Vinyl chloride	< 2.00 U	2.00	ug/L	1	4/4/16 20:11	4/5/16 5:52	EPA 8260B
Surrogate: 1,2-Dichloroethane-D4 (SUR)		123%	53-159			4/5/16 5:52	EPA 8260B
Surrogate: 4-Bromofluorobenzene (SUR)		86%	30-186			4/5/16 5:52	EPA 8260B
Surrogate: Toluene-D8 (SUR)		101%	70-130			4/5/16 5:52	EPA 8260B



MWBE SDBE  
NELAC DoD Accredited

Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/11/2016 19:01

**Sample Results**  
(Continued)

**Client Sample ID: MW-2**  
**Lab Sample ID: A6D0009-03 (Water)**

Sampled:  
4/2/16 12:50

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B</b>		<b>Batch: B6D0089</b>		<b>Analyst: ZHO/MWE</b>			
1,1,1,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,1,1-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,1,2,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,1,2-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,1-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,1-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,1-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,2,3-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,2,3-Trichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,2,4-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,2,4-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,2-Dibromo-3-Chloropropane (DBCP)	< 20.0 U	20.0	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,2-Dibromoethane (EDB)	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,2-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,2-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,2-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,3,5-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,3-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,3-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
1,4-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
2,2-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
2-Chloroethyl vinyl ether	< 10.0 U, H	10.0	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
2-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
2-Hexanone	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
4-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
4-Methyl-2-pentanone (MIBK)	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Acetone	< 100 U	100	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Acrolein	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Acrylonitrile	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Benzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Bromobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Bromochloromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Bromodichloromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Bromoform	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Bromomethane (Methyl Bromide)	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Carbon disulfide	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Carbon tetrachloride	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Chlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Chloroethane	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Chloroform	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Chloromethane (Methyl Chloride)	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
cis-1,2-Dichloroethene	< 5.00 U, L	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.  
No duplication of this report is allowed, except in its entirety.



MWBE SDBE  
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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Sample Results (Continued)

Client Sample ID: MW-2 (Continued)  
Lab Sample ID: A6D0009-03 (Water)

Sampled:  
4/2/16 12:50

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B (Continued)</b>		<b>Batch: B6D0089</b>		<b>Analyst: ZHO/MWE</b>			
cis-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Dibromochloromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Dibromomethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Dichlorodifluoromethane	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Diethyl Ether (Ethyl Ether)	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
2-Butanone (MEK)	< 100 U	100	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Ethylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Hexachlorobutadiene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Isopropylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
m,p-Xylenes	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Methylene Chloride	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Naphthalene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
n-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
n-Propylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
o-Xylene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
4-Isopropyltoluene (p-Cymene)	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
sec-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Styrene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
tert-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Tetrachloroethylene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Toluene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
trans-1,2-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
trans-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Trichloroethylene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Trichlorofluoromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Vinyl acetate	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Vinyl chloride	< 2.00 U	2.00	ug/L	1	4/4/16 20:11	4/5/16 6:18	EPA 8260B
Surrogate: 1,2-Dichloroethane-D4 (SUR)		119%	53-159			4/5/16 6:18	EPA 8260B
Surrogate: 4-Bromofluorobenzene (SUR)		90%	30-186			4/5/16 6:18	EPA 8260B
Surrogate: Toluene-D8 (SUR)		99%	70-130			4/5/16 6:18	EPA 8260B





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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Sample Results (Continued)

Client Sample ID: MW-3  
Lab Sample ID: A6D0009-04 (Water)

Sampled:  
4/2/16 13:20

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B</b>		<b>Batch: B6D0089</b>		<b>Analyst: ZHO/MWE</b>			
1,1,1,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,1,1-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,1,2,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,1,2-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,1-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,1-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,1-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,2,3-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,2,3-Trichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,2,4-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,2,4-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,2-Dibromo-3-Chloropropane (DBCP)	< 20.0 U	20.0	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,2-Dibromoethane (EDB)	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,2-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,2-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,2-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,3,5-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,3-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,3-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
1,4-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
2,2-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
2-Chloroethyl vinyl ether	< 10.0 U, H	10.0	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
2-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
2-Hexanone	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
4-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
4-Methyl-2-pentanone (MIBK)	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Acetone	< 100 U	100	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Acrolein	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Acrylonitrile	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Benzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Bromobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Bromochloromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Bromodichloromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Bromoform	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Bromomethane (Methyl Bromide)	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Carbon disulfide	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Carbon tetrachloride	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Chlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Chloroethane	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Chloroform	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Chloromethane (Methyl Chloride)	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
cis-1,2-Dichloroethene	< 5.00 U, L	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.  
No duplication of this report is allowed, except in its entirety.



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NELAC DoD Accredited

Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Sample Results (Continued)

Client Sample ID: MW-3 (Continued)  
Lab Sample ID: A6D0009-04 (Water)

Sampled:  
4/2/16 13:20

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B (Continued)</b>		<b>Batch: B6D0089</b>		<b>Analyst: ZHO/MWE</b>			
cis-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Dibromochloromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Dibromomethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Dichlorodifluoromethane	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Diethyl Ether (Ethyl Ether)	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
2-Butanone (MEK)	< 100 U	100	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Ethylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Hexachlorobutadiene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Isopropylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
m,p-Xylenes	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Methylene Chloride	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Naphthalene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
n-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
n-Propylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
o-Xylene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
4-Isopropyltoluene (p-Cymene)	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
sec-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Styrene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
tert-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Tetrachloroethylene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Toluene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
trans-1,2-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
trans-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Trichloroethylene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Trichlorofluoromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Vinyl acetate	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Vinyl chloride	< 2.00 U	2.00	ug/L	1	4/4/16 20:11	4/5/16 6:44	EPA 8260B
Surrogate: 1,2-Dichloroethane-D4 (SUR)		119%	53-159			4/5/16 6:44	EPA 8260B
Surrogate: 4-Bromofluorobenzene (SUR)		89%	30-186			4/5/16 6:44	EPA 8260B
Surrogate: Toluene-D8 (SUR)		100%	70-130			4/5/16 6:44	EPA 8260B



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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/11/2016 19:01

### Sample Results (Continued)

**Client Sample ID: MW-6**  
**Lab Sample ID: A6D0009-05 (Water)**

Sampled:  
4/2/16 13:45

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B</b>		<b>Batch: B6D0122</b>		<b>Analyst: ZHO/MWE</b>			
1,1,1,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,1,1-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,1,2,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,1,2-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,1-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,1-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,1-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,2,3-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,2,3-Trichloropropane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,2,4-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,2,4-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,2-Dibromo-3-Chloropropane (DBCP)	< 20.0 U	20.0	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,2-Dibromoethane (EDB)	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,2-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,2-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,2-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,3,5-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,3-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,3-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
1,4-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
2,2-Dichloropropane	< 5.00 U, H	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
2-Chloroethyl vinyl ether	< 10.0 U, H, X	10.0	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
2-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
2-Hexanone	< 25.0 U	25.0	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
4-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
4-Methyl-2-pentanone (MIBK)	< 25.0 U	25.0	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Acetone	< 50.0 U	50.0	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Acrolein	< 25.0 U	25.0	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Acrylonitrile	< 25.0 U	25.0	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Benzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Bromobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Bromochloromethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Bromodichloromethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Bromoform	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Bromomethane (Methyl Bromide)	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Carbon disulfide	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Carbon tetrachloride	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Chlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Chloroethane	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Chloroform	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Chloromethane (Methyl Chloride)	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
cis-1,2-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.  
No duplication of this report is allowed, except in its entirety.





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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Sample Results (Continued)

Client Sample ID: MW-6 (Continued)  
Lab Sample ID: A6D0009-05 (Water)

Sampled:  
4/2/16 13:45

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B (Continued)</b>		<b>Batch: B6D0122</b>		<b>Analyst: ZHO/MWE</b>			
cis-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Dibromochloromethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Dibromomethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Dichlorodifluoromethane	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Diethyl Ether (Ethyl Ether)	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
2-Butanone (MEK)	< 50.0 U	50.0	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Ethylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Hexachlorobutadiene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Isopropylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
m,p-Xylenes	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Methylene Chloride	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Naphthalene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
n-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
n-Propylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
o-Xylene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
4-Isopropyltoluene (p-Cymene)	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
sec-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Styrene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
tert-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
<b>Tetrachloroethylene</b>	<b>96.0 X</b>	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Toluene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
trans-1,2-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
trans-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Trichloroethylene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Trichlorofluoromethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Vinyl acetate	< 25.0 U, H	25.0	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
Vinyl chloride	< 2.00 U	2.00	ug/L	1	4/5/16 11:01	4/5/16 15:42	EPA 8260B
<i>Surrogate: 1,2-Dichloroethane-D4 (SUR)</i>		112%	53-159			4/5/16 15:42	EPA 8260B
<i>Surrogate: 4-Bromofluorobenzene (SUR)</i>		89%	30-186			4/5/16 15:42	EPA 8260B
<i>Surrogate: Toluene-D8 (SUR)</i>		97%	70-130			4/5/16 15:42	EPA 8260B



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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/11/2016 19:01

### Sample Results (Continued)

**Client Sample ID: MW-7**  
**Lab Sample ID: A6D0009-06 (Water)**

Sampled:  
4/2/16 14:30

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B</b>		<b>Batch: B6D0122</b>		<b>Analyst: ZHO/MWE</b>			
1,1,1,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,1,1-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,1,2,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,1,2-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,1-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,1-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,1-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,2,3-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,2,3-Trichloropropane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,2,4-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,2,4-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,2-Dibromo-3-Chloropropane (DBCP)	< 20.0 U	20.0	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,2-Dibromoethane (EDB)	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,2-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,2-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,2-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,3,5-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,3-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,3-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
1,4-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
2,2-Dichloropropane	< 5.00 U, H	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
2-Chloroethyl vinyl ether	< 10.0 U, H	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
2-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
2-Hexanone	< 25.0 U	25.0	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
4-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
4-Methyl-2-pentanone (MIBK)	< 25.0 U	25.0	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Acetone	< 50.0 U	50.0	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Acrolein	< 25.0 U	25.0	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Acrylonitrile	< 25.0 U	25.0	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Benzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Bromobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Bromochloromethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Bromodichloromethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Bromoform	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Bromomethane (Methyl Bromide)	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Carbon disulfide	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Carbon tetrachloride	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Chlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Chloroethane	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Chloroform	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Chloromethane (Methyl Chloride)	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
cis-1,2-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.  
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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Sample Results (Continued)

Client Sample ID: MW-7 (Continued)  
Lab Sample ID: A6D0009-06 (Water)

Sampled:  
4/2/16 14:30

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
VOCs by Method 8260B (Continued)		Batch: B6D0122			Analyst: ZHO/MWE		
cis-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Dibromochloromethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Dibromomethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Dichlorodifluoromethane	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Diethyl Ether (Ethyl Ether)	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
2-Butanone (MEK)	< 50.0 U	50.0	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Ethylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Hexachlorobutadiene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Isopropylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
m,p-Xylenes	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Methylene Chloride	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Naphthalene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
n-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
n-Propylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
o-Xylene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
4-Isopropyltoluene (p-Cymene)	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
sec-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Styrene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
tert-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Tetrachloroethylene	944	50.0	ug/L	10	4/5/16 11:01	4/6/16 17:54	EPA 8260B
Toluene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
trans-1,2-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
trans-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Trichloroethylene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Trichlorofluoromethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Vinyl acetate	< 25.0 U, H	25.0	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Vinyl chloride	< 2.00 U	2.00	ug/L	1	4/5/16 11:01	4/5/16 16:08	EPA 8260B
Surrogate: 1,2-Dichloroethane-D4 (SUR)		114%	53-159			4/5/16 16:08	EPA 8260B
Surrogate: 4-Bromofluorobenzene (SUR)		87%	30-186			4/5/16 16:08	EPA 8260B
Surrogate: Toluene-D8 (SUR)		96%	70-130			4/5/16 16:08	EPA 8260B





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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Sample Results (Continued)

Client Sample ID: MW-5  
Lab Sample ID: A6D0009-07 (Water)

Sampled:  
4/2/16 15:05

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B</b>		<b>Batch: B6D0122</b>		<b>Analyst: ZHO/MWE</b>			
1,1,1,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,1,1-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,1,2,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,1,2-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,1-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,1-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,1-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,2,3-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,2,3-Trichloropropane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,2,4-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,2,4-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,2-Dibromo-3-Chloropropane (DBCP)	< 20.0 U	20.0	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,2-Dibromoethane (EDB)	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,2-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,2-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,2-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,3,5-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,3-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,3-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
1,4-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
2,2-Dichloropropane	< 5.00 U, H	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
2-Chloroethyl vinyl ether	< 10.0 U, H	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
2-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
2-Hexanone	< 25.0 U	25.0	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
4-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
4-Methyl-2-pentanone (MIBK)	< 25.0 U	25.0	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Acetone	< 50.0 U	50.0	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Acrolein	< 25.0 U	25.0	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Acrylonitrile	< 25.0 U	25.0	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Benzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Bromobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Bromochloromethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Bromodichloromethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Bromoform	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Bromomethane (Methyl Bromide)	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Carbon disulfide	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Carbon tetrachloride	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Chlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Chloroethane	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Chloroform	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Chloromethane (Methyl Chloride)	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
cis-1,2-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B

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No duplication of this report is allowed, except in its entirety.



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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/11/2016 19:01

### Sample Results (Continued)

**Client Sample ID: MW-5 (Continued)**  
**Lab Sample ID: A6D0009-07 (Water)**

Sampled:  
4/2/16 15:05

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B (Continued)</b>		<b>Batch: B6D0122</b>		<b>Analyst: ZHO/MWE</b>			
cis-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Dibromochloromethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Dibromomethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Dichlorodifluoromethane	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Diethyl Ether (Ethyl Ether)	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
2-Butanone (MEK)	< 50.0 U	50.0	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Ethylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Hexachlorobutadiene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Isopropylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
m,p-Xylenes	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Methylene Chloride	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Naphthalene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
n-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
n-Propylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
o-Xylene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
4-Isopropyltoluene (p-Cymene)	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
sec-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Styrene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
tert-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
<b>Tetrachloroethylene</b>	<b>303</b>	50.0	ug/L	10	4/5/16 11:01	4/6/16 18:21	EPA 8260B
Toluene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
trans-1,2-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
trans-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Trichloroethylene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Trichlorofluoromethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Vinyl acetate	< 25.0 U, H	25.0	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
Vinyl chloride	< 2.00 U	2.00	ug/L	1	4/5/16 11:01	4/5/16 16:33	EPA 8260B
<i>Surrogate: 1,2-Dichloroethane-D4 (SUR)</i>		<i>110%</i>	<i>53-159</i>			4/5/16 16:33	EPA 8260B
<i>Surrogate: 4-Bromofluorobenzene (SUR)</i>		<i>86%</i>	<i>30-186</i>			4/5/16 16:33	EPA 8260B
<i>Surrogate: Toluene-D8 (SUR)</i>		<i>96%</i>	<i>70-130</i>			4/5/16 16:33	EPA 8260B



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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

**Sample Results**  
(Continued)

Client Sample ID: MW-4  
Lab Sample ID: A6D0009-08 (Water)

Sampled:  
4/2/16 15:45

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B</b>		<b>Batch: B6D0122</b>		<b>Analyst: ZHO/MWE</b>			
1,1,1,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,1,1-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,1,2,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,1,2-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,1-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,1-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,1-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,2,3-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,2,3-Trichloropropane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,2,4-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,2,4-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,2-Dibromo-3-Chloropropane (DBCP)	< 20.0 U	20.0	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,2-Dibromoethane (EDB)	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,2-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,2-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,2-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,3,5-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,3-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,3-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
1,4-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
2,2-Dichloropropane	< 5.00 U, H	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
2-Chloroethyl vinyl ether	< 10.0 U, H	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
2-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
2-Hexanone	< 25.0 U	25.0	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
4-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
4-Methyl-2-pentanone (MIBK)	< 25.0 U	25.0	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Acetone	< 50.0 U	50.0	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Acrolein	< 25.0 U	25.0	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Acrylonitrile	< 25.0 U	25.0	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Benzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Bromobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Bromochloromethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Bromodichloromethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Bromoform	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Bromomethane (Methyl Bromide)	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Carbon disulfide	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Carbon tetrachloride	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Chlorobenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Chloroethane	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Chloroform	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Chloromethane (Methyl Chloride)	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
cis-1,2-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B

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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Sample Results (Continued)

Client Sample ID: MW-4 (Continued)  
Lab Sample ID: A6D0009-08 (Water)

Sampled:  
4/2/16 15:45

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B (Continued)</b>		<b>Batch: B6D0122</b>		<b>Analyst: ZHO/MWE</b>			
cis-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Dibromochloromethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Dibromomethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Dichlorodifluoromethane	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Diethyl Ether (Ethyl Ether)	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
2-Butanone (MEK)	< 50.0 U	50.0	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Ethylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Hexachlorobutadiene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Isopropylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
m,p-Xylenes	< 10.0 U	10.0	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Methylene Chloride	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Naphthalene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
n-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
n-Propylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
o-Xylene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
4-Isopropyltoluene (p-Cymene)	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
sec-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Styrene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
tert-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
<b>Tetrachloroethylene</b>	<b>124</b>	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Toluene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
trans-1,2-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
trans-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Trichloroethylene	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Trichlorofluoromethane	< 5.00 U	5.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Vinyl acetate	< 25.0 U, H	25.0	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Vinyl chloride	< 2.00 U	2.00	ug/L	1	4/5/16 11:01	4/5/16 16:59	EPA 8260B
Surrogate: 1,2-Dichloroethane-D4 (SUR)		117%	53-159			4/5/16 16:59	EPA 8260B
Surrogate: 4-Bromofluorobenzene (SUR)		88%	30-186			4/5/16 16:59	EPA 8260B
Surrogate: Toluene-D8 (SUR)		100%	70-130			4/5/16 16:59	EPA 8260B



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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

**Sample Results**  
(Continued)

Client Sample ID: TMW-9  
Lab Sample ID: A6D0009-09 (Water)

Sampled:  
4/2/16 17:05

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B</b>		<b>Batch: B6D0156</b>		<b>Analyst: ZHO/MWE</b>			
1,1,1,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,1,1-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,1,2,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,1,2-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,1-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,1-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,1-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,2,3-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,2,3-Trichloropropane	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,2,4-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,2,4-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,2-Dibromo-3-Chloropropane (DBCP)	< 20.0 U	20.0	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,2-Dibromoethane (EDB)	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,2-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,2-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,2-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,3,5-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,3-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,3-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
1,4-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
2,2-Dichloropropane	< 5.00 U, H	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
2-Chloroethyl vinyl ether	< 10.0 U, H	10.0	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
2-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
2-Hexanone	< 25.0 U	25.0	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
4-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
4-Methyl-2-pentanone (MIBK)	< 25.0 U	25.0	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Acetone	< 50.0 U	50.0	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Acrolein	< 25.0 U	25.0	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Acrylonitrile	< 25.0 U	25.0	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Benzene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Bromobenzene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Bromochloromethane	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Bromodichloromethane	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Bromoform	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Bromomethane (Methyl Bromide)	< 10.0 U	10.0	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Carbon disulfide	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Carbon tetrachloride	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Chlorobenzene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Chloroethane	< 10.0 U, H	10.0	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Chloroform	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Chloromethane (Methyl Chloride)	< 10.0 U	10.0	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
cis-1,2-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.  
No duplication of this report is allowed, except in its entirety.



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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Sample Results (Continued)

Client Sample ID: TMW-9 (Continued)  
Lab Sample ID: A6D0009-09 (Water)

Sampled:  
4/2/16 17:05

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B (Continued)</b>			<b>Batch: B6D0156</b>		<b>Analyst: ZHO/MWE</b>		
cis-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Dibromochloromethane	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Dibromomethane	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Dichlorodifluoromethane	< 10.0 U, H	10.0	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Diethyl Ether (Ethyl Ether)	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
2-Butanone (MEK)	< 50.0 U	50.0	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Ethylbenzene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Hexachlorobutadiene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Isopropylbenzene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
m,p-Xylenes	< 10.0 U	10.0	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Methylene Chloride	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Naphthalene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
n-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
n-Propylbenzene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
o-Xylene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
4-Isopropyltoluene (p-Cymene)	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
sec-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Styrene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
tert-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Tetrachloroethylene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Toluene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
trans-1,2-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
trans-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Trichloroethylene	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Trichlorofluoromethane	< 5.00 U	5.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Vinyl acetate	< 25.0 U, H	25.0	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Vinyl chloride	< 2.00 U	2.00	ug/L	1	4/6/16 9:15	4/6/16 13:32	EPA 8260B
Surrogate: 1,2-Dichloroethane-D4 (SUR)		106%	53-159			4/6/16 13:32	EPA 8260B
Surrogate: 4-Bromofluorobenzene (SUR)		87%	30-186			4/6/16 13:32	EPA 8260B
Surrogate: Toluene-D8 (SUR)		104%	70-130			4/6/16 13:32	EPA 8260B





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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

## Sample Results (Continued)

Client Sample ID: TRIP BLANK  
Lab Sample ID: A6D0009-10 (Water)

Sampled:  
4/2/16 0:00

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B</b>		<b>Batch: B6D0089</b>		<b>Analyst: ZHO/MWE</b>			
1,1,1,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,1,1-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,1,2,2-Tetrachloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,1,2-Trichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,1-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,1-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,1-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,2,3-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,2,3-Trichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,2,4-Trichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,2,4-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,2-Dibromo-3-Chloropropane (DBCP)	< 20.0 U	20.0	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,2-Dibromoethane (EDB)	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,2-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,2-Dichloroethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,2-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,3,5-Trimethylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,3-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,3-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
1,4-Dichlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
2,2-Dichloropropane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
2-Chloroethyl vinyl ether	< 10.0 U, H	10.0	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
2-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
2-Hexanone	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
4-Chlorotoluene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
4-Methyl-2-pentanone (MIBK)	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Acetone	< 100 U	100	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Acrolein	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Acrylonitrile	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Benzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Bromobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Bromochloromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Bromodichloromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Bromoform	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Bromomethane (Methyl Bromide)	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Carbon disulfide	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Carbon tetrachloride	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Chlorobenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Chloroethane	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Chloroform	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Chloromethane (Methyl Chloride)	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
cis-1,2-Dichloroethene	< 5.00 U, L	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B



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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Sample Results (Continued)

Client Sample ID: TRIP BLANK (Continued)  
Lab Sample ID: A6D0009-10 (Water)

Sampled:  
4/2/16 0:00

Analyte	Result Qual	RL	Units	Dil	Date Prepared	Date Analyzed	Method
<b>VOCs by Method 8260B (Continued)</b>		<b>Batch: B6D0089</b>		<b>Analyst: ZHO/MWE</b>			
cis-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Dibromochloromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Dibromomethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Dichlorodifluoromethane	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Diethyl Ether (Ethyl Ether)	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
2-Butanone (MEK)	< 100 U	100	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Ethylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Hexachlorobutadiene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Isopropylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
m,p-Xylenes	< 10.0 U	10.0	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Methylene Chloride	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Naphthalene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
n-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
n-Propylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
o-Xylene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
4-Isopropyltoluene (p-Cymene)	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
sec-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Styrene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
tert-Butylbenzene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Tetrachloroethylene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Toluene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
trans-1,2-Dichloroethene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
trans-1,3-Dichloropropene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Trichloroethylene	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Trichlorofluoromethane	< 5.00 U	5.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Vinyl acetate	< 50.0 U	50.0	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Vinyl chloride	< 2.00 U	2.00	ug/L	1	4/4/16 20:11	4/5/16 0:36	EPA 8260B
Surrogate: 1,2-Dichloroethane-D4 (SUR)		113%	53-159			4/5/16 0:36	EPA 8260B
Surrogate: 4-Bromofluorobenzene (SUR)		88%	30-186			4/5/16 0:36	EPA 8260B
Surrogate: Toluene-D8 (SUR)		99%	70-130			4/5/16 0:36	EPA 8260B



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3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

## Quality Control

### Volatile Organic Analysis by GC-MS Method 8260B

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: B6D0089 - E5030 VOAs Waters

##### Blank (B6D0089-BLK1)

Prepared & Analyzed: 4/4/2016

1,1,1,2-Tetrachloroethane	< 5.00	U	5.00	ug/L
1,1,1-Trichloroethane	< 5.00	U	5.00	ug/L
1,1,2,2-Tetrachloroethane	< 5.00	U	5.00	ug/L
1,1,2-Trichloroethane	< 5.00	U	5.00	ug/L
1,1-Dichloroethane	< 5.00	U	5.00	ug/L
1,1-Dichloroethene	< 5.00	U	5.00	ug/L
1,1-Dichloropropene	< 5.00	U	5.00	ug/L
1,2,3-Trichlorobenzene	< 5.00	U	5.00	ug/L
1,2,3-Trichloropropane	< 5.00	U	5.00	ug/L
1,2,4-Trichlorobenzene	< 5.00	U	5.00	ug/L
1,2,4-Trimethylbenzene	< 5.00	U	5.00	ug/L
1,2-Dibromo-3-Chloropropane (DBCP)	< 20.0	U	20.0	ug/L
1,2-Dibromoethane (EDB)	< 5.00	U	5.00	ug/L
1,2-Dichlorobenzene	< 5.00	U	5.00	ug/L
1,2-Dichloroethane	< 5.00	U	5.00	ug/L
1,2-Dichloropropane	< 5.00	U	5.00	ug/L
1,3,5-Trimethylbenzene	< 5.00	U	5.00	ug/L
1,3-Dichlorobenzene	< 5.00	U	5.00	ug/L
1,3-Dichloropropane	< 5.00	U	5.00	ug/L
1,4-Dichlorobenzene	< 5.00	U	5.00	ug/L
2,2-Dichloropropane	< 5.00	U	5.00	ug/L
2-Chloroethyl vinyl ether	< 10.0	U	10.0	ug/L
2-Chlorotoluene	< 5.00	U	5.00	ug/L
2-Hexanone	< 25.0	U	25.0	ug/L
4-Chlorotoluene	< 5.00	U	5.00	ug/L
4-Methyl-2-pentanone (MIBK)	< 25.0	U	25.0	ug/L
Acetone	< 50.0	U	50.0	ug/L
Acrolein	< 25.0	U	25.0	ug/L
Acrylonitrile	< 25.0	U	25.0	ug/L
Benzene	< 5.00	U	5.00	ug/L
Bromobenzene	< 5.00	U	5.00	ug/L
Bromochloromethane	< 5.00	U	5.00	ug/L
Bromodichloromethane	< 5.00	U	5.00	ug/L
Bromoform	< 5.00	U	5.00	ug/L
Bromomethane (Methyl Bromide)	< 10.0	U	10.0	ug/L
Carbon disulfide	< 5.00	U	5.00	ug/L
Carbon tetrachloride	< 5.00	U	5.00	ug/L
Chlorobenzene	< 5.00	U	5.00	ug/L
Chloroethane	< 10.0	U	10.0	ug/L
Chloroform	< 5.00	U	5.00	ug/L
Chloromethane (Methyl Chloride)	< 10.0	U	10.0	ug/L





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Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

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04/11/2016 19:01

**Quality Control**  
(Continued)

**Volatile Organic Analysis by GC-MS Method 8260B (Continued)**

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch: B6D0089 - E5030 VOAs Waters (Continued)**

**Blank (B6D0089-BLK1)**

Prepared & Analyzed: 4/4/2016

cis-1,2-Dichloroethene	< 5.00	U	5.00	ug/L
cis-1,3-Dichloropropene	< 5.00	U	5.00	ug/L
Dibromochloromethane	< 5.00	U	5.00	ug/L
Dibromomethane	< 5.00	U	5.00	ug/L
Dichlorodifluoromethane	< 10.0	U	10.0	ug/L
Diethyl Ether (Ethyl Ether)	< 5.00	U	5.00	ug/L
2-Butanone (MEK)	< 50.0	U	50.0	ug/L
Ethylbenzene	< 5.00	U	5.00	ug/L
Hexachlorobutadiene	< 5.00	U	5.00	ug/L
Isopropylbenzene	< 5.00	U	5.00	ug/L
m,p-Xylenes	< 10.0	U	10.0	ug/L
Methylene Chloride	< 5.00	U	5.00	ug/L
Naphthalene	< 5.00	U	5.00	ug/L
n-Butylbenzene	< 5.00	U	5.00	ug/L
n-Propylbenzene	< 5.00	U	5.00	ug/L
o-Xylene	< 5.00	U	5.00	ug/L
4-Isopropyltoluene (p-Cymene)	< 5.00	U	5.00	ug/L
sec-Butylbenzene	< 5.00	U	5.00	ug/L
Styrene	< 5.00	U	5.00	ug/L
tert-Butylbenzene	< 5.00	U	5.00	ug/L
Tetrachloroethylene	< 5.00	U	5.00	ug/L
Toluene	< 5.00	U	5.00	ug/L
trans-1,2-Dichloroethene	< 5.00	U	5.00	ug/L
trans-1,3-Dichloropropene	< 5.00	U	5.00	ug/L
Trichloroethylene	< 5.00	U	5.00	ug/L
Trichlorofluoromethane	< 5.00	U	5.00	ug/L
Vinyl acetate	< 25.0	U	25.0	ug/L
Vinyl chloride	< 2.00	U	2.00	ug/L

Surrogate: 1,2-Dichloroethane-D4 (SUR)

54.4 ug/L 50.0 109 53-159

Surrogate: 4-Bromofluorobenzene (SUR)

44.4 ug/L 50.0 89 30-186

Surrogate: Toluene-D8 (SUR)

50.2 ug/L 50.0 100 70-130



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Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

**Quality Control**  
(Continued)

**Volatile Organic Analysis by GC-MS Method 8260B (Continued)**

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch: B6D0089 - E5030 VOAs Waters (Continued)**

**LCS (B6D0089-BS1)**

Prepared & Analyzed: 4/4/2016

1,1,1,2-Tetrachloroethane	48.2		5.00	ug/L	50.0		96	80-130		
1,1,1-Trichloroethane	45.8		5.00	ug/L	50.0		92	65-130		
1,1,2,2-Tetrachloroethane	51.8		5.00	ug/L	50.0		104	65-130		
1,1,2-Trichloroethane	49.5		5.00	ug/L	50.0		99	75-125		
1,1-Dichloroethane	51.6		5.00	ug/L	50.0		103	70-135		
1,1-Dichloroethene	51.2		5.00	ug/L	50.0		102	70-130		
1,1-Dichloropropene	46.8		5.00	ug/L	50.0		94	75-130		
1,2,3-Trichlorobenzene	51.6		5.00	ug/L	50.0		103	55-140		
1,2,3-Trichloropropane	47.8		5.00	ug/L	50.0		96	75-125		
1,2,4-Trichlorobenzene	51.3		5.00	ug/L	50.0		103	65-135		
1,2,4-Trimethylbenzene	46.0		5.00	ug/L	50.0		92	75-130		
1,2-Dibromo-3-Chloropropane (DBCP)	44.7		20.0	ug/L	50.0		89	50-130		
1,2-Dibromoethane (EDB)	46.6		5.00	ug/L	50.0		93	80-120		
1,2-Dichlorobenzene	47.5		5.00	ug/L	50.0		95	70-120		
1,2-Dichloroethane	44.0		5.00	ug/L	50.0		88	70-130		
1,2-Dichloropropane	50.8		5.00	ug/L	50.0		102	75-125		
1,3,5-Trimethylbenzene	46.0		5.00	ug/L	50.0		92	75-130		
1,3-Dichlorobenzene	46.7		5.00	ug/L	50.0		93	75-125		
1,3-Dichloropropane	48.5		5.00	ug/L	50.0		97	75-125		
1,4-Dichlorobenzene	45.4		5.00	ug/L	50.0		91	75-125		
2,2-Dichloropropane	58.5		5.00	ug/L	50.0		117	70-130		
2-Chloroethyl vinyl ether	389	H	10.0	ug/L	100		389	40-145		
2-Chlorotoluene	44.4		5.00	ug/L	50.0		89	75-125		
2-Hexanone	112		25.0	ug/L	100		112	55-130		
4-Chlorotoluene	45.9		5.00	ug/L	50.0		92	75-130		
4-Methyl-2-pentanone (MIBK)	110		25.0	ug/L	100		110	60-135		
Acetone	94.5		50.0	ug/L	100		94	40-140		
Acrolein	107		25.0	ug/L	100		107	40-140		
Acrylonitrile	105		25.0	ug/L	100		105	40-140		
Benzene	47.9		5.00	ug/L	50.0		96	80-120		
Bromobenzene	46.5		5.00	ug/L	50.0		93	75-125		
Bromochloromethane	47.8		5.00	ug/L	50.0		96	65-130		
Bromodichloromethane	46.8		5.00	ug/L	50.0		94	75-120		
Bromoform	38.6		5.00	ug/L	50.0		77	70-130		
Bromomethane (Methyl Bromide)	51.3		10.0	ug/L	50.0		103	30-145		
Carbon disulfide	47.8		5.00	ug/L	50.0		96	35-160		
Carbon tetrachloride	42.6		5.00	ug/L	50.0		85	65-140		
Chlorobenzene	45.7		5.00	ug/L	50.0		91	80-120		
Chloroethane	56.7		10.0	ug/L	50.0		113	60-135		
Chloroform	45.5		5.00	ug/L	50.0		91	65-135		
Chloromethane (Methyl Chloride)	50.3		10.0	ug/L	50.0		101	40-125		



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Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B6D0089 - E5030 VOAs Waters (Continued)</b>										
<b>LCS (B6D0089-BS1)</b>					Prepared & Analyzed: 4/4/2016					
cis-1,2-Dichloroethene	33.1	L	5.00	ug/L	50.0		66	70-125		
cis-1,3-Dichloropropene	55.4		5.00	ug/L	50.0		111	70-130		
Dibromochloromethane	39.6		5.00	ug/L	50.0		79	60-135		
Dibromomethane	45.1		5.00	ug/L	50.0		90	75-125		
Dichlorodifluoromethane	64.4		10.0	ug/L	50.0		129	30-155		
Diethyl Ether (Ethyl Ether)	49.9		5.00	ug/L	50.0		100	70-130		
2-Butanone (MEK)	89.5		50.0	ug/L	100		89	70-135		
Ethylbenzene	47.8		5.00	ug/L	50.0		96	75-125		
Hexachlorobutadiene	50.8		5.00	ug/L	50.0		102	50-140		
Isopropylbenzene	44.2		5.00	ug/L	50.0		88	75-125		
m,p-Xylenes	97.9		10.0	ug/L	100		98	75-130		
Methylene Chloride	47.6		5.00	ug/L	50.0		95	65-137		
Naphthalene	56.1		5.00	ug/L	50.0		112	55-140		
n-Butylbenzene	51.0		5.00	ug/L	50.0		102	70-130		
n-Propylbenzene	47.1		5.00	ug/L	50.0		94	70-130		
o-Xylene	46.7		5.00	ug/L	50.0		93	80-120		
4-Isopropyltoluene (p-Cymene)	48.0		5.00	ug/L	50.0		96	40-125		
sec-Butylbenzene	48.1		5.00	ug/L	50.0		96	70-125		
Styrene	48.6		5.00	ug/L	50.0		97	65-135		
tert-Butylbenzene	46.9		5.00	ug/L	50.0		94	70-130		
Tetrachloroethylene	40.5		5.00	ug/L	50.0		81	45-150		
Toluene	47.2		5.00	ug/L	50.0		94	75-120		
trans-1,2-Dichloroethene	51.0		5.00	ug/L	50.0		102	60-140		
trans-1,3-Dichloropropene	45.8		5.00	ug/L	50.0		92	55-140		
Trichloroethylene	44.6		5.00	ug/L	50.0		89	70-125		
Trichlorofluoromethane	47.8		5.00	ug/L	50.0		96	60-145		
Vinyl acetate	53.4		25.0	ug/L	50.0		107	65-135		
Vinyl chloride	53.0		2.00	ug/L	50.0		106	50-145		
<hr/>										
Surrogate: 1,2-Dichloroethane-D4 (SUR)			46.1	ug/L	50.0		92	53-159		
Surrogate: 4-Bromofluorobenzene (SUR)			42.5	ug/L	50.0		85	30-186		
Surrogate: Toluene-D8 (SUR)			49.1	ug/L	50.0		98	70-130		





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Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/11/2016 19:01

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: B6D0089 - E5030 VOAs Waters (Continued)

##### LCS Dup (B6D0089-BSD1)

Prepared & Analyzed: 4/4/2016

1,1,1,2-Tetrachloroethane	52.1		5.00	ug/L	50.0		104	80-130	8	20
1,1,1-Trichloroethane	50.2		5.00	ug/L	50.0		100	65-130	9	20
1,1,2,2-Tetrachloroethane	51.7		5.00	ug/L	50.0		103	65-130	0.2	20
1,1,2-Trichloroethane	50.3		5.00	ug/L	50.0		101	75-125	1	20
1,1-Dichloroethane	54.1		5.00	ug/L	50.0		108	70-135	5	20
1,1-Dichloroethene	54.7		5.00	ug/L	50.0		109	70-130	7	20
1,1-Dichloropropene	49.5		5.00	ug/L	50.0		99	75-130	6	20
1,2,3-Trichlorobenzene	50.6		5.00	ug/L	50.0		101	55-140	2	20
1,2,3-Trichloropropane	48.6		5.00	ug/L	50.0		97	75-125	2	20
1,2,4-Trichlorobenzene	51.4		5.00	ug/L	50.0		103	65-135	0.3	20
1,2,4-Trimethylbenzene	47.2		5.00	ug/L	50.0		94	75-130	2	20
1,2-Dibromo-3-Chloropropane (DBCP)	45.2		20.0	ug/L	50.0		90	50-130	1	20
1,2-Dibromoethane (EDB)	48.0		5.00	ug/L	50.0		96	80-120	3	20
1,2-Dichlorobenzene	48.9		5.00	ug/L	50.0		98	70-120	3	20
1,2-Dichloroethane	45.8		5.00	ug/L	50.0		92	70-130	4	20
1,2-Dichloropropane	52.4		5.00	ug/L	50.0		105	75-125	3	20
1,3,5-Trimethylbenzene	47.4		5.00	ug/L	50.0		95	75-130	3	20
1,3-Dichlorobenzene	46.9		5.00	ug/L	50.0		94	75-125	0.6	20
1,3-Dichloropropane	50.3		5.00	ug/L	50.0		101	75-125	4	20
1,4-Dichlorobenzene	46.4		5.00	ug/L	50.0		93	75-125	2	20
2,2-Dichloropropane	60.5		5.00	ug/L	50.0		121	70-130	3	20
2-Chloroethyl vinyl ether	402	H	10.0	ug/L	100		402	40-145	3	20
2-Chlorotoluene	45.2		5.00	ug/L	50.0		90	75-125	2	20
2-Hexanone	118		25.0	ug/L	100		118	55-130	5	20
4-Chlorotoluene	47.5		5.00	ug/L	50.0		95	75-130	3	20
4-Methyl-2-pentanone (MIBK)	114		25.0	ug/L	100		114	60-135	4	20
Acetone	88.9		50.0	ug/L	100		89	40-140	6	20
Acrolein	101		25.0	ug/L	100		101	40-140	6	20
Acrylonitrile	92.0		25.0	ug/L	100		92	40-140	13	20
Benzene	51.4		5.00	ug/L	50.0		103	80-120	7	20
Bromobenzene	46.8		5.00	ug/L	50.0		94	75-125	0.8	20
Bromochloromethane	49.4		5.00	ug/L	50.0		99	65-130	3	20
Bromodichloromethane	50.1		5.00	ug/L	50.0		100	75-120	7	20
Bromoform	41.6		5.00	ug/L	50.0		83	70-130	7	20
Bromomethane (Methyl Bromide)	56.8		10.0	ug/L	50.0		114	30-145	10	20
Carbon disulfide	50.1		5.00	ug/L	50.0		100	35-160	5	20
Carbon tetrachloride	45.7		5.00	ug/L	50.0		91	65-140	7	20
Chlorobenzene	48.7		5.00	ug/L	50.0		97	80-120	6	20
Chloroethane	57.3		10.0	ug/L	50.0		115	60-135	1	20
Chloroform	48.5		5.00	ug/L	50.0		97	65-135	6	20
Chloromethane (Methyl Chloride)	51.0		10.0	ug/L	50.0		102	40-125	1	20

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.  
No duplication of this report is allowed, except in its entirety.



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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B6D0089 - E5030 VOAs Waters (Continued)</b>										
<b>LCS Dup (B6D0089-BSD1)</b>					Prepared & Analyzed: 4/4/2016					
cis-1,2-Dichloroethene	34.9		5.00	ug/L	50.0		70	70-125	5	20
cis-1,3-Dichloropropene	58.5		5.00	ug/L	50.0		117	70-130	5	20
Dibromochloromethane	42.4		5.00	ug/L	50.0		85	60-135	7	20
Dibromomethane	47.5		5.00	ug/L	50.0		95	75-125	5	20
Dichlorodifluoromethane	67.8		10.0	ug/L	50.0		136	30-155	5	20
Diethyl Ether (Ethyl Ether)	53.2		5.00	ug/L	50.0		106	70-130	6	20
2-Butanone (MEK)	91.7		50.0	ug/L	100		92	70-135	2	20
Ethylbenzene	49.5		5.00	ug/L	50.0		99	75-125	3	20
Hexachlorobutadiene	51.4		5.00	ug/L	50.0		103	50-140	1	20
Isopropylbenzene	45.9		5.00	ug/L	50.0		92	75-125	4	20
m,p-Xylenes	102		10.0	ug/L	100		102	75-130	4	20
Methylene Chloride	50.4		5.00	ug/L	50.0		101	65-137	6	20
Naphthalene	57.9		5.00	ug/L	50.0		116	55-140	3	20
n-Butylbenzene	50.0		5.00	ug/L	50.0		100	70-130	2	20
n-Propylbenzene	48.4		5.00	ug/L	50.0		97	70-130	3	20
o-Xylene	49.4		5.00	ug/L	50.0		99	80-120	6	20
4-Isopropyltoluene (p-Cymene)	48.7		5.00	ug/L	50.0		97	40-125	2	20
sec-Butylbenzene	48.6		5.00	ug/L	50.0		97	70-125	1	20
Styrene	51.6		5.00	ug/L	50.0		103	65-135	6	20
tert-Butylbenzene	47.8		5.00	ug/L	50.0		96	70-130	2	20
Tetrachloroethylene	45.9		5.00	ug/L	50.0		92	45-150	13	20
Toluene	50.0		5.00	ug/L	50.0		100	75-120	6	20
trans-1,2-Dichloroethene	53.6		5.00	ug/L	50.0		107	60-140	5	20
trans-1,3-Dichloropropene	49.3		5.00	ug/L	50.0		99	55-140	7	20
Trichloroethylene	47.7		5.00	ug/L	50.0		95	70-125	7	20
Trichlorofluoromethane	50.4		5.00	ug/L	50.0		101	60-145	5	20
Vinyl acetate	56.7		25.0	ug/L	50.0		113	65-135	6	20
Vinyl chloride	53.7		2.00	ug/L	50.0		107	50-145	1	20
<hr/>										
Surrogate: 1,2-Dichloroethane-D4 (SUR)			47.8	ug/L	50.0		96	53-159		
Surrogate: 4-Bromofluorobenzene (SUR)			43.5	ug/L	50.0		87	30-186		
Surrogate: Toluene-D8 (SUR)			50.1	ug/L	50.0		100	70-130		



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Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: B6D0122 - E5030 VOAs Waters

##### Blank (B6D0122-BLK1)

Prepared & Analyzed: 4/5/2016

1,1,1,2-Tetrachloroethane	< 5.00	U	5.00	ug/L
1,1,1-Trichloroethane	< 5.00	U	5.00	ug/L
1,1,2,2-Tetrachloroethane	< 5.00	U	5.00	ug/L
1,1,2-Trichloroethane	< 5.00	U	5.00	ug/L
1,1-Dichloroethane	< 5.00	U	5.00	ug/L
1,1-Dichloroethene	< 5.00	U	5.00	ug/L
1,1-Dichloropropene	< 5.00	U	5.00	ug/L
1,2,3-Trichlorobenzene	< 5.00	U	5.00	ug/L
1,2,3-Trichloropropane	< 5.00	U	5.00	ug/L
1,2,4-Trichlorobenzene	< 5.00	U	5.00	ug/L
1,2,4-Trimethylbenzene	< 5.00	U	5.00	ug/L
1,2-Dibromo-3-Chloropropane (DBCP)	< 20.0	U	20.0	ug/L
1,2-Dibromoethane (EDB)	< 5.00	U	5.00	ug/L
1,2-Dichlorobenzene	< 5.00	U	5.00	ug/L
1,2-Dichloroethane	< 5.00	U	5.00	ug/L
1,2-Dichloropropane	< 5.00	U	5.00	ug/L
1,3,5-Trimethylbenzene	< 5.00	U	5.00	ug/L
1,3-Dichlorobenzene	< 5.00	U	5.00	ug/L
1,3-Dichloropropane	< 5.00	U	5.00	ug/L
1,4-Dichlorobenzene	< 5.00	U	5.00	ug/L
2,2-Dichloropropane	< 5.00	U	5.00	ug/L
2-Chloroethyl vinyl ether	< 10.0	U	10.0	ug/L
2-Chlorotoluene	< 5.00	U	5.00	ug/L
2-Hexanone	< 25.0	U	25.0	ug/L
4-Chlorotoluene	< 5.00	U	5.00	ug/L
4-Methyl-2-pentanone (MIBK)	< 25.0	U	25.0	ug/L
Acetone	< 50.0	U	50.0	ug/L
Acrolein	< 25.0	U	25.0	ug/L
Acrylonitrile	< 25.0	U	25.0	ug/L
Benzene	< 5.00	U	5.00	ug/L
Bromobenzene	< 5.00	U	5.00	ug/L
Bromochloromethane	< 5.00	U	5.00	ug/L
Bromodichloromethane	< 5.00	U	5.00	ug/L
Bromoform	< 5.00	U	5.00	ug/L
Bromomethane (Methyl Bromide)	< 10.0	U	10.0	ug/L
Carbon disulfide	< 5.00	U	5.00	ug/L
Carbon tetrachloride	< 5.00	U	5.00	ug/L
Chlorobenzene	< 5.00	U	5.00	ug/L
Chloroethane	< 10.0	U	10.0	ug/L
Chloroform	< 5.00	U	5.00	ug/L
Chloromethane (Methyl Chloride)	< 10.0	U	10.0	ug/L





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### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: B6D0122 - E5030 VOAs Waters (Continued)

##### Blank (B6D0122-BLK1)

Prepared & Analyzed: 4/5/2016

cis-1,2-Dichloroethene	< 5.00	U	5.00	ug/L
cis-1,3-Dichloropropene	< 5.00	U	5.00	ug/L
Dibromochloromethane	< 5.00	U	5.00	ug/L
Dibromomethane	< 5.00	U	5.00	ug/L
Dichlorodifluoromethane	< 10.0	U	10.0	ug/L
Diethyl Ether (Ethyl Ether)	< 5.00	U	5.00	ug/L
2-Butanone (MEK)	< 50.0	U	50.0	ug/L
Ethylbenzene	< 5.00	U	5.00	ug/L
Hexachlorobutadiene	< 5.00	U	5.00	ug/L
Isopropylbenzene	< 5.00	U	5.00	ug/L
m,p-Xylenes	< 10.0	U	10.0	ug/L
Methylene Chloride	< 5.00	U	5.00	ug/L
Naphthalene	< 5.00	U	5.00	ug/L
n-Butylbenzene	< 5.00	U	5.00	ug/L
n-Propylbenzene	< 5.00	U	5.00	ug/L
o-Xylene	< 5.00	U	5.00	ug/L
4-Isopropyltoluene (p-Cymene)	< 5.00	U	5.00	ug/L
sec-Butylbenzene	< 5.00	U	5.00	ug/L
Styrene	< 5.00	U	5.00	ug/L
tert-Butylbenzene	< 5.00	U	5.00	ug/L
Tetrachloroethylene	< 5.00	U	5.00	ug/L
Toluene	< 5.00	U	5.00	ug/L
trans-1,2-Dichloroethene	< 5.00	U	5.00	ug/L
trans-1,3-Dichloropropene	< 5.00	U	5.00	ug/L
Trichloroethylene	< 5.00	U	5.00	ug/L
Trichlorofluoromethane	< 5.00	U	5.00	ug/L
Vinyl acetate	< 25.0	U	25.0	ug/L
Vinyl chloride	< 2.00	U	2.00	ug/L

Surrogate: 1,2-Dichloroethane-D4 (SUR)

52.8

ug/L

50.0

106

53-159

Surrogate: 4-Bromofluorobenzene (SUR)

44.9

ug/L

50.0

90

30-186

Surrogate: Toluene-D8 (SUR)

48.0

ug/L

50.0

96

70-130



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Project Manager: Mr. Peter Kallay

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04/11/2016 19:01

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: B6D0122 - E5030 VOAs Waters (Continued)

##### LCS (B6D0122-BS1)

Prepared & Analyzed: 4/5/2016

1,1,1,2-Tetrachloroethane	49.8		5.00	ug/L	50.0		100	80-130		
1,1,1-Trichloroethane	50.9		5.00	ug/L	50.0		102	65-130		
1,1,2,2-Tetrachloroethane	51.7		5.00	ug/L	50.0		103	65-130		
1,1,2-Trichloroethane	50.9		5.00	ug/L	50.0		102	75-125		
1,1-Dichloroethane	57.5		5.00	ug/L	50.0		115	70-135		
1,1-Dichloroethene	60.2		5.00	ug/L	50.0		120	70-130		
1,1-Dichloropropene	53.6		5.00	ug/L	50.0		107	75-130		
1,2,3-Trichlorobenzene	50.9		5.00	ug/L	50.0		102	55-140		
1,2,3-Trichloropropane	49.7		5.00	ug/L	50.0		99	75-125		
1,2,4-Trichlorobenzene	50.6		5.00	ug/L	50.0		101	65-135		
1,2,4-Trimethylbenzene	50.1		5.00	ug/L	50.0		100	75-130		
1,2-Dibromo-3-Chloropropane (DBCP)	41.2		20.0	ug/L	50.0		82	50-130		
1,2-Dibromoethane (EDB)	47.2		5.00	ug/L	50.0		94	80-120		
1,2-Dichlorobenzene	49.3		5.00	ug/L	50.0		99	70-120		
1,2-Dichloroethane	47.2		5.00	ug/L	50.0		94	70-130		
1,2-Dichloropropane	54.8		5.00	ug/L	50.0		110	75-125		
1,3,5-Trimethylbenzene	50.9		5.00	ug/L	50.0		102	75-130		
1,3-Dichlorobenzene	49.3		5.00	ug/L	50.0		99	75-125		
1,3-Dichloropropane	50.8		5.00	ug/L	50.0		102	75-125		
1,4-Dichlorobenzene	48.3		5.00	ug/L	50.0		97	75-125		
2,2-Dichloropropane	67.7	H	5.00	ug/L	50.0		135	70-130		
2-Chloroethyl vinyl ether	380	H	10.0	ug/L	100		380	40-145		
2-Chlorotoluene	47.8		5.00	ug/L	50.0		96	75-125		
2-Hexanone	106		25.0	ug/L	100		106	55-130		
4-Chlorotoluene	50.1		5.00	ug/L	50.0		100	75-130		
4-Methyl-2-pentanone (MIBK)	109		25.0	ug/L	100		109	60-135		
Acetone	80.1		50.0	ug/L	100		80	40-140		
Acrolein	114		25.0	ug/L	100		114	40-140		
Acrylonitrile	96.2		25.0	ug/L	100		96	40-140		
Benzene	53.9		5.00	ug/L	50.0		108	80-120		
Bromobenzene	50.3		5.00	ug/L	50.0		101	75-125		
Bromochloromethane	52.8		5.00	ug/L	50.0		106	65-130		
Bromodichloromethane	52.1		5.00	ug/L	50.0		104	75-120		
Bromoform	42.0		5.00	ug/L	50.0		84	70-130		
Bromomethane (Methyl Bromide)	66.8		10.0	ug/L	50.0		134	30-145		
Carbon disulfide	55.6		5.00	ug/L	50.0		111	35-160		
Carbon tetrachloride	47.4		5.00	ug/L	50.0		95	65-140		
Chlorobenzene	49.0		5.00	ug/L	50.0		98	80-120		
Chloroethane	68.0	H	10.0	ug/L	50.0		136	60-135		
Chloroform	50.0		5.00	ug/L	50.0		100	65-135		
Chloromethane (Methyl Chloride)	54.0		10.0	ug/L	50.0		108	40-125		



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Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B6D0122 - E5030 VOAs Waters (Continued)</b>										
<b>LCS (B6D0122-BS1)</b>					Prepared & Analyzed: 4/5/2016					
cis-1,2-Dichloroethene	49.8		5.00	ug/L	50.0		100	70-125		
cis-1,3-Dichloropropene	60.9		5.00	ug/L	50.0		122	70-130		
Dibromochloromethane	43.8		5.00	ug/L	50.0		88	60-135		
Dibromomethane	48.8		5.00	ug/L	50.0		98	75-125		
Dichlorodifluoromethane	58.1		10.0	ug/L	50.0		116	30-155		
Diethyl Ether (Ethyl Ether)	58.2		5.00	ug/L	50.0		116	70-130		
2-Butanone (MEK)	87.8		50.0	ug/L	100		88	70-135		
Ethylbenzene	51.0		5.00	ug/L	50.0		102	75-125		
Hexachlorobutadiene	56.4		5.00	ug/L	50.0		113	50-140		
Isopropylbenzene	48.8		5.00	ug/L	50.0		98	75-125		
m,p-Xylenes	104		10.0	ug/L	100		104	75-130		
Methylene Chloride	55.0		5.00	ug/L	50.0		110	65-137		
Naphthalene	53.5		5.00	ug/L	50.0		107	55-140		
n-Butylbenzene	55.7		5.00	ug/L	50.0		111	70-130		
n-Propylbenzene	52.0		5.00	ug/L	50.0		104	70-130		
o-Xylene	48.3		5.00	ug/L	50.0		97	80-120		
4-Isopropyltoluene (p-Cymene)	51.9		5.00	ug/L	50.0		104	40-125		
sec-Butylbenzene	52.1		5.00	ug/L	50.0		104	70-125		
Styrene	52.4		5.00	ug/L	50.0		105	65-135		
tert-Butylbenzene	50.3		5.00	ug/L	50.0		101	70-130		
Tetrachloroethylene	44.9		5.00	ug/L	50.0		90	45-150		
Toluene	51.1		5.00	ug/L	50.0		102	75-120		
trans-1,2-Dichloroethene	58.0		5.00	ug/L	50.0		116	60-140		
trans-1,3-Dichloropropene	51.2		5.00	ug/L	50.0		102	55-140		
Trichloroethylene	48.3		5.00	ug/L	50.0		97	70-125		
Trichlorofluoromethane	64.1		5.00	ug/L	50.0		128	60-145		
Vinyl acetate	75.3	H	25.0	ug/L	50.0		151	65-135		
Vinyl chloride	63.3		2.00	ug/L	50.0		127	50-145		
<hr/>										
Surrogate: 1,2-Dichloroethane-D4 (SUR)			47.8	ug/L	50.0		96	53-159		
Surrogate: 4-Bromofluorobenzene (SUR)			43.4	ug/L	50.0		87	30-186		
Surrogate: Toluene-D8 (SUR)			48.1	ug/L	50.0		96	70-130		





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### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B6D0122 - E5030 VOAs Waters (Continued)</b>										
<b>LCS Dup (B6D0122-BSD1)</b>					Prepared & Analyzed: 4/5/2016					
1,1,1,2-Tetrachloroethane	52.9		5.00	ug/L	50.0		106	80-130	6	20
1,1,1-Trichloroethane	48.8		5.00	ug/L	50.0		98	65-130	4	20
1,1,2,2-Tetrachloroethane	54.1		5.00	ug/L	50.0		108	65-130	5	20
1,1,2-Trichloroethane	52.6		5.00	ug/L	50.0		105	75-125	3	20
1,1-Dichloroethane	55.1		5.00	ug/L	50.0		110	70-135	4	20
1,1-Dichloroethene	53.0		5.00	ug/L	50.0		106	70-130	13	20
1,1-Dichloropropene	49.0		5.00	ug/L	50.0		98	75-130	9	20
1,2,3-Trichlorobenzene	50.1		5.00	ug/L	50.0		100	55-140	2	20
1,2,3-Trichloropropane	49.5		5.00	ug/L	50.0		99	75-125	0.4	20
1,2,4-Trichlorobenzene	49.9		5.00	ug/L	50.0		100	65-135	1	20
1,2,4-Trimethylbenzene	50.3		5.00	ug/L	50.0		101	75-130	0.4	20
1,2-Dibromo-3-Chloropropane (DBCP)	42.5		20.0	ug/L	50.0		85	50-130	3	20
1,2-Dibromoethane (EDB)	50.5		5.00	ug/L	50.0		101	80-120	7	20
1,2-Dichlorobenzene	49.3		5.00	ug/L	50.0		99	70-120	0.1	20
1,2-Dichloroethane	45.7		5.00	ug/L	50.0		91	70-130	3	20
1,2-Dichloropropane	54.8		5.00	ug/L	50.0		110	75-125	0.04	20
1,3,5-Trimethylbenzene	49.6		5.00	ug/L	50.0		99	75-130	3	20
1,3-Dichlorobenzene	48.5		5.00	ug/L	50.0		97	75-125	2	20
1,3-Dichloropropane	50.0		5.00	ug/L	50.0		100	75-125	2	20
1,4-Dichlorobenzene	47.6		5.00	ug/L	50.0		95	75-125	1	20
2,2-Dichloropropane	60.8		5.00	ug/L	50.0		122	70-130	11	20
2-Chloroethyl vinyl ether	384	H	10.0	ug/L	100		384	40-145	1	20
2-Chlorotoluene	47.0		5.00	ug/L	50.0		94	75-125	2	20
2-Hexanone	106		25.0	ug/L	100		106	55-130	0.2	20
4-Chlorotoluene	48.6		5.00	ug/L	50.0		97	75-130	3	20
4-Methyl-2-pentanone (MIBK)	111		25.0	ug/L	100		111	60-135	2	20
Acetone	79.9		50.0	ug/L	100		80	40-140	0.3	20
Acrolein	109		25.0	ug/L	100		109	40-140	4	20
Acrylonitrile	95.1		25.0	ug/L	100		95	40-140	1	20
Benzene	52.3		5.00	ug/L	50.0		105	80-120	3	20
Bromobenzene	50.2		5.00	ug/L	50.0		100	75-125	0.2	20
Bromochloromethane	52.9		5.00	ug/L	50.0		106	65-130	0.09	20
Bromodichloromethane	51.4		5.00	ug/L	50.0		103	75-120	1	20
Bromoform	43.0		5.00	ug/L	50.0		86	70-130	2	20
Bromomethane (Methyl Bromide)	58.5		10.0	ug/L	50.0		117	30-145	13	20
Carbon disulfide	49.6		5.00	ug/L	50.0		99	35-160	11	20
Carbon tetrachloride	46.7		5.00	ug/L	50.0		93	65-140	2	20
Chlorobenzene	47.4		5.00	ug/L	50.0		95	80-120	3	20
Chloroethane	68.0	H	10.0	ug/L	50.0		136	60-135	0.09	20
Chloroform	48.4		5.00	ug/L	50.0		97	65-135	3	20
Chloromethane (Methyl Chloride)	47.1		10.0	ug/L	50.0		94	40-125	14	20

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.  
No duplication of this report is allowed, except in its entirety.



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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/11/2016 19:01

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B6D0122 - E5030 VOAs Waters (Continued)</b>										
<b>LCS Dup (B6D0122-BSD1)</b>					Prepared & Analyzed: 4/5/2016					
cis-1,2-Dichloroethene	52.4		5.00	ug/L	50.0		105	70-125	5	20
cis-1,3-Dichloropropene	59.5		5.00	ug/L	50.0		119	70-130	2	20
Dibromochloromethane	42.9		5.00	ug/L	50.0		86	60-135	2	20
Dibromomethane	46.4		5.00	ug/L	50.0		93	75-125	5	20
Dichlorodifluoromethane	44.8		10.0	ug/L	50.0		90	30-155	26	20
Diethyl Ether (Ethyl Ether)	52.8		5.00	ug/L	50.0		106	70-130	10	20
2-Butanone (MEK)	86.7		50.0	ug/L	100		87	70-135	1	20
Ethylbenzene	50.0		5.00	ug/L	50.0		100	75-125	2	20
Hexachlorobutadiene	53.0		5.00	ug/L	50.0		106	50-140	6	20
Isopropylbenzene	48.1		5.00	ug/L	50.0		96	75-125	2	20
m,p-Xylenes	102		10.0	ug/L	100		102	75-130	2	20
Methylene Chloride	52.1		5.00	ug/L	50.0		104	65-137	5	20
Naphthalene	54.8		5.00	ug/L	50.0		110	55-140	3	20
n-Butylbenzene	52.9		5.00	ug/L	50.0		106	70-130	5	20
n-Propylbenzene	49.9		5.00	ug/L	50.0		100	70-130	4	20
o-Xylene	48.6		5.00	ug/L	50.0		97	80-120	0.6	20
4-Isopropyltoluene (p-Cymene)	49.9		5.00	ug/L	50.0		100	40-125	4	20
sec-Butylbenzene	50.5		5.00	ug/L	50.0		101	70-125	3	20
Styrene	51.4		5.00	ug/L	50.0		103	65-135	2	20
tert-Butylbenzene	49.9		5.00	ug/L	50.0		100	70-130	0.7	20
Tetrachloroethylene	43.1		5.00	ug/L	50.0		86	45-150	4	20
Toluene	49.9		5.00	ug/L	50.0		100	75-120	2	20
trans-1,2-Dichloroethene	55.6		5.00	ug/L	50.0		111	60-140	4	20
trans-1,3-Dichloropropene	49.1		5.00	ug/L	50.0		98	55-140	4	20
Trichloroethylene	45.8		5.00	ug/L	50.0		92	70-125	5	20
Trichlorofluoromethane	59.0		5.00	ug/L	50.0		118	60-145	8	20
Vinyl acetate	72.8	H	25.0	ug/L	50.0		146	65-135	3	20
Vinyl chloride	55.4		2.00	ug/L	50.0		111	50-145	13	20
<hr/>										
Surrogate: 1,2-Dichloroethane-D4 (SUR)			46.9	ug/L	50.0		94	53-159		
Surrogate: 4-Bromofluorobenzene (SUR)			44.9	ug/L	50.0		90	30-186		
Surrogate: Toluene-D8 (SUR)			48.6	ug/L	50.0		97	70-130		



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Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/11/2016 19:01

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: B6D0122 - E5030 VOAs Waters (Continued)

##### Matrix Spike (B6D0122-MS1)

Source: A6D0009-05

Prepared & Analyzed: 4/5/2016

1,1,1,2-Tetrachloroethane	46.8		5.00	ug/L	50.0	ND	94	54-129		
1,1,1-Trichloroethane	47.3		5.00	ug/L	50.0	ND	95	59-138		
1,1,2,2-Tetrachloroethane	48.7		5.00	ug/L	50.0	ND	97	63-126		
1,1,2-Trichloroethane	48.0		5.00	ug/L	50.0	ND	96	62-115		
1,1-Dichloroethane	53.5		5.00	ug/L	50.0	ND	107	69-132		
1,1-Dichloroethene	49.6		5.00	ug/L	50.0	ND	99	62-131		
1,1-Dichloropropene	48.0		5.00	ug/L	50.0	ND	96	74-123		
1,2,3-Trichlorobenzene	45.0		5.00	ug/L	50.0	ND	90	48-122		
1,2,3-Trichloropropane	45.7		5.00	ug/L	50.0	ND	91	59-119		
1,2,4-Trichlorobenzene	43.7		5.00	ug/L	50.0	ND	87	34-131		
1,2,4-Trimethylbenzene	43.6		5.00	ug/L	50.0	ND	87	47-139		
1,2-Dibromo-3-Chloropropane (DBCP)	40.6		20.0	ug/L	50.0	ND	81	50-130		
1,2-Dibromoethane (EDB)	46.2		5.00	ug/L	50.0	ND	92	80-120		
1,2-Dichlorobenzene	43.0		5.00	ug/L	50.0	ND	86	70-120		
1,2-Dichloroethane	44.1		5.00	ug/L	50.0	ND	88	70-130		
1,2-Dichloropropane	50.2		5.00	ug/L	50.0	ND	100	75-125		
1,3,5-Trimethylbenzene	44.4		5.00	ug/L	50.0	ND	89	53-129		
1,3-Dichlorobenzene	42.7		5.00	ug/L	50.0	ND	85	62-120		
1,3-Dichloropropane	46.3		5.00	ug/L	50.0	ND	93	66-123		
1,4-Dichlorobenzene	41.9		5.00	ug/L	50.0	ND	84	64-114		
2,2-Dichloropropane	55.0		5.00	ug/L	50.0	ND	110	40-159		
2-Chloroethyl vinyl ether	< 10.0	U, X	10.0	ug/L	100	ND		40-145		
2-Chlorotoluene	42.3		5.00	ug/L	50.0	ND	85	60-129		
2-Hexanone	110		25.0	ug/L	100	ND	110	55-136		
4-Chlorotoluene	44.5		5.00	ug/L	50.0	ND	89	64-124		
4-Methyl-2-pentanone (MIBK)	112		25.0	ug/L	100	ND	112	65-132		
Acetone	82.5		50.0	ug/L	100	ND	82	40-140		
Acrolein	101		25.0	ug/L	100	ND	101	40-140		
Acrylonitrile	104		25.0	ug/L	100	ND	104	37-160		
Benzene	48.3		5.00	ug/L	50.0	ND	97	77-118		
Bromobenzene	44.3		5.00	ug/L	50.0	ND	89	66-121		
Bromochloromethane	49.7		5.00	ug/L	50.0	ND	99	64-130		
Bromodichloromethane	47.9		5.00	ug/L	50.0	ND	96	68-125		
Bromoform	40.3		5.00	ug/L	50.0	ND	81	53-112		
Bromomethane (Methyl Bromide)	35.7		10.0	ug/L	50.0	ND	71	30-145		
Carbon disulfide	50.5		5.00	ug/L	50.0	ND	101	26-147		
Carbon tetrachloride	43.8		5.00	ug/L	50.0	ND	88	56-138		
Chlorobenzene	44.7		5.00	ug/L	50.0	ND	89	71-114		
Chloroethane	57.2		10.0	ug/L	50.0	ND	114	60-137		
Chloroform	46.6		5.00	ug/L	50.0	ND	93	65-131		
Chloromethane (Methyl Chloride)	44.0		10.0	ug/L	50.0	ND	88	48-151		





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Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: B6D0122 - E5030 VOAs Waters (Continued)

##### Matrix Spike (B6D0122-MS1)

Source: A6D0009-05

Prepared & Analyzed: 4/5/2016

cis-1,2-Dichloroethene	49.0		5.00	ug/L	50.0	ND	98	22-185		
cis-1,3-Dichloropropene	51.5		5.00	ug/L	50.0	ND	103	67-113		
Dibromochloromethane	39.2		5.00	ug/L	50.0	ND	78	53-125		
Dibromomethane	47.0		5.00	ug/L	50.0	ND	94	75-125		
Dichlorodifluoromethane	67.6		10.0	ug/L	50.0	ND	135	30-155		
Diethyl Ether (Ethyl Ether)	50.8		5.00	ug/L	50.0	ND	102	66-134		
2-Butanone (MEK)	91.0		50.0	ug/L	100	ND	91	59-31		
Ethylbenzene	46.1		5.00	ug/L	50.0	ND	92	66-127		
Hexachlorobutadiene	39.5		5.00	ug/L	50.0	ND	79	50-122		
Isopropylbenzene	43.7		5.00	ug/L	50.0	ND	87	58-127		
m,p-Xylenes	95.0		10.0	ug/L	100	ND	95	65-126		
Methylene Chloride	48.0		5.00	ug/L	50.0	ND	96	34-157		
Naphthalene	50.4		5.00	ug/L	50.0	ND	101	30-148		
n-Butylbenzene	45.6		5.00	ug/L	50.0	ND	91	63-122		
n-Propylbenzene	44.9		5.00	ug/L	50.0	ND	90	64-127		
o-Xylene	45.4		5.00	ug/L	50.0	ND	91	64-123		
4-Isopropyltoluene (p-Cymene)	43.1		5.00	ug/L	50.0	ND	86	64-135		
sec-Butylbenzene	45.0		5.00	ug/L	50.0	ND	90	59-124		
Styrene	47.9		5.00	ug/L	50.0	ND	96	50-133		
tert-Butylbenzene	45.2		5.00	ug/L	50.0	ND	90	58-125		
Tetrachloroethylene	128		5.00	ug/L	50.0	96.0	63	52-125		
Toluene	46.5		5.00	ug/L	50.0	ND	93	65-123		
trans-1,2-Dichloroethene	52.4		5.00	ug/L	50.0	ND	105	65-135		
trans-1,3-Dichloropropene	43.0		5.00	ug/L	50.0	ND	86	50-125		
Trichloroethylene	43.6		5.00	ug/L	50.0	ND	87	65-125		
Trichlorofluoromethane	54.5		5.00	ug/L	50.0	ND	109	51-145		
Vinyl acetate	50.9		25.0	ug/L	50.0	ND	102	49-135		
Vinyl chloride	51.9		2.00	ug/L	50.0	ND	104	52-140		

Surrogate: 1,2-Dichloroethane-D4 (SUR)

48.2

ug/L

50.0

96

53-159

Surrogate: 4-Bromofluorobenzene (SUR)

43.6

ug/L

50.0

87

30-186

Surrogate: Toluene-D8 (SUR)

48.8

ug/L

50.0

98

70-130

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Kennesaw, GA 30144

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Project Number: ECC-3056  
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Reported:  
04/11/2016 19:01

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: B6D0122 - E5030 VOAs Waters (Continued)

##### Matrix Spike Dup (B6D0122-MSD1)

Source: A6D0009-05

Prepared & Analyzed: 4/5/2016

1,1,1,2-Tetrachloroethane	45.2		5.00	ug/L	50.0	ND	90	54-129	3	20
1,1,1-Trichloroethane	44.8		5.00	ug/L	50.0	ND	90	59-138	5	20
1,1,2,2-Tetrachloroethane	50.2		5.00	ug/L	50.0	ND	100	63-126	3	20
1,1,2-Trichloroethane	46.9		5.00	ug/L	50.0	ND	94	62-115	2	20
1,1-Dichloroethane	51.5		5.00	ug/L	50.0	ND	103	69-132	4	20
1,1-Dichloroethene	52.0		5.00	ug/L	50.0	ND	104	62-131	5	20
1,1-Dichloropropene	45.6		5.00	ug/L	50.0	ND	91	74-123	5	20
1,2,3-Trichlorobenzene	45.7		5.00	ug/L	50.0	ND	91	48-122	2	20
1,2,3-Trichloropropane	47.2		5.00	ug/L	50.0	ND	94	59-119	3	20
1,2,4-Trichlorobenzene	46.0		5.00	ug/L	50.0	ND	92	34-131	5	20
1,2,4-Trimethylbenzene	42.7		5.00	ug/L	50.0	ND	85	47-139	2	20
1,2-Dibromo-3-Chloropropane (DBCP)	42.4		20.0	ug/L	50.0	ND	85	50-130	4	20
1,2-Dibromoethane (EDB)	43.6		5.00	ug/L	50.0	ND	87	80-120	6	20
1,2-Dichlorobenzene	43.6		5.00	ug/L	50.0	ND	87	70-120	1	20
1,2-Dichloroethane	42.6		5.00	ug/L	50.0	ND	85	70-130	3	20
1,2-Dichloropropane	49.7		5.00	ug/L	50.0	ND	99	75-125	1	20
1,3,5-Trimethylbenzene	43.5		5.00	ug/L	50.0	ND	87	53-129	2	20
1,3-Dichlorobenzene	41.1		5.00	ug/L	50.0	ND	82	62-120	4	20
1,3-Dichloropropane	45.7		5.00	ug/L	50.0	ND	91	66-123	1	20
1,4-Dichlorobenzene	42.9		5.00	ug/L	50.0	ND	86	64-114	2	20
2,2-Dichloropropane	52.6		5.00	ug/L	50.0	ND	105	40-159	4	20
2-Chloroethyl vinyl ether	< 10.0	U, X	10.0	ug/L	100	ND		40-145		20
2-Chlorotoluene	42.0		5.00	ug/L	50.0	ND	84	60-129	0.9	20
2-Hexanone	103		25.0	ug/L	100	ND	103	55-136	6	20
4-Chlorotoluene	43.3		5.00	ug/L	50.0	ND	87	64-124	3	20
4-Methyl-2-pentanone (MIBK)	108		25.0	ug/L	100	ND	108	65-132	4	20
Acetone	83.7		50.0	ug/L	100	ND	84	40-140	1	20
Acrolein	97.0		25.0	ug/L	100	ND	97	40-140	4	20
Acrylonitrile	105		25.0	ug/L	100	ND	105	37-160	0.04	20
Benzene	46.3		5.00	ug/L	50.0	ND	93	77-118	4	20
Bromobenzene	44.8		5.00	ug/L	50.0	ND	90	66-121	1	20
Bromochloromethane	45.0		5.00	ug/L	50.0	ND	90	64-130	10	20
Bromodichloromethane	46.6		5.00	ug/L	50.0	ND	93	68-125	3	20
Bromoform	40.2		5.00	ug/L	50.0	ND	80	53-112	0.3	20
Bromomethane (Methyl Bromide)	40.6		10.0	ug/L	50.0	ND	81	30-145	13	20
Carbon disulfide	50.6		5.00	ug/L	50.0	ND	101	26-147	0.3	20
Carbon tetrachloride	41.7		5.00	ug/L	50.0	ND	83	56-138	5	20
Chlorobenzene	43.7		5.00	ug/L	50.0	ND	87	71-114	2	20
Chloroethane	54.4		10.0	ug/L	50.0	ND	109	60-137	5	20
Chloroform	44.5		5.00	ug/L	50.0	ND	89	65-131	5	20
Chloromethane (Methyl Chloride)	46.3		10.0	ug/L	50.0	ND	93	48-151	5	20



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Reported:  
04/11/2016 19:01

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B6D0122 - E5030 VOAs Waters (Continued)</b>										
<b>Matrix Spike Dup (B6D0122-MSD1)</b>			<b>Source: A6D0009-05</b>			<b>Prepared &amp; Analyzed: 4/5/2016</b>				
cis-1,2-Dichloroethene	48.2		5.00	ug/L	50.0	ND	96	22-185	2	20
cis-1,3-Dichloropropene	48.4		5.00	ug/L	50.0	ND	97	67-113	6	20
Dibromochloromethane	40.9		5.00	ug/L	50.0	ND	82	53-125	4	20
Dibromomethane	45.8		5.00	ug/L	50.0	ND	92	75-125	3	20
Dichlorodifluoromethane	67.2		10.0	ug/L	50.0	ND	134	30-155	0.7	20
Diethyl Ether (Ethyl Ether)	51.9		5.00	ug/L	50.0	ND	104	66-134	2	20
2-Butanone (MEK)	93.8		50.0	ug/L	100	ND	94	59-31	3	20
Ethylbenzene	43.7		5.00	ug/L	50.0	ND	87	66-127	5	20
Hexachlorobutadiene	45.6		5.00	ug/L	50.0	ND	91	50-122	14	20
Isopropylbenzene	42.8		5.00	ug/L	50.0	ND	86	58-127	2	20
m,p-Xylenes	89.6		10.0	ug/L	100	ND	90	65-126	6	20
Methylene Chloride	50.1		5.00	ug/L	50.0	ND	100	34-157	4	20
Naphthalene	51.8		5.00	ug/L	50.0	ND	104	30-148	3	20
n-Butylbenzene	45.6		5.00	ug/L	50.0	ND	91	63-122	0.04	20
n-Propylbenzene	44.5		5.00	ug/L	50.0	ND	89	64-127	0.8	20
o-Xylene	43.3		5.00	ug/L	50.0	ND	87	64-123	5	20
4-Isopropyltoluene (p-Cymene)	42.7		5.00	ug/L	50.0	ND	85	64-135	0.9	20
sec-Butylbenzene	43.3		5.00	ug/L	50.0	ND	87	59-124	4	20
Styrene	44.7		5.00	ug/L	50.0	ND	89	50-133	7	20
tert-Butylbenzene	43.9		5.00	ug/L	50.0	ND	88	58-125	3	20
Tetrachloroethylene	118	X	5.00	ug/L	50.0	96.0	44	52-125	8	20
Toluene	43.8		5.00	ug/L	50.0	ND	88	65-123	6	20
trans-1,2-Dichloroethene	51.9		5.00	ug/L	50.0	ND	104	65-135	1	20
trans-1,3-Dichloropropene	43.9		5.00	ug/L	50.0	ND	88	50-125	2	20
Trichloroethylene	43.5		5.00	ug/L	50.0	ND	87	65-125	0.3	20
Trichlorofluoromethane	51.5		5.00	ug/L	50.0	ND	103	51-145	6	20
Vinyl acetate	48.9		25.0	ug/L	50.0	ND	98	49-135	4	20
Vinyl chloride	53.6		2.00	ug/L	50.0	ND	107	52-140	3	20
<hr/>										
Surrogate: 1,2-Dichloroethane-D4 (SUR)			48.0	ug/L	50.0		96	53-159		
Surrogate: 4-Bromofluorobenzene (SUR)			45.6	ug/L	50.0		91	30-186		
Surrogate: Toluene-D8 (SUR)			47.0	ug/L	50.0		94	70-130		





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3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/11/2016 19:01

**Quality Control**  
(Continued)

**Volatile Organic Analysis by GC-MS Method 8260B (Continued)**

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch: B6D0156 - E5030 VOAs Waters**

**Blank (B6D0156-BLK1)**

Prepared & Analyzed: 4/6/2016

1,1,1,2-Tetrachloroethane	< 5.00	U	5.00	ug/L
1,1,1-Trichloroethane	< 5.00	U	5.00	ug/L
1,1,2,2-Tetrachloroethane	< 5.00	U	5.00	ug/L
1,1,2-Trichloroethane	< 5.00	U	5.00	ug/L
1,1-Dichloroethane	< 5.00	U	5.00	ug/L
1,1-Dichloroethene	< 5.00	U	5.00	ug/L
1,1-Dichloropropene	< 5.00	U	5.00	ug/L
1,2,3-Trichlorobenzene	< 5.00	U	5.00	ug/L
1,2,3-Trichloropropane	< 5.00	U	5.00	ug/L
1,2,4-Trichlorobenzene	< 5.00	U	5.00	ug/L
1,2,4-Trimethylbenzene	< 5.00	U	5.00	ug/L
1,2-Dibromo-3-Chloropropane (DBCP)	< 20.0	U	20.0	ug/L
1,2-Dibromoethane (EDB)	< 5.00	U	5.00	ug/L
1,2-Dichlorobenzene	< 5.00	U	5.00	ug/L
1,2-Dichloroethane	< 5.00	U	5.00	ug/L
1,2-Dichloropropane	< 5.00	U	5.00	ug/L
1,3,5-Trimethylbenzene	< 5.00	U	5.00	ug/L
1,3-Dichlorobenzene	< 5.00	U	5.00	ug/L
1,3-Dichloropropane	< 5.00	U	5.00	ug/L
1,4-Dichlorobenzene	< 5.00	U	5.00	ug/L
2,2-Dichloropropane	< 5.00	U	5.00	ug/L
2-Chloroethyl vinyl ether	< 10.0	U	10.0	ug/L
2-Chlorotoluene	< 5.00	U	5.00	ug/L
2-Hexanone	< 25.0	U	25.0	ug/L
4-Chlorotoluene	< 5.00	U	5.00	ug/L
4-Methyl-2-pentanone (MIBK)	< 25.0	U	25.0	ug/L
Acetone	< 50.0	U	50.0	ug/L
Acrolein	< 25.0	U	25.0	ug/L
Acrylonitrile	< 25.0	U	25.0	ug/L
Benzene	< 5.00	U	5.00	ug/L
Bromobenzene	< 5.00	U	5.00	ug/L
Bromochloromethane	< 5.00	U	5.00	ug/L
Bromodichloromethane	< 5.00	U	5.00	ug/L
Bromoform	< 5.00	U	5.00	ug/L
Bromomethane (Methyl Bromide)	< 10.0	U	10.0	ug/L
Carbon disulfide	< 5.00	U	5.00	ug/L
Carbon tetrachloride	< 5.00	U	5.00	ug/L
Chlorobenzene	< 5.00	U	5.00	ug/L
Chloroethane	< 10.0	U	10.0	ug/L
Chloroform	< 5.00	U	5.00	ug/L
Chloromethane (Methyl Chloride)	< 10.0	U	10.0	ug/L



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Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: B6D0156 - E5030 VOAs Waters (Continued)

##### Blank (B6D0156-BLK1)

Prepared & Analyzed: 4/6/2016

cis-1,2-Dichloroethene	< 5.00	U	5.00	ug/L
cis-1,3-Dichloropropene	< 5.00	U	5.00	ug/L
Dibromochloromethane	< 5.00	U	5.00	ug/L
Dibromomethane	< 5.00	U	5.00	ug/L
Dichlorodifluoromethane	< 10.0	U	10.0	ug/L
Diethyl Ether (Ethyl Ether)	< 5.00	U	5.00	ug/L
2-Butanone (MEK)	< 50.0	U	50.0	ug/L
Ethylbenzene	< 5.00	U	5.00	ug/L
Hexachlorobutadiene	< 5.00	U	5.00	ug/L
Isopropylbenzene	< 5.00	U	5.00	ug/L
m,p-Xylenes	< 10.0	U	10.0	ug/L
Methylene Chloride	< 5.00	U	5.00	ug/L
Naphthalene	< 5.00	U	5.00	ug/L
n-Butylbenzene	< 5.00	U	5.00	ug/L
n-Propylbenzene	< 5.00	U	5.00	ug/L
o-Xylene	< 5.00	U	5.00	ug/L
4-Isopropyltoluene (p-Cymene)	< 5.00	U	5.00	ug/L
sec-Butylbenzene	< 5.00	U	5.00	ug/L
Styrene	< 5.00	U	5.00	ug/L
tert-Butylbenzene	< 5.00	U	5.00	ug/L
Tetrachloroethylene	< 5.00	U	5.00	ug/L
Toluene	< 5.00	U	5.00	ug/L
trans-1,2-Dichloroethene	< 5.00	U	5.00	ug/L
trans-1,3-Dichloropropene	< 5.00	U	5.00	ug/L
Trichloroethylene	< 5.00	U	5.00	ug/L
Trichlorofluoromethane	< 5.00	U	5.00	ug/L
Vinyl acetate	< 25.0	U	25.0	ug/L
Vinyl chloride	< 2.00	U	2.00	ug/L

Surrogate: 1,2-Dichloroethane-D4 (SUR)

55.1

ug/L

50.0

110

53-159

Surrogate: 4-Bromofluorobenzene (SUR)

44.3

ug/L

50.0

89

30-186

Surrogate: Toluene-D8 (SUR)

49.1

ug/L

50.0

98

70-130



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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: B6D0156 - E5030 VOAs Waters (Continued)

##### LCS (B6D0156-BS1)

Prepared & Analyzed: 4/6/2016

1,1,1,2-Tetrachloroethane	47.8		5.00	ug/L	50.0		96	80-130		
1,1,1-Trichloroethane	50.3		5.00	ug/L	50.0		101	65-130		
1,1,2,2-Tetrachloroethane	47.1		5.00	ug/L	50.0		94	65-130		
1,1,2-Trichloroethane	47.6		5.00	ug/L	50.0		95	75-125		
1,1-Dichloroethane	52.9		5.00	ug/L	50.0		106	70-135		
1,1-Dichloroethene	58.2		5.00	ug/L	50.0		116	70-130		
1,1-Dichloropropene	51.0		5.00	ug/L	50.0		102	75-130		
1,2,3-Trichlorobenzene	47.1		5.00	ug/L	50.0		94	55-140		
1,2,3-Trichloropropane	42.9		5.00	ug/L	50.0		86	75-125		
1,2,4-Trichlorobenzene	47.8		5.00	ug/L	50.0		96	65-135		
1,2,4-Trimethylbenzene	45.5		5.00	ug/L	50.0		91	75-130		
1,2-Dibromo-3-Chloropropane (DBCP)	36.8		20.0	ug/L	50.0		74	50-130		
1,2-Dibromoethane (EDB)	45.8		5.00	ug/L	50.0		92	80-120		
1,2-Dichlorobenzene	45.3		5.00	ug/L	50.0		91	70-120		
1,2-Dichloroethane	43.3		5.00	ug/L	50.0		87	70-130		
1,2-Dichloropropane	50.5		5.00	ug/L	50.0		101	75-125		
1,3,5-Trimethylbenzene	45.6		5.00	ug/L	50.0		91	75-130		
1,3-Dichlorobenzene	44.5		5.00	ug/L	50.0		89	75-125		
1,3-Dichloropropane	47.8		5.00	ug/L	50.0		96	75-125		
1,4-Dichlorobenzene	44.4		5.00	ug/L	50.0		89	75-125		
2,2-Dichloropropane	61.3		5.00	ug/L	50.0		123	70-130		
2-Chloroethyl vinyl ether	334	H	10.0	ug/L	100		334	40-145		
2-Chlorotoluene	43.8		5.00	ug/L	50.0		88	75-125		
2-Hexanone	96.7		25.0	ug/L	100		97	55-130		
4-Chlorotoluene	44.1		5.00	ug/L	50.0		88	75-130		
4-Methyl-2-pentanone (MIBK)	99.7		25.0	ug/L	100		100	60-135		
Acetone	79.5		50.0	ug/L	100		79	40-140		
Acrolein	99.0		25.0	ug/L	100		99	40-140		
Acrylonitrile	93.4		25.0	ug/L	100		93	40-140		
Benzene	51.4		5.00	ug/L	50.0		103	80-120		
Bromobenzene	44.8		5.00	ug/L	50.0		90	75-125		
Bromochloromethane	50.4		5.00	ug/L	50.0		101	65-130		
Bromodichloromethane	49.3		5.00	ug/L	50.0		99	75-120		
Bromoform	38.6		5.00	ug/L	50.0		77	70-130		
Bromomethane (Methyl Bromide)	58.1		10.0	ug/L	50.0		116	30-145		
Carbon disulfide	58.3		5.00	ug/L	50.0		117	35-160		
Carbon tetrachloride	47.1		5.00	ug/L	50.0		94	65-140		
Chlorobenzene	45.0		5.00	ug/L	50.0		90	80-120		
Chloroethane	73.0	H	10.0	ug/L	50.0		146	60-135		
Chloroform	47.9		5.00	ug/L	50.0		96	65-135		
Chloromethane (Methyl Chloride)	53.8		10.0	ug/L	50.0		108	40-125		

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.  
No duplication of this report is allowed, except in its entirety.





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Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

Reported:  
04/11/2016 19:01

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B6D0156 - E5030 VOAs Waters (Continued)</b>										
<b>LCS (B6D0156-BS1)</b>					Prepared & Analyzed: 4/6/2016					
cis-1,2-Dichloroethene	48.3		5.00	ug/L	50.0		97	70-125		
cis-1,3-Dichloropropene	57.1		5.00	ug/L	50.0		114	70-130		
Dibromochloromethane	40.8		5.00	ug/L	50.0		82	60-135		
Dibromomethane	48.0		5.00	ug/L	50.0		96	75-125		
Dichlorodifluoromethane	76.2		10.0	ug/L	50.0		152	30-155		
Diethyl Ether (Ethyl Ether)	53.8		5.00	ug/L	50.0		108	70-130		
2-Butanone (MEK)	79.5		50.0	ug/L	100		79	70-135		
Ethylbenzene	48.5		5.00	ug/L	50.0		97	75-125		
Hexachlorobutadiene	51.2		5.00	ug/L	50.0		102	50-140		
Isopropylbenzene	44.8		5.00	ug/L	50.0		90	75-125		
m,p-Xylenes	97.1		10.0	ug/L	100		97	75-130		
Methylene Chloride	50.1		5.00	ug/L	50.0		100	65-137		
Naphthalene	47.9		5.00	ug/L	50.0		96	55-140		
n-Butylbenzene	50.0		5.00	ug/L	50.0		100	70-130		
n-Propylbenzene	46.8		5.00	ug/L	50.0		94	70-130		
o-Xylene	46.6		5.00	ug/L	50.0		93	80-120		
4-Isopropyltoluene (p-Cymene)	45.6		5.00	ug/L	50.0		91	40-125		
sec-Butylbenzene	47.3		5.00	ug/L	50.0		95	70-125		
Styrene	48.8		5.00	ug/L	50.0		98	65-135		
tert-Butylbenzene	46.1		5.00	ug/L	50.0		92	70-130		
Tetrachloroethylene	42.6		5.00	ug/L	50.0		85	45-150		
Toluene	48.2		5.00	ug/L	50.0		96	75-120		
trans-1,2-Dichloroethene	55.5		5.00	ug/L	50.0		111	60-140		
trans-1,3-Dichloropropene	47.1		5.00	ug/L	50.0		94	55-140		
Trichloroethylene	46.0		5.00	ug/L	50.0		92	70-125		
Trichlorofluoromethane	62.4		5.00	ug/L	50.0		125	60-145		
Vinyl acetate	69.4	H	25.0	ug/L	50.0		139	65-135		
Vinyl chloride	62.4		2.00	ug/L	50.0		125	50-145		
<hr/>										
Surrogate: 1,2-Dichloroethane-D4 (SUR)			48.7	ug/L	50.0		97	53-159		
Surrogate: 4-Bromofluorobenzene (SUR)			43.9	ug/L	50.0		88	30-186		
Surrogate: Toluene-D8 (SUR)			49.4	ug/L	50.0		99	70-130		



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**Reported:**  
04/11/2016 19:01

### Quality Control (Continued)

#### Volatile Organic Analysis by GC-MS Method 8260B (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: B6D0156 - E5030 VOAs Waters (Continued)

##### LCS Dup (B6D0156-BSD1)

Prepared & Analyzed: 4/6/2016

1,1,1,2-Tetrachloroethane	53.3		5.00	ug/L	50.0		107	80-130	11	20
1,1,1-Trichloroethane	52.5		5.00	ug/L	50.0		105	65-130	4	20
1,1,2,2-Tetrachloroethane	53.8		5.00	ug/L	50.0		108	65-130	13	20
1,1,2-Trichloroethane	53.1		5.00	ug/L	50.0		106	75-125	11	20
1,1-Dichloroethane	58.3		5.00	ug/L	50.0		117	70-135	10	20
1,1-Dichloroethene	60.6		5.00	ug/L	50.0		121	70-130	4	20
1,1-Dichloropropene	53.0		5.00	ug/L	50.0		106	75-130	4	20
1,2,3-Trichlorobenzene	53.0		5.00	ug/L	50.0		106	55-140	12	20
1,2,3-Trichloropropane	49.8		5.00	ug/L	50.0		100	75-125	15	20
1,2,4-Trichlorobenzene	53.8		5.00	ug/L	50.0		108	65-135	12	20
1,2,4-Trimethylbenzene	50.9		5.00	ug/L	50.0		102	75-130	11	20
1,2-Dibromo-3-Chloropropane (DBCP)	42.2		20.0	ug/L	50.0		84	50-130	14	20
1,2-Dibromoethane (EDB)	50.3		5.00	ug/L	50.0		101	80-120	9	20
1,2-Dichlorobenzene	51.0		5.00	ug/L	50.0		102	70-120	12	20
1,2-Dichloroethane	46.4		5.00	ug/L	50.0		93	70-130	7	20
1,2-Dichloropropane	54.5		5.00	ug/L	50.0		109	75-125	8	20
1,3,5-Trimethylbenzene	51.0		5.00	ug/L	50.0		102	75-130	11	20
1,3-Dichlorobenzene	50.3		5.00	ug/L	50.0		101	75-125	12	20
1,3-Dichloropropane	51.1		5.00	ug/L	50.0		102	75-125	7	20
1,4-Dichlorobenzene	49.9		5.00	ug/L	50.0		100	75-125	12	20
2,2-Dichloropropane	65.4	H	5.00	ug/L	50.0		131	70-130	6	20
2-Chloroethyl vinyl ether	376	H	10.0	ug/L	100		376	40-145	12	20
2-Chlorotoluene	48.4		5.00	ug/L	50.0		97	75-125	10	20
2-Hexanone	105		25.0	ug/L	100		105	55-130	9	20
4-Chlorotoluene	50.7		5.00	ug/L	50.0		101	75-130	14	20
4-Methyl-2-pentanone (MIBK)	110		25.0	ug/L	100		110	60-135	10	20
Acetone	92.7		50.0	ug/L	100		93	40-140	15	20
Acrolein	108		25.0	ug/L	100		108	40-140	9	20
Acrylonitrile	101		25.0	ug/L	100		101	40-140	8	20
Benzene	54.7		5.00	ug/L	50.0		109	80-120	6	20
Bromobenzene	51.3		5.00	ug/L	50.0		103	75-125	14	20
Bromochloromethane	51.1		5.00	ug/L	50.0		102	65-130	1	20
Bromodichloromethane	53.8		5.00	ug/L	50.0		108	75-120	9	20
Bromoform	43.8		5.00	ug/L	50.0		88	70-130	13	20
Bromomethane (Methyl Bromide)	56.0		10.0	ug/L	50.0		112	30-145	4	20
Carbon disulfide	62.6		5.00	ug/L	50.0		125	35-160	7	20
Carbon tetrachloride	48.0		5.00	ug/L	50.0		96	65-140	2	20
Chlorobenzene	49.8		5.00	ug/L	50.0		100	80-120	10	20
Chloroethane	70.8	H	10.0	ug/L	50.0		142	60-135	3	20
Chloroform	51.0		5.00	ug/L	50.0		102	65-135	6	20
Chloromethane (Methyl Chloride)	54.6		10.0	ug/L	50.0		109	40-125	1	20



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NELAC DoD Accredited

Atlanta Environmental Consultants  
3440 Blue Springs Rd. Suite 503  
Kennesaw, GA 30144

Project: Former Dry Cleaning Depot  
Project Number: ECC-3056  
Project Manager: Mr. Peter Kallay

**Reported:**  
04/11/2016 19:01

### List of Certifications for FTS Analytical Services - Atlanta

Number	Description	Code	Facility	Expires
04176	LA CERTIFICATE	LANELAC	FTSA	06/30/2016
483	NC CERTIFICATE	ANC	FTSA	12/31/2016
85	KENTUKY CERTIFICATE	KENTUKY	FTSA	
98015	SC CERTIFICATE	ASC	FTSA	06/30/2016
E84098	FL NELAC CERTIFICATE	LFLNELAC	FTSL	06/30/2016
E87429	FL NELAC CERTIFICATE	AFLNELAC	FTSA	06/30/2016
LI0-135	DoD CERTIFICATE	DOD	FTSA	06/30/2016
P330-07-00105	USDA CERTIFICATE	USDA	FTSA	

### Notes and Definitions

Qualifier	Definition
L	GA, The LCS data for this analytical batch was reported below the laboratory control limits for this analyte.
H	GA, The LCS data for this analytical batch was reported above the laboratory control limits.
X	GA, MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix/chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. RPD could also be affected
Dry	Sample results reported on a dry weight basis.
U	Analyte NOT DETECTED at or above the reporting limit.
A	Suspected adol-condensation product
B	Analyte detected in the method blank
C	Confirmed by GC/MS analysis
E	Concentration exceeds calibration range
H	Hold Time exceeded
J	Estimated Value
N	Tentatively Identified Compound
P	>25% difference between primary and secondary columns
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated.





ATLANTA  
ENVIRONMENTAL SERVICES

# CHAIN OF CUSTODY

COC# ATLRI00180

Page 48 of 48

6017 Financial Drive, Norcross, GA 30071  
Phone # (770) 449-8800 Fax # (770) 449-5477

Company Name: Atlanta Environmental Services

Address: 3440 Blue Springs Rd #303, Kennesaw, GA

Results Sent to: Peter T. Kelley, P.E. 30144

Email address: AtlantaEnviro@aol.com

Contact Phone #: 770-5290386 Cell#: 404-944-6231

Project Name (Site): Former Dry Cleaning Depot

Project Number (ID): EEC-3056

Regulatory Program: Response and Remediation

Sampler(s): (signature) Peter T. Kelley, P.E.

Sampler(s): (printed) Peter T. Kelley, P.E.

Container Type: VC

Preservation Code: 1

Analysis Requested

Line No.	Sample ID #	Sample Depth (Ft)	Collection Date / Time	Matrix (See below)	Composite	Grab	No. of Containers	Received By:	Date / Time	Delivered by: (Circle One)
1	MW-1		4-2-16 11:25	GW			2		4/2/16 9:56	Turnaround Time (business days) TAT Starts when samples are rec'd by 2PM 10 Days ; 5-7 Days; 3 Days 2 Days ; 1 Day; Same Day
2	MW-8D		11:55				2			
3	MW-2		12:50				2			
4	MW-3		1:20				2			
5	MW-6		1:45				2			
6	MW-7		2:30				2			
7	MW-5		3:05				2			
8	MW-4		3:45				2			
9	MW-9		5:05				2			
10										

1) Relinquished By: [Signature] Date / Time: 4/2/16 9:56

3) Relinquished By: [Signature] Date / Time: 4/2/16 9:56

5) Relinquished By: [Signature] Date / Time: 4/2/16 9:56

6) Received By: [Signature] Date / Time: 4/2/16 9:56

Matrix Guide: (W=Water) (DW = Drinking Water) (GW = Groundwater) (SW = Surface Water) (L = Liquid) (S = Soil) (SD = Solid) (SL = Sludge) (A = Air) (C = Air Cartridge)  
Chemical Preservation Codes: 1 = HCL / 2 = HNO<sub>3</sub> / 3 = H<sub>2</sub>SO<sub>4</sub> / 4 = NaOH + NaAsO<sub>2</sub> / 5 = NaOH + ZnAc / 6 = Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> / 7 = NaHSO<sub>4</sub> & MeOH / 8 = DI Water & MeOH  
Container Type: VC=Vial (Clear); VA=Vial (Amber); GC=Glass (Clear); GA=Glass (Amber); P=Plastic (HDPE); TB=Tedlar Bag; ES=EnCore Sampler; ZB=Ziploc Bag; O=Other

**APPENDIX D**  
**SOIL BORING LOGS**



Field Rep. Peter T. Kallay, P.E.  
Project No. Former Dry Cleaning Depot, ECC-3045  
Driller Betts Environmental Recovery

Boring No. B-1  
Date Sept. 9, 2005  
Crew Wendell, Brian, Ross

Method:	
Auger	Size <u>6 1/4</u> OD
Wash	Size _____ OD
Core	Size _____ OD
Casing Size:	2"
Undisturbed	
Water Loss	Gallons

Weather Clear, calm, mild  
Standby Time \_\_\_\_\_  
Water Level \_\_\_\_\_  
Borehole Depth 22 Feet  
Date Completed 9/9/2005





Field Rep. Peter T. Kallay, P.E.  
Project No. Former Dry Cleaning Depot, ECC-3045  
Driller Betts Environmental Recovery

Boring No. B-2  
Date Sept. 9, 2005  
Crew Wendell, Brian, Ross

[illegible]

Auger 

X

 Size 6 1/4 OD

Wash 


 Size \_\_\_\_\_ OD

Core 


 Size \_\_\_\_\_ OD

Casing Size: 2"

Undisturbed & \_\_\_\_\_

Water Loss \_\_\_\_\_ Gallons

Weather Clear, calm, mild  
Standby Time \_\_\_\_\_  
Water Level \_\_\_\_\_  
Borehole Depth 22 Feet  
Date Completed 9/9/2005











# SOIL BORING LOG

## Atlanta Environmental Consultants

Field Rep. Peter T. Kallay, P.E.  
Project No. Former Dry Cleaning Depot, ECC-3048  
Driller Betts Environmental Recovery

Boring No. MW-1  
Date March 27, 2008  
Crew Sam Conner, Brandon Bellington,  
Daniel Canady

[illegible]

**Method:**

Auger 

X

 Size 6 1/4 OD

Wash 


 Size \_\_\_\_\_ OD

Core 


 Size \_\_\_\_\_ OD

Casing Size: **2"**

Undisturbed  $\leq$  **SPT**

Weather Cloudy, mild, calm  
Standby Time \_\_\_\_\_  
Water Level 30 feet  
Borehole Depth 45 feet  
Date Completed 3/27/2008



**aec**

# SOIL BORING LOG

# Atlanta Environmental Consultants

Field Rep. Peter T. Kallay, P.E.  
Project No. Former Dry Cleaning Depot, ECC-3048  
Driller Betts Environmental Recovery

Boring No. MW-2  
Date March 27, 2008  
Crew Sam Conner, Brandon Bellington,  
Daniel Canady

[illegible]

**Method:**

Auger 

X
X

 Size 6 1/4 OD  
Air Hammer bit 3 7/8" OD  
Core 

--

 Size \_\_\_\_\_ OD  
Casing Size: 2"  
Undisturbed Samples: SPT

Weather Cloudy, mild, calm  
Standby Time \_\_\_\_\_.  
Water Level 28 feet  
Borehole Depth 45 feet  
Date Completed 3/27/2008



**aec**

# Atlanta Environmental Consultants

Boring No. MW-3  
Date March 27, 2008  
Crew Sam Conner, Brandon Bellington,  
Daniel Canady

[illegible]

Auger 

X
X

 Size 6 1/4 OD  
Air Hammer bit 3 7/8" OD  
Core 

--

 Size \_\_\_\_\_ OD  
Casing Size: 2"  
Undisturbed Samples: SPT

Weather Cloudy, mild, calm  
Standby Time \_\_\_\_\_  
Water Level 28 feet  
Borehole Depth 45 feet  
Date Completed 3/27/2008

# SOIL BORING LOG

## Atlanta Environmental Consultants

Field Rep. Peter T. Kallay, P.E.  
Project No. Former Dry Cleaning Depot, ECC-3048  
Driller Betts Environmental Recovery

Boring No. MW-4  
Date March 28, 2008  
Crew Sam Conner, Brandon Bellington,  
Daniel Canady

[illegible]

**Method:**

Auger 

X
X

 Size 6 1/4 OD  
Air Hammer bit 3 7/8" OD  
Core 

--

 Size \_\_\_\_\_ OD  
Casing Size: 2"  
Undisturbed Samples: SPT  
Water Loss \_\_\_\_\_ Gallons

Weather Cloudy, mild, calm  
Standby Time \_\_\_\_\_  
Water Level 30 feet  
Borehole Depth 35 feet  
Date Completed 3/28/2008



# SOIL BORING LOG

## Atlanta Environmental Consultants

Field Rep. Peter T. Kallay, P.E.  
Project No. Former Dry Cleaning Depot, ECC-3048  
Driller Betts Environmental Recovery

Boring No. MW-5  
Date March 28, 2008  
Crew Sam Conner, Brandon Bellington,  
Daniel Canady

[illegible]

**Method:**

Auger 

X
X

 Size 6 1/4 OD  
Air Hammer bit 3 7/8" OD  
Core 

--

 Size \_\_\_\_\_ OD  
Casing Size: 2"  
Undisturbed Samples: SPT.

Weather Cloudy, mild, calm  
Standby Time none  
Water Level 26 feet  
Borehole Depth 35 feet  
Date Completed 3/28/2008





# SOIL BORING LOG

## Atlanta Environmental Consultants

Field Rep. Peter T. Kallay, P.E.

Project No. Fmr Dry Cleaning Depot Addl Assess ECC-3052

Driller Betts Environmental Recovery

Boring No. MW-6

Date June 27, 2012

Crew Sam Conner, Jason Allwood,  
Kyle Neesmith

Depth		Soil Description	Time	Type	1st	2nd	3rd	Reco- very	PID/ FID
From	To				6"	6"	6"		
0	0.25	Surface: Asphalt Pavement	9:26	CUT					
		NOTE: Drilling 5' using Hand Auger, then HSA							
0.25	1	Grey GRAVEL with sand, asphalt sub-base.	9:28	HA					0.6
		dry to slightly damp, no odor. FILL							
		underlain by red silty CLAY w/a little mica							
5	6	Red-brown clayey SILT, with some mica and some quartz gravel. Damp, no odor.	9:36	SPT	3	4	6	60%	7.0
							7		
10	11	Tan, brown, beige, black and white horizontally stratified thin layers of sand SILT. Damp. No odor.	9:45	SPT	3	3	5	90%	3.3
							6		
15	16	Tan and various shades of medium brown and light brown horizontally stratified thin layers of sandy SILT. Damp. No odor.	9:55	SPT	9	10	11	85%	1.5
							15		
20	21	Black, white, brown, grey, tan and beige horizontally stratified thin layers of sandy SILT with some mica. Damp. No odor.	10:10	SPT	16	17	32	80%	11.0
							50/4		
25	26	Brown and brown-grey clayey SILT with quartz gravels, underlain by partially weathered rock that came to the surface as light grey pulverized rock with gravel-sized rock pieces.	10:15	SPT	50/2	-	-	20%	1.4
		Damp, no odor.							
		AUGER REFUSAL AT 30 FEET							
		Switch to AIR HAMMER at 30 feet.							
30	31	Air Hammer drilling results in pulverized light grey rock that appears to be granitic with quartz.	10:25						
35	36	Same as above. No odor.	10:45						
		BORING TERMINATED AT 35 FEET							

Method:

Auger ☒ Size 6 1/4 OD

☒ Air Hammer bit 3 7/8" OD

Core ☐ Size \_\_\_\_\_ OD

Casing Size: 2"

Undisturbed Samples: SPT

Water Loss \_\_\_\_\_ Gallons

Weather Clear, sunny, warm, no rain.

Standby Time none

Water Level 32 feet (27.83' next day)

Borehole Depth 35 feet

Date Completed June 27, 2012



# SOIL BORING LOG

## Atlanta Environmental Consultants

Field Rep. Peter T. Kallay, P.E.  
 Project No. Fmr Dry Cleaning Depot Addl Assess ECC-3054  
 Driller Kilman Bros Inc.  
 Drilling Eqpt. CME 550X

Boring No. B-7, completed as MW-7  
 Date Dec. 11, 2013  
 Crew Robert Kilman, Marcel Sacilli,  
 Bill Pook and David Oliver

Depth		Soil Description	Time	Type	1st	2nd	3rd	Reco-	PID/
From	To				6"	6"	6"	very	FID
0	0.25	Surface: Asphalt Pavement	8:27	CUT					
		NOTE: Drilled 5' using Hand Auger, then HSA							
		NOTE: Offset boring due to (a) marked natural gas line; (b) unmarked pipe w/ unk use/contents							
0.25	1	Grey GRAVEL with sand, asphalt sub-base.	9:05	HA					
		dry to slightly damp, no odor. FILL							
		underlain by red clayey SILT.							
3.5	5	Red silty CLAY, relatively hard, damp,	9:15	SPT	7	10	14	95%	0.6
		no odor							
8.5	10	Tan and various shades of brown horizontally stratified thin layers of sandy SILT with mica. Partially weathered rock. Damp. No odor.	9:20	SPT	7	8	15	80%	0.1
13.5	15	Same as above, sandy SILT. Partially weathered rock. Damp. No odor.	9:30	SPT	15	24	26	85%	0.1
18.5	20	Same as above, sandy SILT. Partially weathered rock. Damp. No odor.	9:40	SPT	50/6			20%	0.8
23.5	25	Same as above, but more SILT with less sand. Partially weathered rock. Damp. No odor.	9:45	SPT	14	26	50/2	75%	0.2
28.5	30	Increasingly hard partially weathered rock. No recovery	9:55	SPT	50/0			0%	
33.5	35	Increasingly hard partially weathered rock. grading into competent rock. No recovery.	10:05	SPT	50/0			0%	
		BORING TERMINATED AT 35 FEET							

Method:

Auger ☒ Size 6 1/4 OD  
 AirHa ☐  
 Core ☐ Size \_\_\_\_\_ OD  
 Casing Size: 2"  
 Undisturbed Samples: SPT  
 Water Loss \_\_\_\_\_ Gallons

Weather Clear, sunny, warm, no rain.  
 Standby Time none  
 Water Level 30 feet (25.72' next day).  
 Borehole Depth 35 feet  
 Date Completed Dec. 11, 2013





# SOIL BORING LOG

## Atlanta Environmental Consultants

Field Rep. Peter T. Kallay, P.E.  
 Project No. Fmr Dry Cleaning Depot Addl Assess ECC-3054  
 Driller Kilman Bros Inc.  
 Drilling Eqpt. CME 550X

Boring No. B-8, completed as MW-8D  
 Date Dec. 11, 2013  
 Crew Robert Kilman, Marcel Sacilli,  
 Bill Pook and David Oliver

Depth		Soil Description	Time	Type	1st	2nd	3rd	Reco-	PID/
From	To				6"	6"	6"	very	FID
0	0.25	Surface: Bare soil with some grass and weeds. NOTE: Drilled 5' using Hand Auger, then HSA	10:23	CUT					
0.25	1	Light brown sandy SILT, topsoil containing grass roots. Damp. No odor.	10:25	HA					
3.5	5	Red clayey SILT, relatively hard, damp, no odor	10:30	SPT	7	13	13	90%	0.4
8.5	10	red and brown foliated layered sandy SILT with mica; partially weathered rock. Damp. No odor.	10:40	SPT	15	16	20	85%	0.3
13.5	15	brown color various shades layered sandy SILT partially weathered rock. Damp. No odor.	10:45	SPT	7	13	13	80%	0.5
18.5	20	Brown, red and beige layered sandy SILT Foliated partially weathered rock; damp; no odor.	10:55	SPT	9	11	11	85%	0.2
23.5	25	Increasingly hard partially weathered rock. No recovery	11:05	SPT	50/0			0%	
28.5	30	Increasingly hard partially weathered rock. grading into competent rock. No recovery. AUGER REFUSAL AT 30 FEET Switch to AIR HAMMER at 30 feet.	11:20	SPT	50/0			0%	
30	60	Rock comes up mostly as sand or smaller size particles with a few gravel size pieces. Rock appears consistent with geologic description of rock underlying the site - gneiss and/or schist with biotite (black) and mica.  BORING TERMINATED AT 60 FEET	12:30	AirHa					1.8

Method:

Auger ☒ Size 6 1/4 OD  
 AirHa ☒ Air Hammer Bit 3 7/8" OD  
 Core ☐ Size        OD  
 Casing Size: 2"  
 Undisturbed Samples: SPT  
 Water Loss        Gallons

Weather Clear, sunny, warm, no rain.  
 Standby Time none  
 Water Level 55 feet (40.96' next day)  
 Borehole Depth 60 feet  
 Date Completed Dec. 11, 2013



**APPENDIX E**  
**WARRANTY DEED**  
**AND SURVEY**

Deed Book 41009 Pg 46  
Filed and Recorded Sep-29-2005 09:10am  
2005-0337807  
Real Estate Transfer Tax \$250.00  
Juanita Hicks  
Clerk of Superior Court  
Fulton County, Georgia

Record and return to:  
Weissman, Nowack, Curry & Wilco, P.C.  
1745 North Brown Road, Suite 100  
Lawrenceville, GA 30043  
File Number: SL105-05-1128-R

### LIMITED WARRANTY DEED

STATE OF GEORGIA  
COUNTY OF FULTON

THIS INDENTURE, made this 14th day of September, 2005 by and between Yoan Yun, of the County of Gwinnett, and the State of Georgia as party or parties of the first part, hereinafter called Grantor, and K.I.C. MANAGEMENT, LLC, as party or parties of the second part, hereinafter called Grantee (the words "Grantor" and "Grantee" to include their respective heirs, successors and assigns where the context requires or permits).

WITNESSETH that: Grantor, for and in consideration of the sum of TEN DOLLARS AND NO/100 (\$10.00) AND OTHER VALUABLE CONSIDERATIONS in hand paid at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged, has granted, bargained, sold, aliened, conveyed and confirmed, and by these presents does grant, bargain, sell, alien, convey and confirm unto the said Grantee, the following described property, to-wit:

See Exhibit "A" and Exhibit "B" attached hereto and made a part hereof by reference hereto

THIS CONVEYANCE is made subject to all zoning ordinances, easements and restrictions of record affecting said described property.

TO HAVE AND TO HOLD the said tract or parcel of land, with all and singular the rights, members and appurtenances thereof, to the same being, belonging, or in anywise appertaining, to the only proper use, benefit and behoof of the said Grantee, forever IN FEE SIMPLE.

AND THE SAID Grantor will warrant and forever defend the right and title to the above described property unto the said Grantees against the claims of all persons by, through, or under Grantor herein.

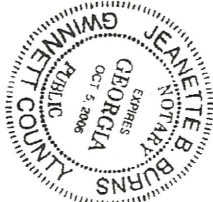
IN WITNESS WHEREOF, the Grantor has signed and sealed this deed, the date and year above written.

Signed, sealed and delivered  
In the presence of:

Unofficial Witness

Notary Public  
My commission expires:  
(Notary Seal)

Yoan Yun



**EXHIBIT "A"**

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 412, 1ST DISTRICT, 2ND SECTION, FULTON COUNTY, GEORGIA, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT AN IRON PIN FOUND ON THE SOUTHEASTERLY RIGHT OF WAY LINE OF ALPHARETTA STREET (A VARIABLE RIGHT OF WAY, SAID POINT BEING 42 FEET FROM THE CENTER LINE OF ALPHARETTA STREET AT THIS POINT), WHICH IRON PIN IS 296.50 FEET SOUTHWESTERLY AS MEASURED ALONG SAID RIGHT OF WAY LINE FROM THE INTERSECTION FORMED BY THE SOUTHEASTERLY RIGHT OF WAY LINE OF ALPHARETTA STREET AND THE WESTERLY RIGHT OF WAY LINE OF FRAZIER STREET, IF SAID RIGHT OF WAY LINES WERE EXTENDED TO FORM AN ANGLE INSTEAD OF A CURVE; RUNNING THENCE SOUTH 75 DEGREES 22 MINUTES 04 SECONDS EAST A DISTANCE OF 79.56 FEET TO AN IRON PIN SET; RUNNING THENCE SOUTH 82 DEGREES 30 MINUTES 40 SECONDS EAST A DISTANCE OF 123.53 FEET TO AN IRON PIN SET ON THE WESTERLY RIGHT OF WAY LINE OF FRAZIER STREET (A 30 FOOT RIGHT OF WAY); RUNNING THENCE SOUTH 00 DEGREES 55 MINUTES 53 SECONDS WEST ALONG AND FOLLOWING SAID RIGHT OF WAY LINE OF FRAZIER STREET A DISTANCE OF 48.60 FEET TO AN IRON PIN FOUND; RUNNING THENCE NORTH 86 DEGREES 46 MINUTES 37 SECONDS WEST A DISTANCE OF 150.60 FEET TO AN IRON PIN SET; RUNNING THENCE NORTH 74 DEGREES 31 MINUTES 47 SECONDS WEST A DISTANCE OF 53.00 FEET TO AN IRON PIN FOUND; RUNNING THENCE SOUTH 07 DEGREES 18 MINUTES 35 SECONDS WEST A DISTANCE OF 6.98 FEET TO AN IRON PIN FOUND; RUNNING THENCE NORTH 66 DEGREES 25 MINUTES 24 SECONDS WEST A DISTANCE OF 46.94 FEET TO AN IRON PIN FOUND ON THE SOUTHEASTERLY RIGHT OF WAY LINE OF ALPHARETTA STREET; RUNNING THENCE NORTHEASTERLY ALONG THE FOLLOWING SAID RIGHT OF WAY LINE OF ALPHARETTA STREET AND FOLLOWING THE ARC OF A CURVE TO THE RIGHT (SAID ARC HAVING A RADIUS OF 1373.39 FEET, A CHORD BEARING OF NORTH 42 DEGREES 50 MINUTES 53 SECONDS EAST AND A CHORD LENGTH OF 68.65 FEET) AN ARC DISTANCE OF 68.66 FEET TO AN IRON PIN FOUND AND THE POINT OF BEGINNING. SAID PROPERTY BEING SHOWN ON THAT PLAT OF SURVEY FOR GRAD ENTERPRISES, INC. AND THE BUSINESS DEVELOPMENT CORPORATION OF GEORGIA, INC., DATED MARCH 8, 1993, AND LAST REVISED MARCH 17, 1993, PREPARED BY SOLAR LAND SURVEYING COMPANY, CERTIFIED TO BY JOHN W. STANZILIS, JR., GEORGIA REGISTERED LAND SURVEYOR NO. 2109, CONTAINING 0.30 ACRES AND BEING KNOWN AS 1073 ALPHARETTA STREET ACCORDING TO THE PRESENT SYSTEM OF NUMBERING STREETS IN THE CITY OF ROSWELL

TOGETHER WITH THAT CERTAIN ENCROACHMENT EASEMENT AGREEMENT BETWEEN PERRY S. ALTERMAN, AS TRUSTEE UNDER DECLARATION OF TRUST DATED FEBRUARY 14, 1989, EFFECTIVE JANUARY 1, 1989, AND GRAD ENTERPRISES, INC., DATED MARCH 31, 1993, FIELD AND RECORDED MAY 10, 1993, RECORDED IN DEED BOOK 16559, PAGE 318, RECORDS OF FULTON COUNTY, GEORGIA



STATE OF GEORGIA  
COUNTY OF FULTON

GEORGIA, FULTON COUNTY  
FILED AND RECORDED  
(93-034-etcj)

93 MAY 10 AM 8:30

ENCROACHMENT EASEMENT AGREEMENT

JUANITA LICKS  
CLERK, SUPERIOR COURT

THIS ENCROACHMENT EASEMENT AGREEMENT, made and entered into this 3 day of MARCH, 1993, by and between Perry S. Alterman, as Trustee under Declaration of Trust dated February 14, 1989, effective as of January 1, 1989, (hereinafter referred to as "Grantor"), and GRAD ENTERPRISES, INC. (hereinafter referred to as "Grantee"),

WITNESSETH:

WHEREAS, Grantor is the owner of that certain tract of land lying and being in Land Lot 412 of the 1st District, 2nd Section of Fulton County, Georgia, and being more particularly described in that certain Limited Warranty Deed from Perry S. Alterman, Betty L. Stone, Frances A. Carroll and Alan E. Alterman to Perry S. Alterman, as Trustee, dated January 1, 1989, recorded February 16, 1989 at Deed Book 12281, page 318, Fulton County, Georgia Records (said tract of land hereinafter referred to as "Tract A"); and

WHEREAS, Grantee is the owner of that certain tract of land containing 0.30 acres located immediately adjacent to the boundary line of Tract A and being more particularly described in that certain Warranty Deed from JoAnne C. O'Hara and an Executor's Deed from Karen O'Hara, as Executor under the Will of Warren James O'Hara, a/k/a W. J. O'Hara, dated April 1, 1993, recorded simultaneously herewith in Fulton County, Georgia Records (said tract of land hereinafter referred to as "Tract B"); and

WHEREAS, as an incident to the purchase of Tract B, Grantee caused a plat of survey to be made for Grad Enterprises, Inc. and The Business Development Corporation of Georgia, Inc., by Solar Land Surveying Company, dated March 8, 1993, last revised March 17, 1993, a copy of which plat is attached hereto as Exhibit "A" and made a part hereof by this reference (hereinafter referred to as the "Survey"); and

WHEREAS, the Survey discloses that pavement located on Tract B encroaches to a maximum of 10.0 feet across the common boundary line with Tract A (hereinafter referred to as the "Encroachment"); and

WHEREAS, the Survey further discloses that the Grantee's sign is located on Grantor's property; and

WHEREAS, in order to acknowledge and allow said encroachments, Grantor has this day agreed to grant the following Encroachment Easement;

NOW, therefore, for and in consideration of Ten Dollars (\$10.00) and other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Grantor has this date bargained and sold, and by these presents does bargain, sell, convey, transfer, and deliver unto Grantee, its successors and assigns for the benefit of Grantee and its invitees, guests, patrons, clients, and customers a non-exclusive perpetual encroachment easement over and upon all that portion of Tract A which is covered by the Encroachments for purposes of vehicular and pedestrian traffic ingress and egress over, upon and through the Encroachment property and for the purpose of using and maintaining the improvements of Grantee which are located thereon.

Grantee hereby disclaims any title or interest in any portion of Tract A.

Grantor does covenant and agree with Grantee that he is lawfully seized and possessed of all right, title and interest in and to Tract A, that he has a good and lawful right to convey the Encroachment Easement described herein, or any part thereof, and that Tract A is free from all encumbrances, and that he will forever warrant and defend the title thereto against the lawful claims of all persons whomsoever.

Notwithstanding anything in this Agreement to the contrary, Grantor and Grantee agree that should the Encroachment be removed by the Grantee at any time hereafter, other than as an incident to necessary maintenance, then the Encroachment Easement shall become null and void.

TO HAVE AND HOLD said Encroachment Easement and right-of-way unto Grantee and unto its successors and assigns, forever; it being the express intention of the parties hereto that said Encroachment Easement shall be an appurtenant easement and a covenant running with the land for the benefit of the Grantee, its successors and assigns, forever.

IN WITNESS WHEREOF, the Grantor has caused this Encroachment Easement to be executed and his seal attached the day year first set forth above.

Signed, sealed and delivered  
in the presence of:

N.P.  
SEAL

GRANTOR:

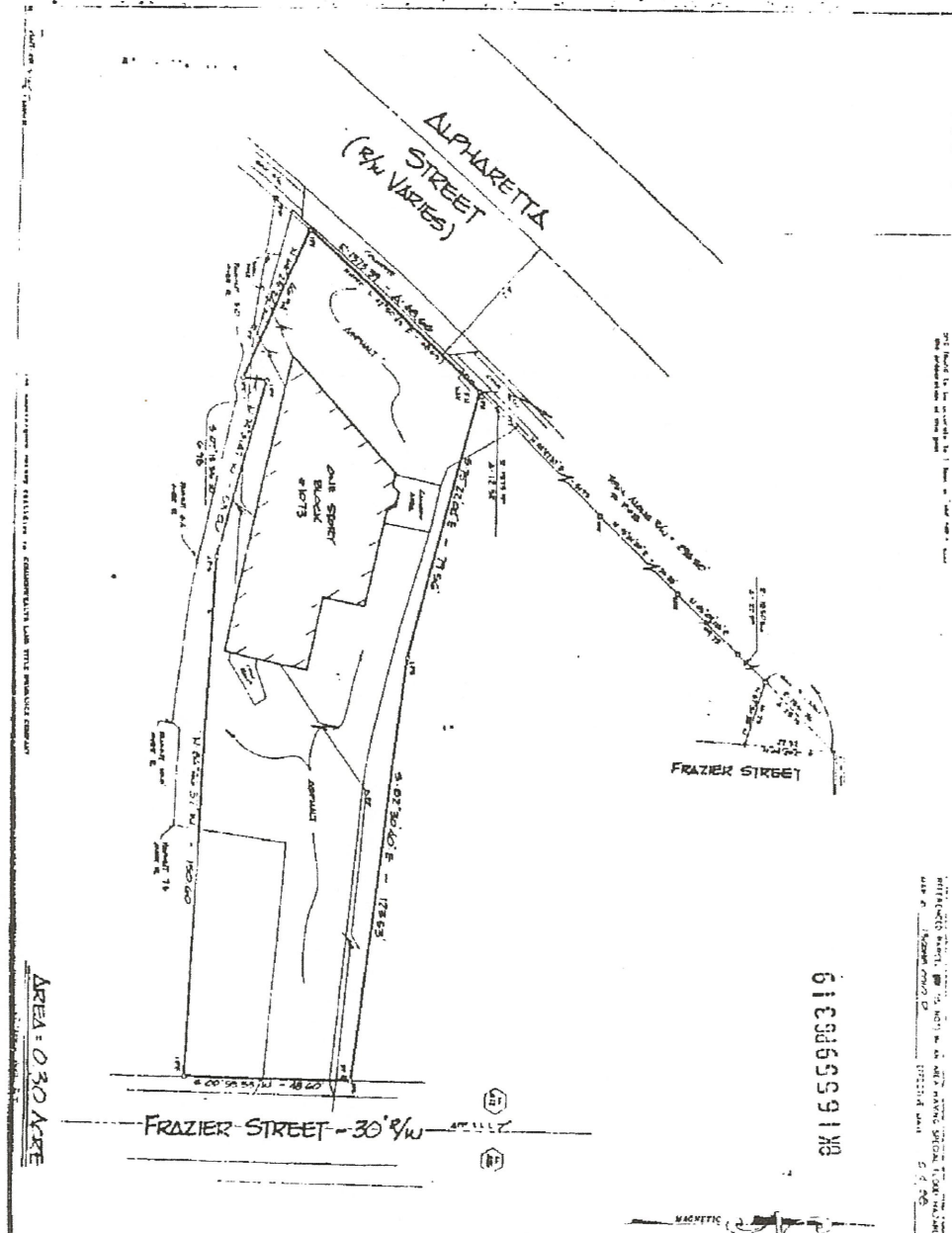
BY: Perry S. Alterman (SEAL)  
PERRY S. ALTERMAN, TRUSTEE

Witness

Bethanne A. McEniff  
Notary Public

Notary Public, Fulton County, Georgia  
My Commission Expires July 14, 1994

BK16559PG318



616559P6319

THE BUSINESS OF GEORGIA, INC.		DATE: 5-8-75	SOLAR LAND SURVEYING COMPANY	
2 <sup>ND</sup> SECTION		SCALE: 1" = 20'	P.O. BOX 723993 ATLANTA, GEORGIA 30312-0893	
FURNISH		COUNTY: CLATSOP	TELEPHONE (404) 933-9711 FAX (404) 533-9810	
UNIT	SECTION	BY	DATE	THIS MAP WAS PREPARED FOR THE EXCLUSIVE USE OF THE PERSONS OR ENTITY NAMED HEREON. THIS MAP IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF SOLAR LAND SURVEYING COMPANY. ALL MATTERS PERTAINING TO THIS ARE EXCEPTED.

EXHIBIT "A"

**APPENDIX F**

**JOHNSON AND ETTINGER  
VAPOR INTRUSION MODELING**





## EPA On-line Tools for Site Assessment Calculation

40 of 67

### Screening Level Implementation of the Johnson and Ettinger Vapor Intrusion Model

#### Reverse Calculation of Target Media Concentrations

[Forward Calculation full uncertainty analysis](#)

##### Background

Migration of volatile chemicals from the subsurface into overlying buildings is called vapor intrusion (VI). Volatile organic chemicals in contaminated soils or groundwater can emit vapors, which may migrate through subsurface soils and may enter the indoor air of overlying buildings. Building depressurization may cause these vapors to enter the home through cracks in the foundation. Depressurization can be caused by a combination of wind effects and stack effects, which are the result of heating within the building and/or mechanical ventilation. In extreme cases, the vapors may accumulate in dwellings to levels that may pose near-term safety hazards, such as explosion. Typically, however, vapor concentrations are present at low levels, to which long-term exposure may pose increased risk for chronic health effects.

This on-line calculator implements the Johnson and Ettinger (J&E) (Johnson and Ettinger, 1991) simplified model to evaluate the vapor intrusion pathway into buildings. This J&E model replicates the implementation that the US EPA Office of Solid Waste and Emergency Response (OSWER) used in developing its [draft vapor intrusion guidance](#), but includes a number of enhancements that are facilitated by web implementation: temperature dependence of Henry's Law Constants, automatic sensitivity analysis of certain parameters, and others described [on the background page](#).

The results you obtain from this OnSite implementation of the Johnson and Ettinger model may differ from other versions of the Johnson & Ettinger Model. In addition to the OSWER implementation that was used for the draft vapor intrusion guidance, EPA Office of Emergency Response and Remediation (OERR) distributes a set of spreadsheet implementations of the [model](#). The differences among these implementations is described in detail on the results [page](#). Beyond these differences the on-line version includes a simplified uncertainty analysis the other implementations lack.

[Click For an Example](#)

Enter Site Name (optional):

What type of building are you investigating? Slab-on-Grade ▼

What is your contaminant of concern (COC)? Trichloroethylene ▼

What type of soil is beneath the building at your site? Loamy sand ▼

What is the average soil/ground water temperature? 25 Celsius ▼

What is the depth to the contamination from the foundation? ( $L_T$ ) 7 meters ▼

This value can change by +/-

1 meters ▼

##### Chemical Properties

CAS Number	79016
Molecular Weight ( <b>MW</b> )	131.39 [g/mole]
Henry's Law Constant at ground water temperature ( <b>H</b> )	0.4199816 [unitless]
Free-Air Diffusion Coefficient ( <b>D<sub>a</sub></b> )	7.900e-2 [cm <sup>2</sup> /s]
Diffusivity in Water ( <b>D<sub>w</sub></b> )	9.100e-6 [cm <sup>2</sup> /s]
Unit Risk Factor ( <b>URF</b> )	1.10e-4 [(µg/m <sup>3</sup> ) <sup>-1</sup> ]
Reference Concentration ( <b>RfC</b> )	4.00e-2 [mg/m <sup>3</sup> ]

##### Soil Properties

Total Porosity ( <b>n</b> )	0.390 [unitless]
Unsaturated Zone Moisture Content ( <b>θ<sub>w</sub></b> )	Low 0.0490 [unitless]
Capillary Zone Moisture Content at Air-Entry Pressure ( <b>θ<sub>w,cap</sub></b> )	0.0760 [unitless]
Height of Capillary Zone ( <b>CZ<sub>h</sub></b> )	0.303 [unitless]
Soil-gas Flow Rate Into the Building ( <b>Q<sub>soil</sub></b> )	0.188 [m]
	5.00 [L/min]

##### Building Properties

Air Exchange Rate ( <b>E<sub>B</sub></b> )	1.00 [hr <sup>-1</sup> ]
Building Mixing Height ( <b>H<sub>B</sub></b> )	3.00 [m]
Building Footprint Area ( <b>F<sub>B</sub></b> )	233 [m <sup>2</sup> ]
Subsurface Foundation Area ( <b>A<sub>B</sub></b> )	240 [m <sup>2</sup> ]
Building Crack Ratio ( <b>η</b> )	0.00038 [unitless]
Building Foundation Slab Thickness ( <b>L<sub>crack</sub></b> )	0.100 [m]

##### Exposure Parameters

Exposure Duration for Carcinogens ( <b>ED<sub>c</sub></b> )	30 [years]
---	------------

Exposure Frequency for Carcinogens ( $EF_c$ )	350	[days/year]
Averaging Time for Carcinogens ( $AT_c$ )	70	[years]
Exposure Duration for Non-Carcinogens ( $ED_{nc}$ )	30	[years]
Exposure Frequency for Non-Carcinogens ( $EF_{nc}$ )	365	[days/year]
Averaging Time for Non-Carcinogens ( $AT_{nc}$ )	30	[years]
Target Hazard Quotient (THQ)	1	[unitless]

## RESULTS

Unsaturated Zone Effective Diffusion Coefficient ( $D_{eff}$ )	0.01097	[cm <sup>2</sup> /s]
Unsaturated + Capillary Zone Effective Diffusion Coefficient ( $D_{eff}^T$ )	0.003825	[cm <sup>2</sup> /s]

eff)

"A" Parameter for Soil Gas	1.937e-4
"A" Parameter for Groundwater	6.754e-5
"B" Parameter	83.28
"C" Parameter	4.292e-4

Based on parameter analysis: Advection is the dominant mechanism across foundation.

Soil Gas Attenuation Factor ( $\alpha_{SG}$ )	1.335e-4
Groundwater Attenuation Factor ( $\alpha_{GW}$ )	5.835e-5

Risk Factor = 1 x 10<sup>-6</sup> ▼Target Concentrations at this Risk Factor are based on **CANCER** riskTarget Indoor Air Concentration = 0.02212 [µg/m<sup>3</sup>] or 0.004119 [ppbv]

RANGE OF CONCENTRATIONS BASED ON SENSITIVITY OF SOIL TYPE AND CONTAMINATION DEPTH							
Target Media	Less Protective <sup>1</sup>		Best Estimate		More Protective <sup>2</sup>		
Soil Gas	221.6	[µg/m <sup>3</sup> ]	41.26	[ppbv]	165.7	[µg/m <sup>3</sup> ]	30.86 [ppbv]
Groundwater	1.033	[µg/L]	0.9026	[µg/L]	125.9	[µg/m <sup>3</sup> ]	23.44 [ppbv]

<sup>1</sup> "Less Protective" concentrations produced with HIGHEST moisture content and DEEPEST depth to contamination.

<sup>2</sup> "More Protective" concentrations produced with LOWEST moisture content and SHALLOWEST depth to contamination.


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WCMS

Last updated on 2/23/2016

# TARGET MEDIA CONCENTRATION RESULTS



## Screening-Level Johnson and Ettinger Model

Site Name: Former Dry Cleaning Depot HSI #10880  
 Report Date: Fri Jun 24 2016 16:22:08 GMT-0500 (Central Daylight Time)  
 Report Generated From: [https://www3.epa.gov/ceampubl/learn2model/part-two/onsite/JnE\\_lite.htm](https://www3.epa.gov/ceampubl/learn2model/part-two/onsite/JnE_lite.htm)  
 Depth to contamination from bottom of foundation: 7m +/- 1m  
 Average ground water temperature: 25C

### CHEMICAL PROPERTIES

Chemical of Concern: Trichloroethylene CAS Number: 79016  
 Molecular Weight: 131.39[g/mole] Henrys Constant: 0.4199816[unitless]  
 Diffusivity in Air: 7.900e-2[cm<sup>2</sup>/sec] Diffusivity in Water: 9.100e-6[cm<sup>2</sup>/sec]  
 Unit Risk Factor: 0.00011[(μg/m<sup>3</sup>)<sup>-1</sup>] Reference Concentration: 0.04[mg/m<sup>3</sup>]

### SOIL PROPERTIES

Soil Type: Loamy Sand Total Porosity: 0.39  
 Unsaturated Zone Moisture Content:  
     low= 0.049 best estimate= 0.076 high= 0.1  
 Capillary Zone Moisture Content: 0.303 Height of Capillary Rise: 0.188[m]  
 Soil-Gas Flow Rate into Building: 5 [L/min]

### BUILDING PROPERTIES

Building Type: Slab-on-Grade Air Exchange Rate: 1[hr<sup>-1</sup>]  
 Building Mixing Height: 3[m] Building Footprint Area: 233[m<sup>2</sup>]  
 Subsurface Foundation Area: 240[m<sup>2</sup>] Building Crack Ratio: 0.00038[unitless]  
 Foundation Slab Thickness: 0.1[m]

### EXPOSURE PARAMETERS

Exposure Duration: carcinogens 30 [years] non-carcinogens: 30 [years]  
 Exposure Frequency: carcinogens 350 [days/year] non-carcinogens: 365 [days/year]  
 Averaging Time: carcinogens 70 [years] non-carcinogens: 30 [years]  
 Risk Factor for carcinogens: 1E-6 Target Hazard Quotient for non-carcinogens: 1

### JOHNSON & ETTINGER SIMULATION RESULTS

Effective Diffusion Coefficients:

Unsaturated Zone( $D_{eff}$ ): 0.01097[cm<sup>2</sup>/s]

Unsaturated Zone + Capillary Zone ( $D_{eff}^T$ ): 0.003825[cm<sup>2</sup>/s]

Soil Gas Attenuation Factor ( $\alpha_{SG}$ ): 0.0001335

Ground Water Attenuation Factor ( $\alpha_{GW}$ ): 0.00005835

Target Concentrations are based on CANCER risk.

Target Indoor Air Concentration: 0.02212[μg/m<sup>3</sup>] or 0.004119[ppbv]

#### <sup>1</sup>Less Protective Target Concentrations

Soil Gas: 221.6[μg/m<sup>3</sup>] or 41.26[ppbv]; Ground Water: 1.033[μg/L]

#### Best Estimate Target Concentrations

Soil Gas: 165.7[μg/m<sup>3</sup>] or 30.86[ppbv]; Ground Water: 0.9026[μg/L]

#### <sup>2</sup>More Protective Target Concentrations

Soil Gas: 125.9[μg/m<sup>3</sup>] or 23.44[ppbv]; Ground Water: 0.8096[μg/L]

Based on parameter analysis: Advection is the dominant mechanism across foundation.

<sup>1</sup>"Less Protective" concentrations produced with HIGHEST moisture content and DEEPEST depth to contamination.

<sup>2</sup>"More Protective" concentrations produced with LOWEST moisture content and SHALLOWEST depth to contamination.



6/24/2016

Building Footpring Area is outside the recommended range for this building type.  
Subsurface Foundation Area is outside the recommended range for this building type.

**APPENDIX G**  
**RISK REDUCTION STANDARDS**  
**CALCULATIONS**

## **APPENDIX G RISK REDUCTION STANDARDS**

Section 391-3-19-.07 of the Rules allows for the determination of Risk Reduction Standards (RRS) that are protective of human health and the environment. The Rules discuss five alternative Types of RRS against which the site can be evaluated. The RRS types are described as:

- Type 1 - Standardized exposure assumptions for residential properties;
- Type 2 - Site specific exposure determinations for residential properties;
- Type 3 - Standardized exposure assumptions for non-residential properties;
- Type 4 - Site specific exposure determinations for non-residential properties;
- Type 5 - Engineering and institutional controls such as caps, slurry walls, fences, deed restrictions, etc. to minimize risk when it is not appropriate and/or practical to apply Type 1-4 standards.

The site can be delisted from the HSI once Type 1 or 2 RRS are met in both soil and groundwater.

A site in compliance with Type 3 or 4 RRS will be designated as having a known release needing corrective action. Once the activities needed to maintain the RRS are complete, the site can be removed from the HSI.

### **G.1 SOILS**

Soils were sampled and analyzed for VOCs by EPA Method 8260B. Tables 6-1 and 6-2 detail the analytical results for the detected constituents. Initial sampling occurred on September 9, 2005, with additional soils samples collected on March 27 and 28, 2008; June 27, 2012; December 11, 2013 and, April 5, 2016 (Table G-1, Soil Analytical Results).

An HSI notification was submitted based on the 2005 sample results with soil exceeding notification concentrations.

Tetrachloroethylene (PCE) was detected in soils at four of the five soil boring locations ranging from 0.005 to 0.096 mg/kg. No PCE was detected at soil boring B-5. Toluene was detected at B-4 at 0.007 mg/kg.



**Table G-1**  
**Soil Analytical Results and Appendix I Concentration (mg/kg)**  
**September 9, 2005 (B-1, B-2, B-3, B-4 and B-5)**  
**March 27, 2008 (MW-1, MW-2, MW-3, MW-4, and MW-5)**  
**June 27, 2012 (MW-6)**  
**December 11, 2013 (MW-7 and MW-8)**  
**April 5, 2016 (B-2B)**

Constituent	App I Conc.	Depth (Feet)	B-1	B-3	MW-1	B-2/ MW-2/ B-2B			B-4/ MW-3		B-5/ MW-4		MW-5	MW-6	MW-7	MW-8
						B-2	MW-2	B-2B	B-4	MW-3	B-5	MW-4				
PCE	0.18	2	--	--	0.024	--	<b>0.449</b>	0.0103	--	0.056	--	0.005	ND	--	--	--
		5	0.096	--	--	--	--	--	0.084	--	--	--	--	ND	0.017	ND
		10	--	--	--	0.008	--	--	--	--	--	--	--	--	ND	ND
		15	--	ND	ND	--	0.071	--	--	ND	--	ND	ND	--	--	ND
		20	0.022	0.005 (19')	ND (30')	ND (22')	--	--	0.005 (23')	--	ND (20' and 23')	--	--	0.007	ND	--
Toluene	14.4	5'	--	--	--	--	--	--	0.007	--	--	--	--	--	--	--
Acetone	2.74	5'	--	--	--	--	--	--	--	--	--	--	--	0.130	--	--

ND = NOT DETECTED; Detection Limit for PCE is 0.005 mg/kg

-- = Sample not collected at this location

Bold numbers indicate sample values greater than the notification concentration limit (Appendix I).

The constituents initially detected at concentrations greater than the notification concentrations in soil samples are PCE at MW-2 at 2 feet. However, a more recent soil sample collected adjacent to MW-2, B-2B, detected PCE at 0.0103 mg/kg, which is less than the Appendix I notification concentration.

### Type 1 RRS for Soils

The Type 1 RRS for soils is determined based on several factors. The first criterion is the concentration given in Table 2 of Appendix III (for metals only), or the least of items 1 through 3, listed below:

- (1) The concentration which will not cause contamination of groundwater at levels which exceed Type 1 groundwater criterion, determined as the highest of the soil in items (i) through (iii):
  - (i) Soil concentration in Appendix I,
  - (ii) Multiplication of the Type 1 groundwater concentration criterion by a factor of 100.
  - (iii) Demonstration through using of the TCLP, SW-846 Method 1311, that a concentration in soil will not generate leachate concentrations that exceed Type 1 groundwater concentration criterion.
- (2) The concentrations which are unlikely to result in any non-cancer toxic effects on human health via soil ingestion along with inhalation of volatiles and particulates,

determined using Equation 7 for the Risk Assessment Guidance for Superfund (RAGS), Part B, and standard residential exposure factors for the residential use scenario.

(3) The concentrations for which the upper bound on the estimated excess cancer risk is less than  $10^{-5}$  ( $10^{-4}$  for Class C carcinogens) via soil ingestion along with inhalation of volatiles and particulates, determined using Equation 6 from RAGS, Part B, and standard residential exposure factors for the residential use scenario.

None of the organic constituents detected in soils have concentrations given in Table 2 of Appendix III (metals only), thus the Type 1 RRS must be determined using the criteria detailed above.

Chemical constituent values for the detected constituents of concern are provided below. The hierarchy for determining which chemical specific values for which chemical constituents are appropriate for use is:

- IRIS Values
- Provisional Peer-reviewed toxicity values (PPRTV), and
- Other (CAL EPA, ATSDR, HEAST).

### **Tetrachloroethylene (PCE)**

The EPA currently classifies PCE as a human carcinogen. The oral RfD, inhalation RfC, and oral and inhalation slope factors are provided in IRIS and listed in Table G-2.

### **Acetone**

The oral RfD is provided in IRIS and listed in Table G-2. The inhalation RfC, and oral and inhalation slope factors are not available in IRIS.

### **Toluene**

Toluene is listed in IRIS. The oral RfD and inhalation RfC, are provided in IRIS and listed in Table G-2. Neither IRIS or California list toluene as a carcinogen.

*The chemical specific values used and the corresponding references are listed in Table G-3. Note that IRIS provides the  $RfD_{inhalation}$  value as  $mg/m^e$ . This value is divided by 3.5 (assuming a body weight of 70 kg and an inhalation rate of 20  $m^e/day$ ) to convert to the  $RfD_{inhalation}$  factor  $(mg/kg-day)^{-1}$  used in the equations. IRIS also provides the  $SF_{inhalation}$  value as  $(ug/m^3)^{-1}$ . This value is multiplied by 3500 (assuming a body weight of 70 kg, an inhalation rate of 20  $m^e/day$ , and 0.001 to convert to ug) to convert to the  $SF_{inhalation}$  factor  $(mg/kg-day)^{-1}$  used in the equations.*



**Table G-2**  
**Chemical Specific Values for**  
**PCE, Toluene, and Acetone**

Parameter	Definition	Value	Reference
<b>PCE</b>			
RfD <sub>oral</sub>	oral chronic reference dose (mg/kg-day)	0.006	IRIS
RfD <sub>inhalation</sub>	inhalation chronic reference dose (mg/m <sup>3</sup> )	0.04	IRIS
SForal	oral cancer slope factor (mg/kg-day) <sup>-1</sup>	2.1 x 10 <sup>-3</sup>	IRIS
SFi	inhalation cancer slope factor (ug/m <sup>3</sup> ) <sup>-1</sup>	2.6 x 10 <sup>-7</sup>	IRIS
Koc	organic carbon partition coefficient (L/kg; cm <sup>3</sup> /g)	94.9	RAIS/MCI
D <sub>i</sub>	molecular diffusivity (cm <sup>2</sup> /s)	0.0505	RAIS
H	Henry's Law Constant (atm-m <sup>3</sup> /mol)	0.0184	RAIS/SSL
<b>Toluene</b>			
RfD <sub>oral</sub>	oral chronic reference dose (mg/kg-day)	0.08	IRIS
RfD <sub>inhalation</sub>	inhalation chronic reference dose (mg/m <sup>3</sup> )	5	IRIS
SForal	oral cancer slope factor (mg/kg-day) <sup>-1</sup>	NA	IRIS
SFi	inhalation cancer slope factor (ug/m <sup>3</sup> ) <sup>-1</sup>	NA	IRIS
Koc	organic carbon partition coefficient (L/kg; cm <sup>3</sup> /g)	234	RAIS/MCI
D <sub>i</sub>	molecular diffusivity (cm <sup>2</sup> /s)	0.0778	RAIS
H	Henry's Law Constant (atm-m <sup>3</sup> /mol)	0.00635	RAIS/SSL
<b>Acetone</b>			
RfD <sub>oral</sub>	oral chronic reference dose (mg/kg-day)	0.9	IRIS
RfD <sub>inhalation</sub>	inhalation chronic reference dose (mg/m <sup>3</sup> )	NA	IRIS
SForal	oral cancer slope factor (mg/kg-day) <sup>-1</sup>	NA	IRIS
SFi	inhalation cancer slope factor (ug/m <sup>3</sup> ) <sup>-1</sup>	NA	IRIS
Koc	organic carbon partition coefficient (L/kg; cm <sup>3</sup> /g)	2.36	RAIS
D <sub>i</sub>	molecular diffusivity (cm <sup>2</sup> /s)	0.106	RAIS
H	Henry's Law Constant (atm-m <sup>3</sup> /mol)	3.50E-5	RAIS, experimental

Note that the RfD values for 1,2,4-TMB and 1,3,5-TMB are provisional from IRIS, with a low to medium confidence level.

Equation 7 from RAGS, Part B is for non-carcinogenic effects of both oral ingestion and inhalation of volatiles and is given as:

$$THI = \frac{C \times 10^{-6} \text{ kg/mg} \times EF \times ED \times IR_{soil}}{RfD_o \times BW \times AT \times 365 \text{ days/yr}} + \frac{C \times EF \times ED \times IR_{air} \times (1/VF + 1/PEF)}{RfD_i \times BW \times AT \times 365 \text{ days/yr}}$$

$$C \text{ (mg/kg; Risk based)} = \frac{THI \times BW \times AT \times 365 \text{ days/yr}}{ED \times EF \times [((1/RfD_o) \times 10^{-6} \text{ kg/mg} \times IR_{soil}) + ((1/RfD_i) \times IR \times (1/VF + 1/PEF))]}$$

The parameters and values used in Equation 7 are the standard assumptions for residential sites provided in Appendix III, Table 3 of the regulations, shown below in Table G-3.

**Table G-3**  
**Standard Exposure Assumptions for Residential Sites**

Parameter	Definition	Standard Exposure Assumptions
C	chemical concentration in soil (mg/kg)	To be calculated
THI	target hazard index (unitless),	1
BW	body weight (kg)	70



AT	averaging time (year)	70
ED	exposure duration (year)	30
EF	exposure frequency ( days/year)	350
IR <sub>soil</sub>	soil ingestion rate (mg/day)	114
IR <sub>air</sub>	daily inhalation rate (m <sup>3</sup> /day)	15
PEF	particulate emission factor (m <sup>3</sup> /kg)	4.63 x 10 <sup>9</sup>

Equation 7 can be reduced to the following provided the default parameters are applicable:

$$C \text{ (mg/L)} = \frac{170.33}{[1/RfD_0 \times 1.14^{-4}] + [(15/RfD_i) \times (1/VF + 1/PEF)]}$$

Where:

$$VF = \frac{(LS \times V \times DH) \times (\pi \times \alpha \times T)^{1/2}}{A \times (2 \times D_{ei} \times E \times K_{as} \times 10^{-3} \text{ kg/g})}$$

LS = length of side of contaminated area (m), 45

V = wind speed in mixing zone (m/s), 2.25

DH = diffusion height (m), 2

A = area of contamination (cm<sup>2</sup>), 2.03 x 10<sup>7</sup> (=0.5 acre)

π = pi, 3.14

T = exposure interval(s), 7.9 x 10<sup>8</sup> (=25 years)

$$\alpha \text{ (cm}^2\text{/m)} = \frac{(D_{ei} \times E)}{E + (\rho_s)(1-E)/K_{as}}$$

ρ<sub>s</sub> = density of soil solids (g/cm<sup>3</sup>), 2.65

OC = soil organic content fraction (unitless), 0.02

D<sub>ei</sub> = effective diffusivity (cm<sup>2</sup>/s) = D<sub>i</sub> x E<sup>0.33</sup>

E = total soil porosity (unitless), 0.35

K<sub>oc</sub> = organic carbon partition coefficient (cm<sup>3</sup>/g)

K<sub>d</sub> = soil-water partition coefficient (cm<sup>3</sup>/g) = K<sub>oc</sub> x OC

K<sub>as</sub> = soil/air partition coefficient (g soil/cm<sup>3</sup> air) = (H/K<sub>d</sub>) x 41

**Table G-4**

**Summary Chemical Properties and Calculated Type 1 RRS for Noncarcinogenic Exposure**

Constituent	α	VF	C (mg/kg)
PCE	0.0027	904	116
Toluene	6.1E-4	2,012	25,647
Acetone	4.6E-4	2,338	1,344,710

Calculations are detailed in the attached EXCEL file.

The third value needed to be calculated is the carcinogenic using Equation 6, RAGS, Part B.

$$TR = \frac{SF_o \times C \times 10^6 \text{ kg/mg} \times EF \times ED \times IR_{soil}}{BW \times AT \times 365 \text{ days/yr}} + \frac{SF_i \times C \times EF \times ED \times IR_{air} \times (1/VF + 1/PEF)}{BW \times AT \times 365 \text{ days/yr}}$$

$$C \text{ (mg/kg; Risk based)} = \frac{TR \times BW \times AT \times 365 \text{ days/yr}}{ED \times EF \times [(Sf_o \times 10^{-6} \text{ kg/mg} \times IR_{\text{soil}}) + (Sf_i \times IR_{\text{air}} \times [(1/VF + 1/PEF)])]}$$

The residential standard exposure assumptions from Appendix III, Table 3 used in Equation 6 are provided in Table G-3. Table G-5 provides the results for soil concentrations. Calculations are detailed in the attached EXCEL file.

**Table G-5**  
**Carcinogenic Exposure Limits for Type I RRS**

	<b>C</b> chemical concentration in soil (mg/kg)
PCE	9.7
Toluene	NA
Acetone	NA

Toluene and acetone do not have a concentration for carcinogen values.

The Type 1 RRS for this site are given in Table G-6.

**Table G-6**  
**Type 1 Risk Reduction Standards for Detected Constituents (mg/kg)**

Detected Constituent	Highest Concentration of the 3 Concentrations Below				Eq. 7	Eq. 6	Final Type 1 RRS
	Soil Conc. in Appendix I	Ground-water conc. * 100	TCLP	Highest			
PCE	0.18	0.5	--	0.50	112	9.7	0.50
Toluene	14.4	100	--	100	25,657	--	100
Acetone	2.74	400	--	400	1,344,710	--	400

DL = Detection Limit

The site soils meet Type 1 RRS for PCE, toluene, and acetone.

## G.2 GROUNDWATER

### Type 1 RRS for Groundwater

The Type 1 RRS for groundwater is defined as:

- 1) The concentration given in Table 1 of Appendix III, or if a substance is not listed, then:
- 2) The background concentration, or
- 3) The detection limit concentration.

Groundwater samples were analyzed for volatile organic compounds using EPA Method 8260B. The first sampling occurred in 2008 and the last in April 2016. Two constituents have been detected in the groundwater at this site (tetrachloroethylene and trichloroethylene). TCE has only been detected in one sample, MW-5 on March 31, 2008. The TCE concentration was 0.005 mg/L, the detection limit.

**Table G-7**  
**Summary of Groundwater Analytical Results**  
**Detected Constituents Only**  
**(all concentrations in mg/L)**

Constituent	Type 1 RRS	MW-1		MW-2		MW-3		MW-4		MW-5		MW-6		MW-7		MW-8	
		2016	H/ year	2016	H/ year	2016	H/ year	2016	H/ year	2016	H/ year	2016	H/ year	2016	H/ year	2016	H/ year
PCE	0.005	ND	0.005/ 2008	ND	<b>0.109</b> /2008	ND	<b>0.089</b> /2008	<b>0.124</b>	<b>0.278</b> /2015	<b>0.303</b>	<b>1.040</b> /2008	<b>0.096</b>	<b>0.145</b> 2008	<b>0.944</b>	2016	ND	<b>0.015</b> /2013
TCE	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005/ 2008	ND	ND	ND	ND	ND	ND

2016 = concentration in April 2016

H/year = highest recorded value/ year recorded

Numbers in bold exceed the Type 1 RRS.

PCE in groundwater onsite ranged from not detected to 1.040 mg/L (MW-5; 2008). The Type 1 RRS criterion for PCE is 0.005 mg/L. Groundwater samples at MW-4, MW-5, MW-6, and MW-7 exceeded the Type 1 RRS criterion for PCE during the last sampling (April 2016).

TCE in groundwater onsite ranged from not detected to 0.005 mg/L (MW-5; 2008). The Type 1 RRS criterion for TCE is 0.005 mg/L, and the site meets the Type 1 RRS for TCE.

### Type 2 RRS for Groundwater

GA EPD regulations cite the *Risk Assessment Guidance for Superfund: Volume 1. Human Health Evaluation Manual (Part B, Development of Risk-based Preliminary Remediation Goals)*[RAGS, Part B] for use in determining the Type 2 RRS. The hierarchy for determining which chemical specific values for which chemical constituents are appropriate for use is:



- IRIS Values
- Provisional Peer-reviewed toxicity values (PPRTV), and
- Other (CAL EPA, ATSDR, HEAST).

The Type 2 RRS criterion for groundwater is defined as the least of the following two concentrations:

- 1) Concentrations which are unlikely to result in any nontoxic cancer effects on human health via ingestion of, or inhalation of volatiles from, groundwater, determined using Equation 2 from RAGS, Part B, and site-specific exposure factors for the residential use scenario.
- 2) Concentrations for which the upper bound on the estimated excess cancer risk is less than  $10^{-5}$  via ingestion of, and inhalation of volatiles from groundwater, determined using Equation 1 from RAGS, Part B, and site specific exposure factors for the residential use scenario.

### **Tetrachloroethylene (PCE)**

The EPA currently classifies PCE as a human carcinogen. The oral RfD, inhalation RfC, and oral and inhalation slope factors are provided in IRIS and listed in Table G-2.

Equation 2 from RAGS, Part B is for non-carcinogenic effects of both oral ingestion and inhalation of volatiles and is given as:

$$THI = \frac{C \times EF \times ED \times IR_{water}}{RfD_o \times BW \times AT \times 365 \text{ days/yr}} + \frac{C \times K \times IR_{air} \times EF \times ED}{RfD_i \times BW \times AT \times 365 \text{ days/yr}}$$

$$C \text{ (mg/L; Risk based)} = \frac{THI \times BW \times AT \times 365 \text{ days/yr}}{ED \times EF \times [(1/RfD_i \times K \times IR_{air}) + (1/RfD_o \times IR_{water})]}$$

The parameters and values used in Equation 2 are the standard assumptions for residential sites provided in Appendix III, Table 3 of the regulations, and are listed below in Table G-8.

**Table G-8**  
**Standard Exposure Assumptions for Residential Sites**

Parameter	Definition	Standard Exposure Assumptions
C	chemical concentration in water (mg/L)	To be calculated
THI	target hazard index (unitless)	1
BW	body weight (kg)	70
AT	averaging time (year)	30
ED	exposure duration (year)	30
EF	exposure frequency ( days/year)	350
IR <sub>water</sub>	daily water ingestion rate (L/day)	2
IR <sub>air</sub>	daily inhalation rate (m <sup>3</sup> /day)	15
K	volatilization factor (unitless)	0.5

Equation 2 can be reduced to the following provided the default parameters above are applicable:

$$C \text{ (mg/L)} = \frac{73}{[7.5/\text{RfD}_i + 2/\text{RfD}_o]}$$

### Carcinogenic Risk Reduction Standard

The second equation calculates the carcinogenic risk reduction standard using Equation 1, RAGS, Part B.

$$\text{TR} = \frac{\text{SF}_o \times C \times \text{EF} \times \text{ED} \times \text{IR}_{\text{water}}}{\text{BW} \times \text{AT} \times 365 \text{ days/yr}} + \frac{\text{SF}_i \times C \times K \times \text{EF} \times \text{ED} \times \text{IR}_{\text{air}}}{\text{BW} \times \text{AT} \times 365 \text{ days/yr}}$$

$$C \text{ (mg/L; Risk based)} = \frac{\text{TR} \times \text{BW} \times \text{AT} \times 365 \text{ days/yr}}{\text{ED} \times \text{EF} \times [(\text{SF}_i \times K \times \text{IR}_{\text{air}}) + (\text{SF}_o \times \text{IR}_{\text{water}})]}$$

The residential standard exposure assumptions from Appendix III, Table 3 used in Equation 1 are provided in Table G-19.

Equation 1 can be reduced to the following provided the default parameters are applicable:

$$C \text{ (mg/L)} = \frac{1.6 \times 10^{-3}}{2(\text{SF}_o) + 7.5(\text{SF}_i)}$$

If one of the reference doses is not available, that value is equated to zero.

The Type 2 Risk Reduction Standards for groundwater at this site are summarized in Table G-10 and compared to the detected groundwater concentrations in Tables G-11 and G-12.

**Table G-10**  
**Type 2 Risk Reduction Standards for PCE (mg/L)**

Method to Determine Type 2 RRS Criteria	Concentration (mg/L)
Chemical	PCE
Non-carcinogen	0.074
Carcinogen –adult	0.15
Carcinogenic – over a lifetime	NA
<b>Type 2 RRS (lowest value)</b>	<b>0.074</b>

**Table G-11**  
**Type 2 Risk Reduction Standards versus Groundwater Concentrations (mg/L) (all concentrations in mg/L)**

Constituent	Type 2 RRS	MW-1		MW-2		MW-3		MW-4		MW-5		MW-6		MW-7		MW-8	
		2016	H/year	2016	H/year	2016	H/year	2016	H/year	2016	H/year	2016	H/year	2016	H/year	2016	H/year
PCE	0.074	ND	0.005/2008	ND	0.109/2008	ND	0.089/2008	0.124	0.278/2015	0.303	1.040/2008	0.096	0.145/2008	0.944	2016	ND	0.015/2013

2016 = concentration in April 2016

H/year = highest recorded value/ year recorded

Numbers in bold exceed the Type 2 RRS.

MW-1 and MW-8 have not exceeded the Type 2 RRS at any time. The following table, G-12, presents the PCE concentration for the monitoring wells over time.

**Table G-12**  
**PCE Concentrations vs Type 2 RRS over time**

Type 2 RRS 0.074	3-31-08	6-27-12	6-21-13	12-12-13	11-28-15	4-2-2016
MW-1	0.008	ND	ND	ND	ND	ND
MW-2	<b>0.109</b>	ND	0.0031J	ND	ND	ND
MW-3	<b>0.089</b>	<b>0.086</b>	0.014	ND	0.073	ND
MW-4	<b>0.244</b>	<b>0.195</b>	<b>0.256</b>	<b>0.102</b>	<b>0.278</b>	<b>0.124</b>
MW-5	<b>1.040</b>	<b>0.249</b>	<b>0.309</b>	0.074	<b>0.274</b>	<b>0.303</b>
MW-6	--	<b>0.145</b>	<b>0.085</b>	0.027	<b>0.105</b>	<b>0.096</b>
MW-7	--	--	--	<b>0.079</b>	<b>0.214</b>	<b>0.944</b>
MW-8	--	--	--	0.015	ND	ND

PCE is the only constituent that has consistently exceeded the Type 2 RRS at MW-4, MW-5, MW-6, and MW-7.

### **Type 3 RRS for Groundwater**

The Type 3 groundwater risk RRS is the same as the Type 1 groundwater RRS. This site does not meet the Type 3 RRS for groundwater for PCE (April 2016).

### **Type 4 RRS for Groundwater**

This site meets the definition of a nonresidential property. The property has been operating as a commercial facility since the 1960s. This location does qualify for the Type 4 Risk Reduction Standards.

The Type 4 RRS criterion for groundwater is defined as the least of the following two concentrations:

- 1) Concentrations which are unlikely to result in any nontoxic cancer effects on human health via ingestion of, or inhalation of volatiles from, groundwater, determined using Equation 2 from RAGS, Part B, and site-specific exposure factors for the non-residential use scenario.
- 2) Concentrations for which the upper bound on the estimated excess cancer risk is less than  $10^{-5}$  via ingestion of, and inhalation of volatiles from groundwater, determined using Equation 1 from RAGS, Part B, and site specific exposure factors for the non-residential use scenario.

The site specific exposure assumptions are the same as Type 3 (Table G-3).



The equations used are the same as Type 2. Equation 2 can be reduced to the following provided the default parameters are applicable:

$$C \text{ (mg/L)} = \frac{286.16}{[10/\text{RfD}_i + 1/\text{RfD}_o]}$$

Equation 1 can be reduced to the following provided the default parameters are applicable:

$$C \text{ (mg/L)} = \frac{2.86 \times 10^{-3}}{(\text{SF}_o) + 10(\text{SF}_i)}$$

If one of the reference doses is not available, that value is equated to zero.

The Type 4 Risk Reduction Standards for groundwater at this site are summarized in Table G-13.

**Table G-13**  
**Type 4 Risk Reduction Standards for Groundwater (mg/L)**

Method to Determine RRS Criteria	PCE
Non-carcinogen	0.27
Carcinogen	0.26
Type 4 RRS (lowest value)	0.26

The Type 4 RRS for PCE in groundwater is based on the carcinogenic calculations. Additionally, the groundwater at the site and at down-gradient locations is greater than 15 feet below the surface and is not now used for drinking water or any other purposes. There are no withdrawal wells at the subject property or down-gradient properties. The nearest possible discharge location is 0.25 mile from the site. The Type 4 Risk Reduction Standards for groundwater at this site are summarized in Table G-14 and compared to the detected groundwater concentrations.

**Table G-14**  
**PCE Concentrations vs Type 2 RRS over time**

Type 4 RRS 0.26	3-31-08	6-27-12	6-21-13	12-12-13	11-28-15	4-2-2016
MW-1	0.008	ND	ND	ND	ND	ND
MW-2	0.109	ND	0.0031J	ND	ND	ND
MW-3	0.089	0.086	0.014	ND	0.073	ND
MW-4	0.244	0.195	0.256	0.102	<b>0.278</b>	0.124
MW-5	<b>1.040</b>	0.249	<b>0.309</b>	0.074	<b>0.274</b>	<b>0.303</b>
MW-6	--	0.145	0.085	0.027	0.105	0.096
MW-7	--	--	--	0.079	0.214	<b>0.944</b>
MW-8	--	--	--	0.015	ND	ND

The only monitor wells not currently meeting the Type 4 RRS are MW-5 and MW-7.

#### **SUMMARY FOR GROUNDWATER RRS**

MW-1, MW-2, MW-3, and MW-8 meet the Type 2 RRS. MW-4 and MW-6 currently meet the Type 4 RRS. MW-5 does not currently meet any of the RRS, but has met the Type 4 RRS in 2013. MW-7 does not currently meet any of the RRS, but has met the Type 4 RRS in 2013 and 2015.

The higher concentrations detected during sampling events in 2015/2016 may be due to the increase in precipitation leading to a higher groundwater table enabling greater groundwater contact with soils at the site. The concentrations are expected to decrease as the groundwater elevation decreases. The overall trend of constituent concentration has been predominantly decreasing. The only wells may have not now or previously met Type 2 RRS for groundwater are MW-4, MW-5 and MW-7.

### **Sources Cited**

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## CALCULATIONS

Soil calculations for non-carcinogens and carcinogens			
Calculating $\alpha$ (cm <sup>2</sup> /m):		$\alpha$ (cm <sup>2</sup> /m) = $\frac{(D_{ei} \times E)}{E + (\rho_s)(1-E)/Kas}$	
Value	pce	tce	
di- diffusivity (cm <sup>2</sup> /s)	0.0505	0.0687	
dei - molecular diffusivity (cm <sup>2</sup> /s)	0.0357035	0.0485709	
E - soil porosity (0.35-default)	0.35	0.35	
p - soil density (g/cm <sup>3</sup> -2.65-default))	2.65	2.65	
H - Henry's Law constant (atm-m <sup>3</sup> /mol)	0.0184	0.0103	
koc - organic carbon partition coeff. (cm <sup>3</sup> /g)	94.9	60.7	
OC - organic content of soil (fraction-0.02-	0.02	0.02	
kd=koc*oc	1.898	1.214	
kas=(H/kd)*41	0.397471022	0.3478583	
dei*E	0.012496225	0.0169998	
p*(1-E)	1.7225	1.7225	
p*(1-E)/kas	4.333649258	4.9517286	
E+above (denominator)	4.683649258	5.3017286	
$\alpha$ (cm <sup>2</sup> /m)	0.002668053	0.0032065	

calculate VF		$VF = \frac{(LS \times V \times DH) \times (\pi \times a \times T)^{1/2}}{A \times (2 \times D_{ei} \times E \times K_{as} \times 10^{-3} \text{ kg/g})}$			
	<b>pce</b>	<b>tce</b>			
Value					
LS - length of side of contaminated area (m- default 45 m)	45	45			
V - wind speed in mixing zone (m/s-2.25 default)	2.25	2.25			
DH - diffusion height (m- 2 -default)	2	2			
A - area of contamination (cm2 - 20,250,000 - default)	20300000	20300000			
a (calculated above) (cm2/m)	0.002668053	0.0032065			
T - exposure interval (s)	790000000	790000000			
dei (calculated above)	0.0357035	0.0485709			
E - soil porosity (unitless- default)	0.35	0.35			
kas - (calculated above)	0.397471022	0.3478583			
(LS*V*DH)/A	9.97537E-06	9.975E-06			
(pi*a*T)0.5	2572.619786	2820.2767			
2*dei*e*kas*10-3	2.83822E-05	3.379E-05			
second value	90641972.16	83460922			
VF - volatilization factor (m3/kg)	904.1871607	832.55353			
PEF - particulate emission factor (m3/kg) default	4630000000	4630000000			

Noncarcinogenic effects (Type 1 and Type 2))		c = 170.33		
Residential		$[1/RfD_0 \times 1.14^{-4}] + [(15/RfD_i) \times (1/VF+1/PEF)]$		
Value	pce	tce		
(1/vf + 1/pef)	0.001105966	0.0012011		
RfDi (mg/m3)	0.04	0.002		
RfDi (mg/kg-day)	0.011428571	0.00057143		
15/RfDi	1312.5	26250		
total inh factor	1.451580285	31.52951		
RfDo	0.006	0.0003		
RfDo total factor	0.019	0.38		
rfdo + rfdi	1.470580285	31.90951		
C- chemical conc. in soil (mg/kg)	115.8250262	5.3379072		



Carcinogenic effects (Type 1 and Type 2)					
Residential	ED x EF x [(Sfo x 10 <sup>-6</sup> kg/mg x IR <sub>soil</sub> ) + (Sfi x IR <sub>air</sub> x [(1/VF+1/PEF)])]				
(1/vf + 1/pef)	0.001105966	0.0012011	0		
Value	pce	tce			
Sfo - oral cancer slope factor (mg/kg-day) <sup>-1</sup>	0.0021	0.046			
Sfi - inhalation cancer slope factor (mg/m3) <sup>-1</sup>	2.60E-06	4.10E-06			
Sfi - inhalation cancer slope factor (mg/kg-day) <sup>-1</sup>	9.10E-03	1.44E-02			
TR - Target excess lifetime cancer risk (10 <sup>-4</sup> )	1.00E-05	1.00E-05			
BW- body weight (kg)	70	70			
AT - averaging time (yr)	70	70			
TR x BW x AT x 365	17.885	17.885			
sfo * 10 <sup>-4</sup> * Irsoil	0.00002394	0.0005244			
sfi * Irx* (1/VF+1/PEF]	0.000150964	0.0002585			
Second Value					
sfo * 10 <sup>-4</sup> * Irsoil					
sfi * Irx* (1/VF+1/PEF]					
ed*ef*(sfo+sfi) adult	1.836495671	8.2208908			
c adult	9.738656225	2.175555			

Noncarcinogenic effects (Type 2)	C (mg/L) =	<u>73</u>
		$[(7.5/RfDi) + (2/RfDo)]$
Value	pce	tce
RfDi (mg/m3)	0.04	0.002
RfDi (mg/kg-day)	0.011428571	0.000571429
7.5/RfDi	656.25	13125
RfDo	0.006	0.0005
2/RfDo	333.3333333	4000
rfdo + rfdi	989.5833333	17125
C- chemical conc. in groundwater (mg/l)	0.073768421	0.004262774

Carcinogenic effects (Type2)	C (mg/L) =	<u>1.70E-03</u>	
		2SF0 + 7.5SFi	
Value	pce	tce	#REF!
Sfo - oral cancer slope factor (mg/kg-day) <sup>-1</sup> - Adult	0.0021	0.046	
Sfi - inhalation cancer slope factor (ug/m3) <sup>-1</sup>	2.60E-07	4.10E-06	
Sfi - inhalation cancer slope factor (mg/kg-day) <sup>-1</sup>	9.10E-04	1.44E-02	
denominator	1.10E-02	2.00E-01	
C =	1.54E-01	8.52E-03	



non-carcinogenic	<u>c = 102</u>	
non-residential (Type 3 and 4)	$[510E-5/RfD_0] + [(1/RfD_i) \times (20/VF + 4.3E-9)]$	
Value	<b>pce</b>	<b>tce</b>
RfDo	0.006	0.0005
RfDi (mg/m3)	0.04	0.002
RfDi (mg/kg-day)	0.011428571	0.00057143
VF - volatilization factor (m3/kg)	904.1871607	832.55353
PEF - particulate emission factor (m3/kg) default	4630000000	4630000000
20/VF + 20/PEF	0.022119319	0.0240225
(1/RfDi)*above	1.93544038	42.039339
5*10E-5/(RfDo)	0.008333333	0.1
C	52.47524406	2.420541

carcinogenic	C =2.9E-3		
nonresidential (Type 3 and 4)	[(Sfo *5E <sup>-5</sup> )+(Sfi x [(20/VF)+4.3E-9])]		
Value	pce	tce	
Sfo - oral cancer slope factor (mg/kg-day) <sup>-1</sup>	0.0021	0.046	
Sfi - inhalation cancer slope factor (ug/m3) <sup>-1</sup>	2.60E-06	4.10E-06	
Sfi - inhalation cancer slope factor (mg/kg-day) <sup>-1</sup>	9.10E-03	1.44E-02	
VF - volatilization factor (m3/kg)	904.1871607	832.55353	
PEF - particulate emission factor (m3/kg) default	4630000000	4630000000	
20/VF +20/PEF	0.022119319	0.0240225	
Sfi*above	0.000201286	0.0003447	
Sfo * 0.00005	0.000000105	0.0000023	
sfi+sfo	0.000201391	0.00034702	
C	14.39986339	8.3568035	

Constituent	S	K <sub>d</sub>
	(mg/L)	
PCE	200	2.14
TCE	1,110	1.35



Noncarcinogenic effects (Type 4)				
	C=		<u>286.16</u>	
			$[(10/RfDi) + (1/RfDo)]$	
Value	pce	tce		
RfDi (mg/m3)	0.04	0.002		
RfDi (mg/kg-day)	0.011428571	0.000571429		
10/RfDi	875	17500		
RfDo	0.006	0.0005		
1/RfDo	166.6666667	2000		
rfdi + rfdi	1041.666667	19500		
C- chemical conc. in soil (mg/kg)	0.2747136	0.014674872		

Carcinogenic effects (Type 4)				
	C=		<u>2.86E-03</u>	
			$SF0 + 10SF_i$	
Value	pce	tce		
Sfo - oral cancer slope factor (mg/kg-day) <sup>-1</sup> - Adult	0.0021	0.046		
Sfi - inhalation cancer slope factor (ug/m3) <sup>-1</sup>	2.60E-07	4.10E-06		
Sfi - inhalation cancer slope factor (mg/kg-day) <sup>-1</sup>	9.10E-04	1.44E-02		
denominator	1.12E-02	1.90E-01		
C =	2.55E-01	1.51E-02		

$$SSL = C_w [K_d + \frac{(O_w + O_a H')}{p_b}] DAF$$

	Cw	Kd	Koc	foc	ow	oa	pb	n ps	H'	DAF
	Target soil	Soil-Water Koc*foc	Soil organi	0.002		0.3 air filled	sc dry soil bu	sc soil	partick Henry law 2.65 constant	20
PCE	0.005	2.14	94.9	0.002		0.3	0.18 1,5		2.65 0.754	20
TCE	0.005	1.35	60.7	0.002		0.3	0.18 1,5		2.65 0.422	20
124	0.001	0.7176		0.002		0.3	0.18 1,5		2.65 0.252	20
135	0.001	0.703		0.002		0.3	0.18 1,5		2.65 0.252	20

	OaH''	Ow+OaH'	(Ow+OaH')/pb	add Kd	multiply C\	multiply DAF
PCE	0.13572	0.43572	0.29048	2.43048	0.012152	0.243048
TCE	0.07596	0.37596	0.25064	1.60064	0.008003	0.160064
124	0.04536	0.34536	0.23024	0.94784	0.000948	0.018957
135	0.04536	0.34536	0.23024	0.93324	0.000933	0.018665