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November 10, 2015

Nicole Vermillion **Response and Remediation Program** 2 Martin Luther King, Jr. Drive, S.E. Suite 1052, East Tower Atlanta, GA 30334

Re: **VRP Compliance Status Report TLC Cleaners** 2060 Lower Roswell Road Marietta, GA 30068

Dear Ms. Vermillion:

Please find attached one hard copy and two electronic copies of the VRP Compliance Status Report for the above-reference site. If you have any questions, please call.

Sincerely,

Justin Vickery

Associate

Attachment: VRP Compliance Status Report

Dewayne Bailey, IPTV-B-C14, LLC cc:

Justin Vickery, P.G. Associate

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Prepared for:

IPTV-B-C14, LLC 8401 North Central Expressway, Suite 910 Dallas, TX 75225

# VOLUNTARY REMEDIATION PROGRAM COMPLIANCE STATUS REPORT TLC Cleaners 2060 Lower Roswell Road Marietta, GA 30068

Prepared by:



1050 Crown Pointe Parkway, Suite 550 Atlanta, Georgia 30338 Tel: 404-315-9113

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#### TLC CLEANERS 2060 Lower Roswell Road Marietta, GA 30068

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#### **VOLUNTARY REMEDIATION PROGRAM COMPLIANCE STATUS REPORT**

#### TLC CLEANERS 2060 Lower Roswell Road Marietta, GA 30068 November 2015

## **GROUNDWATER SCIENTIST STATEMENT**

I certify that I am a qualified groundwater scientist who has received a baccalaureate or postgraduate degree in the natural sciences or engineering, and have sufficient training and experience in ground water 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 Voluntary Remediation Program Compliance Status Report for TLC Cleaners was prepared by me and appropriate qualified subordinates working under my direction.

Certified by:

Justin D. Vickery, P.G. Associate No. 1745 Conconner



# **1 INTRODUCTION**

## 1.1 Background

This Voluntary Remediation Program (VRP) Compliance Status Report (CSR) is being submitted for the New Market Center property, referred to herein as TLC Cleaners or the "Site." The Site is currently owned by IPTV-B-C14, LLC, which purchased the Site in 2010. A Voluntary Investigation and Remediation Plan (VIRP) was submitted on October 6, 2014 due to the release of dry a cleaning solvent. The Georgia Environmental Protection Division (EPD) approved the VIRP and accepted the Site into the VRP in a letter dated January 30, 2015. The first VRP Progress Report was submitted to the EPD on July 30, 2015.

Site remediation is complete, and the Site is in compliance with Residential and Non-Residential Risk Reduction Standards. Based on current Site conditions, site closure under the VRP is requested.

## 1.2 Site Location and Description

The former TLC Cleaners suite (the Facility) is the western-most suite located in the 4.805-acre New Market Center shopping center, located at 2060 Lower Roswell Road in Marietta, Georgia, which is Cobb County Parcel ID 16124400330. A Site Location Map is included as Figure 1 (all figures are included in the Figures attachment), and a USGS Topographic Map is included as Figure 2. Figure 3A is a Site Plan showing the Site features, and Figure 3B is a Facility Layout Plan showing the layout of the Facility.

The Site was undeveloped until 1973 when construction of the current building was initiated and has been used as a shopping center since development. The shopping center is currently occupied by a restaurant, a grocer, a physical fitness facility, and a church. The Facility and the adjacent suite are currently vacant. The Facility had been occupied by a dry cleaning business from as early as 1989 until vacated in early 2015.

As shown on Figure 3B, the dry cleaning machines and drum storage were located toward the front of the Facility near a floor drain. The floor drain connected to a drain line which ran to the back of the Facility to a four foot deep concrete-lined sump, i.e., grit trap, where solids could settle, allowing the water to continue to the sanitary sewer line. Based on the soil and groundwater data, the source of the soil and groundwater impact appears to be the dry cleaning operations with the highest soil concentrations located at the base of the grit trap.



Properties immediately adjacent to the Site are shown on Figure 3A and include:

- Towards the North: Massey Automotive, Bruster's Ice Cream, and Sewell Park.
- Towards the East: Zaxby's Restaurant and a day care facility.
- Towards the South: single family residential.
- Towards the West: Shawnee Lane followed by undeveloped, wooded land.

## **1.3** Source Description and Constituents of Interest

Based on the soil and groundwater data discussed later in this report, the source of the soil and groundwater impact appears to be the dry cleaning operations that have occurred on the Site since 1989.

Soil and groundwater samples have been collected for volatile organic compound (VOC) analysis using EPA Method 8260B. Regulated substances detected in Site soils were tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-DCE), 4-methyl-2-pentanone, acetone, toluene, and xylenes. Regulated substances detected in groundwater were PCE, cis-DCE, and chloroform.

### 1.4 Purpose

The purpose of this document is to describe the assessment and remedial activities that have occurred at the Site, to present a finalized Conceptual Site Model (CSM), and to request Site closure under the VRP based on current Site conditions.



# **2** SITE INVESTIGATIVE HISTORY

## 2.1 Overview

The findings of the subsurface investigations conducted by EPS and prior consultants from May 1999 to July 2015 are discussed in this section. EPS is not aware of any other environmental investigations performed at the Site. EPS investigations were conducted in accordance with the United States Environmental Protection Agency's Field Branches Quality System and Technical Procedures (FBQSTP) and were discussed in the December 2014 VIRP (EPS, 2014a) and the July 2015 VRP Progress Report (EPS, 2015). Field methods for investigations conducted by other consultants were included in December 2014 VIRP (EPS, 2014a).

Soil sampling results discussed in this section are shown on Figure 4 and summarized in Table 1 (all tables are included in the Tables attachment). Groundwater sampling results are shown on Figure 5 and summarized in Table 2. Soil gas sampling results are shown on Figure 6 and summarized in Table 3.

## 2.2 May 1999 Sampling Event

On May 28, 1999, soil and groundwater samples were collected by QORE Property Sciences (QORE) at the Site ("QSB" or "QMW" locations).

- Soil samples QSB-4 (13.5-15 feet below ground surface (ft-bgs)) and QSB-5 (8.5-10 ft-bgs) were collected near the Facility and analyzed for VOCs. PCE was detected in soil at 0.023 milligrams per kilogram (mg/kg) in boring QSB-4 located outside (south) of the Facility near the back door.
- Groundwater samples QMW-1, QMW-2, and QMW-3 were collected on the Site, with such samples being taken just south of an automotive repair facility to the north of the Site, and were analyzed for petroleum constituents including benzene, toluene, ethylbenzene, xylenes, and polynuclear aromatic hydrocarbons. These constituents were not detected in the samples.
- Groundwater samples QMW-4 and QMW-5 were collected to the southeast of the Facility and analyzed for VOCs. This was assumed to be the groundwater flow direction at the time based on the ground surface topography.
  - PCE was reportedly detected in groundwater at a concentration of 64 micrograms per liter (µg/l) in temporary monitoring well QMW-5. As discussed in the VIRP (EPS, 2014a), it is believed that the PCE detection in sample QMW-5 was actually from



QMW-4 as indicated by more recent data (sample NM-2W from July 2013 and sample PZ-2 from May 2015) which confirms that the groundwater PCE impact does not extend to the area of QMW-5.

- A low concentration of chloroform was also detected in the groundwater sample from temporary monitoring well QSB-5. Chloroform was not detected in any soil sample and there is no indication that it was detected in any other groundwater sample. Chloroform at low concentrations is often associated with a municipal water line leak.
- Cis-DCE, a degradation product of PCE, was detected at  $5.3 \mu g/l$  in QMW-4.

A Hazardous Site Response Act (HSRA) Release Notification was submitted to the EPD in June 1999 based on the detections discussed above. The EPD issued a No Listing letter on July 16, 1999.

## 2.3 July 2013 Sampling Event

On July 30, 2013, as part of a Phase II Environmental Site Assessment, soil and groundwater samples were collected by Partner Engineering and Sciences, Inc. (Partner) in and around the Facility ("NM" locations).

- PCE was detected in soil at 0.010 mg/kg in soil sample NM-3 (4 ft-bgs) collected inside the Facility near the dry cleaning machine and the PCE drum storage area.
- PCE was detected at 0.78 mg/kg in soil sample NM-4 (2 ft-bgs), located in the middle of the Facility.
- PCE was detected at 56 mg/kg in soil sample NM-5 (5 ft-bgs) inside the Facility adjacent to the grit trap near the southern wall.
- PCE was detected at 1.2  $\mu$ g/l in groundwater sample NM-1W located approximately 30 feet southeast of the Facility.
- PCE was not detected in groundwater sample NM-2W, located 120 feet southeast of the Facility and adjacent to the 1999 QMW-5 sample.

Based on this information, a HSRA Release Notification was submitted to the EPD. In a letter dated April 21, 2014, the EPD requested additional Site data.

## 2.4 May 2014 Sampling Event

On May 19, 2014, at the request of the EPD, EPS advanced one soil boring (SB-1) immediately south of the Facility near the grit trap, and monitoring well MW-1 was installed in the boring.

• PCE was detected at low concentrations (0.021 mg/kg, 0.016 mg/kg, and 0.00062 mg/kg) in soil samples collected from SB-1 at 5, 10, and 15 ft-bgs, respectively.



• A groundwater sample was collected from monitoring well MW-1 on May 21, 2014, and PCE was detected at 43 µg/l.

This information was submitted to the EPD in a report (EPS, 2014b) dated June 23, 2014. The EPD verbally stated that the Site would be listed on the Hazardous Site Inventory unless a VIRP was submitted, and the Site was enrolled in the VRP. The VIRP was submitted on October 6, 2014.

## 2.5 December 2014 Soil Gas and Soil Assessment

#### 2.5.1 Soil Gas Sampling

On December 17, 2014, three shallow (sub-slab) soil gas samples (SG-1 through SG-3) were collected immediately beneath the floor slab in the former cleaners: one near the front floor drain, one near the grit trap, and one in the central portion of the Facility (Figure 6). Vapor sampling probes were installed on December 16, 2014 by drilling through the concrete slab and into the surficial soil beneath the slab. The probe was then set just below the slab, a sand pack was placed around the probe, and tubing extended from the probe to just below the ground surface. A threaded valve was installed on the top of the tubing and the hole in the slab was sealed.

Once the seal had cured, a helium leak test was performed to verify the integrity of the seal. An enclosure was placed on top of the sealed floor slab and saturated with helium gas. Soil gas was then extracted from the vapor probe and scanned with a hand-held helium meter to determine if a leak was present. A significant positive reading would indicate that air above the floor slab was being drawn into the vapor probe through a poor seal or through a porous/cracked concrete slab. None of the leak tests conducted resulted in a positive reading on the helium meter.

The soil gas samples were collected from the vapor probes using laboratory-supplied negatively pressurized 400 milliliter (mL) Summa canisters. The samples were labeled, logged under standard chain of custody procedures, shipped to H&P Mobile Geochemistry in Carlsbad, CA, and analyzed by US EPA Compendium Method TO-15.

Each of the soil gas samples had detections of PCE, ranging from 5,500 micrograms per cubic meter ( $\mu g/m^3$ ) in SG-3 to 68,000  $\mu g/m^3$  in SG-1. No PCE daughter compounds were detected. Freon-12 (dichlorodifluoromethane) was detected in SG-1 at 810  $\mu g/m^3$ . Freon-12 is used as a refrigerant and is not associated with PCE. Soil gas sampling results are shown on Figure 6 and summarized in Table 3.



#### 2.5.2 Soil Sampling

Once soil gas sampling was completed, soil sampling was conducted on December 17, 2014 inside the Facility (Figure 4). Twelve soil borings (SB-2 through SB-12, including SB-9S and SB-9D) were advanced using hand auger methods to depths ranging from 2 ft-bgs to 12 ft-bgs, and 22 soil samples were collected from discrete intervals. Soils were logged for lithology and field screened with a photoionization detector (PID) for the presence of VOCs. Boring logs are included in Appendix A. The field screening showed elevated PID measurements (PID readings are provided on the boring logs) in several of the borings with the highest being in SB-12 located adjacent to the grit trap.

Soil samples were collected from varying depths for VOC analysis using Method 5035 by pushing laboratory supplied plastic syringes directly into the recovered soil. For each sample, similar amounts of soil were placed into each of three 40-mL glass vials: one preserved with methanol and two preserved with sodium bisulfate. In addition, a 2-oz. glass jar was filled for soil moisture analysis. The soil samples were labeled, placed on ice in a cooler, logged under standard chain-of-custody procedures, and hand delivered to Analytical Environmental Services, Inc. (AES) for laboratory analysis of VOCs by EPA Method 8260B.

PCE was detected in all 22 samples collected with three of the samples being detected above the Type 4 Risk Reduction Standard (RRS) of 55 mg/kg (RRSs are shown on Table 1). TCE and cis-DCE were detected at concentrations below their Type 1 RRSs. No samples were collected from borings SB-6 and SB-7 due to shallow boring refusal.

The highest PCE detection was 14,000 mg/kg at a depth of 5 ft-bgs in SB-12, located adjacent to the grit trap. Vertically, PCE concentrations decreased to 9.9 mg/kg at a depth of 12 ft-bgs in SB-12. Horizontally, PCE concentrations decreased to 38 mg/kg and 18 mg/kg in SB-10, 5 ft-bgs and 10 ft-bgs, respectively, located only a few feet from SB-12. Additionally, within 3-5 ft horizontally from SB-12 in all directions, PCE dropped below 10 mg/kg. The distribution of PCE in the vadose zone is consistent with a localized release (i.e. the grit trap).

## 2.6 February 2015 Soil Assessment

Due to the results of the soil sampling conducted in December 2014, a second soil sampling event was performed on February 10 and 11, 2015 with 17 soil borings (SB-13 through SB-29) advanced inside the Facility and the adjacent suite (Figure 4) to depths varying from 8 ft-bgs to 12 ft-bgs. From these borings, 33 soil samples were collected and analyzed for VOCs.

Soils were logged for lithology and field screened with a PID for the presence of VOCs. The field screening showed elevated PID measurements in several of the borings with the highest being in SB-17, located near the grit trap. Soil samples were collected in the same manner as described in Section 2.5.2. The samples were labeled, placed on ice in a cooler, logged under



standard chain-of-custody procedures, and hand delivered to AES for VOC analysis by EPA Method 8260B.

PCE was detected in 32 of the 33 samples, with none of the detections exceeding the Type 4 RRS of 55 mg/kg. Looking at the combination of the December 2014 and the February 2015 sampling results, PCE concentrations are highest near the grit trap and exponentially decrease with increasing distance from the grit trap. This type of distribution is what would be expected from a localized release (i.e., the grit trap). As was the case with the December 2014 soil sampling results, the February 2015 sampling resulted in TCE and cis-DCE detections at concentrations below the Type 1 RRSs. Soil samples collected from SB-14, SB-17, and SB-19 were held by the laboratory pending analysis of nearby samples and were not analyzed due to the results of the nearby samples.

## 2.7 May 2015 Soil and Groundwater Assessment

#### 2.7.1 Piezometer Installation

On May 7, 2015, three piezometers (PZ-1 through PZ-3) were installed to the southeast, south, and southwest of monitoring well MW-1 to determine the groundwater flow direction. The locations of the piezometers are shown on Figure 5.

The piezometers were installed using direct push methods by advancing the borings to 20 ft-bgs. Soil cores were logged for lithology (boring logs and well completion details are provided in Appendix A) and field screened with a PID for the presence of VOCs. Each piezometer was constructed with 10 ft of 1-inch diameter PVC well casing and 10 ft of 1-inch diameter, 0.010-inch slotted, PVC screen. Within each boring, a sand pack was installed around the screened interval from the bottom of the screen to 2 ft above the top of the screen. A minimum of 2 ft of bentonite was placed on top of the sand pack and hydrated. The remainder of the borehole annulus was filled with grout. Flush-mounted well vaults were set and well pads were constructed at each piezometer.

On May 8, 2015, the piezometers were developed by bailing until the water was free of visible sediment. Turbidity readings were then collected to attempt to bring the turbidity down to less than 10 Nephelometric Turbidity Units (NTUs). After 30 to 40 wells volumes were removed, turbidity in all three piezometers remained above 20 NTUs; however, well development was deemed sufficiently complete given the excessive water volumes removed.

#### 2.7.2 Potentiometric Surface Map

On May 22, 2015, groundwater depths were gauged in the four on-site wells (MW-1, PZ-1, PZ-2, and PZ-3). The tops-of-casing were surveyed and groundwater elevations were calculated



(Table 4). Figure 5 is a potentiometric surface map showing a groundwater flow direction to the east-southeast.

#### 2.7.3 Groundwater Sampling

Prior to determining the groundwater flow direction, it was anticipated that the groundwater flow was to the south-southeast towards nearby residential properties and that additional monitoring wells would need to be installed near the southern property boundary of the Site. However, since groundwater flow was determined to be to the east-southeast, on May 22, 2015, the four existing wells (MW-1, PZ-1, PZ-2, and PZ-3), two of which are in the groundwater flow path, were sampled for VOCs to determine the location, if any, of additional monitoring wells. Prior to sampling, the wells were purged using low flow/low volume methods. A peristaltic pump was used to purge the wells, and the intake of the Teflon-lined tubing was placed within the screened interval. The wells were purged until geochemical parameters were stable for three consecutive readings.

Groundwater samples were collected by capturing the water in the tubing prior to the pump and pouring the water from the tubing into 40-mL glass vials preserved with hydrochloric acid. The samples were labeled, placed on ice, logged under standard chain of custody procedures, and hand delivered to AES for VOC analysis by EPA Method 8260B.

PCE was detected in MW-1 at a concentration of 19  $\mu$ g/L. PCE was not detected in the three piezometers.

#### 2.7.4 Total Organic Carbon Soil Data Collection

On May 7, 2015, two soil borings (SB-30 and SB-31) were advanced to the south of the Facility using direct push methods to collect samples to determine the site specific organic carbon content of the soil. The borings were each advanced to a depth of 8 ft-bgs, and a sample was collected from each boring at 7 ft-bgs. These samples were collected in unpreserved glass jars, placed on ice in a cooler, logged under standard chain-of-custody procedures, and hand delivered to AES for total organic carbon (TOC) analysis by EPA Method 9060A.

Boring locations are shown on Figure 4. TOC sampling results are summarized on Table 5. The samples collected from SB-30 and SB-31 had TOC concentrations of 626 mg/kg and 1060 mg/kg, respectively. These results were used in the RRS calculations.

## 2.8 July 2015 Soil Assessment

On July 6, 2015, three soil borings (SB-32 to SB-34) were advanced inside the Facility using direct push methods to collect samples to determine the site specific leachability. Soil cores were screened with a PID to determine the presence of VOCs. Soil samples were collected at



pre-determined depths of 2 ft-bgs and 10 ft-bgs at each location for total VOC analysis and Synthetic Precipitation Leaching Procedure (SPLP) VOC analysis. The samples were analyzed for PCE and PCE daughter compounds since the December 2014 and February 2015 sampling results confirmed that no other VOCs are attributed to the release. This information was used to develop the leachability input value for the RRS calculations.

Samples for total VOC analysis were collected as described in Section 2.5.2. SPLP samples were collected in unpreserved glass containers. The samples were labeled, placed on ice, logged under standard chain of custody procedures, and hand delivered to AES for analysis of VOCs by EPA Method 8260B and SPLP tumbling by EPA Method 1312.

Boring locations are shown on Figure 4. A summary of the total vs. SPLP results are summarized in Table 6. PCE, cis-DCE, and TCE were detected in the total VOC samples, but PCE was the only compound detected in the SPLP VOC analysis. PCE was detected in all six of the total VOC soil samples at concentrations ranging from 2.5 mg/kg to 55 mg/kg, and it was detected in five of the six samples subjected to the SPLP tumbling at concentrations ranging from 0.0053 mg/L to 0.049 mg/L. The highest total PCE detection (55 mg/kg) that resulted in a leachable (SPLP) PCE detection below a concentration that would cause groundwater to exceed a Type 4 RRS was selected as the leachability input for the soil screening level (SSL) portion of the RRS calculations. This resulted in a PCE soil Type 2 RRS of 29 mg/kg and a PCE soil Type 4 RRS 55 mg/kg.



# **3** CORRECTIVE ACTION

## 3.1 General Facility Cleanup

In early 2015, dry cleaning operations ceased in the Facility and at the Site. The dry cleaning equipment, including two dry cleaning machines and the associated spent filter drums, were removed from the Facility.

## 3.2 Soil Excavation

The footprint of pre-corrective action soil exceeding the PCE Type 4 RRS lay within the immediate vicinity of the grit trap, with minor PCE detections in subsurface soil in other areas of the Facility and the southwestern portion of the adjacent suite. Various soil remedial approaches were considered.

- Soil vapor extraction was not selected based on the potential duration required for such approach.
- Soil injection was not selected based on the clayey nature of the soil making contact with the soils outside of the injection boring difficult.
- Soil excavation along with oxidation via gravity infiltration was the selected remedial approach.

Comprehensive excavation of all PCE-impacted soil in the vicinity of the grit trap is technically impracticable as costly structural support of the building footers, which are expected to be 6-feet below the floor slab, would be required. Therefore, EPS conducted a "hot spot" soil excavation. The excavation layout is shown on Figure 7. The goal of the excavation was to remove soils which exceed a Type 4 RRS and to significantly reduce the overall mass of PCE in the vadose zone. PCE concentrations in soils that were removed during the excavation are not included on Figure 7.

On August 10-14, 2015, an area of 7 feet by 7 feet, or approximately 50 square feet (sqft), was excavated to depths of 6-8 feet below the floor slab (the achievable excavation depth was limited by structural considerations of the building footers (i.e., soils bearing the load of the footers were not disturbed) and differed at varying distances from the footers). The excavated soil was treated in place by mixing it with a 5% to 10% sodium permanganate solution. Portland cement was then added to solidify the mixture, and the soil was placed into roll-off boxes for off-site disposal. The waste manifests are included in Appendix B. Once the excavation was as deep as possible (without disturbing the structural integrity of the building), five auger borings were



advanced 2 to 3 feet into the base of the excavation, and the potassium permanganate solution was poured in to the excavation and allowed to infiltrate into the underlying soil overnight.

The floor drain pipe, which ran from the area of the former dry cleaning machines to the grit trap, was also excavated along with the surrounding soils, under the assumption that small amounts of PCE may have leaked out of the drain pipe historically. A 2-foot wide section of floor slab was saw-cut and removed and a 2 feet wide by 2 feet deep section of soil was excavated along the entire length of the drain pipe. The excavated soil was treated with sodium permanganate and placed in a role-off box for off-site disposal.

Both excavations were backfilled with gravel to the base of the floor slab, and the floor slab was repoured. As discussed in the next section, piping was placed within the gravel of the 50 sqft excavation as an added precaution against vapor intrusion. The soils from both of the excavations were transported to Eagle Point Landfill in Ballground, Georgia for non-hazardous waste disposal. Waste manifests are included in Appendix B.

## 3.3 Vapor Intrusion Mitigation

Sub-slab soil gas samples collected beneath the Facility in December 2014 had elevated PCE concentrations. In conjunction with the soil excavation activities, a sub-slab depressurization system was installed to minimize the potential for PCE vapors to migrate from beneath the floor slab into the building interior. The piping layout for the system is shown on Figure 8. The system includes two sections of piping.

- Line 1 includes a 2-inch diameter, slotted PVC pipe placed beneath the new floor slab within the gravel backfill of the 50 sqft soil excavation area and extending to the exterior of the back (south) wall. The slotted pipe was placed approximately 1 foot beneath the floor slab and connects to solid piping just before exiting the back wall.
- Line 2 includes a 2-inch diameter, slotted PVC pipe, which was installed beneath the new floor slab within the gravel backfill of the drain line excavation and runs from the former drum storage area to the grit trap. The piping extends beneath the floor slab, through the 50 sqft soil excavation area via solid piping, to the exterior of the back (south) wall of the building.

Both sections of piping were extended vertically up the exterior wall, and a screen-covered tee was place on top of each to prevent animals and rain from entering. Inline fans were place on the vertical sections of the piping to create a negative pressure beneath the floor slab.

Soil gas depressurization influence testing was conducted on September 14, 2015. Several testing points were installed at varying distances from the vacuum lines by drilling a hole through the floor slab, inserting piece of tubing, and sealing the area between the tubing and the concrete. The tubing was connected to a magnehelic gauge to collect vacuum readings. Figure 8 shows the estimated area of influence.



# **4 CONCEPTUAL SITE MODEL**

## 4.1 Overview

This CSM is intended to establish a common knowledge base about the Site and its postremediation environmental condition and to assist in Site compliance determination. This section describes the geologic setting of the Site vicinity, the surface and subsurface features of the Site, the VOC fate and transport, the selected clean-up criteria, and how exposure pathways, which were previously associated with the Site, have been mitigated.

Figures 9A and 9B are plan view and profile diagrams depicting the extent of constituents in the subsurface. Viewed in total, these figures give a three-dimensional representation of the Site conditions.

## 4.2 Geologic Setting

#### 4.2.1 Regional Geology

The Site is located within the Piedmont Physiographic Province according to the Physiographic Map of Georgia (Clark & Zisa, 1987). The regional subsurface geologic setting is characterized by a gradational weathering profile with depth from soil (termed "saprolite") to partially weathered rock (PWR) to competent bedrock. Groundwater occurs under unconfined conditions, whereby the potentiometric surface is generally similar to the ground surface topography. Along topographically low areas, the water table typically occurs within the saprolite to PWR portions of the weathering profile, whereas along topographically high areas, the water table often occurs in the underlying bedrock.

#### 4.2.2 Site Geology and Hydrogeology

The topography of the Site and surrounding areas was reviewed on a USGS Quadrangle Map for the Sandy Springs Quadrangle (Figure 2). The map shows the elevation of the Site ranging from approximately 1,015 to 1,030 feet above mean sea level (ft msl). The high point of the Site is located in the northern portion of the property. The grade slopes gently to the south-southeast to a retention pond located in the southeastern corner of the Site. Stormwater is eventually discharged to an unnamed tributary to Rottenwood Creek approximately 1,500 feet south-southeast of the Site and eventually flows into the Chattahoochee River.



The Site geology has been investigated through the advancement of soil borings and the installation of shallow monitoring wells. Borings have been advanced to depths of 20-25 ft-bgs into saprolite. The soil beneath the Facility consists of silt and clay extending to approximately 10 ft-bgs, and sandy soils were observed below that to a depth of 20 feet. Boring logs are included in Appendix A. Groundwater was encountered at approximately 8 ft-bgs south of the Facility and was determined to flow to the east-southeast (Figure 5).

To illustrate the subsurface geology of the Site, a vertical cross-section was created using information obtained from the boring logs. Figure 9A shows the location of cross-section line A-A'. This cross section (Figure 9B) was prepared in a west-northwest to east-southeast direction parallel to the groundwater flow direction shown on Figure 9A.

### 4.3 Site Features

#### 4.3.1 General Site Features

The majority of the Site is covered with the building or paved with asphalt with the exception of small landscape islands and the retention pond. The topography slopes gently to the south-southeast. Stormwater runoff is captured by underground drains or by a concrete ditch running along the southern property boundary and is discharged to the retention pond located in the southeast corner of the Site.

#### 4.3.2 Pre-Remediation Facility Features

The front (north) of the Facility is essentially at ground level, while the back (south) of the Facility is approximately 3 feet above the level of the parking lot. The interior of the Facility, as it existed prior to the remedial activities, is shown on Figure 3B. Two dry cleaning machines were located toward the front of the facility. Drums for spent filters were stored behind the machines in the vicinity of a floor drain. The floor drain, which was removed during remedial activities, ran to the grit trap, which was a 2-ft x 2-ft x 4-ft deep vault set below grade, located in the rear of the Facility. A washing machine was located adjacent to the grit trap and drained to the grit trap via an underground line. Water in the grit trap exited the west side of the trap through a drain line that joined the restroom and boiler room drains and exited the southwest corner of the Facility to the south.

#### 4.3.3 Post-Remediation Facility Features

The dry cleaning tenant moved out of the Facility in early 2015. At that time, all of the equipment associated with the dry cleaning operations, including the dry cleaning machines and the washing machine, was removed from the Site. During remedial activities in August 2015,



the floor drain, the drain line connecting the floor drain to the grit trap, and the grit trap were removed. The restroom and the boiler room drain lines are still in place.

## 4.4 VOC Fate and Transport Summary

Based on the soil data collected in and around the Facility and observations made during the August 2015 remedial activities, PCE appears to have been released in two manners.

- 1. PCE entered the grit trap and seeped through the concrete base where small amounts of PCE spread to the surrounding soils, and, to a lesser extent, the groundwater. The bulk of the PCE remained just below the base of the grit trap.
- 2. Small amounts of PCE were spilled on the floor throughout the years leaving relatively low soil concentrations (less than the Type 4 RRS) in shallow soils in several locations beneath the Facility.

The PCE was likely spilled into the drain or onto the concrete floor slab in the dissolved phase. As the PCE entered the vadose zone, it appears that most of it partitioned from the dissolved phase to the sorbed phase as evidenced by the soil and groundwater concentrations. The sorbed phase PCE can migrate in two forms: 1) infiltrating water can leach the sorbed phase PCE carrying it downward to the water table, and 2) PCE vapors can migrate upward through the vadose zone pore spaces potentially entering the overlying building. Based on the relatively high PCE concentrations in soil in the immediate vicinity of the base of the grit trap (14,000 mg/kg) and the relatively low concentrations of PCE in the groundwater in MW-1 located 8 feet horizontally from the grit trap (19  $\mu$ g/L to 43  $\mu$ g/L), it appears that very little water passed vertically through the soil column beneath the Facility. The sub-slab soil gas sampling results suggest that vapors have migrated upwards through the vadose zone.

PCE concentrations in MW-1 are orders of magnitude less than 1% of the aqueous solubility (206 mg/L) of PCE. According to Cherry and Feenstra (1991), concentrations exceeding 1% of the compound's aqueous solubility indicate the potential presence of dense non-aqueous phase liquid (DNAPL), i.e., free phase, PCE product. Therefore, there is no indication of a DNAPL at this Site.

Chlorinated solvents can degrade biologically in the subsurface through reductive dechlorination. As mentioned previously, a parent compound can be degraded biologically into daughter products. PCE, the parent compound, can degrade biologically into daughter products including trichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1-dichlorothene, and vinyl chloride. Cis-1,1-dichloroethene has been detected in one groundwater sample indicating that some amount of reductive dechlorination is occurring in the subsurface.



## 4.5 Risk Reduction Standards

#### 4.5.1 Overview

The soil and groundwater RRS development was presented in the July 2015 VRP Progress Report (EPS, 2015), and site data is compared to RRSs in Tables 1 and 2 for soil and groundwater, respectively.

#### 4.5.2 Soil RRS

As shown on Table 1, the Non-Residential RRS for PCE in both Surface and Subsurface soils is 55 mg/kg. Prior to the remedial activities, three samples exceeded this value: SB-12 at 2 ft-bgs at a concentration of 63 mg/kg, SB-12 at 5 ft-bgs at a concentration of 14,000 mg/kg, and NM-5 at 5 ft-bgs at a concentration of 56 mg/kg (Table 1 and Figure 4). This soil was removed during remedial activities in August 2015.

As also shown on Table 1, the Residential RRS for PCE in soil is 29 mg/kg. This is also the delineation criteria as established for the VRP by the EPD. Soil has been delineated in all directions to the delineation criteria. All other constituents detected in soil were detected below the delineation criteria. Therefore, no further soil delineation is required.

#### 4.5.3 Groundwater RRSs

The Type 1 RRSs, the Residential RRSs, and the Non-Residential RRSs for groundwater are shown on Table 2. The delineation criteria for groundwater are the Type 1 RRSs. PCE is the only constituent that has been detected above the delineation criteria. Figure 5 shows the groundwater data and sampling locations. The most recent sample collected from MW-1 had a PCE concentration of 19  $\mu$ g/L. A groundwater sample collected from PZ-3, located down-gradient of MW-1, was non-detect for PCE. Therefore, PCE in groundwater is delineated to the delineation criteria in the down-gradient direction. That being said, as discussed in Section 5.2, groundwater compliance certification is not required.

## 4.6 Potential Receptors and Exposure Pathways

The Site includes a single-story shopping center building (approximately 48,000 square feet), paved parking lots and driveways, landscape islands, and a stormwater retention pond. The various shopping center tenants are expected to have full time employees. There is a landscaping contractor who maintains the grounds on an as needed basis. The future use of the Site will likely remain commercial.



The adjoining properties are used for residential and commercial purposes. The area to the south and southeast of the Site is largely made up of single family residences with the nearest residences being immediately adjacent to the south.

The Site and the surrounding area are serviced by public drinking water systems. An EPD memorandum related to the 1999 HSRA Release Notification stated that a well survey did not identify any wells within a one mile radius of the Site, and the 2013 HSRA Release Notification concluded the same. As discussed in Section 5.2, groundwater compliance certification is not required, and therefore, the groundwater exposure pathway has not been evaluated.

Based on the existing data, PCE has impacted surface and subsurface soil only in a small area beneath the building's concrete floor slab. Several potential human receptors have been identified. These potential receptors are listed below along with a brief discussion as to why, after the remedial activities were conducted in August 2015, the exposure pathways are incomplete.

#### **Potential On-Site Receptors**

- Commercial Site Worker: Commercial workers associated with the shopping center are expected to work approximately 40 hours per week at the Site. The potential exposure pathways are ingestion, dermal contact, and vapor intrusion. The soils, in addition to being beneath a concrete slab floor, have been remediated to levels below the Residential and Non-Residential RRSs. In addition, a sub-slab depressurization system has been installed to minimize the potential for vapors to migrate into the building.
- Site Patron: Shopping center patrons are expected to visit the Site once per week. Because the impacted soil is covered with concrete and asphalt, receptors associated with this type of commercial land use would not be exposed to Site-related chemicals in surface soil via ingestion or dermal contact. This potential receptor could potentially be exposed to vapors potentially migrating from impacted groundwater and vadose zone soils to the indoor air of the building. However, the sub-slab depressurization system has been installed to minimize the potential for vapors to migrate into the building.
- Maintenance Site Worker: Maintenance workers associated with the shopping center are expected to work approximately 40 hours per week at the Site. Because the impacted soil is covered with concrete and asphalt, receptors associated with this type of commercial land use would not be exposed to Site-related chemicals in surface soil via ingestion or dermal contact. This potential receptor may be exposed to vapors potentially migrating from impacted groundwater and vadose zone soils to the indoor air of building. However, the sub-slab depressurization system has been installed to minimize the potential for vapors to migrate into the building.
- Groundskeeper: The grounds are maintained by a landscaping contractor on an asneeded basis. The surface soil impact is contained beneath the building, thus groundskeepers would not be exposed to the impacted soils. In addition, groundskeepers would not be exposed to indoor vapors because 1) the groundskeeper works outside by



definition and 2) if a groundskeeper were to enter the building, the sub-slab depressurization system has been installed to minimize the potential for vapors to migrate into the building.

- Construction/Utility Worker: No construction or utility work activities are currently planned at the Site. However, it is possible that these activities could be conducted in the future. The soils have been remediated to levels below the Residential and Non-Residential RRSs so therefore, these workers would not be exposed to soils exceeding these levels in mixed surface and subsurface soil (0-10 ft-bgs) via ingestion or dermal contact. The area of impacted soils is relatively small compared to the size of the Site. Therefore, there is a low potential these workers could have very short term exposure inhalation exposure to the volatiles. Construction workers should consider vapor monitoring if working around exposed soils in this area of the Site.
- Future On-Site Resident: Future residential use of the Site is highly unlikely as the Site is zoned commercial, but is discussed here for completeness. Hypothetical future residents at the Site could potentially have long-term exposure to site-related chemicals in surface soil via ingestion and dermal contact. However, the soils have been remediated to levels below the Residential and Non-Residential RRSs. This potential receptor could also be exposed to vapors potentially migrating from impacted groundwater and vadose zone soils to the indoor air of future residential dwellings. Potential future residential construction plans for the Site should consider a vapor barrier to prevent vapor migration into residential dwellings.

The PCE release will not impact wildlife as the area of impact is covered by buildings or pavement and does not represent quality habitat for wildlife, as it lacks natural vegetative cover.

#### **Potential Off-Site Receptors**

There are no potential off-site residential or non-residential receptors based on the low concentrations in groundwater and the groundwater flow direction. In addition, the residences that are down-gradient from the Site are serviced by public drinking water systems.

The nearest surface water body to the Site is an unnamed tributary to Rottenwood Creek and is located 1,500 feet from the Site. Due to the stream's distance from the Site and the relatively low groundwater concentrations at the Site, it is unlikely that impacted groundwater would discharge to this stream. Therefore, no off-site ecological receptors have been identified.



## 5.1 Soil Delineation and Compliance with RRSs

Regulated compounds detected in soils consist of PCE, TCE, cis-1,2-DCE, 4-mehtyl-2pentanone, acetone, toluene, and xylenes as shown on Table 1. The only compound that has been detected above the Residential RRS is PCE. Soil has been delineated to the delineation criteria (Residential RRSs) in all directions (Figure 4). Soils having PCE concentrations above the Residential and Non-Residential RRSs have been excavated. Therefore, the Site is in compliance with Residential and Non-Residential RRS.

## 5.2 Groundwater Delineation and Compliance with RRSs

In accordance with Georgia Code O.C.G.A § 12-8-107(g)(2), a participant in the Voluntary Remediation Program

"shall not be required to perform corrective action or to certify compliance for groundwater if the voluntary remediation property was listed on the [Hazardous Site Inventory] inventory as a result of a release to soil exceeding a reportable quantity for soil but was not listed on the inventory as a result of a release to groundwater exceeding a reportable quantity, and if the participant further demonstrates to the director at the time of enrollment that a release exceeding a reportable quantity for groundwater does not exist at the voluntary remediation property; and the groundwater protection requirements for soils shall be based on protection of the established point of exposure for groundwater as provided under this part."

This Site would not have been listed on the Hazardous Site Inventory as a result of a release to groundwater exceeding a reportable quantity. For this reason, compliance certification for groundwater is not required.

Furthermore, PCE has been detected in groundwater at a maximum concentration of  $64 \mu g/L$  in close proximity to the release, concentrations of PCE in groundwater reflect dramatic reduction in nearby sampling points downgradient from the release, and no drinking water wells are located within one mile of the Site. Moreover, any impacted groundwater is flowing to the east-southeast and is contained within the shopping center property, as determined using the monitoring well and the piezometers, instead of flowing to the south-southeast towards nearby residential properties as previously assumed.



## 5.3 Vapor Intrusion

This section discusses the vapor intrusion potential for compounds detected in soil gas and groundwater beneath the Facility.

- PCE and dichlorodifluoromethane were detected in the soil gas samples collected in December 2014 before the soil excavation was conducted and before the sub-slab depressurization system operation was initiated. PCE was detected at 68,000 μg/m<sup>3</sup> (SG-1), 38,000 μg/m<sup>3</sup> (SG-2), and 5,500 μg/m<sup>3</sup> (SG-3), all but one of which are above the Non-Residential Carcinogenic soil gas screening level of 15,667 μg/m<sup>3</sup> and the Non-Residential Non-Carcinogenic soil gas screening level of 5,800 μg/m<sup>3</sup> developed using a commercial exposure scenario, a Target Cancer Risk of 1.0 x 10<sup>-5</sup>, and a Target Hazard Quotient of 1. Dichlorodifluoromethane was detected at 810 μg/m<sup>3</sup> (SG-1) and 630 μg/m<sup>3</sup> (SG-1 Dup), which are both below the Non-Residential (15,000 μg/m<sup>3</sup>) soil gas screening level of 15,000 μg/m<sup>3</sup>. Table 3 summarizes the soil gas results.
- PCE has been the only VOC detected in groundwater during recent sampling events with recent detections ranging from 19 to 43  $\mu$ g/L. This concentration is below the Non-Residential groundwater vapor intrusion screening level concentrations of 652  $\mu$ g/L (Carcinogenic) and 243  $\mu$ g/L (Non-Carcinogenic).

The bulk of the vapor source (PCE concentrations in soil) has been removed from beneath the Facility, and a sub-slab depressurization system has been installed to capture soil vapors from the PCE remaining in the soil and to minimize the potential of these vapors to migrate to the indoor air. Therefore, the vapor intrusion pathway is now incomplete due to the mass removal of the PCE via soil excavation and the installation of the sub-slab depressurization system.

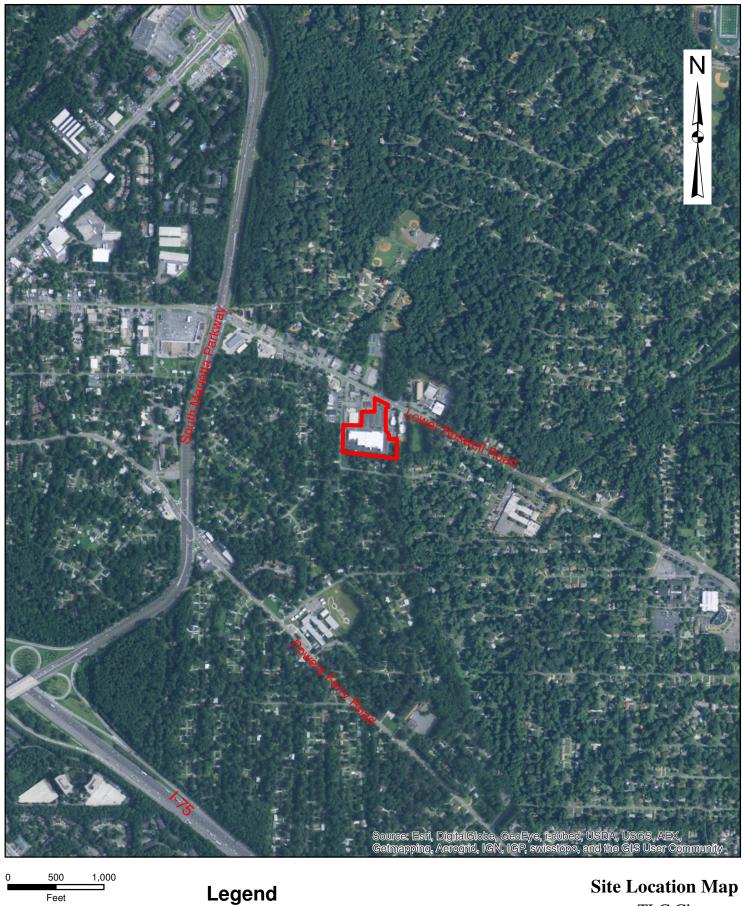


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- Cherry and Feenstra, 1991. A Method for Assessing Residual NAPL Based on Organic Chemical Concentrations in Soil Samples. Groundwater Monitoring and Remediation, Volume 11, Issue 2, pages 128-136.
- EPS, 2014a. Voluntary Investigation and Remediation Plan.
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- EPS, 2015. Voluntary Remediation Program Progress Report.
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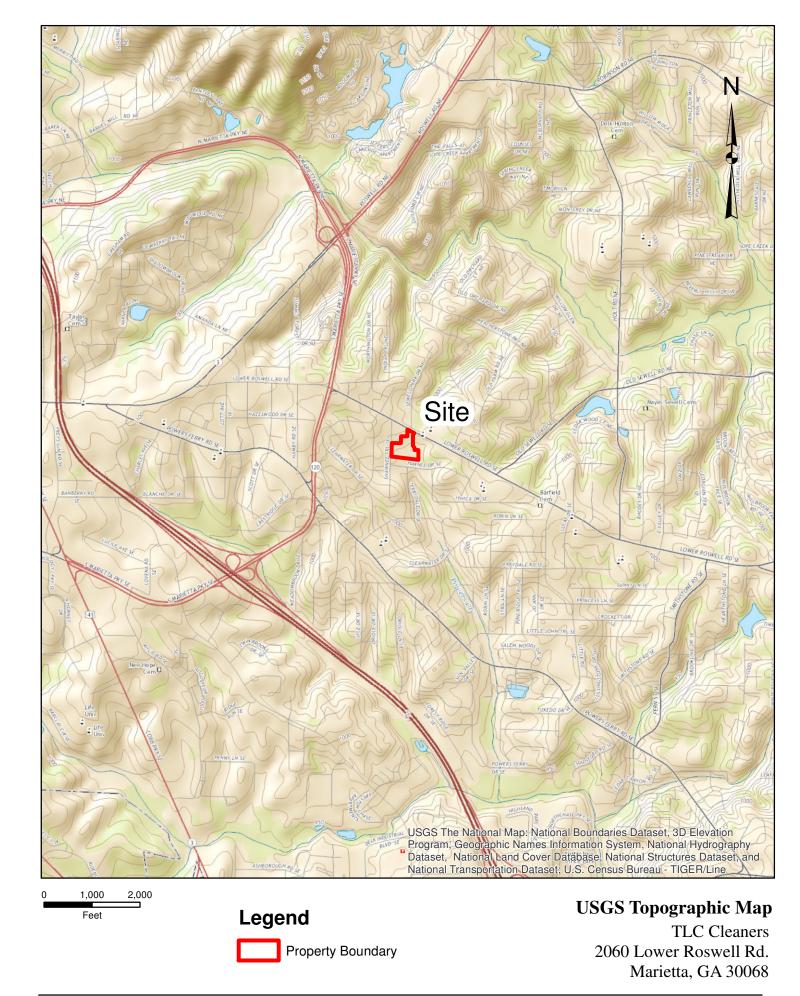


## **FIGURES**



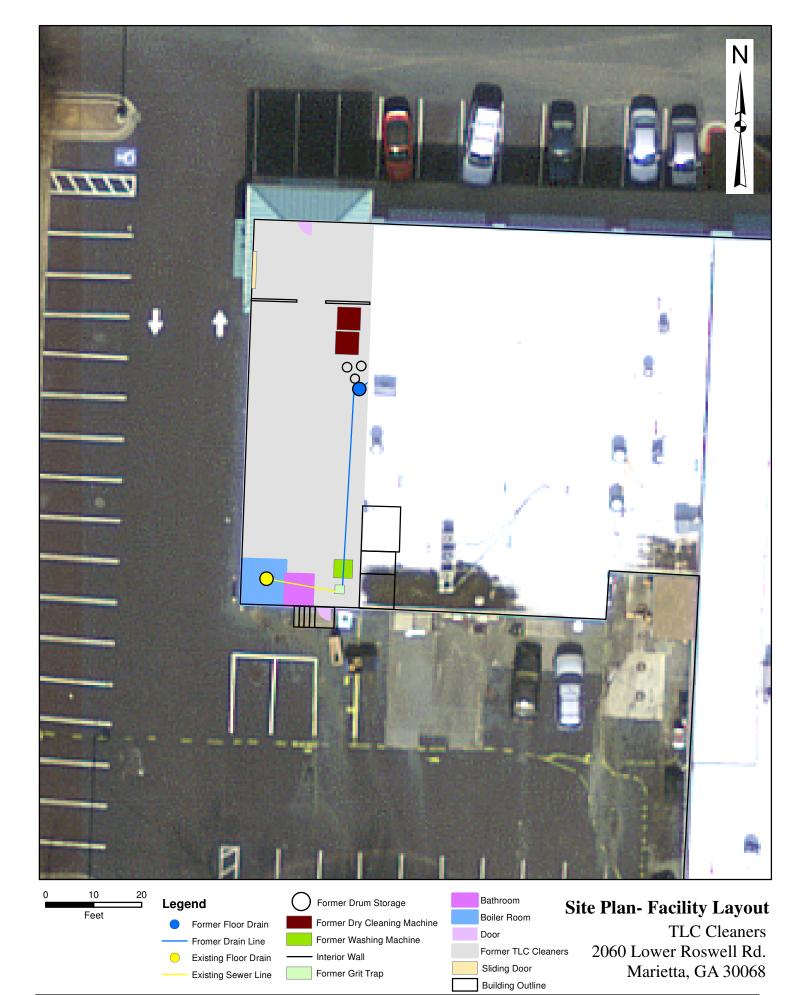
Property Boundary

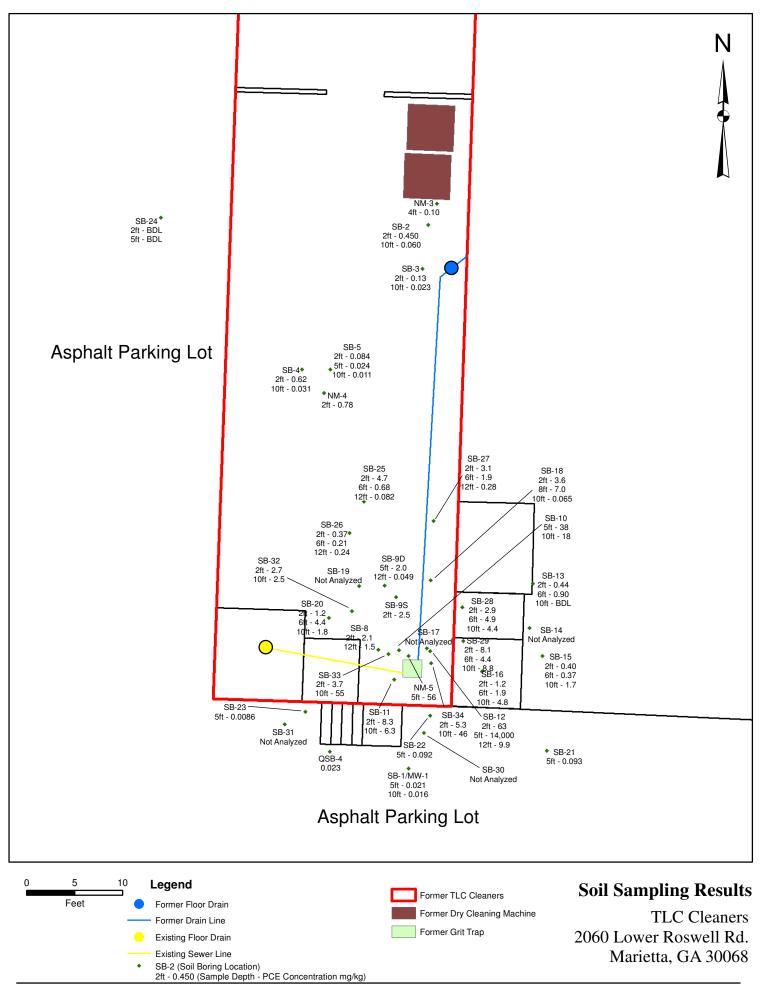
TLC Cleaners 2060 Lower Roswell Rd. Marietta, GA 30068





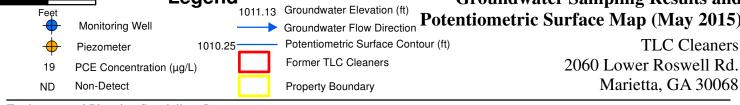
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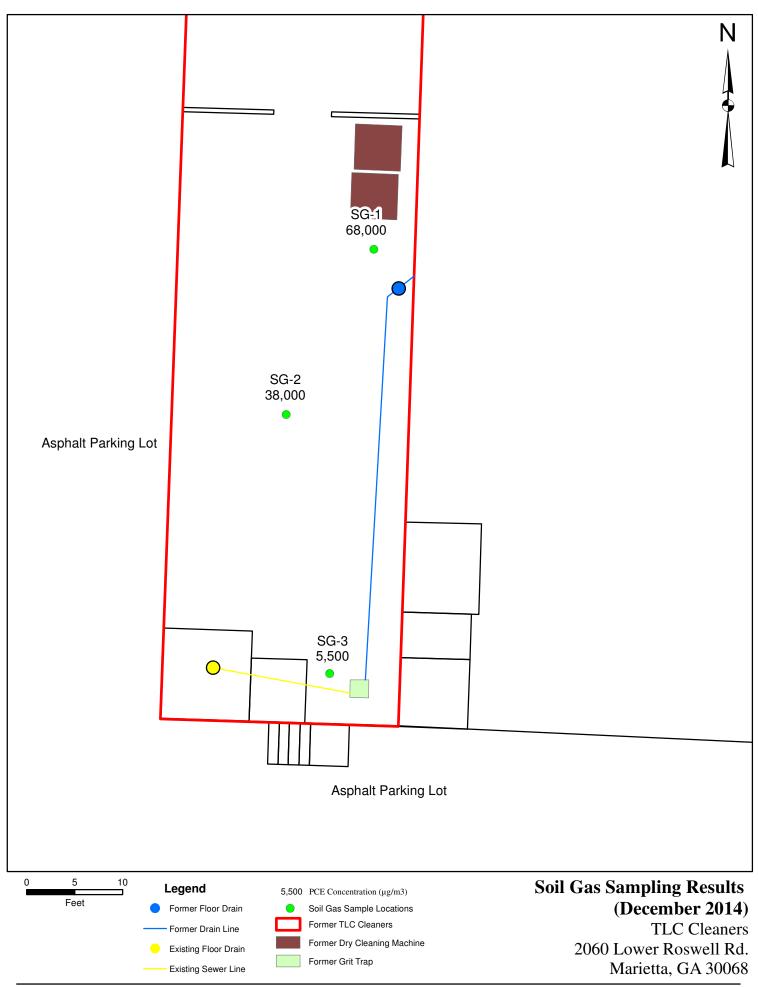


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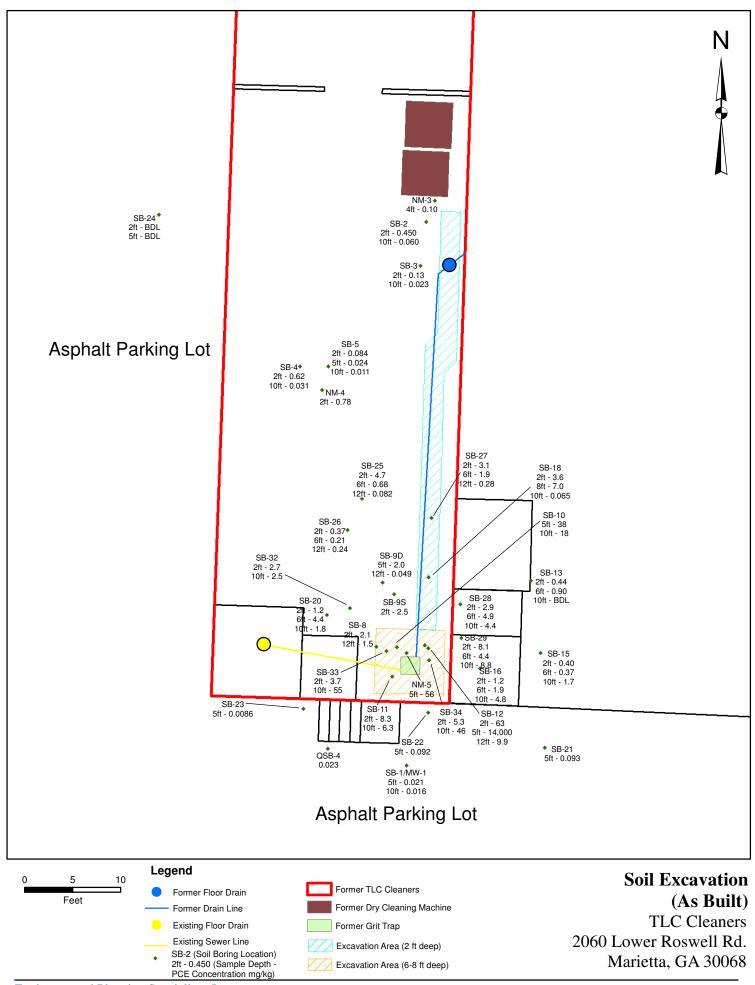


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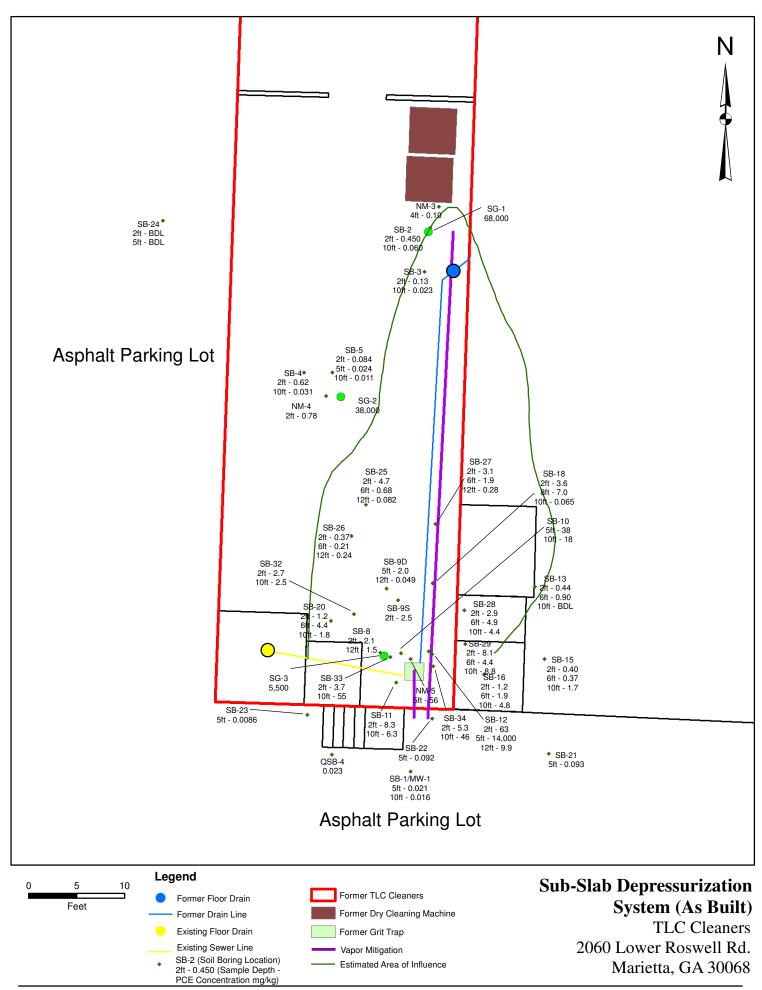


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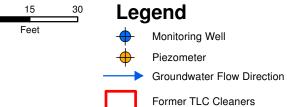
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#### **Figure No.8**





Property Boundary

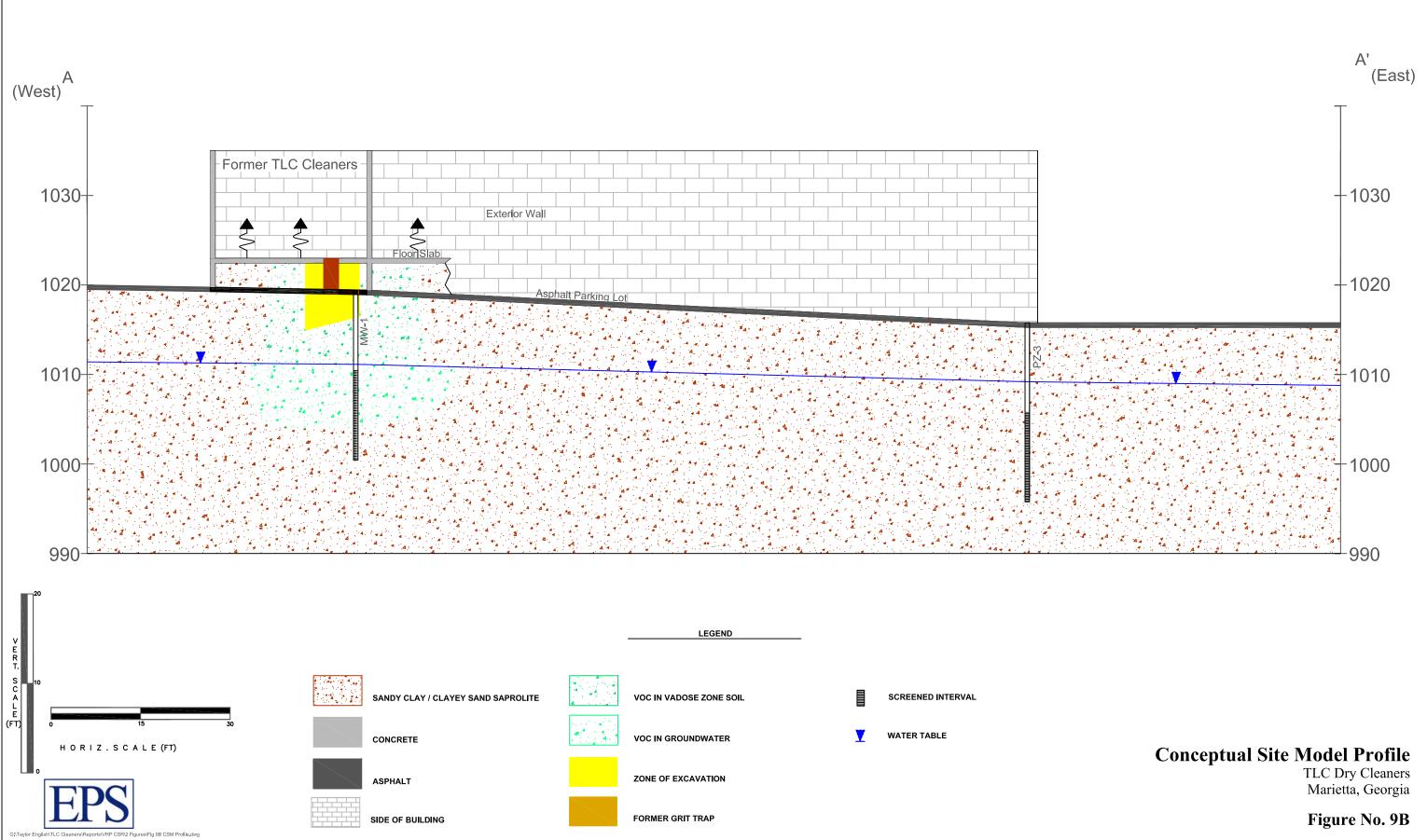
Excavation Area (2 ft)

Excavation Area (6-8 ft)

Conceptual Site Model Plan View

TLC Cleaners 2060 Lower Roswell Rd. Marietta, GA 30068

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### TABLES

#### Table 1 Summary of Soil Analytical Results (VOCs) TLC Cleaners Marietta, Georgia

Sample Location	Depth (ft-bgs)	Sample Date	PCE (mg/kg)	TCE (mg/kg)	cis-1,2-DCE (mg/kg)	trans-1,2- DCE (mg/kg)	Vinyl Chloride (mg/kg)	1,1-DCE (mg/kg)	4-Methyl-2- Pentanone (mg/kg)	Acetone (mg/kg)	p-Cymene (mg/kg)	Toluene (mg/kg)	Xylenes (mg/kg)
	Т	ype 1 RRS	0.50	0.50	7.0	10	0.20	0.70	3.3	400	NR	100	1,000
	Reside	ential RRS	29	0.50	7.0	10	0.20	0.74	3.3	400	NR	100	1,000
Non-Reside			55	0.50	7.0	13	0.20	3.8	19	400	NR	100	1,000
Non-Residentia	l RRS (Su	ubsurface)	55	0.50	7.0	13	0.20	3.8	19	400	NR	100	1,000
	Maximum	Detection	14000	0.023	0.018	BDL	BDL	BDL	0.22	0.073	0.47	0.01	0.012
QSB-4	13.5-15	06/02/99	0.023	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	0.01	BDL
QSB-5	8.5-10	06/02/99	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	0.008	0.012
NM-1-4	4	07/30/13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NM-3-4	4	07/30/13	0.10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NM4-2	2	07/30/13	0.78	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NM5-5	5	07/30/13	56	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.47	BDL	BDL
SB1-5	5	05/19/14	0.021	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA
SB1-10	10	05/19/14	0.016	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA
SB1-15	15	05/19/14	0.00062	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA
SB-2-2	2	12/17/14	0.45	BDL	BDL	BDL	BDL	BDL	BDL	0.071	NA	BDL	BDL
SB-2-10	10	12/17/14	0.060	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-3-2	2	12/17/14	0.13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-3-10	10	12/17/14	0.023	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-4-2	2	12/17/14	0.62	BDL	BDL	BDL	BDL	BDL	BDL	0.070	NA	BDL	BDL
SB-4-10	10	12/17/14	0.031	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-5-2	2	12/18/14	0.084	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-5-5	5	12/18/14	0.024	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-5-10	10	12/18/14	0.011	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-8-2	2	12/18/14	2.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-8-12	12	12/18/14	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-9S-2	2	12/18/14	2.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-9D-5	5	12/18/14	2.0	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-9D-12	12	12/18/14	0.049	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-10-5	5	12/17/14	38	0.018	0.0086	BDL	BDL	BDL	0.22	0.073	NA	BDL	BDL
SB-10-10	10	12/17/14	18	0.0066	0.0055	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-11-2	2	12/17/14	8.3	0.014	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-11-10	10	12/17/14	6.3	0.0088	0.0064	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-12-2	2	12/18/14	63	0.0051	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-12-5	5	12/18/14	14,000	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-12-12	12	12/18/14	9.9	0.012	0.015	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-13-2	2	2/10/15	0.44	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-13-6	6	2/10/15	0.90	BDL	0.0074	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-13-10	10	2/10/15	BDL	0.0048	0.011	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL

#### Table 1 Summary of Soil Analytical Results (VOCs) TLC Cleaners Marietta, Georgia

Sample Location	Depth (ft-bgs)	Sample Date	PCE (mg/kg)	TCE (mg/kg)	cis-1,2-DCE (mg/kg)	trans-1,2- DCE (mg/kg)	Vinyl Chloride (mg/kg)	1,1-DCE (mg/kg)	4-Methyl-2- Pentanone (mg/kg)	Acetone (mg/kg)	p-Cymene (mg/kg)	Toluene (mg/kg)	Xylenes (mg/kg)
	Т	ype 1 RRS	0.50	0.50	7.0	10	0.20	0.70	3.3	400	NR	100	1,000
	Resid	ential RRS	29	0.50	7.0	10	0.20	0.74	3.3	400	NR	100	1,000
Non-Reside			55	0.50	7.0	13	0.20	3.8	19	400	NR	100	1,000
Non-Residentia	l RRS (Si	ubsurface)	55	0.50	7.0	13	0.20	3.8	19	400	NR	100	1,000
SB-15-2	2	2/10/15	0.40	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-15-6	6	2/10/15	0.37	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-15-10	10	2/10/15	1.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-16-2	2	2/10/15	1.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-16-6	6	2/10/15	1.9	0.0042	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-16-10	10	2/10/15	4.8	0.0058	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-18-2	2	2/10/15	3.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-18-8	8	2/10/15	7.0	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-18-10	10	2/10/15	0.065	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-20-2	2	2/10/15	1.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-20-6	6	2/10/15	4.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-20-10	10	2/10/15	1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-21-5	5	2/11/15	0.093	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-22-5	5	2/11/15	0.092	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-23-5	5	2/11/15	0.0086	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-24-2	2	2/11/15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SB-24-5	5	2/11/15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SB-25-2	2	2/10/15	4.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-25-6	6	2/10/15	0.68	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-25-12	12	2/10/15	0.082	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-26-2	2	2/11/15	0.37	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-26-6	6	2/11/15	0.21	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-26-12	12	2/11/15	0.24	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-27-2	2	2/11/15	3.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-27-6	6	2/11/15	1.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-27-12	12	2/11/15	0.28	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-28-2	2	2/11/15	2.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-28-6	6	2/11/15	4.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-28-10	10	2/11/15	4.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-29-2	2	2/11/15	8.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-29-6	6	2/11/15	4.4	0.0042	0.0043	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-29-10	10	2/11/15	8.8	0.0058	0.0075	BDL	BDL	BDL	BDL	BDL	NA	BDL	BDL
SB-32-2	2	7/6/15	2.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA
SB-32-10	10	7/6/15	2.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA

### Table 1 Summary of Soil Analytical Results (VOCs) TLC Cleaners Marietta, Georgia

						trans-1,2-	Vinyl		4-Methyl-2-				
Sample	Depth	Sample	PCE	TCE	cis-1,2-DCE	DCE	Chloride	1,1-DCE	Pentanone	Acetone	p-Cymene	Toluene	Xylenes
Location	(ft-bgs)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Type 1 RR			0.50	0.50	7.0	10	0.20	0.70	3.3	400	NR	100	1,000
Residential RRS			29	0.50	7.0	10	0.20	0.74	3.3	400	NR	100	1,000
Non-Reside	ntial RRS	(Surface)	55	0.50	7.0	13	0.20	3.8	19	400	NR	100	1,000
Non-Residentia	I RRS (Sι	ubsurface)	55	0.50	7.0	13	0.20	3.8	19	400	NR	100	1,000
SB-33-2	2	7/6/15	3.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA
SB-33-10	10	7/6/15	55	0.0067	0.0053	BDL	BDL	BDL	BDL	BDL	NA	NA	NA
SB-34-2	2	7/6/15	5.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA
SB-34-10	10	7/6/15	46	0.023	0.018	BDL	BDL	BDL	BDL	BDL	NA	NA	NA

Notes:

Borings SB-6, SB-7, SB-14, SB-17, SB-19 are not included on this table because no sample was analyzed from these locations.

Borings SB-30 and SB-31 are not included on this table because no VOC samples were collected from these locations, only TOC samples (Table 2B).

ft-bgs = feet below the ground surface

1,1-DCE = 1,1-Dichloroethene

cis-1,2-DCE = cis-1,2-Dichloroethene

PCE = Tetrachloroethene

TCE = Trichloroethene

rans-1,2-DCE = trans-1,2-Dichloroethene

mg/Kg = milligrams per kilogram

RRS = Risk Reduction Standards

BDL = Below Detection Limits

NR = Not Regulated

NA = Constituent Not Analyzed

Constituent detected above the Non-Residential RRS

## Table 2Summary of Groundwater Analytical ResultsTLC CleanersMarietta, Georgia

Sample Location	Sample Date	PCE (μg/L)	cis-DCE (μg/L)	Chloroform (µg/L)
	Type 1 RRS	5	70	80
	Residential RRS	19	70	80
1	Non-Residential RRS	98	200	80
Residential (Nor	n-Carcinogenic) TGC	58		682
Residential	(Carcinogenic) TGC	15		0.9
Non-Residential (Nor	· · ·	243		2,862
Non-Residential	(Carcinogenic) TGC	652		36
QMW-4	06/02/99	BDL	5.3	BDL
QMW-5	06/02/99	64	BDL	2.3
NM-1W	07/30/13	1.2	BDL	BDL
NM-2W	07/30/13	BDL	BDL	BDL
MW-1	05/21/14	43	BDL	NA
10100-1	05/22/15	19	NA	NA
PZ-1	05/22/15	BDL	BDL	NA
PZ-2	05/22/15	BDL	BDL	NA
PZ-3	05/22/15	BDL	BDL	NA

Notes:

PCE = Tetrachloroethene

cis-DCE = cis-1,2-Dichloroethene

ug/L = micrograms per liter

BDL = constituent was not detected above the detection limit.

NA = Constituent not analyzed

RRS = Risk Reduction Standard

TGC = Target Groundwater Concentration for vapor intrusion screening

## Table 3Summary of Soil Gas Analytical ResultsTLC CleanersMarietta, Georgia

Sample Location	Sample Date	Sample Depth (ft-bgs)	PCE (µg/m³)	Freon-12 (µg/m³)
Resi Non-Residenti	dential (Carcin al (Non-Carcin	ogenic) TSSSGC ogenic) TSSSGC ogenic) TSSSGC ogenic) TSSSGC	360* 5,800	3,500 N/A 15,000 N/A
SG-1	12/17/14	0.5	68,000	810
SG-2	12/17/14	0.5	38,000	BDL
SG-3	12/17/14	5,500	BDL	

Notes:

ft-bgs = feet below the ground surface

PCE = Tetrachloroethene

Freon-12 = Dichlorodifluoromethane

 $\mu g/m^3$  = micrograms per cubic meter

TSSSGC = Target Sub-Slab Soil Gas Concentration

\* = Residential Cancer Target Risk of 10<sup>-6</sup>

\*\* = Non-Residential Cancer Target Risk of 10<sup>-5</sup>

#### Table 4 Groundwater Elevations TLC Cleaners Marietta, Georgia

Well Location	Date Measured	Top of Casing Elevation (ft-amsl)	Depth to Groundwater (ft)	Groundwater Elevation (ft-amsl)
MW-1	05/22/15	1019.47	8.34	1011.13
PZ-1	05/22/15	1021.07	9.27	1011.80
PZ-2	05/22/15	1016.37	5.77	1010.60
PZ-3	05/22/15	1015.77	5.94	1009.83

Notes:

ft-amsl = feet above mean sea level

# Table 5Summary of Soil Analytical Results (TOC)TLC CleanersMarietta, Georgia

Sample Location	Depth (ft-bgs)	Sample Date	TOC (mg/kg)
SB-30-7	7	05/07/15	626
SB-31-7	7	05/07/15	1060

Notes:

ft-bgs = feet below the ground surface

TOC = Total Organic Carbon

mg/kg = milligrams per kilogram

## Table 6Summary of Soil Analytical Results (SPLP)TLC CleanersMarietta, Georgia

	PCE		E	тс	Έ	cis-1,2	2-DCE	trans-1	,2-DCE	Vinyl Chloride		1,1-DCE		
Sample	Depth	Sample	Total	SPLP	Total	SPLP	Total	SPLP	Total	SPLP	Total	SPLP	Total	SPLP
Location	(ft-bgs)	Date	(mg/kg)	(mg/L)	(mg/kg)	(mg/L)	(mg/kg)	(mg/L)	(mg/kg)	(mg/L)	(mg/kg)	(mg/L)	(mg/kg)	(µg/L)
Ν	Ion-Reside	ential RRS	N/A	0.098	N/A	0.0052	N/A	0.204	N/A	5.200	N/A	0.0033	N/A	0.520
SB-32-2	2	07/06/15	2.7	0.0053	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SB-32-10	10	07/06/15	2.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SB-33-2	2	07/06/15	3.7	0.049	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SB-33-10	10	07/06/15	55	0.023	0.0067	BDL	0.0053	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SB-34-2	2	07/06/15	5.3	0.0080	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SB-34-10	10	07/06/15	46	0.012	0.023	BDL	0.018	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Notes:

SPLP = Synthetic Precipitation Leaching Procedure

ft-bgs = feet below the ground surface

PCE = Tetrachloroethene

TCE = Trichloroethene

cis-1,2-DCE = cis-1,2-Dichloroethene

trans-1,2-DCE = trans-1,2-Dichloroethene

1,1-DCE = 1,1-Dichloroethene

RRS = Risk Reduction Standard

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

N/A = not applicable

BDL = Below Detection Limits



### **APPENDIX** A

### **Boring Logs and Well Construction Information**

PROJECT:	TLC Cleaners	Log of Boring No. MW-1/SB-1
SITE LOCATION:	Marietta, GA	TOP OF CASING ELEVATION (ft): 1019.47
DRILLING CONTRACTOR:	Smith Drilling	DATE STARTED: DATE FINISHED: 5/19/2014 5/19/2014
DRILLING METHOD:	Hollow Stem Auger	TOTAL DEPTH (ft.): SCREEN INTERVAL (ft.): 20 0-9.5
DRILLING EQUIPMENT:	CME 55	DEPTH TO WATER AT TIME OF BORING (ft.): ~10 CASING (ft.): 9.5-19.5
SAMPLING METHOD:	Split Spoon	BOREHOLE d WELL DIAMETER (In.): 4 VELL DIAMETER (In.): 2
LOGGED BY:	William Crowe	
SAMPLES	DESCRIPTION	WELL CONSTRUCTION
DEPTH (feet) (feet) No. No. Pooration Poto Poto Reading		DETAILS AND/OR DRILLING REMARKS
	Ground Surface Elevation (ft): Not Measured Asphalt/Gravel	
0 - - - - - - - - - - - - -	Reddish brown sandy clay	8-inch flush mounted well vault
	Striated sand (moist)	
15- \$\$ - - - 20- 0	Red clay and sand	Set 2-inch diameter, schedule 40, PVC well with 10 ft. of 0.010-inch slotted screen.
EPS		

PROJECT:		TLC Cle	aners	Lo	g of Boring No	).	S	B-2
SITE LOCATION:		Marietta, GA	7	TOP	OF CASING ELE	/ATION (ft):		N/A
DRILLING CONTRA	CTOR:	Atlas-Geo S		DATE	E STARTED:	2/17/2014	DATE FINISHED:	7/2014
DRILLING METHOD	):	Hand Auger		тот	AL DEPTH (ft.):	10	SCREEN INTERVA	AL (ft.):
					TH TO WATER AT	TIME	CASING (ft.):	N/A
SAMPLING METHO		Hand Auger			BORING (ft.): REHOLE	N/A	WELL	N/A
		Hand Auger		DIAN	METER (In.):	2	DIAMETER (In.):	N/A
LOGGED BY: SAMPLE	S	William Crov	we					
_	br		DESCRIPTION			DETA	NSTRUCTION LS AND/OR	
DEPTH (feet) Sample No. Location	Blows/ Foot PID Readir	Ground Surface E	levation (ft): Not Measu	red		DRILLIN	IG REMARKS	
0			Concrete floo	r slab				
5 - 14351-SB-2-10	19.6		Brown, red clayey sand	to sandy clay				
20- EPS								

PROJECT:			TLC Clear	ners	Lo	g of Boring No.		SI	B-3
SITE LOCATION	1:		Marietta, GA		TOF	P OF CASING ELEVATION (ft	t):		N/A
DRILLING CON	TRACTO	DR:	Atlas-Geo San	npling	DAT	E STARTED: 12/17/20	11⁄	DATE FINISHED: 12/17	/201/
DRILLING MET	HOD:		Hand Auger	1 5	тот	AL DEPTH (ft.):	10	SCREEN INTERVA	L (ft.): N/A
DRILLING EQU	PMENT					TH TO WATER AT TIME		CASING (ft.):	N/A
SAMPLING ME			Hand Auger		BOR	REHOLE		WELL	
LOGGED BY:			Hand Auger William Crowe		DIAN	METER (In.):	2	DIAMETER (In.):	N/A
SAM	PLES						00		
DEPTH (feet) Sample No. Location	Blows/ Foot	PID Reading		DESCRIPTION		DE	TAI	NSTRUCTION LS AND/OR	
	Blo	R	Ground Surface Eleva	ation (ft): Not Measu Concrete floo		DRIL	LLIN	G REMARKS	
		0.2		Brown, red clayey san	d to sandy clay				
EPS									

PROJE	ECT:				TLC CI	eaners	L	og of Boring	No.	ę	6B-4
SITE L	OCAT	ION:			Marietta, C	<b>A</b>	T	OP OF CASING E	LEVATION (ft):		N/A
DRILLI	NG C	ONTR	ACTC	R:	Atlas-Geo		DA	ATE STARTED:	12/17/2014		
DRILLI					Hand Aug		тс	OTAL DEPTH (ft.):		SCREEN INTER\	/AL (ft.):
DRILLI								EPTH TO WATER	AT TIME	CASING (ft.):	N/A
SAMPL					Hand Aug			BORING (ft.):	N/A	WELL	N/A
			OD.		Hand Aug		D	AMETER (In.):	2	DIAMETER (In.):	N/A
LOGG		Y: AMPL	.ES		William Cr	owe					
DEPTH (feet)				PID Reading		DESCRIPTION			DETA	ONSTRUCTION	
	Sam	Location	Blows/ Foot	Re	Ground Surface	Elevation (ft): Not Measu			DRILLIN	IG REMARKS	
0						Concrete floor	r slab				
-	14351-SB-4-2			2.9		Brown, red clayey sand	l to sandy cla	ау			
5—						Light grayish, brown claye clay	ey sand to sa	ndy			
	14351-SB-4-10			0.4		Brown, red clayey sand	I to sandy cla	ay			
- 15— - -											
20-											
E	P	5	1	1	II			I	1		

PROJECT:				eaners	Lc	og of Boring No.		SI	3-5
SITE LOCATION	:		Marietta, G	:Δ	TO	P OF CASING ELEVA	TION (ft):		N/A
DRILLING CONT	RACTO	DR:	Atlas-Geo		DAT	E STARTED:	/17/2014	TE FINISHED: 12/17	
DRILLING METH	OD:		Hand Auge		тот	AL DEPTH (ft.):	10 sc	REEN INTERVA	
	PMENT	:	Hand Auge			TH TO WATER AT T BORING (ft.):		SING (ft.):	N/A
SAMPLING MET	HOD:		Hand Auge		BOF	REHOLE METER (In.):	WE	LL METER (In.):	N/A
LOGGED BY:			William Cro						1 177
SAMP	LES	þ		DESCRIPTION			WELL CONS	TRUCTION	
DEPTH (feet) Sample No. Location	Blows/ Foot	PID Reading				_	DETAILS DRILLING F	AND/OR	
0 0	шш		Ground Surface	Elevation (ft): Not Measu Concrete floo					
14352-SB-5-2		2.4		Brown, red clayey san	d to sandy clay				
		478	-	Light grayish brown clay clay	ey sand to sand	ły			
14352-SB-5-10		11.5	-	Brown, red clayey san	d to sandy clay				
- 15									
20-									
EPS		1	I			<u> </u>	1		

PROJE	CT:			TLC CI	eaners	Lc	og of Boring No		S	B-6
SITE LC	DCATION:			Marietta, (	ЭA	ТО	P OF CASING ELEV	ATION (ft):		N/A
DRILLI	NG CONTF	RACTC	R:	Atlas-Geo		DAT	E STARTED:	2/17/2014	DATE FINISHED:	7/2014
DRILLI	NG METHO	DD:		Hand Aug		тот	AL DEPTH (ft.):	2	SCREEN INTERVA	L (ft.): N/A
DRILLI		MENT:		Hand Aug			PTH TO WATER AT BORING (ft.):		CASING (ft.):	N/A
SAMPL	ING METH	IOD:		Hand Aug		BOF	REHOLE METER (In.):		WELL DIAMETER (In.):	N/A
LOGGE	ED BY:			William Cr				<u> </u>		1.177
DEPTH (feet)	SAMPL		PID Reading		DESCRIPTION			DETA	DNSTRUCTION	
	Sample No. Location	Blows/ Foot	Re	Ground Surface	Elevation (ft): Not Measur			DRILLIN	IG REMARKS	
0					Concrete floor	slab				
5-					Brown, red clayey sand	to sandy clay		Refusal a	at ~2 ft.	
- - 10 -										
- - 15— -										
- - 20										
E	PS						<u> </u>			

PROJE	ECT:			TLC CI	eaners	Lc	og of Boring No.		S	B-7
SITE LO	OCATION:			Marietta, (	<b>3</b> A	ТО	P OF CASING ELEVAT	ION (ft):		N/A
DRILLI	NG CONTF	RACTC	R:	Atlas-Geo		DAT	E STARTED: 12/	17/2014	DATE FINISHED:	/2014
DRILLI	NG METHO	DD:		Hand Aug		тот	AL DEPTH (ft.):	2	SCREEN INTERVA	L (ft.): N/A
DRILLI	NG EQUIP	MENT:		Hand Aug			PTH TO WATER AT TI BORING (ft.):		CASING (ft.):	N/A
SAMPL	ING METH	IOD:		Hand Aug		BOI	REHOLE METER (In.):		WELL DIAMETER (In.):	N/A
LOGG	ED BY:			William Cr						14/7
DEPTH (feet)	SAMPL		PID Reading		DESCRIPTION			DETA	ONSTRUCTION	
	Sample No. Location	Blows/ Foot	Re	Ground Surface	Elevation (ft): Not Measur			DRILLIN	IG REMARKS	
0					Concrete floor	slab				
					Brown, red clayey sand	to sandy clay		Refusal a	at ~2 ft.	
- - 10 -										
- 15— -										
20-										
E	PS	I					1			

PROJE	CT:				TLC Clea	ners	Lc	g of Boring No	).	S	B-8
SITE LO	CATI	ON:			Marietta, GA		TOF	P OF CASING ELEV	ATION (ft):		N/A
DRILLI	NG CC	ONTR	ACTC	R:	Atlas-Geo Sa	mpling	DAT	E STARTED:	2/17/2014	DATE FINISHED:	7/2014
DRILLI	NG ME	ETHC	D:		Hand Auger		тот	AL DEPTH (ft.):	12	SCREEN INTERV	AL (ft.): N/A
DRILLI	NG EC		IENT:		Hand Auger			TH TO WATER AT BORING (ft.):		CASING (ft.):	N/A
SAMPL	ING N	1ETH	OD:		Hand Auger		BOF	REHOLE METER (In.):		WELL DIAMETER (In.):	N/A
LOGGE	ED BY	:			William Crowe	9			۷		1 1/7 1
<b>–</b>		MPL	ES	D		DESCRIPTION			WELL CO	ONSTRUCTION	
DEPTH (feet)	Sample No.	cation	Blows/ Foot	PID Reading				_	DETA	ILS AND/OR IG REMARKS	
0	ő	P	மட்		Ground Surface Elev	ation (ft): Not Meas					
	14352-SB-8-2			33.8		Brown, red clayey sa	nd to sandy clay				
	14352-SB-8-12			9.7							
F	PS	1									
		,									

PROJE	ECT:				TLC Cle	eaners	Lo	g of Boring N	lo.	SI	3-9D
SITE L	OCAT	FION:			Marietta, G	A	TOF	P OF CASING ELE	EVATION (ft):		N/A
DRILLI	NG C	ONTR	ACTC	R:	Atlas-Geo		DAT	E STARTED:	12/17/2014	DATE FINISHED:	7/2014
DRILLI	NG M	1ETHC	DD:		Hand Auge		TOT	AL DEPTH (ft.):	10	SCREEN INTERV	AL (ft.): N/A
DRILLI	NG E	QUIPI	MENT:		Hand Auge			TH TO WATER A BORING (ft.):		CASING (ft.):	N/A
SAMPL	_ING I	МЕТН	OD:		Hand Auge		BOR	REHOLE	2	WELL	N/A
LOGG	ED B'	Y:			William Cro			METER (In.):	2	DIAMETER (In.):	
<b>–</b>		AMPL	ES	0		DESCRIPTION			WELL CO	ONSTRUCTION	
DEPTH (feet)	mple	No. Location	Blows/ Foot	PID Reading				_	DETA	ILS AND/OR	
0	Sa	Ĕ	ᄪᅹ	Ľ.	Ground Surface	Elevation (ft): Not Mea Concrete fl					
- - 5 -	14352-SB-9D-5			95		Brown, red clayey sa	and to sandy clay				
- 10— - -	14352-SB-9D-12			121							
15—											
- - 20-											
E	PS	5									

PROJECT:			TLC CI	eaners	Lo	g of Boring No		SI	3-9S
SITE LOCATION	1:		Marietta, G	GA	TOF	P OF CASING ELEV	ATION (ft):		N/A
DRILLING CON	TRACTO	DR:	Atlas-Geo		DAT	E STARTED:	2/17/2014	DATE FINISHED:	7/2014
DRILLING METH	HOD:		Hand Auge		TOT	AL DEPTH (ft.):	10	SCREEN INTERV	AL (ft.): N/A
DRILLING EQUI	PMENT	:	Hand Auge			TH TO WATER AT BORING (ft.):		CASING (ft.):	N/A
SAMPLING MET	THOD:		Hand Auge		BOR	REHOLE METER (In.):		WELL DIAMETER (In.):	N/A
LOGGED BY:			William Cr		DIA		Z		
_	PLES	D		DESCRIPTION			WELL CO	ONSTRUCTION	
DEPTH (feet) Sample No. Location	Blows/ Foot	PID Reading				-	DETA	ILS AND/OR	
	효교	<u>د</u>	Ground Surface	Elevation (ft): Not Measu Concrete floo					
14352-88-95-2		4.7		Brown, red clayey san					
5									
- - 15-									
20-									
EPS									

PROJECT:		TLC Cle	eaners	Lo	g of Boring No.		SE	3-10
SITE LOCATION:		Marietta, G	A	TOP	OF CASING ELEVATION	(ft):		N/A
DRILLING CONTI	RACTOR:	Atlas-Geo		DATE	E STARTED: 12/17/2		DATE FINISHED: 12/17	/2014
DRILLING METH	OD:	Hand Auge		TOTA	AL DEPTH (ft.):	10	SCREEN INTERVA	L (ft.): N/A
DRILLING EQUIP	MENT:	Hand Auge					CASING (ft.):	N/A
SAMPLING METH	HOD:	Hand Auge		BOR	EHOLE		WELL	
LOGGED BY:		William Cr		DIAN	/ETER (In.):	2	DIAMETER (In.):	N/A
SAMP	LES						NSTRUCTION	
DEPTH (feet) Sample No. Location	Blows/ Foot Proding		DESCRIPTION		C	DETAIL	LS AND/OR G REMARKS	
C Sar ( D	Blo Poor	Ground Surface	Elevation (ft): Not Meas Concrete flo				G REMARKS	
- - - - - - - - - - - - - - - - - - -	47.3		Brown, red clayey sa	nd to sandy clay				
15								
20-								
EPS	. 1	<u> </u>						

PROJE	CT:				TLC Cleaners		Log of Boring I	No.	S	B-11
SITE LO	CAT	ION:			Marietta, GA		TOP OF CASING EL	EVATION (ft):		N/A
DRILLII	NG C	ONTR	ACTO	R:	Atlas-Geo Sampling		DATE STARTED:	12/17/2014	DATE FINISHED:	7/2014
DRILLII	NG M	ETHC	DD:		Hand Auger		OTAL DEPTH (ft.):	10	SCREEN INTERV	AL (ft.):
DRILLII	NG E	QUIPI	MENT				DEPTH TO WATER	AT TIME	CASING (ft.):	N/A
SAMPL					Hand Auger	1	DF BORING (ft.): BOREHOLE	N/A	WELL	N/A
LOGGE			00.		Hand Auger	[	DIAMETER (In.):	2	DIAMETER (In.):	N/A
		r: AMPL	ES		William Crowe					
DEPTH (feet)				PID Reading	DESCR	RIPTION		DETA	NSTRUCTION	
	Sam	Location	Blows/ Foot	Re R	Ground Surface Elevation (ft)			DRILLIN	IG REMARKS	
0						Concrete floor slab				
-	14351-SB-11-2			4.7						
5	-SB-11-10			133	Brown,	red clayey sand to sandy c	lay			
-	14351-SI									
15— - - 20— -										
E	PS	5	<u> </u>	<u> </u> _			I	I		

PROJE	CT:				TLC Cleaners	Log	g of Boring No.	SB-12
SITE LO	CATI	ON:			Marietta, GA	ТОР	OF CASING ELEVATION (ft):	N/A
DRILLI		NTR	ACTO	)R·	Atlas-Geo Sampling	DATE	E STARTED:	DATE FINISHED:
DRILLI					Hand Auger	ΤΟΤΑ	12/17/201 AL DEPTH (ft.):	SCREEN INTERVAL (ft.):
DRILLI							12 TH TO WATER AT TIME	CASING (ft.):
					Hand Auger		ORING (ft.): N/A EHOLE	WELL
SAMPL			OD:		Hand Auger	DIAN	AETER (In.): 2	DIAMETER (In.): N/A
LOGGI		: MPL	FS		William Crowe			
DEPTH (feet)				PID Reading	DESCRIPTION			ONSTRUCTION AILS AND/OR
DEF (fe	Sample No.	Locati	Blows/ Foot	Rea P	Ground Surface Elevation (ft): Not M	easured	DRILLI	NG REMARKS
0					Concre	te floor slab		
_	B-12-2							
-	14352-SB-12-2			18.3				
_	Ì							
_	2-5							
5—	14352-SB-12-5			11305				
	1436							
					Brown, red claye	ey sand to sandy clay		
_								
-								
_								
10—								
_	5							
	14352-SB-12-12							
	14352							
_								
_								
15—								
-								
_								
-								
20—								
-								
		31						
	PS	5						

PROJE	ECT:				TLC CI	eaners	L	og of Boring	No.	SI	B-13
SITE L	OCATIO	N:			Marietta, G	3A	Т	OP OF CASING E	LEVATION (ft):		N/A
DRILLI	NG CON	ITRAC	TOR	:	Atlas-Geo		DA	TE STARTED:	2/10/2015	DATE FINISHED:	)/2015
DRILLI	NG MET	HOD:			Hand Auge		тс	OTAL DEPTH (ft.):	10/2013	SCREEN INTERV	AL (ft.): N/A
DRILLI	NG EQU	IPME	NT:		Hand Auge					CASING (ft.):	N/A
SAMPL	LING ME	THOD	:		Hand Auge		BC	BORING (ft.):		WELL	
	ED BY:				William Cr		DI	AMETER (In.):	2	DIAMETER (In.):	N/A
		1PLES							WELL CO	NSTRUCTION	
DEPTH (feet)	Sample No.	Blows/		Reading		DESCRIPTION			DETA	ILS AND/OR	
	Sar		£	ž	Ground Surface	Elevation (ft): Not Measu Concrete floo				IG REMARKS	
	8			0			or slad				
-	15401-SB-13-2			0		Dark brown, red clayey s	and to sandy	clay			
	B-13-10 15401-SB-13-6			0 0 0 0 0		Dark brown sa	ndy clay				
10	15401-SB			0							
20-											
E	PS			II				1	1		

PROJECT:				TLC Cle	eaners	Lo	og of Borir	ng No.		SI	B-14
SITE LOCAT	ION:			Marietta, G	Δ	то	P OF CASING	ELEVA	TION (ft):		N/A
DRILLING C	ONTR/	асто	R:	Atlas-Geo		DAT	E STARTED	: 	10/2015	DATE FINISHED:	)/2015
DRILLING M				Hand Auge		тот	TAL DEPTH (f	<u>∠/</u> t.):	10/2015	SCREEN INTERV	AL (ft.):
DRILLING E							TH TO WAT		IMF	CASING (ft.):	N/A
SAMPLING N				Hand Auge		BO	BORING (ft.): REHOLE		N/A	WELL	N/A
LOGGED BY				Hand Auge William Cro		DIA	METER (In.):		2	DIAMETER (In.):	N/A
S	ample	S									
DEPTH (feet) Sample	ation	Blows/ Foot	PID Reading		DESCRIPTION				DETA	DNSTRUCTION	
o		Blo	Re	Ground Surface I	Elevation (ft): Not Measu				DRILLIN	IG REMARKS	
0			0		Concrete floo	r slab					
			-								
_			0								
_			7.2								
_			6.7								
5—			6.6		Dark brown clayey san	d to sandy clay	,				
_			7.4								
_			4.8								
_			3.9								
_			8.8								
10—			6.5								
10			0.0								
_											
_											
_											
15—											
_											
_											
20-											
EPS	7										
EP	>										

PROJ	ECT:				TLC Cle	eaners	Lc	og of Boring N	0.	SI	B-15
SITE L	OCAT	TION:			Marietta, G	Δ	то	P OF CASING ELE	VATION (ft):		N/A
DRILLI	NG C	ONTE	RACTO	DR:	Atlas-Geo		DAT	E STARTED:	0/40/0045	DATE FINISHED:	
DRILLI					Hand Auge		тот	AL DEPTH (ft.):	2/10/2015	SCREEN INTERV	
DRILLI								PTH TO WATER A	10 T TIME	CASING (ft.):	N/A
SAMPI				·	Hand Auge		BOI	BORING (ft.): REHOLE	N/A	WELL	N/A
			00.		Hand Auge		DIA	METER (In.):	2	DIAMETER (In.):	N/A
LOGG		Y: SAMPL	ES		William Cro						
DEPTH (feet)				PID Reading		DESCRIPTION			DETA	ONSTRUCTION	
	San	No. Location	Blows/ Foot	R. P	Ground Surface I	Elevation (ft): Not Measu			DRILLIN	NG REMARKS	
0	N			1.8		Concrete floo	or slab				
	15041-SB-15-2										
-	15041			1.8							
-				2.1							
-				1.7							
5—	3-15-6			2.9		Dark brown clayey sar	nd to sandy clay	,			
-	15041-SB-15-6			4.2							
-	-			4.1							
-				5							
_	-10			4.6							
10—	1-SB-15-10			4.9	_						
	15041-SI										
-											
-											
-											
15—											
-											
-											
-											
_											
20-											
20-											
-											
F	P		<u> </u>								
L		3									

PROJE	ECT:				TLC Cle	eaners	La	og of Boring N	0.	SI	B-16
SITE L	OCAT	TION:			Marietta, G		TOP OF CASING ELEVATION (ft): N/A				
DRILLI	NG C		ACTO	)R·	Atlas-Geo		DAT	DATE STARTED: DATE FINISHED:			
DRILLI					Hand Auge		ТОТ	TAL DEPTH (ft.):	2/10/2015	SCREEN INTERV	
DRILLI								PTH TO WATER A	10 T TIME N/A	CASING (ft.):	N/A
								BORING (ft.): REHOLE	N/A	WELL	N/A
								METER (In.):	2	DIAMETER (In.):	N/A
LOGG		Y: SAMPL	ES		William Cro	owe					
DEPTH (feet)				PID Reading		DESCRIPTION			DETA	ONSTRUCTION ILS AND/OR	
	Sam	No. Location	Blows/ Foot	Re H					DRILLI	NG REMARKS	
0	01					Concrete floo	r slab				
_	15041-SB-16-2			3							
-	15041-			2.3							
-				5.7							
-				13.9							
5—	5— 🦉			14.8 Dark brown clayey sand to s			d to sandy clay	,			
-	15041-SB-16-6			20.6							
-	1			13.1							
_				10.6							
_	10			13.7							
10—	-SB-16-10			10.1							
10	15041-SI			10.1							
-											
-											
-											
-											
15—											
-											
_											
_											
20—											
-											
E	P'	5									

PROJECT	:			TLC Cleane	rs	Log	of Boring No		SE	3-17
SITE LOCA	ATION:			Marietta, GA		TOP	TOP OF CASING ELEVATION (ft):			
DRILLING	CONTR	АСТО	R:	Atlas-Geo Sampli	ng	DATE STARTED: DATE FINISHED: 2/10/2015 2/10/2015				
DRILLING	METHC	DD:		Direct Push	5	ΤΟΤΑΙ	L DEPTH (ft.):	12 sc	REEN INTERVA	L (ft.): N/A
DRILLING	EQUIP	MENT:		AMS Powerprobe					SING (ft.):	N/A
SAMPLING METHOD:				Macrocore w/ Ace		BORE		WF	ELL	N/A
LOGGED E	BY:			William Crowe		DIAM	ETER (In.):	3.23	AMETER (In.):	IN/A
_	SAMPL	ES	D		CRIPTION			WELL CONS	TRUCTION	
DEPTH (feet) ample	No. Location	Blows/ Foot	PID Reading					DETAILS	AND/OR	
Na D		필氏	8	Ground Surface Elevation						
_					Concrete floor sl					
_			12.4							
			20.6							
			39.6							
5-										
-		6023		Dar	k brown clayey sand to	sandy clay				
								No samples	analyzed	
			4920							
_										
10—			4589							
			10756							
15—										
-										
_										
_										
20-										
EP	S									

PROJECT:		TLC CI	eaners	Log	of Boring No.		SB-18
SITE LOCATION:		Marietta, G	3A	TOP OF CASING ELEVATION (ft):			
DRILLING CONTRA	CTOR:	Atlas-Geo		DATE S	STARTED: 2/10/20	DATE FINIS	HED: 2/10/2015
DRILLING METHOD	):	Direct Pus		TOTAL	DEPTH (ft.):	SCREEN INT	ERVAL (ft.): N/A
DRILLING EQUIPMI	ENT:	AMS Powe	erprobe		I TO WATER AT TIME RING (ft.):	N/A CASING (ft.):	
SAMPLING METHO	D:		w/ Acetate Liner	BORE	HOLE	WELL 3.25 DIAMETER (	
LOGGED BY:		William Cr	owe			<b>5.20</b>	<u>,</u>
SAMPLE	<u> </u>		DESCRIPTION		WEL	L CONSTRUCTI	ON
DEPTH (feet) Sample No. Location	Foot PID Reading	One of Overface				ETAILS AND/OR	
		Ground Surface	Elevation (ft): Not Measure Concrete floor s				
15041-SB-18-2	4.2						
5-	3.9						
- 8.8.	5.8		Dark brown clayey sand t	o sandy clay			
18-10 15041-SB-18-8	29.3						
10	2.1				_		
	9.6		Light brown sa	nd			
15							
20-							
EPS		II			1 1		

PROJECT:				TLC CI	eaners	Lo	g of Bo	ring No		SI	B-19
SITE LOCATI	ON:			Marietta, (	GA	TOP OF CASING ELEVATION (ft):			N/A		
DRILLING CC	) NTR/	АСТО	R:		Sampling	DAT	E START	ED:	/10/2015	DATE FINISHED: 2/10	)/2015
DRILLING ME	THO	D:		Direct Pus		тот	AL DEPTI	– – – – – – – – – – – – – – – – – – –	12	SCREEN INTERV	AL (ft.): N/A
DRILLING EC	UIPM	IENT:		AMS Pow	erprobe		TH TO W BORING (			CASING (ft.):	N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner						BOR	EHOLE METER (Ir			WELL DIAMETER (In.):	N/A
LOGGED BY:	:			William Ci				1.).	0.20		
-	MPLE	ES	ĝ		DESCRIPTION				WELL CC	NSTRUCTION	
DEPTH (feet) Sample No.	cation	Blows/ Foot	PID Reading				-		DETAI	LS AND/OR IG REMARKS	
<u>دی</u>	2	மட்		Ground Surface	Elevation (ft): Not Measure Concrete floors						
_					Dark brown clayey sand to a gravel		th				
_			4.7		3						
_											
_			2.9								
_			2.5								
5—					Dark brown clayey sand	to sandy clay					
_			11.6								
_									No samp	les analyzed	
_			14.7								
_											
10—			14.9								
_					Light brown sa	IND					
_			7.8								
_											
45											
15—											
-											
-											
-											
20-											
_											
EPS	5										

PROJI	ECT:					eaners	Lc	og of Boring N	lo.	S	B-20
SITE L	OCA <sup>-</sup>	TION:			Marietta, C	GA SA	TOP OF CASING ELEVATION (ft): N/				
DRILLI	NG C	ONTR	RACTC	R:	Atlas-Geo		DATE STARTED: DATE FINISHED: 2/10/2015 2/10/201				
DRILLI	NG M	1ETHC	DD:		Direct Pus		тот	AL DEPTH (ft.):	12	SCREEN INTERV	AL (ft.): N/A
DRILLING EQUIPMENT: AMS Powerprobe								TH TO WATER A BORING (ft.):		CASING (ft.):	N/A
SAMPLING METHOD: Macrocore w/ Acetate							BOF	REHOLE METER (In.):		WELL DIAMETER (In.):	N/A
LOGG	ED B	Y:			William Cr	owe			0.20		
т		SAMPL	ES	Ď		DESCRIPTION			WELL CC	NSTRUCTION	
DEPTH (feet)	ample	No. Location	Blows/ Foot	PID Reading					DETAI	LS AND/OR IG REMARKS	
0	ů	2	ωш		Ground Surface	Elevation (ft): Not Measure Concrete floor s					
-	20-2			3.7							
_	15041-SB-20-2			3.9							
_	15			4.2							
-				3.6							
5—				4.7		Dark brown clayey sand					
_	15041-SB-20-6			5							
_	1504	2021									
				3.2							
	0			5.2							
	15041-SB-20-10										
10—	15041-	9.9		9.9		Light brown sa	nd				
-											
-				3.2	<u>aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa</u>						
-											
_											
15—											
-											
-											
_											
-											
20-											
-											
F	P	S									

PROJECT:				eaners	Lo	og of Boring N	<b>l</b> o.	SI	B-21
SITE LOCATION	:		Marietta, C	<u>BA</u>	TOP OF CASING ELEVATION (ft):				N/A
DRILLING CONT	RACTO	R:	Atlas-Geo		DA	TE STARTED:	2/11/2015	DATE FINISHED: 2/11	/2015
DRILLING METH	IOD:		Direct Pus		TO.	TAL DEPTH (ft.):	8	SCREEN INTERV	AL (ft.): N/A
DRILLING EQUI	PMENT:		AMS Powe	erorobe		PTH TO WATER A BORING (ft.):		CASING (ft.):	N/A
SAMPLING MET	HOD:			w/ Acetate Liner	BO	REHOLE METER (In.):		WELL DIAMETER (In.):	N/A
LOGGED BY:			William Cr	owe			0.20		
DEPTH (feet) ample No. Svation		PID Reading		DESCRIPTION				ONSTRUCTION	
DEPTH (feet) Sample No. Location	Blows/ Foot	PI	Ground Surface Elevation (ft): Not Measured					IG REMARKS	
0				Asphalt					I
5- - - - - - - - - - - - - - - - - - -	- 0 0.1 0.1 0.1 0.1 0.1 0.1 0.3 0.3 0.3 0.4		Aspnait Dark brown to brown clayey sand to s clay Light brown clayey sand to sandy c						
EPS									

PROJECT:		TLC Cle	aners	Lo	g of Boring N	0.	SE	3-22
SITE LOCATION:		Marietta, G	A	TOP OF CASING ELEVATION (ft):			N/A	
DRILLING CONTRA	CTOR:	Atlas-Geo S		DAT	E STARTED:	2/11/2015	DATE FINISHED: 2/11	/2015
DRILLING METHOD	):	Direct Push		тот	AL DEPTH (ft.):	8	SCREEN INTERVA	
DRILLING EQUIPMI	ENT:	AMS Power					CASING (ft.):	N/A
SAMPLING METHO	D:		w/ Acetate Liner	BOF	BORING (ft.): REHOLE		WELL	N/A
LOGGED BY:		William Cro		DIAI	METER (In.):	3.20	DIAMETER (In.):	IN/A
SAMPLE	S						ONSTRUCTION	
DEPTH (feet) Sample No. Location	Foot PID Reading		DESCRIPTION			DETA	ILS AND/OR	
	Mar Maria	Ground Surface Elevation (ft): Not Measured Asphalt						
	0 0 0.1 0 0.5 0.9 1.4		Dark brown clayey sand	to sandy clay				
EDC								
EPS								

PROJECT:	TLC Cleaners	Lo	g of Boring No.	SB-23
SITE LOCATION:	Marietta, GA	TOP	OF CASING ELEVATION (ft)	· N/A
DRILLING CONTRACTOR:	Atlas-Geo Sampling	DATE	E STARTED: 2/11/20	DATE FINISHED: 2/11/2015
DRILLING METHOD:	Direct Push	ΤΟΤΑ	AL DEPTH (ft.):	SCREEN INTERVAL (ft.): 8 N/A
DRILLING EQUIPMENT:	AMS Powerprobe		TH TO WATER AT TIME	CASING (ft.):
SAMPLING METHOD:	Macrocore w/ Acetate Liner	BOR	EHOLE	WELL 25 DIAMETER (In.): N/A
LOGGED BY:	William Crowe			
SAMPLES	환 DESCRIPTION		WELL	CONSTRUCTION
PIDEPTH (feet) (feet) (feet) (feet) Bample No. Location Blows/ Foot PID			DE	TAILS AND/OR LING REMARKS
	<sup>∞</sup> Ground Surface Elevation (ft): Not Measure Asphalt	ed		
	Dark brown, red clayey san	d to sandy cla	ау	
15				
EPS				
LFS				

RILLING CONTRACTOR: Attas-Geo Sampling DATE STARTED. 2/11/2015 RILLING METHOD: Direct Push TOTAL DEPTH (n): 2/11/2015 SCREEN INTERVAL (n): NIA RILLING EQUIPMENT: AMS Powerprobe OF BORING (h): NIA AMPLING METHOD: Macrocore w/ Acetate Liner BORHOLE DAMETER (n): 3,25 DAMETER (n): 3,25 DAMETER (n): 0,25 DAMETER (n):	PROJI	ECT:				TLC CI	eaners	Lc	g of Bo	oring No		SI	B-24
RILLING CONTRACTOR: Atlas-Geo Sampling DATE STARTE: 2/11/2015 DEPTH ft):: C2/11/2015 DEPTH	SITE L	OCATI	ON:			Marietta. G	iA	TOF	P OF CAS	SING ELEV	ATION (ft):		N/A
RILLING METHOD: Direct Push SCREEN INTERVAL (U) NALLING EQUIPMENT: AMS Powerprobe OF BORNO (1/2, IN ADD POWER AT TIME N/A AMPUING METHOD: Macrocore w/ Acetate Liner BORHOLE DIAMETER (In.): 3.25 DIAMETER (In.): N/A BOREHOLE DIAMETER (In.): MACROCOR DIAMETER (In.): N/A BOREHOLE DIAMETER (In.): MACROCOR DIAMETER (In.): N/A BOREHOLE	DRILLI	NG CC	ONTR	АСТС	R:			DAT	E START	TED: 2	/11/2015	DATE FINISHED: 2/11	
Instrument:       AMS Powerprobe       DEPTH TO WATER AT TIME       N/A       CARING (k):       N/A         AMPLING METHOD:       Macrocore w/ Acetate Liner       DERENDLE       DERENDLE       DERENDLE       N/A         OGGED BY:       William Crowe       William Crowe       DESCRIPTION       WELL CONSTRUCTION DETAILS AND/OR       DESCRIPTION       WELL CONSTRUCTION DETAILS AND/OR         Image: State of the sta	DRILLI	NG ME	THO	D:				тот	AL DEPT			SCREEN INTERV	AL (ft.):
AMPLING METHOD:     Macrocore w/ Acetate Liner     BOREHOLE DIAMETER (In):     3.25     Well DIAMETER (In):     N/A       COGED BY:     William Crowe       Image: Summer State Sta	DRILLI	NG EC		/ENT:				DEP OF E	TH TO V	VATER AT (ft.):	TIME	CASING (ft.):	N/A
William Crowe       William Crowe       William Crowe       Use of the state of t	SAMPI	_ING N	IETH	OD:				BOF	REHOLE			WELL	N/A
E to 0     Max     Max     Description       0     0     0     Concrete       0     0     0       5-     0     0       0     0     0       0     0     0       0     0	LOGG	ED BY	:			William Cro	owe						
0     0     0     0       5     0     0     0       5     0     0       0     0       0     0       0     0       10     0       10     0       10     0       10     0       10     0       10     0       10     0       10     0	oTH et)				D ding		DESCRIPTION						
10       0       0       0         5       0       0       0         0       0       0       0         10       0       0       0         10       0       0       0         10       0       0       0         10       0       0       0         10       0       0       0         10       0       0       0         10       0       0       0         10       0       0       0         10       0       0       0         11       0       0       0         12       0       0       0         13       0       0       0         14       0       0       0         15       0       0       0         14       0       0       0         15       0       0       0         16       0       0       0         17       0       0       0         18       0       0       0         19       0       0       0		Samp No.	Locatio	Blow: Foot	Read Read	Ground Surface		ed					
10       0       Reddish sandy clay         5       0       0         0       0       0         11       0       0         12       0       0         13       0       0         14       0       0         15       0       0         16       0       0         17	0							0.4					
5       0	-	24-2			0			-					
5       0	-	042-SB-;			0	-	Reddish sandy	clay					
5-       0.1       0.1         0       0         -       0 <td>_</td> <td>15</td> <td></td> <td></td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	_	15			0								
-       0       0         -       0       0	-	24-5			0								
-       0       0         -       0       0	5—	5042-SB-			0.1		Light brown, red clayey sar	nd to sandy cl	ay				
-       0       -         10-       -       -         -       -       -	-	4			0								
	-				0								
	_				0								
	_												
	10-												
	-												
	-												
	-												
	-												
	15—												
	-												
	-												
	-												
	-												
	20—												
FPS	_												
	F	ps			1	n							

PROJE	ECT:				TLC CI	eaners	L	og of Boring	No.	S	B-25
SITE L	OCAT	FION:			Marietta, (	<u>BA</u>	тс	P OF CASING E	LEVATION (ft):		N/A
DRILLI	NG C	ONTF	RACTO	R:	Atlas-Geo		DA	TE STARTED:	2/10/2015	DATE FINISHED:	)/2015
DRILLI	NG N	1ETHC	DD:		Direct Pus		TO	TAL DEPTH (ft.):	12	SCREEN INTERV	AL (ft.):
DRILLI	NG E	QUIPI	MENT:					PTH TO WATER		CASING (ft.):	N/A
SAMPL					AMS Pow	w/ Acetate Liner	BO	BORING (ft.): REHOLE		WELL	N/A
LOGG					William Cr		DIA	AMETER (In.):	3.25	DIAMETER (In.):	N/A
		AMPL	ES								
DEPTH (feet)	nple	No. Location	Blows/ Foot	PID Reading		DESCRIPTION			DETA	DNSTRUCTION ILS AND/OR IG REMARKS	
	Sar		평망	Å	Ground Surface	Elevation (ft): Not Measure Concrete floor sl					
	Ņ					Concrete floor s	lad				
	15041-SB-25-2			12.0		Dark red clayey sand to	sandy clay				
	15041			12.9							
-						Light brown clayey sand to	o sandy cla	y			
-				3.9		Black sand					
5—	3-25-6			4.2		Dark brown sar	nd				
-	15041-SB-25-6			7.8							
-	¥										
_				4		Light brown/tan s	and				
_											
10—				7.3							
	0			7.5							
	5041-SB-25-12					Brown sand, some s	staining				
-	15041-8		-	3.5							
-											
-											
15—											
_											
_											
_											
20-											
-											
E	P.	>									

PROJE	CT:				TLC CI	eaners	Lo	g of Boring	No.	SI	B-26
SITE LC	CAT	ION:			Marietta, C	<u>a</u>	TOP	OF CASING E	LEVATION (ft):		N/A
DRILLIN	NG C	ONTR	ACTC	R:	Atlas-Geo		DATI	E STARTED:	2/11/2015	DATE FINISHED: 2/11	/2015
DRILLIN	NG M	IETHC	DD:		Direct Pus		тот	AL DEPTH (ft.):	12	SCREEN INTERV	
DRILLIN	NG E	QUIPI	MENT	:	AMS Powe	erorobe		TH TO WATER BORING (ft.):		CASING (ft.):	N/A
SAMPL	ING	МЕТН	OD:			w/ Acetate Liner	BOR	REHOLE METER (In.):		WELL DIAMETER (In.):	N/A
LOGGE	ED B'	Y:			William Cr	owe			0.20		
I		AMPL	ES	Ď		DESCRIPTION			WELL CO	ONSTRUCTION	
DEPTH (feet)	ample	Location	Blows/ Foot	PID Reading			-l	-	DETA	ILS AND/OR IG REMARKS	
0	ű	2			Ground Surface	Elevation (ft): Not Measure Concrete floor sl					
-	15042-SB-26-2			1.1 2.1		Dark brown clayey sand to	o sandy clay				
5	15042-SB-26-6			4.7 2		Light brown clayey sand to	o sandy clay				
10	15042-SB-26-12			2.8 9.3		Light tan sand	1				
- 15- -	-										
- - 20											
E	P	5	1		L			I	I		

PROJECT:		TLC CI	eaners	Log	of Boring No.		SE	3-27
SITE LOCATION:		Marietta, G	3A	TOP O	F CASING ELEVATIO	ON (ft):		N/A
DRILLING CONTR	ACTOR:	Atlas-Geo		DATE S	STARTED: 2/11	/2015	DATE FINISHED: 2/11	/2015
DRILLING METHO	D:	Direct Pus		TOTAL	DEPTH (ft.):	12	SCREEN INTERVA	AL (ft.): N/A
	MENT:	AMS Powe	erprobe		TO WATER AT TIME RING (ft.):		CASING (ft.):	N/A
SAMPLING METH	OD:		w/ Acetate Liner	BOREH		3.25	WELL DIAMETER (In.):	N/A
LOGGED BY:		William Cro	owe			0.20		
SAMPL	p g		DESCRIPTION		W		NSTRUCTION	
DEPTH (feet) Sample No. Location	Blows/ Foot PID Reading	Cround Surface			[		LS AND/OR IG REMARKS	
0		Ground Sunace	Elevation (ft): Not Measure Concrete floor s					
1 1 1 15042-SB-27-2	1.8							
_ 5— %	3.4		Dark brown clayey sand t	o sandy clay				
15042-SB-27-6	2		Dark brown clayey sand	o sandy clay				
-	1.2							
10	2.1		Lght brown sa	nd				
15042-SB-27-12	5							
15—								
20-								
EPS								

PROJE	ECT:				TLC Cle	eaners	Lc	og of Boring N	0.	SI	B-28
SITE L	OCA	FION:			Marietta, G	εA	то	P OF CASING ELE	VATION (ft):		N/A
DRILLI	NG C	ONTF	RACTO	R:	Atlas-Geo		DAT	E STARTED:	0/11/2015	DATE FINISHED:	
DRILLI					Hand Auge		тот	TAL DEPTH (ft.):	<u>2/11/2015</u> 10	SCREEN INTERV	
DRILLI								TH TO WATER A	TTIME	CASING (ft.):	N/A
SAMPL					Hand Auge		BOI	BORING (ft.): REHOLE	N/A	WELL	N/A
LOGG					Hand Auge William Cro		DIA	METER (In.):	2	DIAMETER (In.):	N/A
		i. SAMPL	ES								
DEPTH (feet)	aldr	No. Location	ws/ ot	PID Reading		DESCRIPTION			DETA	DNSTRUCTION	
	San		Blows/ Foot		Ground Surface I	Elevation (ft): Not Measu			DRILLIN	NG REMARKS	
0	N			5.7		Concrete floo	or slab				
	15042-SB-28-2										
-	15042			16.2							
-				12.3							
_				8.3							
5—	-28-6			9.7		Dark brown clayey sar	nd to sandy clay	,			
-	15042-SB-28-6			15.2							
_	16			17.6							
_				17.1							
_	10			16.8							
10—	-SB-28-10			16.3							
10-	15042-SI			10.3							
-											
-											
-											
_											
15—											
-											
_											
-											
20—											
-											
E	P'	5									

PROJE	ECT:				TLC Cle	eaners	Lc	g of Boring N	0.	S	B-29
SITE L	OCAT	ION:			Marietta, G	A	TOF	P OF CASING ELE	VATION (ft):		N/A
DRILLI	NG C	ONTR	RACTO	R:	Atlas-Geo S		DAT	E STARTED:	2/11/2015	DATE FINISHED:	/2015
DRILLI	NG N	IETHC	DD:		Hand Auge		тот	AL DEPTH (ft.):	<u>2/11/2013</u> 10	SCREEN INTERV	AL (ft.):
DRILLI								TH TO WATER A	TTIME	CASING (ft.):	N/A
SAMPI					Hand Auge		BOF	BORING (ft.): REHOLE	N/A	WELL	N/A
LOGG			00.		Hand Auge		DIA	METER (In.):	2	DIAMETER (In.):	N/A
		AMPL	ES		William Cro						
DEPTH (feet)	aldi	tion.	ws/ t	PID Reading		DESCRIPTION			DETA	ONSTRUCTION	
	San	Location	Blows/ Foot	Re L	Ground Surface E	Elevation (ft): Not Meas			DRILLIN	IG REMARKS	
0	01					Concrete flo	or slab				
_	15042-SB-29-2			44.1							
-	15042-			30.8							
-				18.7							
-				16.2							
5—	29-6			108.9		Dark brown clayey sa	nd to sandy clay				
-	15042-SB-29-6			52.8			, , ,				
-	15			44.1							
_				17.2							
	0										
_	SB-29-10			33.7							
10—	15042-SI			53.3	_						
_											
_											
-											
15—											
_											
_											
-											
-											
20-											
-											
	P										

PROJECT:			TLC Cle	eaners	Lo	g of	Boring No.		SE	3-30
SITE LOCATION:			Marietta, G	A	TOF	P OF (	CASING ELEVA	TION (ft):		N/A
DRILLING CONTI	RACTO	DR:	Atlas-Geo		DAT	E STA	ARTED:	/7/2015	DATE FINISHED:	2015
DRILLING METH	DD:		Direct Pusl		тот	AL DE	EPTH (ft.):	8	SCREEN INTERVA	L (ft.): N/A
DRILLING EQUIP	MENT	:	AMS Powe	rprobe			O WATER AT T NG (ft.):		CASING (ft.):	N/A
SAMPLING METH	HOD:			w/ Acetate Liner	BOR	REHO			WELL DIAMETER (In.):	N/A
LOGGED BY:			William Cro					0.20		1 1/7 1
SAMP	LES	Ð		DESCRIPTION				WELL CO	ONSTRUCTION	
DEPTH (feet) Sample No. Location	Blows/ Foot	PID Reading						DETA	ILS AND/OR IG REMARKS	
<u> </u>	۵ш		Ground Surface	Elevation (ft): Not Measured Asphalt						
5- - - - - - - - - - - - - - - - - - -		0		Red sandy clay						
20-										
EPS										

PROJECT:				TLC CI	eaners	Lo	og of	Boring No.		SI	3-31
SITE LOCAT	FION:			Marietta, G	3A	TOF	P OF C	ASING ELEVA	ATION (ft):		N/A
DRILLING C	ONTRA	АСТО	R:	Atlas-Geo		DAT	E STA	RTED: 5	/7/2015	DATE FINISHED: 5/7/	2015
DRILLING N	IETHO	D:		Direct Pus	h	тот	AL DE	PTH (ft.):	8	SCREEN INTERV	AL (ft.): N/A
DRILLING E	QUIPM	ENT:		AMS Powe	erprobe			) water at <sup>-</sup> IG (ft.):		CASING (ft.):	N/A
SAMPLING	МЕТНС	DD:			w/ Acetate Liner	BOF	REHOL	E	3.25	WELL DIAMETER (In.):	N/A
LOGGED B	Y:			William Cro	owe	I		. ,			
			bu		DESCRIPTION					ONSTRUCTION	
DEPTH (feet) ample	Location	Blows/ Foot	PID Reading	Cround Surface	Elevation (ft): Not Measured					ILS AND/OR IG REMARKS	
<u>م</u>				Ground Surface	Asphalt	4					
5 - - - - - - - - - - - - - - - - - - -			0		Red sandy clay						
15											
EPS	S										

PROJE	ECT:				TLC CI	eaners	Lc	og of	Boring N	lo.	S	B-32
SITE L	OCA <sup>-</sup>	FION:			Marietta, (	ЭA	то	P OF (	CASING ELE	EVATION (ft):		N/A
DRILLI	NG C	ONTR	ACTC	R:	Atlas-Geo		DAT	E STA	ARTED:	7/6/2015	DATE FINISHED:	/2015
DRILLI	NG N	1ETHC	DD:		Direct Pus		тот	AL DE	EPTH (ft.):	12	SCREEN INTERV	AL (ft.): N/A
DRILLI	NG E	QUIPI	MENT:	:	AMS Pow	erprobe			) WATER A NG (ft.):		CASING (ft.):	N/A
SAMPL	ING	МЕТН	OD:			e w/ Acetate Liner	BOF	REHO			WELL DIAMETER (In.):	N/A
LOGG	ED B	Y:			Alex Tes	toff				0.20	<u>  _                                   </u>	
DEPTH (feet)		SAMPL		PID Reading		DESCRIPTION					NSTRUCTION	
DEF (fe	Samp	No. Location	Blows/ Foot	Rea	Ground Surface	Elevation (ft): Not Measure	d				IG REMARKS	
0						Concrete			_			
-	15787-SB-32-2			0.1		Light brown, orange sa	ndy clay					
5				0.5		Orange sandy cla	ay					
10-	15787-SB-32-10			1		Orange, brown sand	y clay		_			
_						Light brown, orange cla	yey sand		-			
- 15 -												
- 20-												
E	P	5	<u> </u>									

SAMPLING METHOD:     Macrocore w/ Acetate Liner     BOREHOLE DIAMETER (In.):       LOGGED BY:     Alex Testoff       E     SAMPLES       B     B <tr< th=""><th></th><th>SB-33</th></tr<>		SB-33
DRILLING CONTRACTOR:     Atlas-Geo Sampling     DATE STARTED:     7/6/2/       DRILLING METHOD:     Direct Push     TOTAL DEPTH 1(L):     DEPTH TO WATER AT TIME OF BORING (fL):       SAMPLING METHOD:     Macrocore w/ Acetate Liner     BOREHOLE DIAMETER (fn.):     IDIAMETER (fn.):       LOGGED BY:     Alex Testoff     Ground Surface Elevation (ft): Not Measured     WE       0     0     0     0     0       5     0     0     0     0       5     0     0     0     0       10     0     0     0     0       9.3     0.8     5.8     0     0	N (ft):	N/A
DRILLING METHOD:     Direct Push     TOTAL DEPTH (ft.):       DRILLING EQUIPMENT:     AMS Powerprobe     DEPTH TO WATER AT TIME OF BORING (ft.):       SAMPLING METHOD:     Macrocore w/ Acetate Liner     BORHOLE DIAMETER (in.):       LOGGED BY:     Alex Testoff       Total DEPTH (ft.):     Ground Surface Elevation (ft): Not Measured       Orange, light brown sandy clay with gravel       0     0	DATE FINIS	ISHED: 7/6/2015
DRILLING ECOMMENT:     AMS Powerprobe     OF BORING (ft.):       SAMPLING METHOD:     Macrocore w/ Acetate Liner     DRMETR (in.):       LOGGED BY:     Alex Testoff       Cound Surface Elevation (ft): Not Measured     We fully for a standy clay with gravel       0     0       0     0.8       5     0       0     0.8       5.8     0.8       5.8     0.8       5.8     0.7       0     0.8       5.8     0.8       5.8     0.7       0     0.8       5.8     0.8       5.8     0.8       5.8     0.8       5.8     0.8       5.8     0.8       5.8     0.8       5.8     0.8       5.8     0.8       5.8     0.8       5.8     0.8       5.8     0.8       5.8     0.8       6.7     0.8       6.7     0.8       6.7     0.8       6.7     0.8       6.7     0.8       6.7     0.8       6.8     0.8       6.7     0.8       6.7     0.8       6.7     0.8       7 <td>SCREEN IN</td> <td>INTERVAL (ft.): N/A</td>	SCREEN IN	INTERVAL (ft.): N/A
SAMPLING METHOD: Macrocore w/ Acetate Liner BOREHOLE LOGGED BY: Alex Testoff The second sec	CASING (ft.	
LOGGED BY: Alex Testoff  Alex Testoff  Alex Testoff  DESCRIPTION	3.25 WELL	
Line     Description     Weight of the second secon	0.20	
0     Concrete       0     Concrete       0     0.8       5-     0.8       5-     8.7       0     0.8       0     9.3	ELL CONSTRUCT DETAILS AND/OI	DR
0.8   5-   0.8   5.8   0.8   5.8   0.7   00 angle, light brown sandy clay with gravel     00 angle, red sandy clay     9.3     9.3	RILLING REMAR	RKS
5- 6 8.7 9.3 9.3 9.3		
5- 6 7 7 7 7 7 7 7 7 7 7 7 7 7		
5 6 7 7 7 7 7 7 7 7 7 7 7 7 7		
Image: 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10		
Image: 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10		
20-		
EPS		

PROJE	CT:				TLC CI	eaners	Lo	g of	Boring No.		SE	3-34
SITE LO	OCAT	FION:			Marietta, C	<u>BA</u>	TOF	P OF (	CASING ELEVA	TION (ft):		N/A
DRILLI	NG C	ONTR	ACTO	DR:	Atlas-Geo		DAT	E STA	ARTED:	/6/2015	DATE FINISHED: 7/6/	2015
DRILLI	NG N	IETHC	D:		Direct Pus		тот	al de	EPTH (ft.):	10/2010	SCREEN INTERVA	AL (ft.): N/A
DRILLI	NG E	QUIP	MENT	:	AMS Powe	erprobe			O WATER AT T NG (ft.):		CASING (ft.):	N/A
SAMPL	ING	МЕТН	OD:			w/ Acetate Liner	BOF	REHO			WELL DIAMETER (In.):	N/A
LOGG	ED B'	Y:			Alex Test				K (III.).	0.20		11/71
<b>–</b>		AMPL	ES	5		DESCRIPTION				WELL CO	NSTRUCTION	
DEPTH (feet)	ample	No. Location	Blows/ Foot	PID Reading						DETA	ILS AND/OR IG REMARKS	
0	ŝ	2	ШЩ		Ground Surface	Elevation (ft): Not Measure Concrete	ed					
- - 5	15787-SB-34-2			1		Orange, light brown sa	andy clay					
	B-34-10			57.2		Orange sandy o	slay					
10	15787-S								-			
15— - -												
- 20 -												
E	P	5										

PROJECT: TLC Clea				eaners	Lo	g of Boring No	).	PZ-1		
SITE LOCATION	1:		Marietta, C	GA	TOF	P OF CASING ELEV	ATION (ft):	1021.07		
DRILLING CONT	TRACTO	DR:	Atlas-Geo		DATE STARTED:		5/7/2015	DATE FINISHED: 5/7/2015		
DRILLING METH	HOD:		Direct Pus		TOTAL DEPTH (ft.):		20	SCREEN INTERVAL (ft.):		
DRILLING EQUIPMENT: AMS PC			AMS Powe	erprobe	DEPTH TO WATER AT TIME OF BORING (ft.): ~5		CASING (ft.): 10-20			
SAMPLING METHOD:			AMS Powerprobe Macrocore w/ Acetate Liner			BOREHOLE     WELL       DIAMETER (In.):     3.25				
LOGGED BY:			William Cr			METER (III.).	0.20			
SAMF							WELLCO	ONSTRUCTION		
DEPTH (feet) Sample No. Location	Blows/ Foot	PID Reading		DESCRIPTION			DETA	ILS AND/OR		
	필망	2	Ground Surface Elevation (ft): Not Measured Asphalt							
-		0		Brown/light brown clayey sa	nd to sandy c	lay	5-inch di well vaul	ameter flush-mounted t		
5		0		Moist/wet brown clayey sar	nd to sandy cl	ay	Bentonite	9		
- - 10 -		0		Wet brown/gray clayey san	nd to sandy cla	ay				
15-		0		Wet gray clayey	sand	ay	Filter Sa	nd		
20-		0		Wet grayish brown cla	ayey sand					
EPS										

PROJE	CT:			TLC CI	eaners	Log	of Boring No	)_	PZ-2	
SITE LOCATION: Marietta, GA						TOP	TOP OF CASING ELEVATION (ft): 1016.3			
		TRACTO	DR:			DATE	DATE STARTED: DATE FINISHED: 5/7/2015 5/7/2015			
DRILLING CONTRACTOR: Atlas-Geo Sampling DRILLING METHOD: Direct Push						ΤΟΤΑ	TOTAL DEPTH (ft.): SCREEN INTERVAL (ft.)			
DRILLIN	IG EQUI	PMENT	:				H TO WATER AT		0-10 CASING (ft.): 10-20	
AIVIS F UW					w/ Acetate Liner	BORE	DRING (ft.): HOLE		WELL DIAMETER (In.): 1	
LOGGE	D BY:			William Cr			ETER (In.):	0.20		
<b>-</b>	SAM	_	5		DESCRIPTION			WELL CO	DNSTRUCTION	
DEPTH (feet)	Sample No. Location	Blows/ Foot	PID Reading					DETA	ILS AND/OR IG REMARKS	
0	<u>د</u> «	ШШ		Ground Surface	Elevation (ft): Not Measure Asphalt	bd				
-			0		Brown, red sandy	/ clay	8633643368	5-inch dia well vauh	ameter flush-mounted t	
5			0		Gray, moist/wet san	idy clay		Bentonite	9	
			0		Gray, wet clayey	sand				
- - 15-			0		Wet, gray/brown clay	vey sand		Filter Sa	nd	
			0		No recovery	,				
E	PS									

PROJECT: TLC Cleaners					Log	Log of Boring No. PZ-3			
						TOP OF CASING ELEVATION (ft): 1015.77			
Manella, GA						DATE STARTED: DATE FINISHED:			
						DEPTH (ft.):	5/7/2015	SCREEN INTERVAL (ft.):	
DRILLING METHOD: Direct Push						TO WATER A	20 T TIME	0-10 CASING (ft.):	
DRILLING EQUIPMENT: AMS Powe				•		RING (ft.):	~7	10-20	
SAMPLING METHOD: Macrocore V			Macrocore	w/ Acetate Liner		TER (In.):	3.25	DIAMETER (In.): 1	
LOGGED BY:			William Cr	owe					
SAMP	_	D ding		DESCRIPTION				DNSTRUCTION	
DEPTH (feet) Sample No. Location	Blows/ Foot	PID Reading	Ground Surface Elevation (ft): Not Measured			DRILLING REMARKS			
0				Asphalt				ameter flush-mounted	
							well vaul	t	
-		0		Brown, red sand	y clay		Grout		
			-						
5—									
_	-	0		Moist brown, red sa	andy clay	Bentonite			
			-						
_									
10—		0							
				Wet brown claye	y sand				
		0					Filter Sa	nd	
15—									
		0		Wet brown claye	y sand				
20-									
-									
EPS			I			I			



## **APPENDIX B**

## **Non-Hazardous Waste Manifests**

	Waste	azardous Manifest Ā <i>EP 1508-</i> 2	FOR OFFICE USE ONLY Customer Acct. No Ticket No. 12208 Manifest No: _EP	-
	Gener			
Name IPTV-B-C14, LLC Address 8401 North Central Exp Dallas, TX 75225 Phone No 972-982-8640 Dev			I cationNew Market Center well Road, Marietta, GA 30068	
470EA Waste Code Waste De		$\frac{\text{Quantity}}{500}$	<u>Units</u>	Codes T – Tons Y – Yard D – Drum B – Bag C – Carton O – Other
applicable state law. That each waste ha to applicable regulations. Should this de Justin Vickery as Agent to IPT Authorized Agents name	stination change, I will im IV-B-C14, LLC Print	mediately notify Eagle Poin	n is in proper condition for transport n Landfill. his I done at It. <u>IIIV-B-</u>	
Fransporters' Name <u>BLD Paul</u> Address // <u>00 West Memory</u> DALAS, CA-	<u>Par Couminers</u> Viejal Derive 30132	Telephone_ Driver's Na <u>Vehicle</u> Na or site listed above and	<b>Eagle Point</b> 990 Oth Factor Ball Gorand, GA Woldhamster: 1 Dicted # Ei 1	i Rosof 36107 DAD.KE
IDIS NOW	iver's Signature	Delivery Date	Dele Infan 17-5a: 3015 - 9:	226438 33 <i>4</i> 74
Inis New	iver's Signature		Onie Mcan. 1754: 2015 3: 1754: 2015 9: 1754: 2015 9: Cushanas: 20100	33 apri Sylprin B
Slipment date Dr	iver's Signature Dispo	Delivery Date	Date Indian 17 Seps 2015 (g. 17 Sep 2015 (g. Cushaner: An Log Starf Contract: NEW 7 Grosp Weight ( Tane Weight (g. Det Weight (g. Det Weight (g.	13 arn Sylann P ENV/ NEW PLAS
Shipment date Dr Dr Site Name: <u>Eagle Point Landfill</u> Address <u>8880 Old Federal Rd</u>	s been accopted and that in Print	Delivery Date sal Facility Telephone Permit Ne Time: formation presented of Date Signate	Date Inflam 17-Says 2015 (s. 17-Says 2015 (s. Cushanes: Orlog SPUR Contract: NEW f Cassa Wengha ( Tage Wengha (s.	13 491 2000 ENY/ NEW PLAC [4020ET / AEP ] 3,550.00 b, 2,700.00 b, 1,200.00 b,

e ~

:			Γ	FOR OFFICE USE O	NLY
• •				Customer Acct. No	NER
	N	on Hazardous		Ticket No. 122	701089
	W	aste Manifest			the contraction of the contracti
	PROFIL	ETTAEP150	182	Manifest No: EP	
		Generator			
				I ntionNew Market C	enter
NameIPTV-B-C14, LLC Address 8401 North Centra			erating Loca	ell Road, Marietta, GA	30068
Address 8401 Notar Centre Dallas, TX 75225					
Phone No. 972-982-8640	Dewayne Bailey				
<u>470E &amp;</u> Waste Code Was	te Description	Q	antity	Units	Codes T Tons
Excavate	soil containing low le	vel PCE	/	<u>T</u>	Y - Yard
		<u> </u>	nt	)	D - Drum B - Bag
			12		C - Carton
I hereby certify under the penalty	and the second		<del>د شمسی</del> فین <del>د. نم</del> وی		O - Other
applicable state law. That each w to applicable regulations. Should Justin Vickery as Agent	aste has been properly dei this destination change, I	cribed classified and p	ackagen ano	Landfill.	11-8-014,44C
Authorized Agents name	Print	Dale //	Signature		
		1 and a management of the second s		]	
$\frac{DA2LAS}{C}$ (hereby certify that the above mate below. $\frac{Q-18-16}{C}$ Shipment date				2600 CU	Point Landfill d Federal Post and, 66 30147
				Menjin Triva	nasiet: KHILKE S/EI ILZIGBI
		Disposal Facilit	<b>y</b> 1996	Caste. I	A. 1941
Site Name: Eagle Point Landfi	11	Tel	ephone	16-540 18-540	: <b>M</b> 113
Address 8880 Old Federal	Rd.	Pei	mit No.	Cuetta	44- ULLOO)
Ball Ground, Ga.	30107	. Ťĭn	ne:		SOUR ENV/ NEW MAP
)				그는 그는 이 집중 것은 것 같아요.	(1: NEW MARKET / ALS)
I hereby certify that the above mat	erial has been accepted an	d that information pros	iented on		Wekph 50, 201.00 h Kekph 32, 491.00 h
Authorized Agents name	Print	$\frac{11}{\text{Date}}$	Signature	<b>Rel 1</b> 8	enyi 25,500.00 k
LEATING TERMIN ONLY				Ref: Statist	10.972 e: BLD20
WHITE COPY-DISPOSAL	FACILITY YELLO	W COPY-TRANSI	ORTER		
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