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**Subject: 1395 MacArthur Boulevard, San Leandro, California  
Corrective Action Plan**

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Mr. Sayed Hussain, agent for  
ESC PARTNERS, L. P. and  
Mr. William Matthew Brooks  
4725 Thornton Avenue  
Fremont, CA, 94536

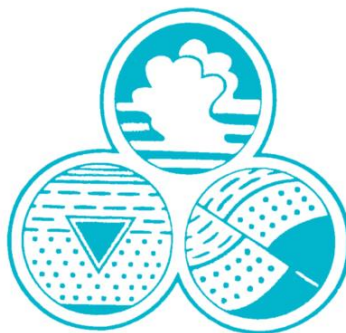
**Corrective Action Plan  
SWISS VALLEY CLEANERS  
1395 MacArthur Boulevard, San Leandro, California**

16 October 2015  
AGE-Project No. 12 - 2461

*PREPARED FOR:*

Mr. William Matthew Brooks  
ARDENBROOK

*PREPARED BY:*



***Advanced GeoEnvironmental, Inc.***

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***Environmental • Industrial Hygiene • Geotechnical • Contracting***

***(800) 511-9300***

***www.advgeoenv.com***

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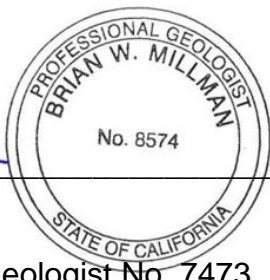
  
Daniel J. Villanueva  
Project Geologist

**PROJECT MANAGER:**

  
Daniel J. Villanueva  
Project Geologist

**REVIEWED BY:**

  
Brian W. Millman  
Senior Project Geologist  
California Professional Geologist No. 7473

The seal is circular with the text "PROFESSIONAL GEOLOGIST" at the top, "BRIAN W. MILLMAN" in the middle, "No. 8574" below the name, and "STATE OF CALIFORNIA" at the bottom.

**Corrective Action Plan  
SWISS VALLEY CLEANERS  
1395 MacArthur Boulevard, San Leandro, California**

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**Corrective Action Plan  
APACHE PLASTICS (Former)  
2050 East Fremont Street, Stockton, California**

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**Corrective Action Plan**  
**SWISS VALLEY CLEANERS**  
**1395 MacArthur Boulevard, San Leandro, California**

## **1.0. INTRODUCTION**

*Advanced GeoEnvironmental, Inc. (AGE)* has prepared this *Corrective Action Plan (CAP)* for the property located at 1395 MacArthur Boulevard, San Leandro, California (site). The purpose of this CAP is to evaluate the feasibility of several remedial action alternatives for chlorinated volatile organic compound-impacted soil/soil-vapor at the site. Included in this CAP is a site conceptual model (SCM) that: 1) identifies the type and source(s) of contamination; 2) determines the extent of the contamination; 3) identifies the dominant fate and transport characteristics and potential exposure pathways at the site; and 4) identifies potential receptors and risk associated with each contaminant. Additionally, the CAP includes a Remedial Action Work Plan (RAWP) proposing the final plan for remediation of the remaining volatile organic compound impact at the site. The location of the site is illustrated in Figure 1 and a plan of the site is illustrated in Figure 2.

This report has been prepared in accordance with directives set forth by the Alameda County Health Care Services Agency by letter dating 11 August 2015 (Appendix A).

## **2.0. BACKGROUND**

The above-referenced site is currently developed as a strip mall and is occupied by several businesses. A former dry cleaning facility occupied the property for several decades and utilized tetrachloroethene (PCE) as a dry cleaning agent. Due to poor housekeeping practices a release occurred from the past usage of PCE and has impacted the subsurface of the site. It is not currently known how or where the exact release of the chemical occurred but it has caused impact to soil and soil-vapor at the site.

The site is in an area of mixed residential and commercial use. The Alameda County Tax Assessor's Office lists the site's boundaries as Parcel 15 on Map 501 in Book 77 (APN 077-0501-015).

### **2.1. REGIONAL GEOLOGIC/HYDROGEOLOGIC SETTING**

The site is situated within the Coast Range Geomorphic Province of California. This geomorphic province contains coastal foothills and mountains and extends from the Tehachapi Mountains in the south to the Klamath Mountains in the north. The western and eastern boundaries of this province are comprised of the Pacific Ocean and the Great Valley Geomorphic Province, respectively.

The site is located in the Franciscan Complex, which is subdivided into four major divisions identified as the Northern Coast Range, the Franciscan Block, the Diablo Range, and the Nacimiento Block. The site is situated within the Franciscan Block, an assemblage of variably deformed and metamorphosed rock units. The surface is composed of Quaternary alluvium; at depth, the site is underlain by rocks of the Franciscan Complex, which are composed predominately of detrital sedimentary rocks with volcanic tuffs and deep ocean marine sediments. The Franciscan lithologies typically have low porosity and permeability.

Based upon the General Soil Map from the *Soil Survey of Alameda County, Western Part*, issued by the United States Department of Agriculture Soil Conservation Service in 1981, the site area is situated within the Urban Land-Danville complex. This complex is located on low terraces and alluvial fans at an elevation of about 20 feet to 300 feet above mean sea level (MSL), and consists of approximately 60% Urban Land, 30% Danville soil, and 10% other soils. Danville soil is a silty clay loam that formed in alluvium originating primarily from sedimentary rock; Urban land consists of areas covered by roads, parking lots, and buildings. The nearest surface water feature in the vicinity of the property is the San Leandro Creek, located approximately 700 feet to the north of the property.

## 2.2. HISTORICAL SUBSURFACE INVESTIGATIONS

The following is a summary of previous site investigations of the unauthorized release to the subsurface at the site:

- *August 1998* - A total of three soil borings (B-1 through B-3) were advanced surrounding the current location of the dry cleaning unit at the subject site by Hageman-Aguiar. Soil samples were collected at each location at depths of three and five feet below surface grade (bsg). Constituents of concern were not detected above laboratory detection limits in any of the soil samples collected during the investigation. The August 1998 investigation is summarized in the Hageman-Aguiar-prepared, *Report of Subsurface Investigation*, dated 28 August 1998.
- *April 2005* - A total of three borings (B-4 through B-6) were advanced at the site by Steller Environmental. A total of three soil samples were collected between depths of 20 and 22 inches bsg. PCE and total extractable hydrocarbons (THE) were detected in all three soil samples collected during the investigation at low concentrations. The April 2005 investigation is summarized in the Steller Environmental-prepared, *Report of Findings – Phase II Subsurface Sampling and Assessment*, dated 21 August 2005.
- *July 2008* – A total of two borings (B-7 through B-8) were advanced at the site by Steller Environmental. Boring B-9 was not completed during the investigation as

a water line was hit in its proposed location. A total of two soil samples were collected from borings B-7 and B-8 at a depth of 28 inches bsg. PCE was detected at low concentrations in one of the two borings (B-8). The July 2008 investigation is summarized in the Steller Environmental-prepared *Report of Findings – Phase II Subsurface Sampling and Assessment*, dated 22 July 2008.

- *May 2013* - A total of five borings (B9, B10 and V1 through V3) were advanced at the site by AGE for collection of soil, soil-vapor and groundwater samples. Borings for soil and groundwater sample collection were initially advanced to a depth of fifteen feet bsg for collection of three soil samples at depths of 5, 10 and 15 feet bsg; thereafter borings were advanced to a depth of 50 feet bsg for collection of grab groundwater samples. A total of three borings were advanced to five feet bsg within the subject unit for collection of soil-vapor samples. Low levels of chlorinated hydrocarbons were reported in soil and groundwater samples collected during the investigation. However, elevated soil-vapor concentrations were detected in all three soil-vapor samples collected during the investigation. A detailed summary of the May 2013 investigation is presented in the AGE-prepared, *Site Assessment Report*, dated 03 June 2013.
- *October 2013* - A total of forty borings (VP-1 through VP-40) were advanced for the collection of soil-vapor samples. Additionally, a total of eleven borings (B11 through B21) were advanced at the site for the collection of soil samples. Borings for soil-vapor sample collection were advanced to a total depth of three or five feet bsg, while borings for soil sample collection were advanced to ten or fifteen feet bsg. Based on results from the investigation, AGE concluded that significant soil-vapor impact exists at the subject site and was most concentrated in the rear of the former building layout. Additionally, PCE impact to soil was generally found at low levels at depths between five and fifteen feet bsg. A detailed summary of the results from the October 2013 investigation was presented in the AGE-prepared, *Site Assessment Report*, dated 10 December 2013.
- *April and May 2014* –Passive integrated air samples were collected from inside the suites of 1377, 1383 and 1395 MacArthur Boulevard; an ambient air sampling container was deployed outside of the 1395 MacArthur Boulevard suite, but was found to be stolen upon arrival after the 24-hour sampling period. A second sampling event was conducted on 08 May 20 2014, inside the suites of 1369, 1377, 1383 and 1395 MacArthur Boulevard. Additionally, during the sampling event an ambient air sampling container was deployed and locked up outside of the 1395 MacArthur Boulevard suite. PCE was detected in all samples collected during the sampling events, including the ambient air sample; several other constituents of concern were also detected in all of the indoor air samples collected during the April and May 2014 sampling events. A detailed summary of the results from the indoor air sampling events were summarized in the AGE-prepared, *Indoor Air Sampling – Second Quarter 2014*, dated 01 July 2014.



- *April and May 2014* – A total of twelve borings were advanced for the collection of soil-vapor samples (VP-41 through VP-51) at depths of five feet bsg. Additionally, a total of twenty-three soil borings (B23 through B45) were advanced for the collection of soil samples from 0.5 to 5.0 feet bsg. PCE was detected in all soil-vapor samples collected during the May 2014 assessment. PCE was detected at generally low concentrations in selected soil samples collected during the investigation. Detailed analytical results from the investigation were summarized in the AGE-prepared, *Site Assessment Report*, dated 14 July 2014.
- *August 2014* – A total of four pilot borings (VW-1 through VW-4) were advanced to depths of 7 feet bsg for installation of one SVE well and three observation wells; soil samples were not collected during drilling. Wells VW-1 through VW-4 were single completed as two-inch diameter wells screened between 2 feet and 7 feet bsg. A detailed summary and borings logs were presented in the AGE-prepared, *Soil Vapor Extraction Pilot Test Report & Interim Remedial Action Work Plan*, dated 01 October 2014.
- *February and March 2015* – A total of eighteen (18) borings (B46 through B63) were advanced in the Rite-Aid facility, the parking lot of the St. James Lutheran Church property, within the former Jazzercise unit and in areas surrounding the strip mall during the February and March 2015 investigation. Soil-vapor samples were collected in all eighteen locations at depths of three or five feet bsg. PCE was detected at variable levels in all but one of the soil-vapor samples collected during the investigation.

During the investigation, soil samples were collected in thirteen of the eighteen borings at depths between 0.5 and 5 feet bsg. PCE was detected at low concentrations in only two of the soil samples collected during the investigation.

On 12 March 2015, two sub-slab vapor wells were installed in the subject suite, one was installed in the former Jazzercise suite and one was installed in the Solthea Beauty Salon suite. All sub-slab vapor wells were sampled on 23 March 2015. PCE and several other constituents were detected in the sub-slab samples collected during the March 2015 investigation.

During the March 2015 investigation, indoor air sampling was performed; passive integrated air samples were collected from inside the suites of 1383 and 1395 MacArthur Boulevard. PCE and several other constituents were detected in both of the indoor air samples collected during the investigation.

A detailed summary of procedures and analytical results was included in the AGE-prepared, *Site Assessment Report*, dated 19 May 2015.

Soil, soil-vapor and grab groundwater sampling locations are illustrated in Figures 2 and 3. Soil-vapor analytical data is summarized in Table 1; historical soil analytical data

is summarized in Table 2; grab groundwater sampling data is summarized in Table 3; and Indoor air and sub-slab sampling data is summarized in Tables 4 and 5, respectively.

### **3.0. ADJACENT SITE INVESTIGATION**

Haber Oil Product, a former Leaking Underground Storage Tank (LUST) site was located southeast of the site, across Joaquin Avenue and Grand Avenue at 1401 Grand Avenue. Haber Oil Product is listed in the State Geotracker database as Haber Oil Product; the site is an active fueling station and was closed in May 2015 under the recently adopted Low Threat UST Case Closure Policy. Prior to closure the current underground storage tank system and dispensers were upgraded in May 1997. Hydrocarbon impact resulting from the previously installed system has been fully characterized and all site wells were destroyed in 2015.

A detailed summary of site investigations can be found in the state Geotracker database located at <http://geotracker.waterboards.ca.gov/>.

### **4.0. SOIL PROPERTIES / HYDROSTRATIGRAPHY**

Based on vertical soil profiles in soil-boring logs acquired during site assessment, the site is predominantly composed of fine grained silt/silty sand varieties from near surface to a depth of fifteen feet bsg. Intermittent layers of clay also exist at the site but the site is generally dominated by silts. Underneath the concrete slab floors within the suites, fill material consisting of gravely silt and sand mixtures is generally encountered from near surface to a depth of three to five feet, depending on the location.

Based on historical measurements collected from the adjacent Haber Oil site depth to water in the area has generally been between 33 and 42 feet bsg. To date, permeability and porosity characteristics have not been tested in soil samples at the site.

Boring logs documenting observations from site assessment activities are included in Appendix B.

### **5.0. CONSTITUENT IMPACT AND DISTRIBUTION IN SOIL-VAPOR**

To date a total of 83 soil-vapor samples have been collected at, and surrounding, the subject suite at depths of three and five feet bsg. PCE, the main constituent of concern, has been detected in 79 of the 83 soil-vapor samples at concentrations ranging between 170 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ; B51-vapor) and 400,000  $\mu\text{g}/\text{m}^3$  (VP-24). PCE daughter products have been detected in only three of the 83 soil-vapor samples (Table 1).

In general, the soil-vapor plume is most concentrated in the rear of the former dry cleaning building footprint near borings VP-21, VP-22, VP-24, VP-25, VP-27 and VP-28 (Figure 4). The soil-vapor plume radiates in all directions surrounding the core area, but appears to have migrated primarily north and north-northwest towards the adjacent three suites based on elevated concentrations detected in that area. The plume is defined in all directions to concentrations below commercial environmental screening levels ( $2,100 \mu\text{g}/\text{m}^3$ ). However, additional investigation is still required west of the St. James Lutheran Church, due to soil-vapor concentrations detected above residential screening levels on the property ( $210 \mu\text{g}/\text{m}^3$ ).

Soil-vapor analytical data is summarized in Table 1. The lateral extent of soil-vapor impact at the site is illustrated in Figure 4.

## **6.0. CONSTITUENT IMPACT AND DISTRIBUTION IN SOIL**

Between August 1998 and March 2015 a total of 168 soil samples have been collected at, and surrounding, the subject site (Table 2). Based on soil samples collected to date, the site appears to be primarily impacted by chlorinated hydrocarbon PCE. Based on soil samples, adsorbed PCE impact is most concentrated at depths between 1.5 to 5 feet bsg; adsorbed PCE concentrations generally attenuate vertically beyond 5 feet bsg.

PCE is defined in all directions from the suspected release at the site and is generally limited to soils below the subject suite and the three adjacent suites (Figures 5 through 7). Adsorbed PCE concentrations reported during the investigation are below residential and commercial ESLs. However, adsorbed PCE impact at the site appears to be generating elevated soil-vapor concentrations in shallow vadose zone soils beneath the subject site and within the building structure.

Historical soil analytical data is detailed in Table 2. The lateral extent of adsorbed PCE from 1.5 to 2.0, 2.5 to 3.0 and 4.5 to 5.0 feet bsg are illustrated in Figures 5 through 7, respectively.

## **7.0. CONSTITUENT DISTRIBUTION & IMPACT TO GROUNDWATER**

To date groundwater monitoring wells have not been installed at the subject site and a groundwater monitoring program has not been established. However, based on grab groundwater samples collected at the site and historical groundwater analytical data from the Haber Oil site (Appendix C), very low concentrations of PCE have been detected in groundwater (Table 3).

In May 2013, grab groundwater samples were collected from borings B9 and B10 advanced in the front and back of the current building layout at 1395 MacArthur

Boulevard. PCE was detected at a concentration of 7.6 µg/l in B9, and at a concentration of 2.7 µg/l in B10. Dissolved PCE detected in boring B9 was just above the established ESL of 5.0 µg/l. Based on data obtained from the Harbor Oil site, PCE was not detected above a laboratory detection limit of 1.0 µg/l during the final groundwater sampling event performed at the site in November 2012 in any of the wells sampled. Additionally, PCE had not been detected at the Harbor Oil site above the established ESL since 2006.

Additional assessment of groundwater does not appear to be warranted based on low levels of PCE detected in groundwater at and around the site. Grab groundwater analytical data and historical data from the adjacent Haber Oil site is included in Appendix C.

Based on historical data collected from monitoring wells previously installed at the Haber Oil Product site, groundwater in the area predominantly flows toward the northwest at generally weak gradients. The most recent map illustrating groundwater flow direction, gradient and historical flow at the site has been included in Appendix C.

## **8.0. CONSTITUENT IMPACT AND DISTRIBUTION IN SUB-SLAB VAPOR**

A total of two sub-slab vapor wells are installed within the subject suite (SS-3 and SS-4). Additionally, one sub-slab well is installed within the rear of the Solthea Beauty Salon suite (SS-2) and in the rear of the former Jazzercise suite (SS-1). On 23 March 2015, all sub-slab wells were sampled to evaluate chlorinated hydrocarbon impact.

In addition to PCE, several constituents of concern were detected in all four sub-slab samples collected during the investigation. Based on samples collected during the initial sub-slab sampling event, PCE concentrations are highest within the subject suite and decrease in concentration away from the source. Additionally, based on the results, significant attenuation occurs between PCE concentrations detected in soil-vapor at five feet bsg and PCE concentrations detected in sub-slab vapor samples (i.e. 400,000 µg/m<sup>3</sup> in VP-24 to 8,300 µg/m<sup>3</sup> in SS-3);

The locations of sub-slab vapor points are illustrated in Figure 2. Analytical results from sub-slab vapor sampling are summarized in 5.

## **9.0. CONSTITUENT IMPACT AND DISTRIBUTION IN INDOOR AIR**

During the site investigation a total of three sets of indoor air quality samples have been collected in the subject suite and the adjacent Solthea Beauty Salon suite. Additionally, two sets of indoor samples have been collected in the Estudillo Plaza Optometry suite; one was collected in the former Jazzercise suite and one from ambient air.

Based on results of indoor air samples collected in April and May 2014 and in March 2015, elevated levels of constituents of concern have intruded into indoor air as a result of former dry cleaning operations at the site. Specifically, PCE was detected above commercial ESLs within the former cleaners and the two adjacent most suites. Low levels of PCE were detected in both the ambient air sample and the sample collected within the Former Jazzercise suite.

As a result of elevated impact to indoor air, additional exhaust fans have been installed in each of the three suites to increase the air exchange rates. Seasonal indoor air samples will continue to be collected at the site to evaluate vapor intrusion to indoor air.

The indoor analytical data is summarized in Table 4. A site map showing the locations of each of the suites is included as Figure 2.

#### **10.0. SENSITIVE RECEPTOR SURVEY**

To date a sensitive receptor survey has not been completed for the site. However, a sensitive receptor survey was completed by Stratus Environmental Inc. (Stratus) for the adjacent Haber Oil Product site and was presented in the, *Site Conceptual Model*, dated 25 January 2012.

The receptor survey prepared for the Haber Oil Product site concluded that potable and irrigation water is supplied to the Haber Oil Product site via municipal services and that there are no facilities that extract groundwater at or near the site. Additionally, the nearest surface water feature to the site is the San Leandro Creek, which is located approximately 650 feet to the north of the site. It is unlikely that impact resulting from the chlorinated hydrocarbon release at 1395 MacArthur Boulevard, San Leandro would impact municipal or surface water receptors.

#### **11.0. SOIL-VAPOR EXTRACTION PILOT TESTING**

On 26 August 2014, an 8-hour SVE pilot test was conducted at the site to evaluate the remedial effectiveness of the SVE technology on the residual chlorinated hydrocarbon impact at the site. Vapor well VW-1 (screened 2-7 feet) was utilized as the vapor extraction point. SVE observation wells VW-2 through VW-4 were utilized as observation points for SVE data.

The SVE pilot test was conducted by utilizing a 2<sup>1/2</sup>-horsepower, regenerative vacuum blower to extract soil-vapor from SVE well VW-1. The inlet of the SVE vacuum blower was connected to the well-head at VW-1 utilizing 2-inch diameter PVC piping through a soil vapor knock-out drum. The outlet of the SVE-vacuum blower was attached to four, 200-pound, vapor-phase activated carbon adsorption canisters located adjacent to the vacuum blower.

On 26 August 2014, the SVE pilot test was initiated at the site at 10:00 AM and continued for approximately eight hours. The pilot test was terminated at 06:00 PM following the 8-hour operational period. Utilizing the above referenced vacuum blower, an induced vacuum potential was applied at the well head of vapor well VW-1. Thereafter, the vacuum-induced pressure reduction was monitored at half-hour intervals from the extraction well VW-1 and all three observation wells, which were pre-connected with air-tight well caps and Dwyer Magnehelic vacuum gauges fitted to each observation well.

During the SVE pilot test, the soil-vapor extracted from well VW-1 was monitored at the inlet of the vacuum blower for organic vapor and for air flow rate. Organic vapor concentrations were measured utilizing a portable organic vapor meter (OVM) equipped with a photo-ionization detector (PID: Mini Rae 3000, calibrated to isobutylene). The flow rate was monitored prior to the Inlet of the unit using a flow totalizer rotometer. The organic vapor concentrations and flow rates were measured at half-hour intervals and logged on field sheets; SVE pilot test field measurements are summarized in Table 6.

During the 8-hour SVE pilot test, a total of five influent soil-vapor samples and one effluent soil-vapor sample were collected from the extracted soil-vapor flow. PCE was detected in all five influent samples at concentrations of 48,000  $\mu\text{g}/\text{m}^3$ , 43,000  $\mu\text{g}/\text{m}^3$ , 42,000  $\mu\text{g}/\text{m}^3$ , 39,000  $\mu\text{g}/\text{m}^3$  and 32,000  $\mu\text{g}/\text{m}^3$ .

Based on high influent concentrations in soil-vapor samples and the projected radius of influence (approximately 17.25 feet), AGE concluded that SVE would effectively reduce adsorbed and vapor-phase chlorinated hydrocarbon concentrations beneath the subject facility and part of the adjacent units.

Field and analytical data summarizing the pilot test performed at the site in August 2014 are included as Tables 6 and 7. A detailed summary of the pilot test was included in the AGE-prepared, *Soil Vapor Extraction Pilot Test Report & Interim Remedial Action*, dated 01 October 2014.

## **12.0 ADSORBED REMEDIATION ALTERNATIVES**

Based on soil conditions, the extent of the vadose zone soil impact, and the nature of the contaminant, AGE has evaluated soil vapor extraction, excavation and disposal of soil and natural attenuation as feasible remedial options to mitigate impacted soil in the vadose zone at the site.

### **12.1. SOIL VAPOR EXTRACTION**

Soil vapor extraction (SVE) is a well-accepted method of treatment for chlorinated hydrocarbon-impacted soil and has been used at numerous sites with an excellent rate of success. The method is most effective on volatile hydrocarbons in permeable soil.

### 12.1.1. Principles

For most SVE systems, a vacuum blower is used to enhance volatilization of hydrocarbons in the vadose (unsaturated) zone and draw the vapor into extraction wells screened within the contaminant plume. The vapor is drawn from the wells and “treated” in one of several possible treatment units (carbon canisters, internal combustion engines, catalytic oxidizers and/or thermal oxidizers as based on increasing influent concentrations). Air injection wells may be installed outside the contaminant plume to increase air flow to the extraction unit.

An internal-combustion (IC) system draws the vapor stream into a carburetor system of the internal-combustion engine and mixes the vapor with air before undergoing combustion. Exhaust gasses (oxides of carbon and hydrogen) are further broken down in a catalytic converter before being emitted to the atmosphere. These systems require supplemental fuel, such as propane or natural gas, which can become expensive as vapor concentrations decrease below levels normally required for combustion. Typically, internal combustion engines work effectively where *in-situ* hydrocarbon concentrations approach the 40,000 parts per million - volume (ppmv) required for peak performance of the engine. As concentrations decrease below 20,000 ppmv, supplemental fuel requirements become burdensome. Another disadvantage of these systems is the noise generated by the engine; however, this can be mitigated by placing the unit inside an enclosure, such as a building.

In a carbon-canister system, hydrocarbon vapor is routed through activated carbon filters where adsorption of hydrocarbons onto carbon takes place, removing the hydrocarbons from the vapor stream. This type of system works best for low concentrations of hydrocarbons, but becomes expensive when high concentrations of hydrocarbon vapors necessitate frequent canister replacement and disposal of used carbon.

Catalytic oxidation units provide another option for treating vadose-zone contamination, particularly after other extraction systems have reached their effective limits due to lowered hydrocarbon concentrations. These systems operate at temperatures of approximately 650F, requiring less supplemental fuel than either thermal oxidizers or internal combustion engines. Other requirements and limitations are similar to those for internal-combustion and thermal oxidizer systems.

Thermal oxidation systems destroy hydrocarbons by open-flame combustion. Natural gas is commonly used as supplemental fuel, heating the extracted vapor stream to a combustion temperature of approximately 1400F. Relative to internal combustion systems, these systems may be slightly more expensive to purchase and install. However, they can operate at higher air flow rates, and therefore remediate sites at a faster rate. For this system to be effective, hydrocarbon concentrations should range from 5,000 ppmv to 30,000 ppmv. Thermal oxidation systems operate at much lower noise levels than internal combustion systems.

#### 12.1.2. Required Soil Conditions

Operation of the blower in a vapor extraction system creates a partial vacuum in the subsurface, inducing air “currents” through the soil pore spaces. Soil vapors move by convection toward the area of lowered air pressure (the extraction point). The efficiency of this process is proportional to soil porosity and permeability. Qualitative information has been gained through the examination of soil samples collected at the site. Hydrocarbon impacted soil consists of silts and fill material making vapor extraction an effective remediation method at this site. The lateral stratification of soil at the site does not require depth discrete soil vapor extraction wells, which generally require additional remedial costs. Based on remedial pilot testing, and an estimated radius of influence as great as 17 feet, the current network of remediation wells would be adequate to remove the majority of the residual vadose zone soil impact at the site (Figure 8).

#### 12.1.3. Monitoring Activities

Monitoring of vapor extraction systems involves weekly measurement of vapor concentrations at the inlet to the destruction unit and periodic service and repair. Systems can be equipped with an automatic telecommunication system to alert the operator of system malfunction or failure. At a minimum, vapor samples should be collected monthly for laboratory analysis to evaluate the efficiency of the remediation program. When the concentrations of extracted vapor have decreased and stabilized after a certain period of operation, confirmation borings are drilled to collect soil and soil-vapor samples for quantitative analysis in the laboratory to document the degree of cleanup obtained.

#### 12.1.4. Feasibility

Generally, a vacuum of *at least* 0.10 inches of water is required to successfully volatilize subsurface hydrocarbons. The radius of influence is often considered to be the distance from the extraction well at which a vacuum of at least 0.1 inches of water is observed (EPA - A guide for Corrective Action Plan Reviewers). Based on the vapor extraction pilot test performed at the site in August 2014, a radius of influence of 17.25 feet has been estimated for the site. The calculated radius of influence is likely representative of conditions, which would occur during active vapor extraction if performed at the site. Based on the SVE pilot test results, soil vapor extraction appears to be a viable option to remove contaminants in the vadose zone. Performance of soil vapor extraction will also likely reduce the current vapor intrusion issues occurring at the site and surrounding suites.



#### 12.1.5. Duration

Cleanup periods for soil vapor extraction typically range from several months to several years. Based upon the plume size, pilot study removal rates, and the general lithology beneath the site it appears that a 12 to 24-month period would be required to remediate vadose zone soils.

#### 12.1.6. Estimated Cost

The costs for SVE systems vary greatly, depending upon the particular system utilized for destruction of the extracted hydrocarbon vapor (thermal destruction, carbon adsorption, etc.). Initial equipment installation cost would typically range between \$45,000.00 and \$50,000.00. The annual cost to operate, maintain, monitor, sample and report an SVE system could vary between \$40,000.00 to \$60,000.00 per year. Additionally, periodic energy costs (electricity and supplemental fuel) can range from \$14,000.00 to \$16,000.00 annually.

### 12.2. EXCAVATION

Hydrocarbon-impacted soil can be excavated and transported off-site for recycling/disposal. On-site treatment is not a feasible alternative for chlorinated hydrocarbon impacted soils. Off-site disposal generally involves the transportation of the impacted soil to a licensed treatment/disposal facility.

#### 12.2.1. Excavation

Ex-situ treatment requires excavation of the impacted soil, which is generally an effective method for soil remediation. Once excavated, the impacted soil is generally stockpiled on-site and transported off-site for disposal. Soil that is disposed of off-site requires material to be imported to backfill the excavation.

#### 12.2.2. Feasibility

Excavation of impacted soil, followed by disposal is a very effective method of remediation. Theoretically, all or at least the majority of the impacted soil is removed. However, excavation costs can be excessive if the volume of the impacted soil is significant or if the vertical extent of soil impact exceeds 20-25 feet, resulting in requirements for special equipment or shoring.

The Swiss Valley Cleaners site is currently located within a strip mall which cannot feasibly be cleared for excavation. Furthermore, a significant amount of soil would need to be removed to adequately address the residual soil mass present at the site. The mass of excavated soil would have to be hauled to a landfill, driving up the cost of remediation significantly. Other potential disadvantages would include disruption to the site, air pollution control concerns, disruption of adjacent property businesses, and backfilling and compaction costs. Based on these specified conditions, excavation appears to be an unfavorable alternative for the site.

### 12.2.3. Estimated Cost

Once excavated, impacted is transferred to an off-site disposal or recycling facility; replacement backfill material must be imported if off-site disposal is chosen. The cost for excavation, disposal and backfilling would likely be between \$60.00 and \$80.00 per cubic yard, depending upon actual hydrocarbon concentrations encountered during excavation. Based on a volumetric calculation of approximately 1,450,400 cubic yards of impacted soil at the site, the total cost to excavate impacted soil could vary from \$87,000.00 to \$116,000.00. This cost would not include the time in which tenants would be forced to be vacated from the premises, replacement of the concrete slab and remodeling of the current tenants businesses.

### 12.3. MONITORED NATURAL ATTENUATION

Monitored natural attenuation (MNA) is a useful strategy for low-risk sites with fully assessed, stable and declining concentrations of constituents of concern. MNA can be cost effective for relatively small sites with few monitoring points. However, for this site, the plume is highly concentrated and has migrated away from the site and immediate remedial action is still necessary at the site based on vapor plume concentration and lateral distribution.

## 13.0. RECOMMENDATIONS

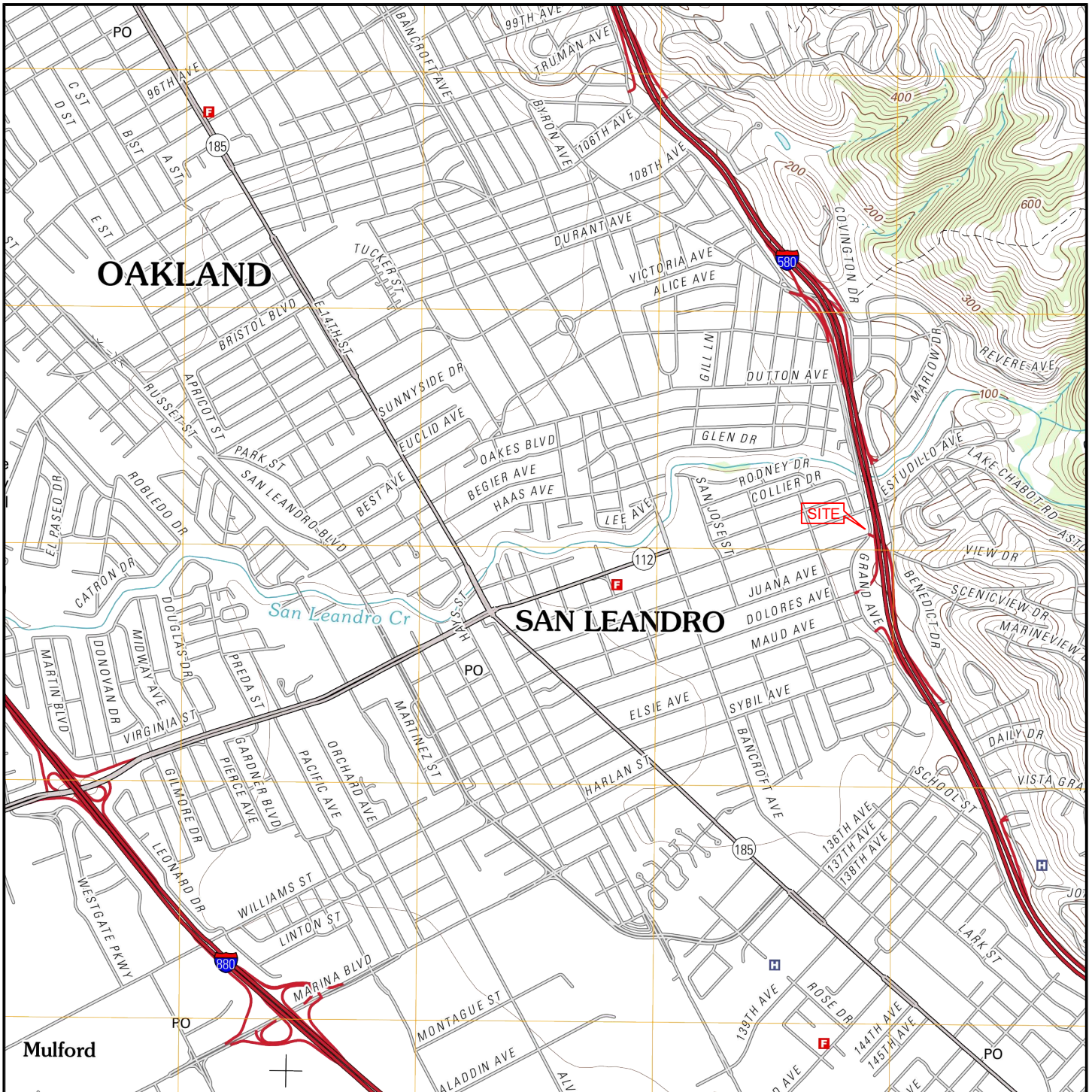
Based on the above evaluation of remedial technologies, it is AGE's opinion that the best available technology to remediate residual chlorinated hydrocarbon impact to the vadose zone soils/soil-vapor at the site is soil-vapor extraction.

For the corrective action, AGE proposes utilizing existing wells at the site and following the procedures as previously submitted in the AGE-prepared, *Site Assessment Report* (Appendix F; Remedial Action Work Plan), dated 16 May 2015 (re-included in Appendix D).

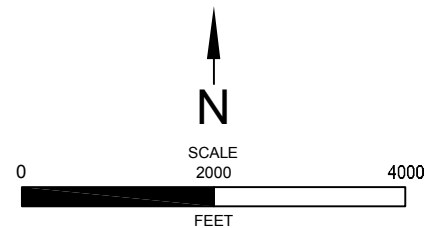
#### **14.0. LIMITATIONS**

Our professional services were performed using that degree of care and skill ordinarily exercised by environmental consultants practicing in this or similar localities. The findings were based upon analytical results provided by an independent laboratory. Evaluations of the geologic/hydrogeologic conditions at the site for the purpose of this investigation are made from a limited number of available data points (i.e. monitoring wells, soil borings, soil, soil-vapor, and groundwater samples) and subsurface conditions may vary away from these data points. No other warranty, expressed or implied, is made as to the professional recommendations contained in this report.

# FIGURES



SAN LEANDRO QUADRANGLE, CALIFORNIA  
 7.5 MINUTE SERIES (U.S. GEOLOGICAL SURVEY)



**LOCATION MAP**  
 SWISS VALLEY CLEANERS  
 1395 MacArthur Boulevard  
 SAN LEANDRO, CALIFORNIA

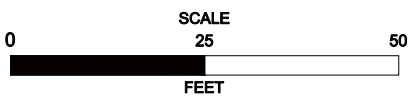


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PROJECT NO. AGE-NC-12-2461	FILE: LOCATION	FIGURE:
DATE: 21 MAY, 2013	DRAWN BY: MAC	1

**LEGEND**

- B60 SOIL BORING LOCATIONS AND DESIGNATIONS
- ⊕ VW-4 SOIL-VAPOR EXTRACTION WELL LOCATION
- ⊕ SS-1 SUB-SLAB VAPOR WELL LOCATION
- ◇ SURFACE DRAIN/SEWER CLEANOUT LOCATION
- SEWER LINE LOCATION
- WATER LINE LOCATION
- CURRENT DRY CLEANING BUILDING
- HISTORICAL DRY CLEANING BUILDING
- ◇ SURFACE DRAIN/SEWER CLEANOUT LOCATION



**REGIONAL SITE PLAN - SOIL BORING LOCATIONS**  
**SWISS VALLEY CLEANERS**  
**1395 MACARUTHER BOULEVARD**  
**SAN LEANDRO, CALIFORNIA**

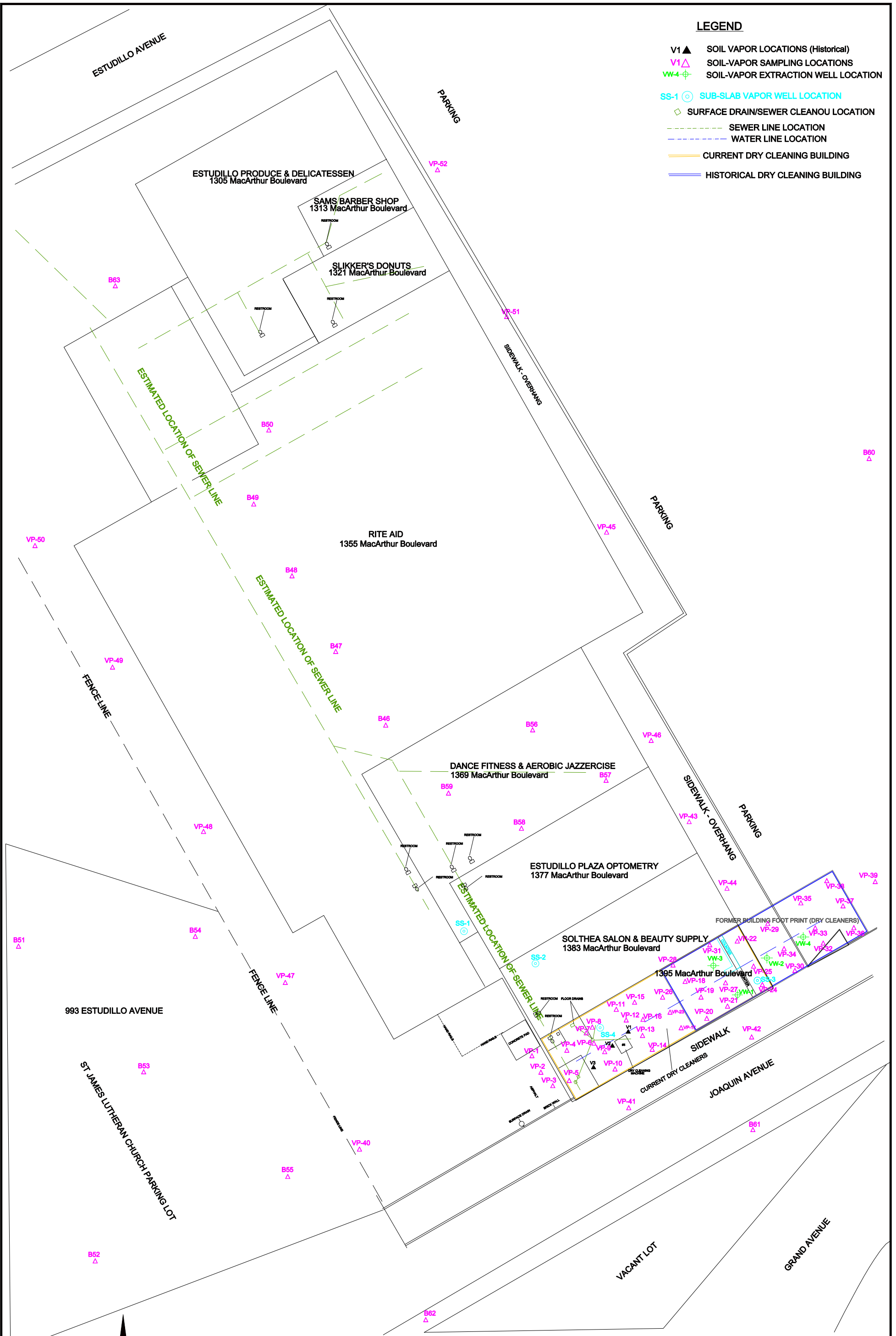


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PROJECT NO. AGE 12-2461	FILE: FILE	FIGURE:
DATE: MAY 2014	DRAWN BY: MAC	<b>2</b>

**LEGEND**

- V1 ▲ SOIL VAPOR LOCATIONS (Historical)
- V1△ SOIL-VAPOR SAMPLING LOCATIONS
- WW-4 ⊕ SOIL-VAPOR EXTRACTION WELL LOCATION
- SS-1 ⊙ SUB-SLAB VAPOR WELL LOCATION
- ◇ SURFACE DRAIN/SEWER CLEANOUT LOCATION
- - - SEWER LINE LOCATION
- - - WATER LINE LOCATION
- CURRENT DRY CLEANING BUILDING
- HISTORICAL DRY CLEANING BUILDING



ESTUDILLO PRODUCE & DELICATESSEN  
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1377 MacArthur Boulevard

SOLTHEA SALON & BEAUTY SUPPLY  
1383 MacArthur Boulevard

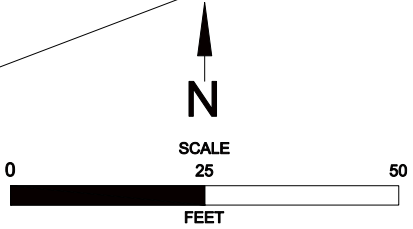
1395 MacArthur Boulevard

993 ESTUDILLO AVENUE

ST JAMES LUTHERAN CHURCH PARKING LOT

VACANT LOT

GRAND AVENUE

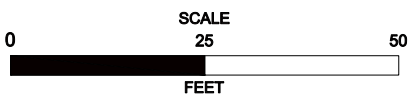
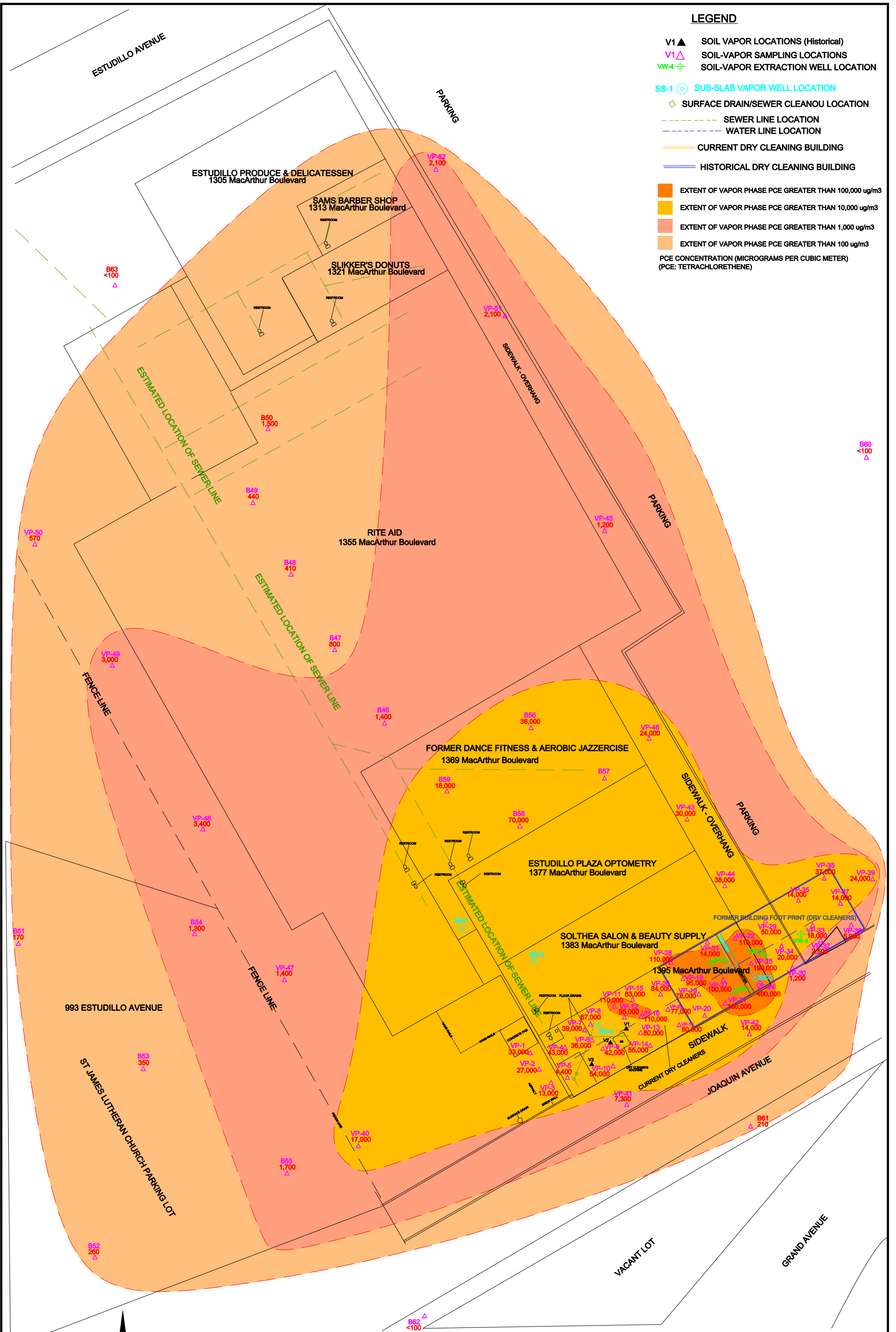


**REGIONAL SITE PLAN - VAPOR SAMPLING LOCATIONS**  
**SWISS VALLEY CLEANERS**  
**1395 MACARUTHER BOULEVARD**  
**SAN LEANDRO, CALIFORNIA**

 <b>Advanced</b> GeoEnvironmental, Inc. www.advgeoenv.com		PROJECT NO. AGE 12-2461	FILE: FILE	FIGURE:
		DATE: MAY 2014	DRAWN BY: MAC	3

**LEGEND**

- V1 ▲ SOIL VAPOR LOCATIONS (Historical)
  - V1 ▲ SOIL-VAPOR SAMPLING LOCATIONS
  - VW-4 ⊕ SOIL-VAPOR EXTRACTION WELL LOCATION
  - SS-1 ⊕ SUB-SLAB VAPOR WELL LOCATION
  - ◇ SURFACE DRAIN/SEWER CLEANOUT LOCATION
  - SEWER LINE LOCATION
  - WATER LINE LOCATION
  - CURRENT DRY CLEANING BUILDING
  - HISTORICAL DRY CLEANING BUILDING
  - EXTENT OF VAPOR PHASE PCE GREATER THAN 100,000 ug/m3
  - EXTENT OF VAPOR PHASE PCE GREATER THAN 10,000 ug/m3
  - EXTENT OF VAPOR PHASE PCE GREATER THAN 1,000 ug/m3
  - EXTENT OF VAPOR PHASE PCE GREATER THAN 100 ug/m3
- PCE CONCENTRATION (MICROGRAMS PER CUBIC METER)  
(PCE: TETRACHLOROETHENE)



LATERAL EXTENT OF PCE IN SOIL VAPOR - 5 FEET BSG  
**SWISS VALLEY CLEANERS**  
**1395 MACARUTHER BOULEVARD**  
**SAN LEANDRO, CALIFORNIA**

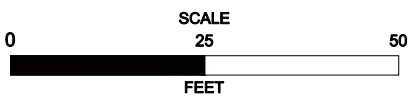
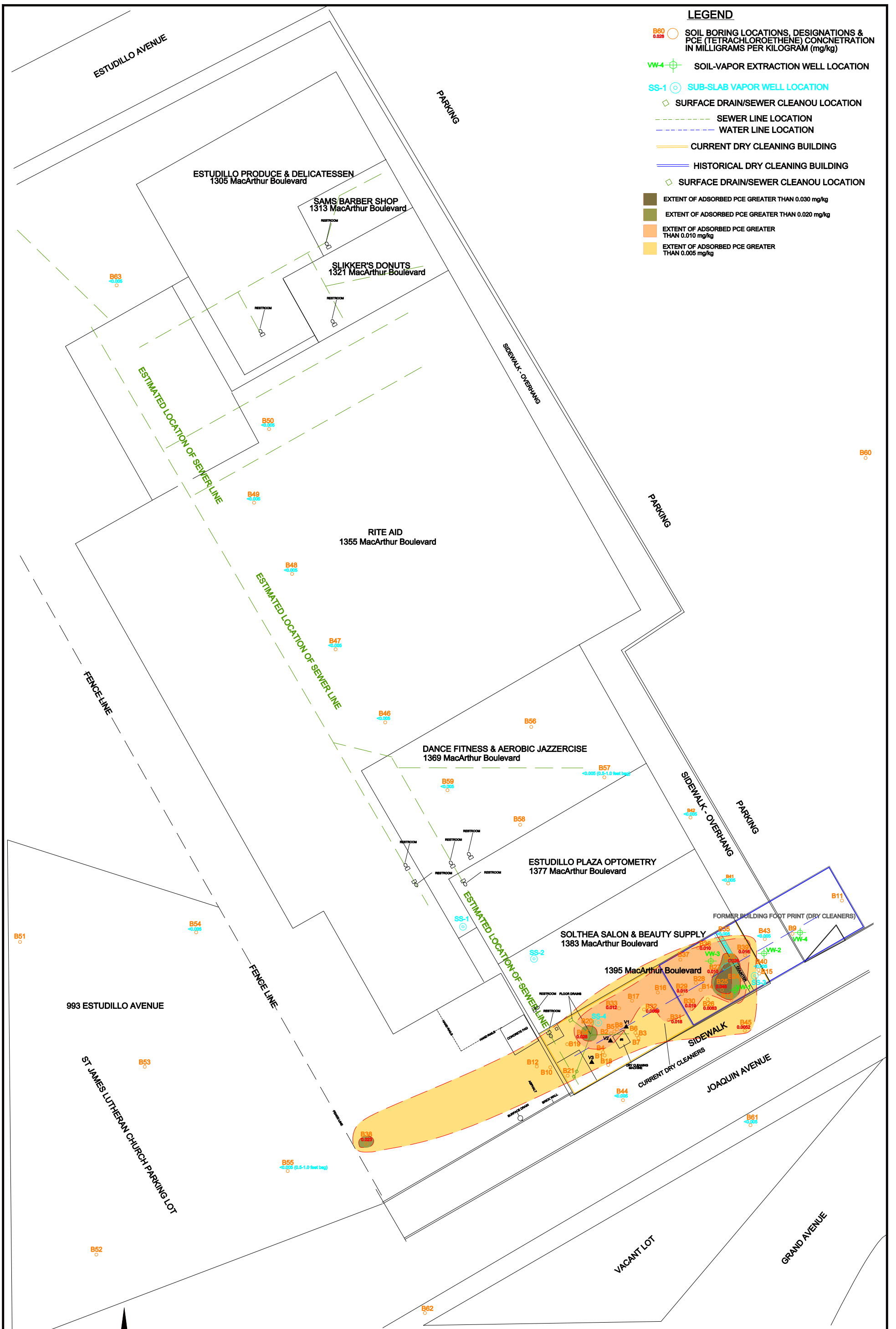
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PROJECT NO. AGE 12-2461	FILE: FILE	FIGURE:
DATE: MAY 2014	DRAWN BY: MAC	<b>4</b>



**LEGEND**

- B60 0.026 SOIL BORING LOCATIONS, DESIGNATIONS & PCE (TETRACHLOROETHENE) CONCENTRATION IN MILLIGRAMS PER KILOGRAM (mg/kg)
- ⊕ VW-4 SOIL-VAPOR EXTRACTION WELL LOCATION
- ⊕ SS-1 SUB-SLAB VAPOR WELL LOCATION
- ◇ SURFACE DRAIN/SEWER CLEANOUT LOCATION
- SEWER LINE LOCATION
- WATER LINE LOCATION
- CURRENT DRY CLEANING BUILDING
- HISTORICAL DRY CLEANING BUILDING
- ◇ SURFACE DRAIN/SEWER CLEANOUT LOCATION
- EXTENT OF ADSORBED PCE GREATER THAN 0.030 mg/kg
- EXTENT OF ADSORBED PCE GREATER THAN 0.020 mg/kg
- EXTENT OF ADSORBED PCE GREATER THAN 0.010 mg/kg
- EXTENT OF ADSORBED PCE GREATER THAN 0.005 mg/kg



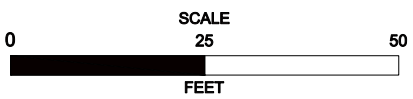
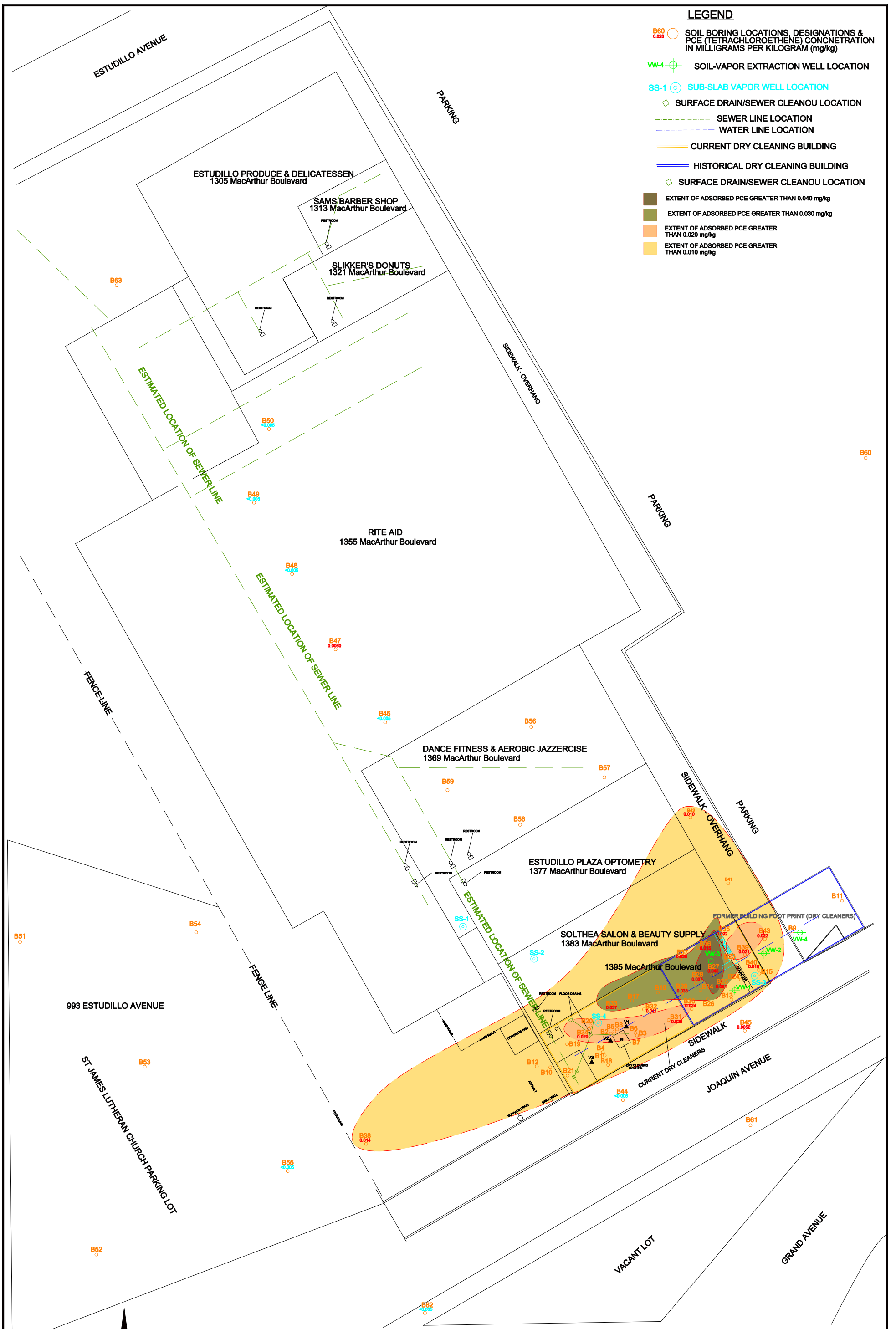
LATERAL EXTENT OF ADSORBED PCE: 1.5-2.0 FEET BSG  
**SWISS VALLEY CLEANERS**  
**1395 MACARUTHER BOULEVARD**  
**SAN LEANDRO, CALIFORNIA**

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PROJECT NO. AGE 12-2461	FILE: FILE	FIGURE:
DATE: MARCH 2015	DRAWN BY: MAC	<b>5</b>

**LEGEND**

- B60 0.026 SOIL BORING LOCATIONS, DESIGNATIONS & PCE (TETRACHLOROETHENE) CONCENTRATION IN MILLIGRAMS PER KILOGRAM (mg/kg)
- ⊕ VW-4 SOIL-VAPOR EXTRACTION WELL LOCATION
- ⊕ SS-1 SUB-SLAB VAPOR WELL LOCATION
- ◇ SURFACE DRAIN/SEWER CLEANOUT LOCATION
- SEWER LINE LOCATION
- WATER LINE LOCATION
- CURRENT DRY CLEANING BUILDING
- HISTORICAL DRY CLEANING BUILDING
- ◇ SURFACE DRAIN/SEWER CLEANOUT LOCATION
- EXTENT OF ADSORBED PCE GREATER THAN 0.040 mg/kg
- EXTENT OF ADSORBED PCE GREATER THAN 0.030 mg/kg
- EXTENT OF ADSORBED PCE GREATER THAN 0.020 mg/kg
- EXTENT OF ADSORBED PCE GREATER THAN 0.010 mg/kg



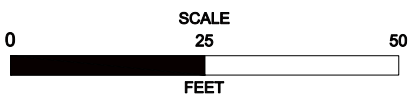
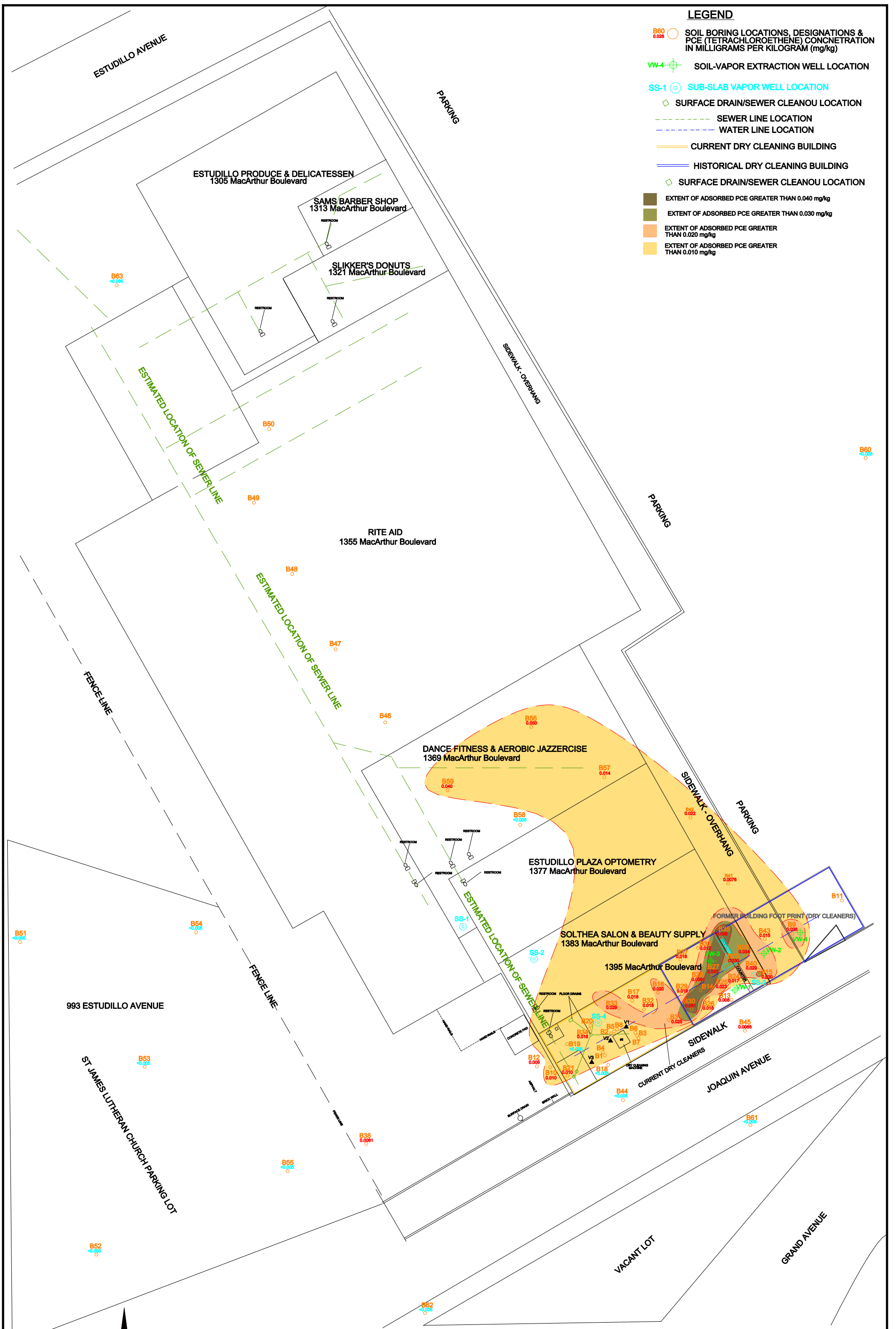
LATERAL EXTENT OF ADSORBED PCE: 2.5-3.0 FEET BSG  
**SWISS VALLEY CLEANERS**  
**1395 MACARUTHER BOULEVARD**  
**SAN LEANDRO, CALIFORNIA**

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PROJECT NO. AGE 12-2461	FILE: FILE	FIGURE:
DATE: MARCH 2015	DRAWN BY: MAC	<b>6</b>

**LEGEND**

- B60 0.026 SOIL BORING LOCATIONS, DESIGNATIONS & PCE (TETRACHLOROETHENE) CONCENTRATION IN MILLIGRAMS PER KILOGRAM (mg/kg)
- ⊕ VW-4 SOIL-VAPOR EXTRACTION WELL LOCATION
- ⊕ SS-1 SUB-SLAB VAPOR WELL LOCATION
- SURFACE DRAIN/SEWER CLEANOUT LOCATION
- SEWER LINE LOCATION
- WATER LINE LOCATION
- CURRENT DRY CLEANING BUILDING
- HISTORICAL DRY CLEANING BUILDING
- SURFACE DRAIN/SEWER CLEANOUT LOCATION
- EXTENT OF ADSORBED PCE GREATER THAN 0.040 mg/kg
- EXTENT OF ADSORBED PCE GREATER THAN 0.030 mg/kg
- EXTENT OF ADSORBED PCE GREATER THAN 0.020 mg/kg
- EXTENT OF ADSORBED PCE GREATER THAN 0.010 mg/kg



LATERAL EXTENT OF ADSORBED PCE: 4.5-5.0 FEET BSG  
**SWISS VALLEY CLEANERS**  
**1395 MACARUTHER BOULEVARD**  
**SAN LEANDRO, CALIFORNIA**

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PROJECT NO. AGE 12-2461	FILE: FILE	FIGURE:
DATE: MARCH 2015	DRAWN BY: MAC	7

**LEGEND**

- B60 ○ SOIL BORING LOCATIONS AND DESIGNATIONS
- VW-4 ⊕ SOIL-VAPOR EXTRACTION WELL LOCATION
- SS-1 ⊕ SUB-SLAB VAPOR WELL LOCATION
- ◇ SURFACE DRAIN/SEWER CLEANOUT LOCATION
- SEWER LINE LOCATION
- WATER LINE LOCATION
- CURRENT DRY CLEANING BUILDING
- HISTORICAL DRY CLEANING BUILDING
- ◇ SURFACE DRAIN/SEWER CLEANOUT LOCATION
- PROPOSED OR COMPLETED TRENCHING LOCATIONS



ESTUDILLO PRODUCE & DELICATESSEN  
1305 MacArthur Boulevard

SAMS BARBER SHOP  
1313 MacArthur Boulevard

SLIKKER'S DONUTS  
1321 MacArthur Boulevard

RITE AID  
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1383 MacArthur Boulevard

1395 MacArthur Boulevard

993 ESTUDILLO AVENUE

ST JAMES LUTHERAN CHURCH PARKING LOT

VACANT LOT


JOAQUIN AVENUE

GRAND AVENUE



SCALE  
25  
50  
FEET

**SOIL VAPOR WELLS & TRENCHING LOCATIONS**  
**SWISS VALLEY CLEANERS**  
**1395 MACARUTHER BOULEVARD**  
**SAN LEANDRO, CALIFORNIA**

 <b>Advanced GeoEnvironmental, Inc.</b> www.advgeoenv.com		
PROJECT NO. AGE 12-2461	FILE: FILE	FIGURE:
DATE: MAY 2014	DRAWN BY: MAC	8

# **TABLES**

**TABLE 1**  
**ANALYTICAL RESULTS OF SOIL-VAPOR SAMPLES**  
**Swiss Valley Cleaners**  
**1395 MacArthur Boulevard, San Leandro, California**  
**(micrograms per cubic meter)**

Sample ID	Date	Depth (feet bsg)	EPA Method 8260B							
			PCE	TCE	1,1-DCE	Trans 1,2-DCE	Cis 1,2-DCE	VC	Chloroform	
V-1	05-08-2013	5	<b>29,000</b>	<2	<2	<2	<2	<2	<2	<1
V-2	05-08-2013	5	<b>23,000</b>	<2	<2	<2	<2	<2	<2	<1
V-3	05-08-2013	5	<b>15,000</b>	<2	<2	<2	<2	<2	<2	<1
VP-1 (1 purge volume)	10-15-2013	5	<b>33,000</b>	<100	<100	<100	<100	<100	<100	<100
VP-1 (3 purge volumes)	10-15-2013	5	<b>33,000</b>	<100	<100	<100	<100	<100	<100	<100
VP-1 (10 purge volumes)	10-15-2013	5	<b>33,000</b>	<100	<100	<100	<100	<100	<100	<100
VP-2	10-15-2013	5	<b>27,000</b>	<100	<100	<100	<100	<100	<100	<100
VP-3	10-15-2013	3	<b>13,000</b>	<100	<100	<100	<100	<100	<100	<100
VP-4	10-15-2013	5	<b>43,000</b>	<100	<100	<100	<100	<100	<100	<100
VP-5	10-15-2013	5	<b>4,400</b>	<100	<100	<100	<100	<100	<100	<b>240</b>
VP-6	10-15-2013	5	<b>36,000</b>	<100	<100	<100	<100	<100	<100	<100
VP-7	10-15-2013	5	<b>39,000</b>	<100	<100	<100	<100	<100	<100	<100
VP-7 (dup)	10-15-2013	5	<b>37,000</b>	<100	<100	<100	<100	<100	<100	<100
VP-8	10-15-2013	5	<b>67,000*</b>	<100	<100	<100	<100	<100	<100	<100
VP-9	10-16-2013	5	<b>42,000</b>	<100	<100	<100	<100	<100	<100	<100
VP-10	10-16-2013	5	<b>54,000*</b>	<100	<100	<100	<100	<100	<100	<100
VP-11	10-16-2013	5	<b>110,000</b>	<100	<100	<100	<100	<100	<100	<100

**TABLE 1**  
**ANALYTICAL RESULTS OF SOIL-VAPOR SAMPLES**  
**Swiss Valley Cleaners**  
**1395 MacArthur Boulevard, San Leandro, California**  
**(micrograms per cubic meter)**

Sample ID	Date	Depth (feet bsg)	EPA Method 8260B						
			PCE	TCE	1,1-DCE	Trans 1,2-DCE	Cis 1,2-DCE	VC	Chloroform
VP-12	10-16-2013	5	<b>95,000</b>	<100	<100	<100	<100	<100	<100
VP-13	10-16-2013	5	<b>80,000</b>	<100	<100	<100	<100	<100	<100
VP-14	10-16-2013	5	<b>55,000</b>	<100	<100	<100	<100	<100	<100
VP-14 (dup)	10-16-2013	5	<b>57,000</b>	<100	<100	<100	<100	<100	<100
VP-15	10-16-2013	5	<b>83,000</b>	<100	<100	<100	<100	<100	<100
VP-16	10-16-2013	5	<b>110,000</b>	<100	<100	<100	<100	<100	<100
VP-17	10-16-2013	5	<b>80,000</b>	<100	<100	<100	<100	<100	<100
VP-18	10-16-2013	5	<b>95,000</b>	<100	<100	<100	<100	<100	<100
VP-19	10-16-2013	5	<b>76,000</b>	<100	<100	<100	<100	<100	<100
VP-20	not completed								
VP-21	10-17-2013	5	<b>100,000</b>	<100	<100	<100	<100	<100	<100
VP-22	10-17-2013	5	<b>110,000</b>	<100	<100	<100	<100	<100	<100
VP-23	10-17-2013	5	<b>77,000</b>	<100	<100	<100	<100	<100	<100
VP-24	10-17-2013	3	<b>400,000</b>	<100	<100	<100	<100	<100	<100
VP-25	10-17-2013	5	<b>190,000</b>	<100	<100	<100	<100	<100	<100
VP-26	10-17-2013	5	<b>84,000</b>	<100	<100	<100	<100	<100	<100
VP-27	10-17-2013	5	<b>100,000</b>	<100	<100	<100	<100	<100	<100

**TABLE 1**  
**ANALYTICAL RESULTS OF SOIL-VAPOR SAMPLES**  
**Swiss Valley Cleaners**  
**1395 MacArthur Boulevard, San Leandro, California**  
**(micrograms per cubic meter)**

Sample ID	Date	Depth (feet bsg)	EPA Method 8260B						
			PCE	TCE	1,1-DCE	Trans 1,2-DCE	Cis 1,2-DCE	VC	Chloroform
VP-28	10-17-2013	5	<b>110,000</b>	<100	<100	<100	<100	<100	<100
VP-29	10-17-2013	5	<b>50,000</b>	<100	<100	<100	<100	<100	<100
VP-30	10-17-2013	5	<b>1,200</b>	<100	<100	<100	<100	<100	<100
VP-31	10-18-2013	5	<b>100,000</b>	<100	<100	<100	<100	<100	<100
VP-32	10-18-2013	5	<b>2,500</b>	<100	<100	<100	<100	<100	<100
VP-32 (dup)	10-18-2013	5	<b>2,100</b>	<100	<100	<100	<100	<100	<100
VP-33	10-18-2013	5	<b>18,000</b>	<100	<100	<100	<100	<100	<100
VP-34	10-18-2013	5	<b>20,000</b>	<100	<100	<100	<100	<100	<100
VP-35	10-18-2013	5	<b>14,000</b>	<100	<100	<100	<100	<100	<100
VP-36	10-18-2013	5	<b>5,900</b>	<100	<100	<100	<100	<100	<100
VP-37	10-18-2013	5	<b>14,000</b>	<100	<100	<100	<100	<100	<100
VP-38	10-18-2013	5	<b>37,000</b>	<100	<100	<100	<100	<100	<100
VP-39	10-18-2013	5	<b>24,000</b>	<100	<100	<100	<100	<100	<100
VP-40	10-18-2013	5	<b>17,000</b>	<b>220</b>	<100	<100	<100	<100	<100
VP-41	05-05-2014	5	<b>7,300</b>	<100	<100	<100	<100	<100	<100
VP-42	05-05-2014	5	<b>14,000</b>	<100	<100	<100	<100	<100	<100
VP-43	05-05-2014	5	<b>32,000</b>	<100	<100	<100	<100	<100	<100
VP-43 (dup)	05-05-2014	5	<b>30,000</b>	<100	<100	<100	<100	<100	<100
VP-44	05-05-2014	5	<b>38,000</b>	<100	<100	<100	<100	<100	<100
VP-45	05-06-2014	5	<b>1,200</b>	<100	<100	<100	<100	<100	<100



**TABLE 1**  
**ANALYTICAL RESULTS OF SOIL-VAPOR SAMPLES**  
**Swiss Valley Cleaners**  
**1395 MacArthur Boulevard, San Leandro, California**  
**(micrograms per cubic meter)**

Sample ID	Date	Depth (feet bsg)	EPA Method 8260B						
			PCE	TCE	1,1-DCE	Trans 1,2-DCE	Cis 1,2-DCE	VC	Chloroform
VP-46	05-06-2014	5	<b>24,000</b>	<100	<100	<100	<100	<100	<100
VP-46 (dup)	05-06-2014	5	<b>21,000</b>	<100	<100	<100	<100	<100	<100
VP-47	05-07-2014	5	<b>1,400</b>	<100	<100	<100	<100	<100	<100
VP-48	05-07-2014	5	<b>3,400</b>	<100	<100	<100	<100	<100	<100
VP-49	05-07-2014	5	<b>3,000</b>	<100	<100	<100	<100	<100	<100
VP-50	05-07-2014	5	<b>570</b>	<100	<100	<100	<100	<100	<100
VP-51	05-07-2014	5	<b>2,100</b>	<100	<100	<100	<100	<100	<100
VP-52	05-07-2014	5	<b>1,300</b>	<100	<100	<100	<100	<100	<100
VP-52 (dup)	05-07-2014	5	<b>1,500</b>	<100	<100	<100	<100	<100	<100
B46-Vapor	02-10-2015	3	<b>1,400</b>	<250	<250	<250	<250	<250	<250
B47-Vapor	02-10-2015	3	<b>800</b>	<250	<250	<250	<250	<250	<250
B48-Vapor	02-10-2015	3	<b>410</b>	<250	<250	<250	<250	<250	<250
B49-Vapor	02-10-2015	3	<b>440</b>	<250	<250	<250	<250	<250	<250
B50-Vapor	02-10-2015	3	<b>1,500</b>	<250	<250	<250	<250	<250	<250
B51-Vapor	02-26-2015	5	<b>170</b>	<100	<100	<100	<100	<100	<100
B52-Vapor	02-26-2015	5	<b>260</b>	<100	<100	<100	<100	<100	<100

**TABLE 1**  
**ANALYTICAL RESULTS OF SOIL-VAPOR SAMPLES**  
**Swiss Valley Cleaners**  
**1395 MacArthur Boulevard, San Leandro, California**  
**(micrograms per cubic meter)**

Sample ID	Date	Depth (feet bsg)	EPA Method 8260B						
			PCE	TCE	1,1-DCE	Trans 1,2-DCE	Cis 1,2-DCE	VC	Chloroform
B53-Vapor	02-26-2015	5	350	<100	<100	<100	<100	<100	<100
B54-Vapor	02-26-2015	5	1,300	<100	<100	<100	<100	<100	<100
B55-Vapor	02-26-2015	5	1,700	<100	<100	<100	<100	<100	<100
B55-Vapor (dup.)	02-26-2015	5	1,700	<100	<100	<100	<100	<100	<100
B56-Vapor	02-27-2015	5	36,000	<100	<100	<100	<100	<100	<100
B58-Vapor	02-27-2015	5	68,000	<100	<100	<100	<100	<100	<100
B58-Vapor (dup.)	02-27-2015	5	70,000	<100	<100	<100	<100	<100	<100
B59-Vapor	02-27-2015	5	18,000	<100	140	<100	<100	<100	<100
B60-Vapor	03-10-2015	5	<100	<100	<100	<100	<100	<100	<100
B61-Vapor	03-10-2015	5	210	<100	<100	<100	<100	<100	<100
B62-Vapor	03-10-2015	5	<100	<100	<100	<100	<100	<100	<100
B63-Vapor	03-10-2015	5	<100	<100	<100	<100	<100	<100	<100
B63-Vapor (dup.)	03-10-2015	5	<100	<100	<100	<100	<100	<100	<100
CHHSLs (Residential)			180	528	-	31,900	15,900	13.3	-
SFBRWCB ESL Shallow Soil Gas (Commercial)			2,100	3,000	100,000	260,000	-	16	230
SFBRWCB ESL Shallow Soil Gas (Residential)			210	300	880,000	31,000	-	160	2,300

**Notes:**

SFBRWCB ESL: San Francisco Bay Regional Water Quality Control Board Environmental Screening Level for shallow soil gas

<: Indicates constituents were not detected at a concentration greater than the reporting limit shown.

CHHSLs: California Human Health Screening Levels

PCE: Tetrachloroethene

TCE: Trichloroethene

1,1-DCE: 1,1-Dichloroethene

Trans 1,2-DCE: Trans 1,2-Dichloroethene

Cis 1,2-DCE: Cis 1,2-Dichloroethene

VC: Vinyl Chloride

bsg: below surface grade

\*: notation for detection above the liner range of calibration

**TABLE 2**  
**ANALYTICAL RESULTS OF SOIL SAMPLES**  
 Swiss Valley Cleaners  
 1395 MacArthur Boulevard, San Leandro, California  
 (mg/kg)

Sample ID	Depth (feet bsg)	Date	EPA SW 846/8260B					
			Tetrachloroethene (PCE)	Trichloroethene (TCE)	1,1-Dichloroethene (1,1-DCE)	Trans 1,2-Dichloroethene (Trans 1,2-DCE)	Cis 1,2-Dichloroethene (Cis 1,2-DCE)	Vinyl Chloride (VC)
B-1@3'	3	08-19-1998	<0.005	<0.005	<0.005	-	-	<0.005
B-1@5'	5	08-19-1998	<0.005	<0.005	<0.005	-	-	<0.005
B-2@3'	3	08-19-1998	<0.005	<0.005	<0.005	-	-	<0.005
B-2@5'	5	08-19-1998	<0.005	<0.005	<0.005	-	-	<0.005
B-3@3'	3	08-19-1998	<0.005	<0.005	<0.005	-	-	<0.005
B-3@5'	5	08-19-1998	<0.005	<0.005	<0.005	-	-	<0.005
B-4	1.75	04-06-2005	<b>0.0057</b>	<0.0049	<0.0049	<0.0049	<0.0049	<0.0098
B-5	1.83	04-06-2005	<b>0.0074</b>	<0.0047	<0.0047	<0.0047	<0.0047	<0.0094
B-6	1.67	04-06-2005	<b>0.022</b>	<0.0046	<0.0046	<0.0046	<0.0046	<0.0093
B-7	2	07-08-2008	<0.005	<0.0047	<0.0047	<0.0047	<0.0047	<0.0094
B-8	2	07-08-2008	<b>0.060</b>	<0.0047	<0.0047	<0.0047	<0.0047	<0.0094
B9-5	5	05-07-2013	<b>0.028</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B9-10	10	05-07-2013	<b>0.012</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B9-15	15	05-07-2013	<b>0.022</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B10-5	5	05-07-2013	<b>0.010</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B10-10	10	05-07-2013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B10-15	15	05-07-2013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B11-5	5	10-22-2013	<b>0.009</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B11-10	10	10-22-2013	<b>0.011</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B11-15	15	10-22-2013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B12-5	5	10-22-2013	<b>0.005</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B12-10	10	10-22-2013	<b>0.011</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B12-15	15	10-22-2013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B13-5	5	10-22-2013	<b>0.008</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B13-10	10	10-22-2013	<b>0.006</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B13-15	15	10-22-2013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B14-5	5	10-22-2013	<b>0.015</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B14-10	10	10-22-2013	<b>0.008</b>	<0.005	<0.005	<0.005	<0.005	<0.005

**TABLE 2**  
**ANALYTICAL RESULTS OF SOIL SAMPLES**  
 Swiss Valley Cleaners  
 1395 MacArthur Boulevard, San Leandro, California  
 (mg/kg)

Sample ID	Depth (feet bsg)	Date	EPA SW 846/8260B					
			Tetrachloroethene (PCE)	Trichloroethene (TCE)	1,1-Dichloroethene (1,1-DCE)	Trans 1,2-Dichloroethene (Trans 1,2-DCE)	Cis 1,2-Dichloroethene (Cis 1,2-DCE)	Vinyl Chloride (VC)
B14-15	15	10-22-2013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B15-5	5	10-22-2013	<b>0.030</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B15-10	10	10-22-2013	<b>0.018</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B15-15	15	10-22-2013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B16-5	5	10-23-2013	<b>0.020</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B16-10	10	10-23-2013	<b>0.010</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B16-15	15	10-23-2013	<b>0.006</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B17-5	5	10-23-2013	<b>0.018</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B17-10	10	10-23-2013	<b>0.010</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B17-15	15	10-23-2013	<b>0.011</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B18-5	5	10-23-2013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B18-10	10	10-23-2013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B19-5	5	10-23-2013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B19-10	10	10-23-2013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B20-5	5	10-23-2013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B20-10	10	10-23-2013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B21-5	5	10-24-2013	<b>0.010</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B21-10	10	10-24-2013	<b>0.009</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B23-0.5-1.0	0.5-1.0	04-28-2014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B23-1.5-2.0	1.5-2.0	04-28-2014	<b>0.026</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B23-2.5-3.0	2.5-3.0	04-28-2014	<b>0.12</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B23-3.5-4.0	3.5-4.0	04-28-2014	<b>0.040</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B23-4.5-5.0	4.5-5.0	04-28-2014	<b>0.030</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B24-0.5-1.0	0.5-1.0	04-28-2014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B24-1.5-2.0	1.5-2.0	04-28-2004	<b>0.032</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B24-4.5-5.0	4.5-50	04-28-2014	<b>0.017</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B25-0.5-1.0	0.5-1.0	04-28-2014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B25-1.5-2.0	1.5-2.0	04-28-2014	<b>0.048</b>	<0.005	<0.005	<0.005	<0.005	<0.005

**TABLE 2**  
**ANALYTICAL RESULTS OF SOIL SAMPLES**  
 Swiss Valley Cleaners  
 1395 MacArthur Boulevard, San Leandro, California  
 (mg/kg)

Sample ID	Depth (feet bsg)	Date	EPA SW 846/8260B					
			Tetrachloroethene (PCE)	Trichloroethene (TCE)	1,1-Dichloroethene (1,1-DCE)	Trans 1,2-Dichloroethene (Trans 1,2-DCE)	Cis 1,2-Dichloroethene (Cis 1,2-DCE)	Vinyl Chloride (VC)
B25-2.5-3.0	2.5-3.0	04-28-2014	<b>0.061</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B25-4.5-5.0	4.5-5.0	04-28-2014	<b>0.023</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B26-0.5-1.0	0.5-1.0	04-28-2014	<b>0.0056</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B26-1.5-2.0	1.5-2.0	04-29-2014	<b>0.0063</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B26-3.0-3.5	3.0-3.5	04-29-2014	<b>0.043</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B26-4.5-5.0	4.5-5.0	04-29-2014	<b>0.018</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B27-0.5-1.0	0.5-1.0	04-29-2014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B27-1.5-2.0	1.5-3.0	04-29-2014	<b>0.010</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B27-2.5-3.0	2.5-3.0	04-29-2014	<b>0.045</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B27-4.5-5.0	4.5-5.0	04-29-2014	<b>0.043</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B28-0.5-1.0	1.5-3.0	04-29-2014	<b>0.0053</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B28-2.5-3.0	2.5-3.0	04-29-2014	<b>0.037</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B28-4.5-5.0	4.5-5.0	04-29-2014	<b>0.021</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B29-1.5-2.0	1.5-3.0	04-29-2014	<b>0.015</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B29-2.5-3.0	2.5-3.0	04-29-2014	<b>0.033</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B29-4.5-5.0	4.5-5.0	04-29-2014	<b>0.019</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B30-1.5-2.0	1.5-3.0	04-30-2014	<b>0.019</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B30-2.5-3.0	2.5-3.0	04-30-2014	<b>0.024</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B30-4.5-5.0	4.5-5.0	04-30-2014	<b>0.051</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B31-1.5-2.0	1.5-2.0	04-30-2014	<b>0.018</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B31-2.5-3.0	2.5-3.0	04-30-2014	<b>0.025</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B32-1.5-2.0	1.5-3.0	04-30-2014	<b>0.0069</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B32-2.5-3.0	2.5-3.0	04-30-2014	<b>0.011</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B32-4.5-5.0	4.5-5.0	04-30-2014	<b>0.018</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B33-1.5-2.0	1.5-3.0	04-30-2014	<b>0.012</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B33-2.5-3.0	2.5-3.0	04-30-2014	<b>0.037</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B33-4.5-5.0	4.5-5.0	04-30-2014	<b>0.029</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B34-1.5-2.0	1.5-3.0	05-01-2014	<b>0.028</b>	<0.005	<0.005	<0.005	<0.005	<0.005

**TABLE 2**  
**ANALYTICAL RESULTS OF SOIL SAMPLES**  
Swiss Valley Cleaners  
1395 MacArthur Boulevard, San Leandro, California  
(mg/kg)

Sample ID	Depth (feet bsg)	Date	EPA SW 846/8260B					
			Tetrachloroethene (PCE)	Trichloroethene (TCE)	1,1-Dichloroethene (1,1-DCE)	Trans 1,2-Dichloroethene (Trans 1,2-DCE)	Cis 1,2-Dichloroethene (Cis 1,2-DCE)	Vinyl Chloride (VC)
B34-2.5-3.0	2.5-3.0	05-01-2014	<b>0.020</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B34-4.5-5.0	4.5-5.0	05-01-2014	<b>0.016</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B35-1.5-2.0	1.5-3.0	05-01-2014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B35-2.5-3.0	2.5-3.0	05-01-2014	<b>0.092</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B35-4.5-5.0	4.5-5.0	05-01-2014	<b>0.058</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B36-1.5-2.0	1.5-3.0	05-01-2014	<b>0.11</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B36-2.5-3.0	2.5-3.0	05-01-2014	<b>0.015</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B36-4.5-5.0	4.5-5.0	05-01-2014	<b>0.012</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B37-1.5-2.0	1.5-3.0	05-01-2014	<b>0.018</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B37-2.5-3.0	2.5-3.0	05-01-2014	<b>0.038</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B37-4.5-5.0	4.5-5.0	05-01-2014	<b>0.016</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B38-1.0-1.5	1.0-1.5	05-02-2014	<b>0.023</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B38-1.5-2.0	1.5-2.0	05-02-2014	<b>0.023</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B38-2.5-3.0	2.5-3.0	05-02-2014	<b>0.014</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B38-4.5-5.0	4.5-5.0	05-02-2014	<b>0.0061</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B39-1.5-2.0	1.5-3.0	05-02-2014	<b>0.016</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B39-2.5-3.0	2.5-3.0	05-02-2014	<b>0.021</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B39-4.5-5.0	4.5-5.0	05-02-2014	<b>0.034</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B40-1.5-2.0	1.5-3.0	05-02-2014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B40-2.5-3.0	2.5-3.0	05-02-2014	<b>0.010</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B40-4.5-5.0	4.5-5.0	05-02-2014	<b>0.029</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B41-1.5-2.0	1.5-2.0	05-05-2014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B41-4.5-5.0	4.5-5.0	05-05-2014	<b>0.0076</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B42-1.5-2.0	1.5-3.0	05-05-2014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B42-2.5-3.0	2.5-3.0	05-05-2014	<b>0.010</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B42-4.5-5.0	4.5-5.0	05-05-2014	<b>0.022</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B43-1.5-2.0	1.5-2.0	05-06-2014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B43-2.5-3.0	2.5-3.0	05-06-2014	<b>0.022</b>	<0.005	<0.005	<0.005	<0.005	<0.005

**TABLE 2**  
**ANALYTICAL RESULTS OF SOIL SAMPLES**  
 Swiss Valley Cleaners  
 1395 MacArthur Boulevard, San Leandro, California  
 (mg/kg)

Sample ID	Depth (feet bsg)	Date	EPA SW 846/8260B					
			Tetrachloroethene (PCE)	Trichloroethene (TCE)	1,1-Dichloroethene (1,1-DCE)	Trans 1,2-Dichloroethene (Trans 1,2-DCE)	Cis 1,2-Dichloroethene (Cis 1,2-DCE)	Vinyl Chloride (VC)
B43-4.5-5.0	4.5-5.0	05-06-2014	<b>0.015</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B44-1.5-2.0	1.5-3.0	05-07-2014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B44-2.5-3.0	2.5-3.0	05-07-2014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B44-4.5-5.0	4.5-5.0	05-07-2014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B45-1.5-2.0	1.5-3.0	05-07-2014	<b>0.0052</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B45-2.5-3.0	2.5-3.0	05-07-2014	<b>0.0052</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B45-4.5-5.0	4.5-5.0	05-07-2014	<b>0.0068</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B46-1.5-2.0	1.5-2.0	02-09-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B46-2.5-3.0	2.5-3.0	02-09-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B47-1.5-2.0	1.5-2.0	02-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B47-2.5-3.0	2.5-3.0	02-10-2015	<b>0.0060</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B48-1.5-2.0	1.5-2.0	02-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B48-2.5-3.0	2.5-3.0	02-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B49-1.5-2.0	1.5-2.0	02-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B49-2.5-3.0	2.5-3.0	02-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B50-1.5-2.0	1.5-2.0	02-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B50-2.5-3.0	2.5-3.0	02-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B51-4.5-5.0	4.5-5.0	02-26-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B51-9.5-10	9.5-10	02-26-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B52-4.5-5.0	4.5-5.0	02-26-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B52-9.5-10	9.5-10	02-26-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B53-4.5-5.0	4.5-5.0	02-26-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B53-6.5-7.0	6.5-7.0	02-26-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B53-9.5-10	9.5-10	02-26-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B54-0.5-1.0	0.5-1.0	02-26-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B54-1.5-2.0	1.5-2.0	02-26-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B54-3.5-4.0	3.5-4.0	02-26-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B54-4.5-5.0	4.5-5.0	02-26-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

**TABLE 2**  
**ANALYTICAL RESULTS OF SOIL SAMPLES**  
 Swiss Valley Cleaners  
 1395 MacArthur Boulevard, San Leandro, California  
 (mg/kg)

Sample ID	Depth (feet bsg)	Date	EPA SW 846/8260B					
			Tetrachloroethene (PCE)	Trichloroethene (TCE)	1,1-Dichloroethene (1,1-DCE)	Trans 1,2-Dichloroethene (Trans 1,2-DCE)	Cis 1,2-Dichloroethene (Cis 1,2-DCE)	Vinyl Chloride (VC)
B54-9.5-10	9.5-10	02-26-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B55-0.5-1.0	0.5-1.0	02-26-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B55-2.5-3.0	2.5-3.0	02-26-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B55-4.5-5.0	4.5-5.0	02-26-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B55-9.5-10	9.5-10	02-26-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B56-4.5-5.0	4.5-5.0	02-27-2015	<b>0.040</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B56-6.5-7.0	6.5-7.0	02-27-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B56-8.5-9.0	8.5-9.0	02-27-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B56-9.5-10	9.5-10	02-27-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B57-0.5-1.0	0.5-1.0	02-27-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B57-4.5-5.0	4.5-5.0	02-27-2015	<b>0.014</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B58-4.5-5.0	4.5-5.0	02-27-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B58-6.5-7.0	6.5-7.0	02-27-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B58-9.5-10	9.5-10	02-27-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B59-1.5-2.0	1.5-2.0	02-27-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B59-4.5-5.0	4.5-5.0	02-27-2015	<b>0.050</b>	<0.005	<0.005	<0.005	<0.005	<0.005
B59-9.5-10	9.5-10	02-27-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B60-4.5-5.0	4.5-5.0	03-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B60-9.5-10	9.5-10	03-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B61-1.5-2.0	1.5-2.0	03-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B61-4.5-5.0	4.5-5.0	03-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B61-9.5-10	9.5-10	03-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B62-2.5-3.0	2.5-3.0	03-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B62-4.5-5.0	4.5-5.0	03-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005



**TABLE 2**  
**ANALYTICAL RESULTS OF SOIL SAMPLES**  
**Swiss Valley Cleaners**  
**1395 MacArthur Boulevard, San Leandro, California**  
**(mg/kg)**

Sample ID	Depth (feet bsg)	Date	EPA SW 846/8260B					
			Tetrachloroethene (PCE)	Trichloroethene (TCE)	1,1- Dichloroethene (1,1-DCE)	Trans 1,2- Dichloroethene (Trans 1,2-DCE)	Cis 1,2- Dichloroethene (Cis 1,2-DCE)	Vinyl Chloride (VC)
B62-9.5-10	9.5-10	03-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B63-1.5-2.0	1.5-2.0	03-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B63-4.5-5.0	4.5-5.0	03-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B63-9.5-10	9.5-10	03-10-2015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Notes:

mg/kg: milligrams per kilogram

bsg: below surface grade

<: Indicates constituents were not detected at a concentration greater than the reporting limit shown.

**TABLE 3**  
**ANALYTICAL RESULTS OF GRAB GROUNDWATER SAMPLES**  
**Swiss Valley Cleaners**  
**1395 MacArthur Boulevard, San Leandro, California**  
**(ug/l)**

Sample ID	Date	EPA 8260B						
		Tetrachloroethene (PCE)	Trichloroethene (TCE)	1,1-Dichloroethene (1,1-DCE)	Trans 1,2-Dichloroethene (Trans 1,2-DCE)	Cis 1,2-Dichloroethene (Cis 1,2-DCE)	Vinyl Chloride (VC)	Acetone
SVC-1	08-19-1998	<0.5	<0.5	<0.5	-	-	-	-
B9W@46-50	05-07-2013	<b>7.6</b>	<0.5	<1	<1	<1	<0.5	<10
B10W@46-50	05-07-2013	<b>2.7</b>	<0.5	<1	<1	<1	<0.5	<10
US EPA MCL		5	5	7	100	70	2	-
CDPH MCL		5	5	6	10	6	0.5	-
SFBRWCB ESL		5	5	6	10	6	0.5	6,300

Notes:

<:

µg/l: micrograms per liter

bsg:

below surface grade

US EPA MCL: United State Environmental Protection Agency Maximum Contaminant Level

CDPH MCL: California Department of Public Health Maximum Contaminant Level

SFBRWCB ESL: San Francisco Bay Regional Water Quality Control Board Environmental Screening Level

SVC-1: Sample I.D refers to sample collected from floor drain inside unit.

**TABLE 4**  
**INDOOR AIR ANALYTICAL RESULTS**  
**SWISS VALLEY CLEANERS**  
**1395 MacArthur Boulevard,**  
**San Leandro, California**  
**(micrograms per cubic meter)**

Sample ID	Date	TO-15																
		PCE	TCE	1,2-DCA	EDB	Naphthalene	1,4-DCB	Acetone	CT	B	T	E	X	Chloromethane	DCDFM	Ethyl Acetate	TCFM	Chloroform
IA-1395 MacArthur	04-10-2014	12	0.038	0.085	<0.0078	0.34	0.099	46	0.41	0.52	1.4	<0.44	1.2	0.60	2.0	2.7	1.4	0.19
	05-08-2014	14	0.11	0.19	<0.0078	0.17	0.063	75	0.44	0.27	0.74	<0.44	<1.3	0.67	2.0	8.8	1.1	0.22
	03-23-2015	16	0.029	0.095	<0.0078	0.17	0.074	110	0.46	0.50	2.3	<0.44	<1.3	0.62	2.4	14	1.3	0.33
IA-1383 MacArthur	04-10-2014	11	0.057	0.43	0.011	0.26	0.096	3,600	0.38	0.65	11	0.49	2.0	<0.21	<0.50	260	<0.57	0.51
	05-08-2014	17	0.055	1.1	<0.0078	0.36	0.12	5,200	0.45	0.69	21	<0.44	1.5	<0.21	<0.50	1600	<0.57	0.49
	03-23-2015	19	0.064	0.37	<0.0078	0.41	0.33	8,600	0.56	0.64	15	0.53	2.0	<0.21	0.89	580	0.84	5.3
IA-1377 MacArthur	04-10-2014	2.1	0.027	0.76	<0.0078	0.22	0.10	110	0.39	0.54	2.8	0.69	3.0	0.54	1.8	7.4	0.78	0.18
	05-08-2014	5.1	0.033	1.1	<0.0078	0.38	0.37	38	0.45	0.37	6.9	1.1	4.4	0.67	2.1	4.9	1.0	0.20

**TABLE 4**  
**INDOOR AIR ANALYTICAL RESULTS**  
**SWISS VALLEY CLEANERS**  
**1395 MacArthur Boulevard,**  
**San Leandro, California**  
**(micrograms per cubic meter)**

Sample ID	Date	TO-15																
		PCE	TCE	1,2-DCA	EDB	Naphthalene	1,4-DCB	Acetone	CT	B	T	E	X	Chloromethane	DCDFM	Ethyl Acetate	TCFM	Chloroform
IA-1369 MacArthur	05-08-2014	0.045	0.020	2.2	<0.0078	0.26	0.17	18	0.47	0.60	2.1	<0.44	<1.3	0.68	2.0	2.2	1.3	0.25
Outside 1395 MacArthur	05-08-2014	0.042	0.014	0.067	<0.0078	0.12	0.023	13	0.47	0.20	0.41	<0.44	<1.3	0.64	2.0	2.1	1.1	0.24
SFBRWCB ESL (Commercial)		2.1	3.0	0.58	0.17	0.36	1.1	140,000	0.29	0.42	1,300	4.9	440	390	-	-	-	2.3

**Notes:**

SFBRWCB ESL: San Francisco Bay Regional Water Quality Control Board Environmental Screening Level for indoor Air.

<: Indicates constituents were not detected at a concentration greater than the reporting limit shown.

PCE: Tetrachloroethene

TCE: Trichloroethene

1,2-DCA: 1,2-Dichloroethane

EDB: 1,2-Dibromoethane

1,4-DCB: 1,4-dichlorobenzene

VC: Vinyl Chloride

CT: Carbon Tetrachloride

DCDFM: Dichlorodifluoromethane

TCFM: Trichlorofluoromethane

IPA: Isopropyl Alcohol

B: Benzene; T: Toluene; E: Ethyl-benzene; X: Total Xylenes

\*Concentrations denoted with orange fill are above ambient and indoor air screening levels for a commercial setting.

**TABLE 5**  
**SUB-SLAB VAPOR ANALYTICAL RESULTS**  
 Swiss Valley Cleaners  
 1395 MacArthur Boulevard, San Leandro, California  
 (micrograms per cubic meter)

Sample ID	Location	Date	TO-15																				
			Dry Cleaning Constituents						Chemicals from other sources														
			PCE	TCE	1,1-DCE	Trans 1,2-DCE	Cis 1,2-DCE	VC	IPA	1,2-DCA	B	T	E	X	1,2-DCP	Ethanol	4-ET	1,2,4-TMB	Ethyl Acetate	Naphthalene	1,3,5-TMB	Acetone	2-Butanone
SS-1	1369 MacArthur Boulevard	03-23-2015	5,700	3.3	<2.0	<2.0	<2.0	<1.3	<50	<2.0	42	58	39	190	<2.4	<96	53	98	<1.8	<5.3	64	<60	<75
SS-2	1383 MacArthur Boulevard	03-23-2015	5,400	<2.8	<2.0	<2.0	<2.0	<1.3	<50	<2.0	8.6	2.2	<2.2	<6.6	<2.4	<96	<2.5	9.8	4.7	<5.3	2.7	<60	<75
SS-3	1395 MacArthur Boulevard (Front of Suite)	03-23-2015	8,300	19	<2.0	<2.0	<2.0	<1.3	<50	<2.0	13	5.1	3.9	24	<2.4	<96	6.2	29	<1.8	<5.3	6.8	<60	<75
SS-4	1395 MacArthur Boulevard (Rear of Suite)	03-23-2015	7,600	5.6	<2.0	<2.0	<2.0	<1.3	<50	2.2	17	14	9.4	44	<2.4	<96	9.6	29	<1.8	<5.3	5.7	<60	<75
CHHSLs (Commercial)			1,600	1,300	-	240,000	120,000	95.0	-	360	280	890,000	3,600	6,700,000	-	-	-	-	-	310	-	-	-
SFBRWCB ESL (Commercial)			2,100	3,000	880,000	2,600,000	-	160	-	580	420	1,300,000	4,900	440,000	1,200	-	-	-	-	360	-	140,000,000	22,000,000

**Notes:**

SFBRWCB ESL: San Francisco Bay Regional Water Quality Control Board Environmental Screening Level for shallow soil gas

<: Indicates constituents were not detected at a concentration greater than the reporting limit shown.

CHHSLs: California Human Health Screening Levels (Soil Gas Screening for VOC's below buildings constructed with engineered fill below sub-slab gravel)

PCE: Tetrachloroethene

TCE: Trichloroethene

1,1-DCE: 1,1-Dichloroethene

Trans 1,2-DCE: Trans 1,2-Dichloroethene

Cis 1,2-DCE: Cis 1,2-Dichloroethene

VC: Vinyl Chloride

IPA: Isopropyl Alcohol

B: Benzene; T: Toluene; E: Ethyl-benzene; X: Total Xylenes

1,2-DCA: 1,2-Dichloroethane

1,2-DCP: 1,2-Dichloropropane

4-ET: 4-Ethyltoluene

1,2,4-TMB: 1,2,4-Trimethylbenzene

1,3,5-TMB: 1,3,5-Trimethylbenzene

**TABLE 6**  
**SVE PILOT TEST FIELD PARAMETERS**  
 Swiss Valley Cleaners  
 1395 MacArthur Boulevard, San Leandro, California

Time	Date	Flow (SCFM)	Influent PID (ppm)	Effluent PID (ppm)	Vacuum Measurements (IOW)			
					VW-1 (extraction well) (IOW)	VW-2 (IOW)	VW-3 (IOW)	VW-4 (IOW)
Baseline	8/26/2014	-	-	-	0	0	0	0
1000	8/26/2014	36	13.7	0	6.0	0	0.10	0
1030	8/26/2014	35	11.0	0	6.0	0.5	0.15	0
1100	8/26/2014	35	11.2	0	6.0	0.5	0.15	0
1130	8/26/2014	35	9.4	0	6.0	0.5	0.15	0
1200	8/26/2014	35	9.2	0	6.0	0.5	0.15	0
1230	8/26/2014	35	9.6	0	6.0	0.5	0.15	0
1300	8/26/2014	35	9.1	0	6.0	0.5	0.15	0
1330	8/26/2014	35	8.6	0	6.0	0.5	0.15	0
1400	8/26/2014	35	8.2	0	6.0	0.5	0.15	0
1430	8/26/2014	35	7.5	0	6.0	0.5	0.15	0
1500	8/26/2014	35	8.3	0	6.0	0.5	0.15	0.05
1530	8/26/2014	35	7.2	0	6.0	0.5	0.15	0.05
1600	8/26/2014	35	7.0	0	6.0	0.5	0.15	0.05

**TABLE 6**  
**SVE PILOT TEST FIELD PARAMETERS**  
 Swiss Valley Cleaners  
 1395 MacArthur Boulevard, San Leandro, California

Time	Date	Flow (SCFM)	Influent PID (ppm)	Effluent PID (ppm)	Vacuum Measurements (IOW)			
					VW-1 (extraction well) (IOW)	VW-2 (IOW)	VW-3 (IOW)	VW-4 (IOW)
1630	8/26/2014	35	6.5	0	6.0	0.5	0.15	0.05
1700	8/26/2014	35	6.7	0	6.0	0.10	0.15	0.05
1730	8/26/2014	35	7.4	0	6.0	0.10	0.15	0.05
1800	8/26/2014	35	7.0	0	6.0	0.10	0.15	0.05
post	8/26/2014	-	-	-	0	0	0	0

Notes:

IOW: Inches of Water

SCFM: Standard Cubic Feet per Water

ppm: parts per million

**TABLE 7**  
**SVE PILOT TEST SOIL VAPOR ANALYTICAL DATA**  
 Swiss Valley Cleaners  
 1395 MacArthur Boulevard, San Leandro, California

Sample ID	Date	EPA 8260B					
		Tetrachloroethene (PCE)	Trichloroethene (TCE)	1,1- Dichloroethene (1,1-DCE)	Trans 1,2- Dichloroethene (Trans 1,2-DCE)	Cis 1,2- Dichloroethene (Cis 1,2-DCE)	Vinyl Chloride (VC)
Influent/Start	08-26-2014	<b>48,000</b>	<200	<200	<200	<200	<200
Influent/1200	08-26-2014	<b>43,000</b>	<200	<200	<200	<200	<200
Influent/1400	08-26-2014	<b>42,000</b>	<200	<200	<200	<200	<200
Influent/1600	08-26-2014	<b>39,000</b>	<200	<200	<200	<200	<200
Influent/End	08-26-2014	<b>32,000</b>	<200	<200	<200	<200	<200
Effluent	08-26-2014	<200	<200	<200	<200	<200	<200

Notes:

All sample concentrations reported in micrograms per cubic meter

<: Indicates constituents were not detected at a concentration greater than the reporting limit shown.

NA: Not analyzed.



# **APPENDIX A**



ENVIRONMENTAL HEALTH SERVICES  
ENVIRONMENTAL PROTECTION  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577  
(510) 567-6700  
FAX (510) 337-9335

August 11, 2015

Mr. William Mathews Brooks  
4725 Thornton Avenue  
Fremont, CA 94536  
(Sent via electronic mail to [REWMB@aol.com](mailto:REWMB@aol.com))

Subject: Draft Corrective Action Plan Request; Site Cleanup Program (SCP) Case No. RO0003120 and GeoTracker Global ID T10000005063, Swiss Valley Cleaners, 1395 MacArthur Blvd, San Leandro, CA 94577

Dear Mr. Brooks:

Alameda County Environmental Health (ACEH) has reviewed the *Site Assessment Report*, dated May 19, 2015, prepared and submitted on your behalf by Advanced GeoEnvironmental, Inc, (AGE). The report also includes a *Remedial Action Work Plan* as an appendix to the report. Thank you for submitting the report.

The referenced report documents the installation of shallow soil bores B46 to B63 at the subject site and at the downgradient adjacent property in order to delineate the lateral extent of tetrachlorethene (PCE) concentrations. The work was predominately successful in defining the extent of soil vapor to commercial Environmental Screening Levels (ESLs), promulgated by the San Francisco Bay Regional Water Quality Control Board (RWQCB) but was not fully successful in defining the ESLs to residential concentrations in a limited area along the downgradient property line.

The *Remedial Action Work Plan* portion of the report proposed the installation of 17 vapor wells to augment the existing four vapor extraction wells installed for the pilot study. With relatively minor modifications, the work appears appropriate.

Therefore, based on the review of the case file ACEH requests that you address the following technical comments and send us the documents requested below.

### **TECHNICAL COMMENTS**

1. **Remedial Action Work Plan Modifications** – The referenced Remedial Action Work Plan (RA WP) proposes a series of actions with which ACEH is in general agreement of undertaking; however, ACEH requests modifications to the approach as discussed below. Please submit a report by the date specified below.
  - a. **Contingent Work Plan Approval** – In order to move the project forward, this letter provides contingent approval of the installation of infrastructure required to operate the Soil Vapor Extraction (SVE) system; however, approval of system activation cannot be provided until members of the public have been given the opportunity to provide comments to the proposed operation of the SVE system as public comments have, at a minimum, the potential to affect system operations. Towards that goal, ACEH requests the concurrent generation of a Draft Corrective Action Plan (Draft CAP) as communicated in previous directive letters, and below. Please be aware that some risk is involved in the installation of system infrastructure prior to completion of the required public comment period; however, this may be an acceptable situation to you.

- 2. Draft Corrective Action Implementation Plan** – A Draft CAP is required to evaluate feasible alternatives for the site and to recommend final alternatives in accordance with DTSC guidelines. As indicated above, an important additional aspect of the Draft CAP is to provide a single principal document for members of the public to review and comment on during the public comment period.

Therefore, ACEH requests that you prepare a Draft CAP, concurrent with the installation of SVE infrastructure that includes the following minimum information:

- Proposed cleanup goals and the basis for cleanup goals.
- Summary of site characterization data.
- Receptor information including likely future land use scenarios, adjacent land use and sensitive receptors, and potential groundwater receptors.
- Evaluation of a minimum of three active remedial alternatives including discussion of feasibility, cost effectiveness, estimated time to reach cleanup goals, and limitations for each remedial alternative.
- Implementation of the selected corrective action.
- System piping and plumbing figures.
- Detailed description of proposed remediation including confirmation sampling and monitoring during implementation.
- Post-remediation monitoring.
- Schedule for CAP implementation of cleanup including adequate ACEH review periods.

Public participation is a requirement for the Corrective Action Plan process. Therefore, we request that you submit a Draft CAP for ACEH review by the date identified below. Upon ACEH approval of a Draft CAP, ACEH will notify potentially affected members of the public who live or own property in the surrounding area of the proposed remediation described in the Draft CAP. Public comments on the proposed remediation will be accepted for a 30-day period.

- 3. Fact Sheet for Public Notification of Corrective Actions** – Public participation is a requirement for the Corrective Action Plan process to notify potentially affected stakeholders who live or own property in the surrounding area of the proposed remediation. We request that you submit a Draft Fact Sheet for ACEH review. Upon ACEH approval of a Draft Fact Sheet, we will request that you send the Fact Sheet to an address list provided by ACEH. Public comments on the proposed remediation will be accepted for a 30-day period. Following the end of the public comment period, any comments received including ACEH's comments described below, must be addressed and incorporated into a Final CAP.
- 4. Work Plan Request for Downgradient Delineation of Vapor Plume** – Delineation of the lateral extent of the PCE vapor plume does not appear to have been achieved adjacent to the residential properties north of 993 Estudillo Avenue. Concentrations of PCE up to 3,400  $\mu\text{g}/\text{m}^3$  are present along this property line. It appears appropriate to define the lateral extent of the plume in this area concurrent with generation of the CAP or the presumed vapor extraction well installations. The lateral extent of delineation may affect the number and location of vapor extraction wells in this area of the site. Existing protocols, in conjunction with figures depicting proposed bore locations, can be used to minimize work plan response times.

### **TECHNICAL REPORT REQUEST**

Please upload technical reports to the ACEH ftp site (Attention: Mark Detterman), and to the State Water Resources Control Board's Geotracker website, in accordance with Attachment 1 and the specified file naming convention below, according to the following schedule:

- **October 16, 2015** – Draft Corrective Action Plan  
File to be named: RO3120\_CAP\_R\_yyyy-mm-dd
- **October 16, 2015** – Work Plan  
File to be named: RO3120\_WP\_R\_yyyy-mm-dd

Mr. William Mathews Brooks  
RO0003120  
August 11, 2015, Page 3

- **October 16, 2015** – Draft Fact Sheet  
Delivered by electronic mail to Case Worker

Online case files are available for review at the following website: <http://www.acgov.org/aceh/index.htm>. If your email address does not appear on the cover page of this notification, ACEH is requesting you provide your email address so that we can correspond with you quickly and efficiently regarding your case.

Should you have any questions, please contact me at (510) 567--6876 or send me an electronic mail message at [mark.detterman@acgov.org](mailto:mark.detterman@acgov.org).

Sincerely,

Mark E. Detterman, P.G., C.E.G.  
Senior Hazardous Materials Specialist

Enclosures: Attachment 1 – Responsible Party (ies) Legal Requirements / Obligations  
Electronic Report Upload (ftp) Instructions

cc: Daniel Villanueva, Advanced GeoEnvironmental, Inc, 837 Shaw Road, Stockton, CA 95215  
(sent via electronic mail to [DVillanueva@advgeoenv.com](mailto:DVillanueva@advgeoenv.com))

William Little, Advanced GeoEnvironmental, Inc, 837 Shaw Road, Stockton, CA 95215  
(sent via electronic mail to [WLittle@advgeoenv.com](mailto:WLittle@advgeoenv.com))

Dilan Roe (sent via electronic mail to [dilan.roe@acgov.org](mailto:dilan.roe@acgov.org))

Mark Detterman, ACEH, (sent via electronic mail to [mark.detterman@acgov.org](mailto:mark.detterman@acgov.org))  
Geotracker, Electronic File

## Attachment 1

### Responsible Party(ies) Legal Requirements / Obligations

#### REPORT REQUESTS

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

#### ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements ([http://www.waterboards.ca.gov/water\\_issues/programs/ust/electronic\\_submittal/](http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/)).

#### PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

#### PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

#### UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

#### AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

<b>Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)</b>	<b>REVISION DATE:</b> May 15, 2014
	<b>ISSUE DATE:</b> July 5, 2005
	<b>PREVIOUS REVISIONS:</b> October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010, July 25, 2010
<b>SECTION:</b> Miscellaneous Administrative Topics & Procedures	<b>SUBJECT:</b> Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

## REQUIREMENTS

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as **a single portable document format (PDF) with no password protection.**
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document.** Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

RO#\_Report Name\_Year-Month-Date (e.g., RO#5555\_WorkPlan\_2005-06-14)

## Submission Instructions

- 1) Obtain User Name and Password
  - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
    - i) Send an e-mail to [deh.loptoxic@acgov.org](mailto:deh.loptoxic@acgov.org)
  - b) In the subject line of your request, be sure to include "**ftp PASSWORD REQUEST**" and in the body of your request, include the **Contact Information, Site Addresses**, and the **Case Numbers (RO# available in Geotracker) you will be posting for.**
- 2) Upload Files to the ftp Site
  - a) Using Internet Explorer (IE4+), go to <ftp://alcoftp1.acgov.org>
    - (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
  - b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
  - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
  - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
  - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
  - a) Send email to [deh.loptoxic@acgov.org](mailto:deh.loptoxic@acgov.org) notify us that you have placed a report on our ftp site.
  - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
  - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
  - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

# **APPENDIX B**



**Advanced  
GeoEnvironmental, Inc.**

837 Shaw Road, Stockton, CA 95215  
(209) 467-1006 FAX: (209) 467-1118

**BORING LOG**

BOREHOLE NO.: **B10**  
TOTAL DEPTH: **50 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE-NC-12-2461

Drilling Co.: AGE  
Rig/Auger Type: AMS Powerprobe/ 1.25" rods  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 07 May 2013

Notes: B10 advanced to 50 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
-5	B10-5	---	0		ML: brown, dry, SILT, no odor
-10	B10-10	---	0		ML: light brown, dry, SILT, some fine grained sand, no odor
-15	B10-15	---	0		ML: light brown, dry, SILT, some fine grained sand, no odor
-20		---	---		No soil sample collected.
-25		---	---		No soil sample collected.
-30		---	---		No soil sample collected.
-35		---	---		No soil sample collected.
-40		---	---		No soil sample collected.
-45		---	---		No soil sample collected.
-50		---	---		No soil sample collected; grab groundwater samples collected between 46 and 50 feet bsg.
-55					





**Advanced  
GeoEnvironmental, Inc.**

837 Shaw Road, Stockton, CA 95215  
(209) 467-1006 FAX: (209) 467-1118

**BORING LOG**

BOREHOLE NO.: **B11**

TOTAL DEPTH: **15 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE-NC-12-2461

Drilling Co.: AGE  
Rig/Auger Type: Geoprobe 5400/ 1.25" rods  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 22 October 2013

Notes: B11 advanced to 15 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
☑ Water level in completed well  
Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------





**Advanced  
GeoEnvironmental, Inc.**

837 Shaw Road, Stockton, CA 95215  
(209) 467-1006 FAX: (209) 467-1118

**BORING LOG**

BOREHOLE NO.: **B12**  
TOTAL DEPTH: **15 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE-NC-12-2461

Drilling Co.: AGE  
Rig/Auger Type: Geoprobe 5400/ 1.25" rods  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 22 October 2013

Notes: B12 advanced to 15 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
☑ Water level in completed well  
Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
-5	B12-5	---	0		ML: brown, dry, SILT, no odor
			0		ML: brown, dry, SILT, no odor
-10	B12-10	---	0.3		SM: brown to tan, dry, SILTY SAND, fine grained sand, no odor
			0		ML: brown, dry, SILT, some fine grained sand (10%), no odor
			0		ML: brown, dry, SILT, some fine grained sand (10%), no odor
-15	B12-15	---			
-20					



**Advanced  
GeoEnvironmental, Inc.**

837 Shaw Road, Stockton, CA 95215  
(209) 467-1006 FAX: (209) 467-1118

**BORING LOG**

BOREHOLE NO.: **B13**  
TOTAL DEPTH: **15 FEET**

Project:	SWISS VALLEY CLEANERS	Drilling Co.:	AGE
Site Location:	1395 MacArthur Boulevard San Leandro, California	Rig/Auger Type:	Limited Access Probe Rig/ 0.75" rods
Project No.:	AGE-NC-12-2461	Logged By:	D. Villanueva
		Reviewed By:	W. Little
		Date(s) Drilled:	22 October 2013

**Notes:** B13 advanced to 15 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
  - ☑ Water level in completed well
- Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------





**Advanced  
GeoEnvironmental, Inc.**

837 Shaw Road, Stockton, CA 95215  
(209) 467-1006 FAX: (209) 467-1118

**BORING LOG**

BOREHOLE NO.: **B14**

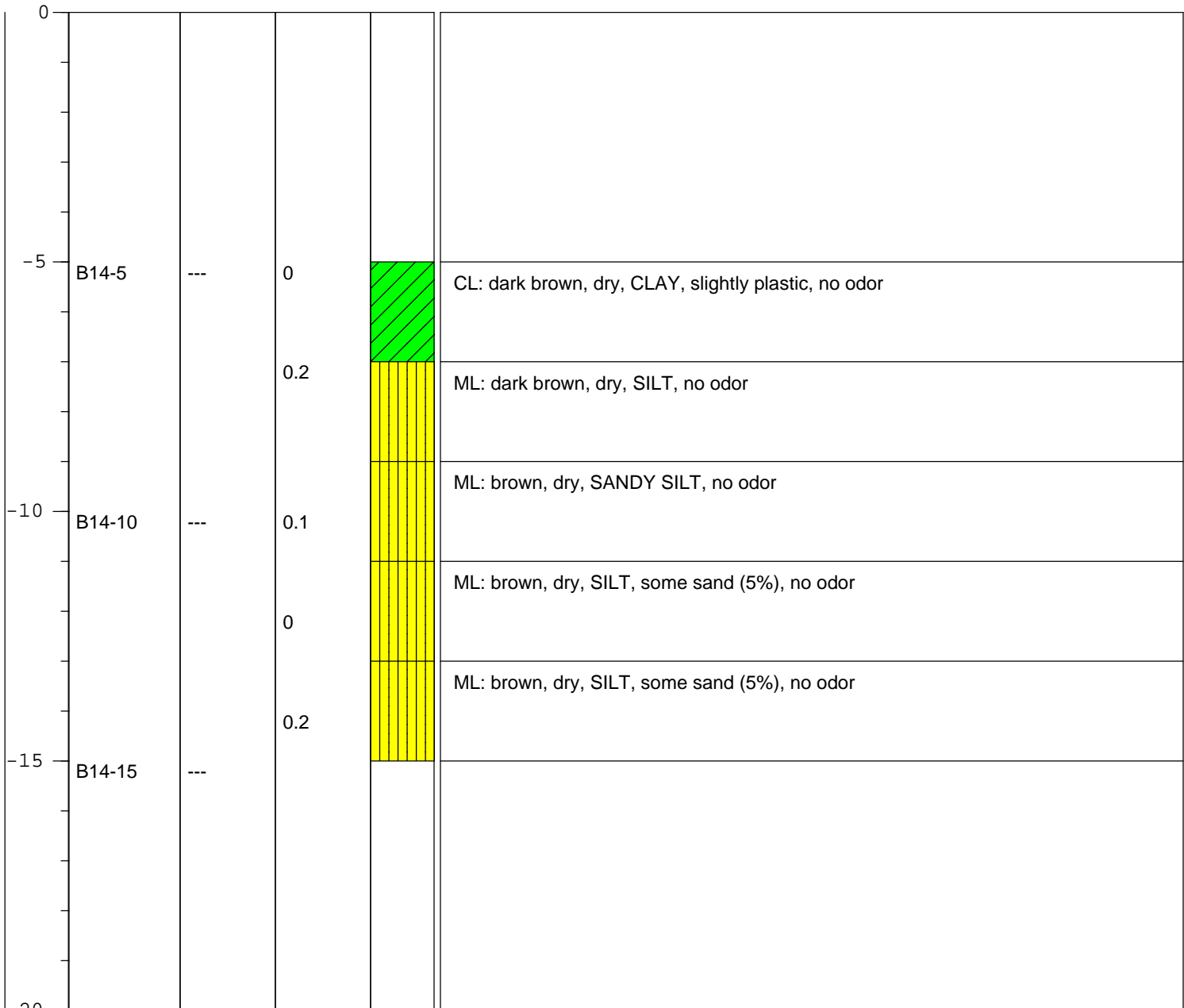
TOTAL DEPTH: **15 FEET**

Project:	SWISS VALLEY CLEANERS	Drilling Co.:	AGE
Site Location:	1395 MacArthur Boulevard San Leandro, California	Rig/Auger Type:	Limited Access Probe Rig; 0.75" rods
Project No.:	AGE-NC-12-2461	Logged By:	D. Villanueva
		Reviewed By:	W. Little
		Date(s) Drilled:	22 October 2013

**Notes:** B14 advanced to 15 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------





**Advanced  
GeoEnvironmental, Inc.**

837 Shaw Road, Stockton, CA 95215  
(209) 467-1006 FAX: (209) 467-1118

**BORING LOG**

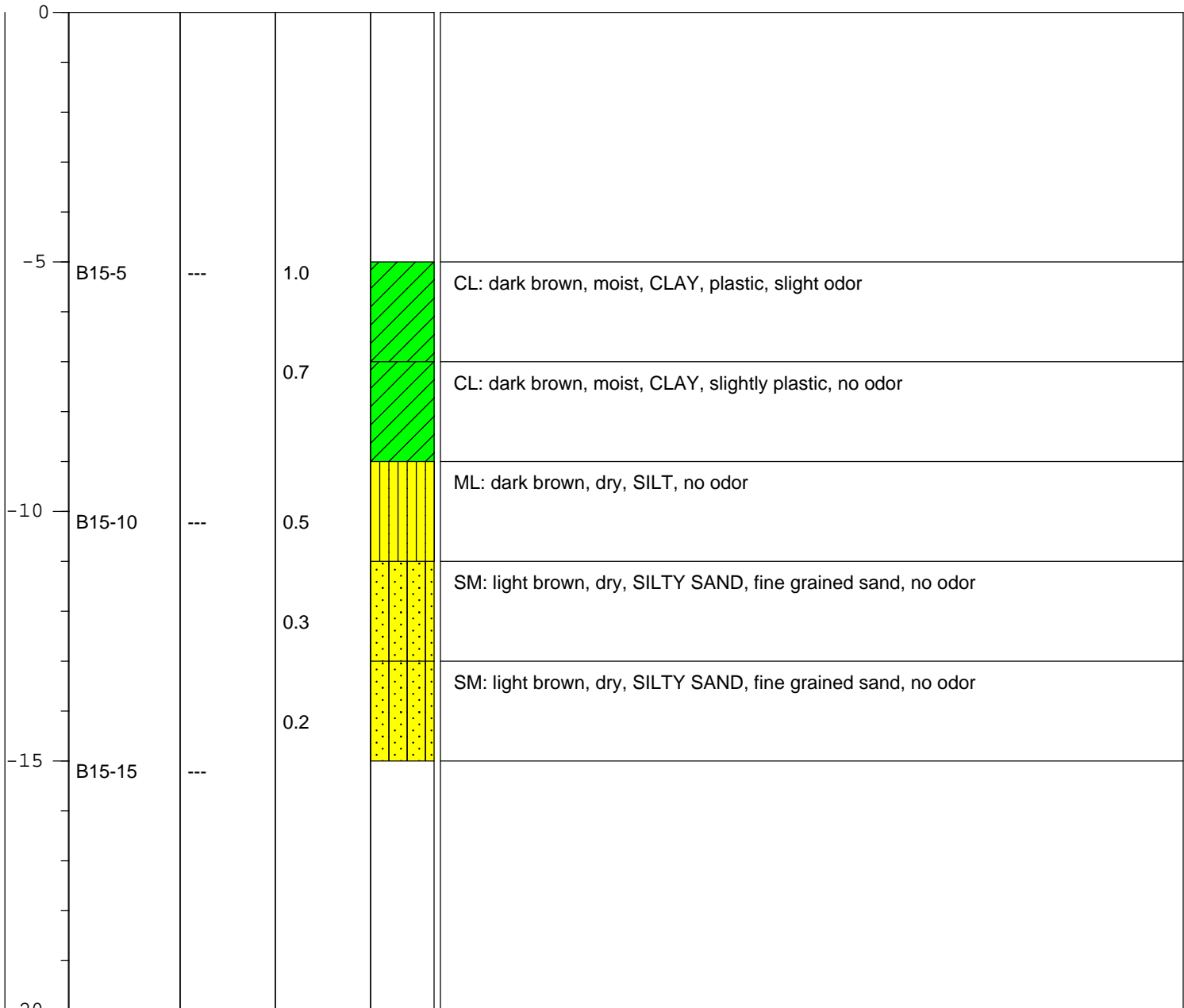
BOREHOLE NO.: **B15**  
TOTAL DEPTH: **15 FEET**

Project:	SWISS VALLEY CLEANERS	Drilling Co.:	AGE
Site Location:	1395 MacArthur Boulevard San Leandro, California	Rig/Auger Type:	Limited Access Probe Rig; 0.75" rods
Project No.:	AGE-NC-12-2461	Logged By:	D. Villanueva
		Reviewed By:	W. Little
		Date(s) Drilled:	22 October 2013

**Notes:** B15 advanced to 15 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☑ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------





**Advanced  
GeoEnvironmental, Inc.**

837 Shaw Road, Stockton, CA 95215  
(209) 467-1006 FAX: (209) 467-1118

**BORING LOG**

BOREHOLE NO.: **B16**

TOTAL DEPTH: **15 FEET**

Project: SWISS VALLEY CLEANERS

Drilling Co.: AGE

Site Location: 1395 MacArthur Boulevard  
San Leandro, California

Rig/Auger Type: Limited Access Probe Rig; 0.75" rods

Logged By: D. Villanueva

Project No.: AGE-NC-12-2461

Reviewed By: W. Little

Date(s) Drilled: 23 October 2013

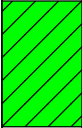
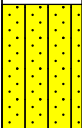
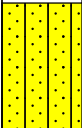
Notes: B16 advanced to 15 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling

Page 1 of 1

☑ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
-5	B16-5	---	0		CL: dark brown, dry, CLAY, plastic, no odor
-10	B16-10	---	0.2		SM: brown, dry, SILTY SAND, fine grained sand, no odor
-15	B16-15	---	0.2		SM: brown, dry, SILTY SAND, fine grained sand, no odor
-20					



**Advanced  
GeoEnvironmental, Inc.**

837 Shaw Road, Stockton, CA 95215  
(209) 467-1006 FAX: (209) 467-1118

**BORING LOG**

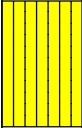
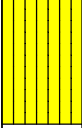
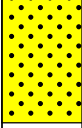
BOREHOLE NO.: **B17**  
TOTAL DEPTH: **15 FEET**

Project:	SWISS VALLEY CLEANERS	Drilling Co.:	AGE
Site Location:	1395 MacArthur Boulevard San Leandro, California	Rig/Auger Type:	Limited Access Probe Rig; 0.75" rods
Project No.:	AGE-NC-12-2461	Logged By:	D. Villanueva
		Reviewed By:	W. Little
		Date(s) Drilled:	23 October 2013

**Notes:** B17 advanced to 15 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☑ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
-5	B17-5	---	0.3		ML: dark brown, dry, SILT, no odor
-10	B17-10	---	0.6		ML: brown, dry, SILT, no odor
-15	B17-15	---	0.2		SP: brown, dry, SAND with gravel (10%), no odor
-20					



**Advanced  
GeoEnvironmental, Inc.**

837 Shaw Road, Stockton, CA 95215  
(209) 467-1006 FAX: (209) 467-1118

**BORING LOG**

BOREHOLE NO.: **B18**  
TOTAL DEPTH: **15 FEET**

Project:	SWISS VALLEY CLEANERS	Drilling Co.:	AGE
Site Location:	1395 MacArthur Boulevard San Leandro, California	Rig/Auger Type:	Limited Access Probe Rig; 0.75" rods
Project No.:	AGE-NC-12-2461	Logged By:	D. Villanueva
		Reviewed By:	W. Little
		Date(s) Drilled:	23 October 2013

**Notes:** B18 advanced to 15 feet bsg. Boring backfilled to surface grade with Portland cement.

Water level during drilling  
 Water level in completed well

Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
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0					
-5	B18-5	---	0.4		ML: brown, dry, SILT, no odor
-10	B18-10	---	0.7		ML: brown, dry, SILT, no odor
-15	B18-15	---	0		ML: brown, dry, SILT, no odor
-20					





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**BORING LOG**

BOREHOLE NO.: **B19**

TOTAL DEPTH: **15 FEET**

Project:	SWISS VALLEY CLEANERS	Drilling Co.:	AGE
Site Location:	1395 MacArthur Boulevard San Leandro, California	Rig/Auger Type:	Limited Access Probe Rig; 0.75" rods
Project No.:	AGE-NC-12-2461	Logged By:	D. Villanueva
		Reviewed By:	W. Little
		Date(s) Drilled:	23 October 2013

**Notes:** B19 advanced to 15 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling

☑ Water level in completed well

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Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
-5	B19-5	---	9.8		ML: dark brown, dry, SILT, no odor
-10	B19-10	---	6.4		ML: brown, dry, SILT, no odor
-15	B19-15	---	0.6		ML: brown dry, SILT, some fine grained sand (15%), no odor
-20					



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**BORING LOG**

BOREHOLE NO.: **B20**

TOTAL DEPTH: **15 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE-NC-12-2461

Drilling Co.: AGE  
Rig/Auger Type: Limited Access Probe Rig; 0.75" rods  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 23 October 2013

Notes: B20 advanced to 15 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
-5	B20-5	---	0.4		ML: brown, dry, SILT, no odor
-10	B20-10	---	0.1		ML: light brown, dry, SILT, no odor
-15	B20-15	---	0.1		ML: light brown, dry, SILT, no odor
-20					



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**BORING LOG**

BOREHOLE NO.: **B21**

TOTAL DEPTH: **10 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE-NC-12-2461

Drilling Co.: AGE  
Rig/Auger Type: Hand Auger  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 24 October 2013

Notes: B21 advanced to 10 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
-5	B21-5	---	0		ML: brown, saturated, CLAY, plastic, no odor
-10	B21-10	---	0		ML: brown, saturated, SILT, some sand (10%), fine grained sand, no odor
-15					
-20					



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**BORING LOG**

BOREHOLE NO.: **B23**

TOTAL DEPTH: **5 FEET**

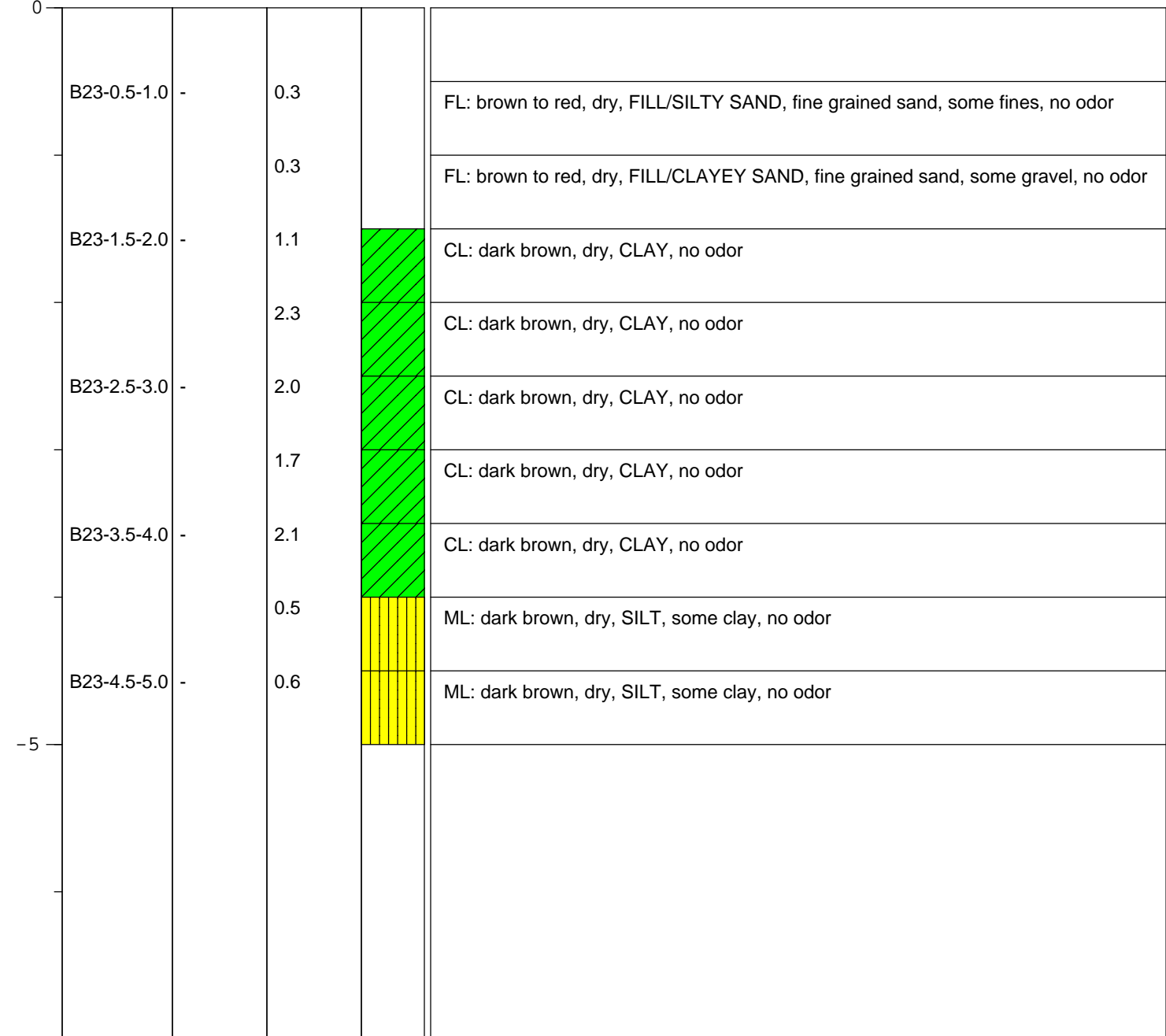
Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Mobile LAR Powerprobe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 28 April 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

☞ Water level during drilling  
☛ Water level in completed well  
Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
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**BORING LOG**

BOREHOLE NO.: **B24**

TOTAL DEPTH: **5 FEET**


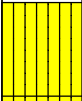

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Mobile LAR Powerprobe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 28 April 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

☞ Water level during drilling  
☛ Water level in completed well  
Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
	B24-0.5-1.0	-	0		FL: gray, dry, FILL, some gravel, some sand, no odor
			0		FL: gray, dry, FILL, some gravel, some sand, no odor
	B24-1.5-2.0	-	0.2		CL: dark brown, dry, CLAY, some fine grained sand, no odor
					no recovery
					no recovery
					no recovery
					no recovery
			0		ML: dark brown, dry, SILT, some clay and sand, no odor
	B24-4.5-5.0	-	0.1		ML: dark brown, dry, SILT, some clay and sand, no odor
-5					



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**BORING LOG**

BOREHOLE NO.: **B25**

TOTAL DEPTH: **5 FEET**

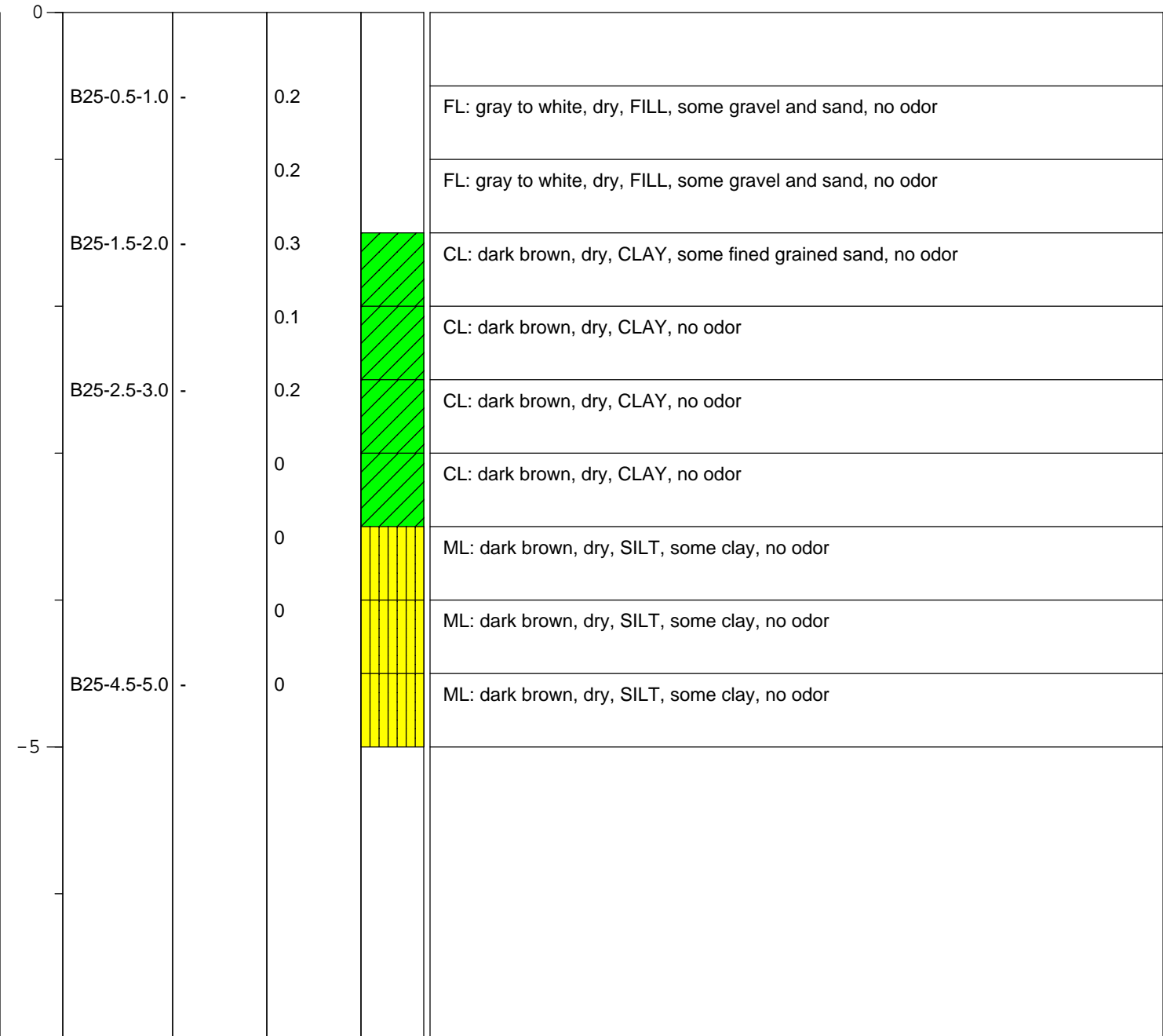
Project:	SWISS VALLEY CLEANERS	Drilling Co.:	AGE
Site Location:	1395 MacArthur Boulevard San Leandro, California	Rig/Auger Type:	Mobile LAR Powerprobe
Project No.:	AGE- 12-2461	Logged By:	D. Villanueva
		Reviewed By:	W. Little
		Date(s) Drilled:	28 April 2014

**Notes:** Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

Water level during drilling  
 Water level in completed well

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Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
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**BORING LOG**

BOREHOLE NO.: **B26**

TOTAL DEPTH: **5 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Mobile LAR Powerprobe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 29 April 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☑ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
	B26-0.5-1.0		0.3		FL: gray to white to brown, dry, FILL, some gravel and sand, no odor
			14.3		SC: brown, dry, CLAYEY SAND, fine grained, no odor
	B26-1.5-2.0		15.2		SC: brown, dry, CLAYEY SAND, fine grained, no odor
			2.1		CL: dark brown, dry, CLAY, some silt, friable, slightly plastic, no odor
			2.5		CL: dark brown, dry, CLAY, some silt, friable, slightly plastic, no odor
	B26-2.5-3.0		17.7		CL: dark brown, dry, CLAY, some silt, friable, slightly plastic, no odor
			7.6		CL: dark brown, dry, CLAY, some silt, friable, slightly plastic, no odor
			2.2		CL: dark brown, dry, CLAY, some silt, friable, slightly plastic, no odor
	B26-4.5-5.0		2.2		CL: dark brown, dry, CLAY, some silt, friable, slightly plastic, no odor
-5					



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**BORING LOG**

BOREHOLE NO.: **B27**

TOTAL DEPTH: **5 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Mobile LAR Powerprobe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 29 April 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
☑ Water level in completed well

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Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
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0					
	B27-0.5-1.0	-	0.4		FL: gray to white to light brown, dry, FILL, some sand and gravel, no odor
			0.5		SC: brown, dry, CLAYEY SAND, fine grained sand, no odor
	B27-1.5-2.0	-	0.5		SC: brown, dry, CLAYEY SAND, fine grained sand, no odor
			0.5		CL: brown, dry, CLAY, plastic, no odor
	B27-2.5-3.0	-	0.4		CL: brown, dry, CLAY, plastic, no odor
			0.7		CL: brown, dry, CLAY, plastic, no odor
			0.9		CL: brown, dry, CLAY, plastic, no odor
			0.5		ML: brown, dry, SILT, no odor
	B27-4.5-5.0	-	0.9		ML: brown, dry, SILT, no odor
-5					





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**BORING LOG**

BOREHOLE NO.: **B28**

TOTAL DEPTH: **5 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

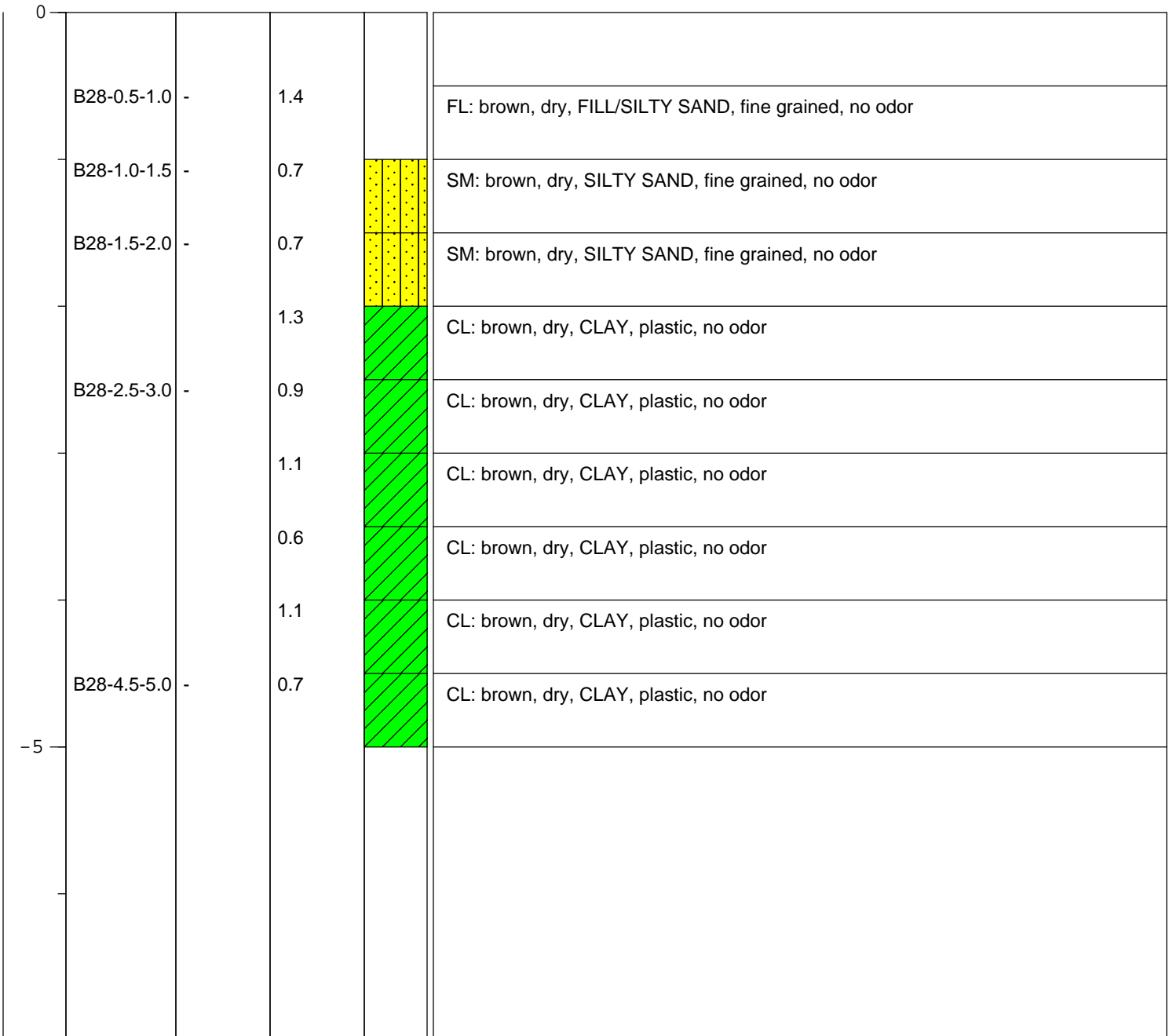
Drilling Co.: AGE  
Rig/Auger Type: Mobile LAR Powerprobe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 29 April 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

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Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
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**BORING LOG**

BOREHOLE NO.: **B29**

TOTAL DEPTH: **5 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

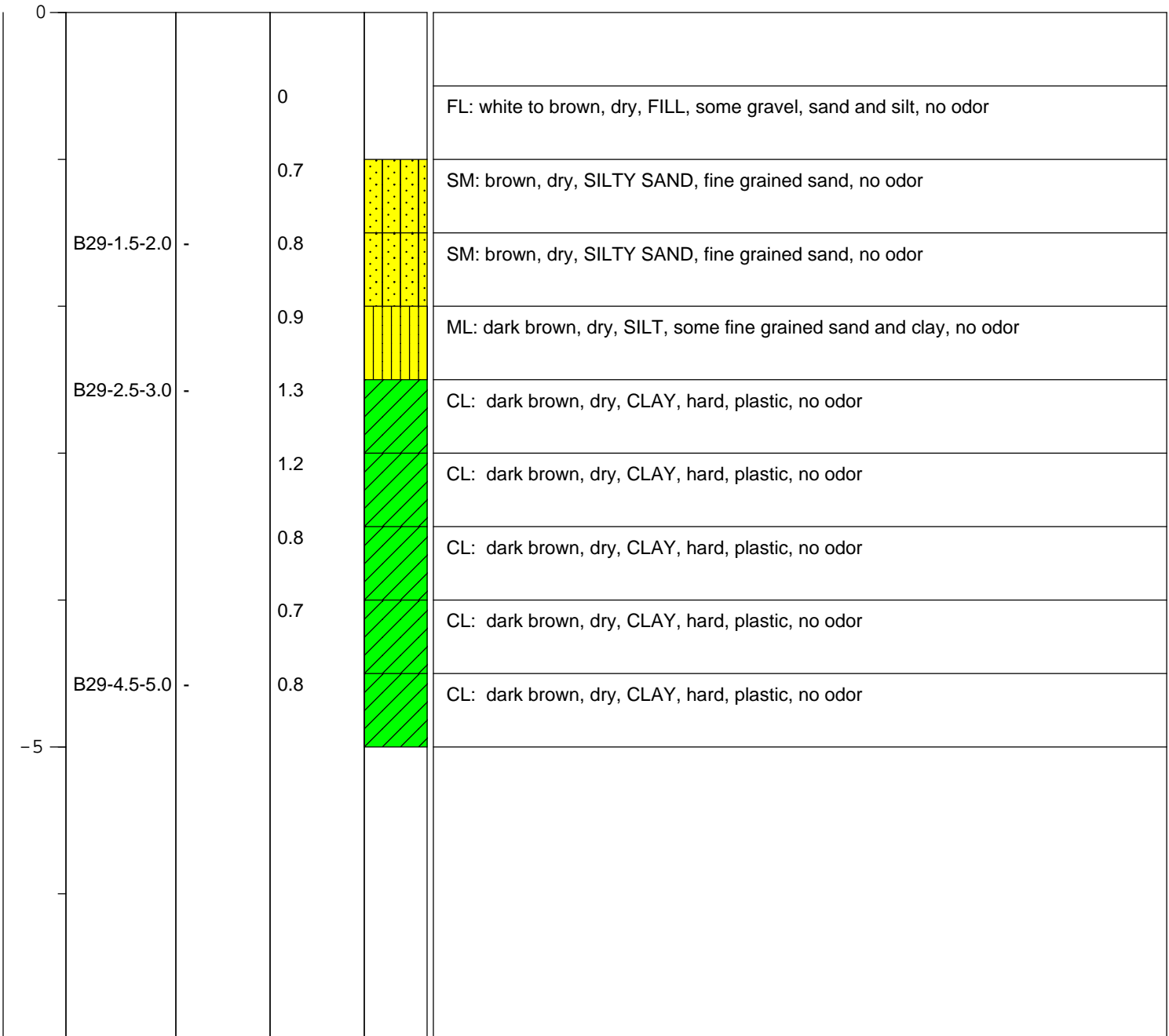
Drilling Co.: AGE  
Rig/Auger Type: Mobile LAR Powerprobe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 29 April 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

☞ Water level during drilling  
☛ Water level in completed well

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Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
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**BORING LOG**

BOREHOLE NO.: **B30**

TOTAL DEPTH: **5 FEET**

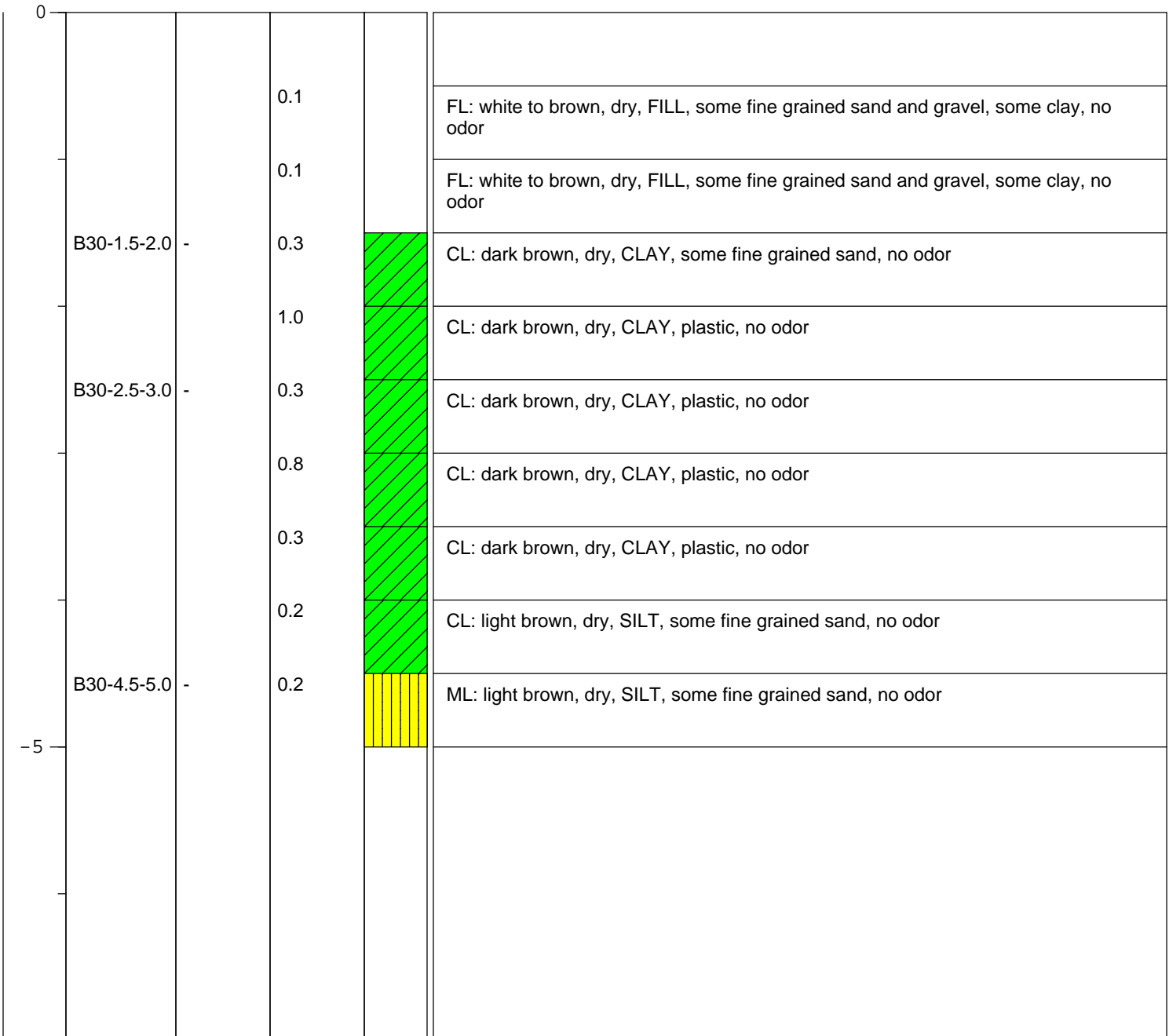
Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Mobile LAR Powerprobe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 30 April 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
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**BORING LOG**

BOREHOLE NO.: **B31**

TOTAL DEPTH: **5 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Mobile LAR Powerprobe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 30 April 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

☞ Water level during drilling  
☛ Water level in completed well  
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Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
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0					
		0.7			FL: white to brown, dry, FILL, some fine grained sand and gravel, some clay, no odor
		0.7			FL: white to brown, dry, FILL, some fine grained sand and gravel, some clay, no odor
	B31-1.5-2.0 -	0.8			CL: dark brown, dry, CLAY, some fine grained sand, no odor
		1.3			CL: dark brown, dry, CLAY, plastic, no odor
	B31-2.5-3.0 -	1.8			CL: dark brown, dry, CLAY, plastic, no odor
		1.7			CL: dark brown, dry, CLAY, plastic, no odor
		1.7			CL: dark brown, dry, CLAY, plastic, no odor
		no recovery			CL: light brown, dry, SILT, some fine grained sand, no odor
		no recovery			ML: light brown, dry, SILT, some fine grained sand, no odor
-5					



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**BORING LOG**

BOREHOLE NO.: **B32**

TOTAL DEPTH: **5 FEET**

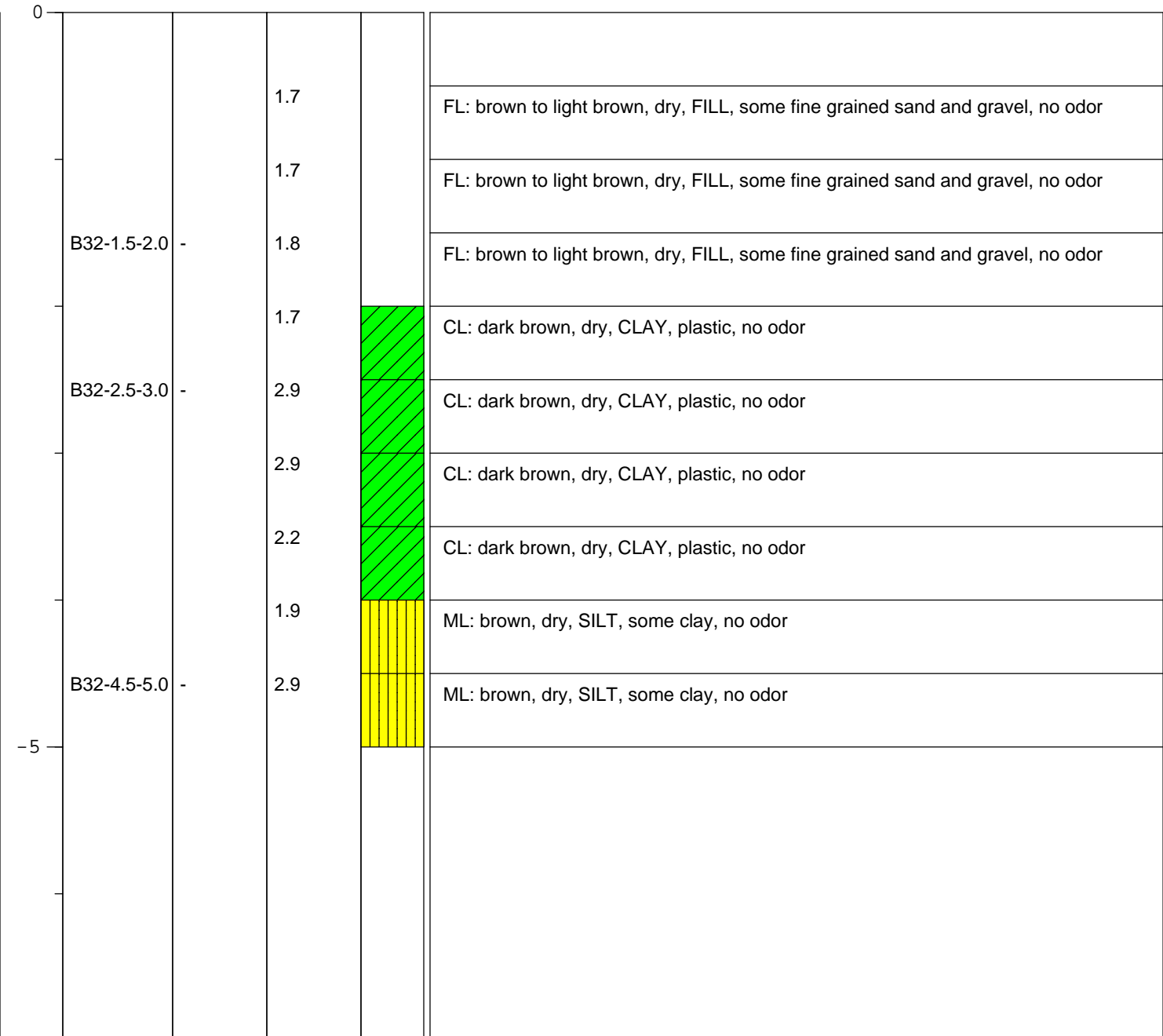
Project:	SWISS VALLEY CLEANERS	Drilling Co.:	AGE
Site Location:	1395 MacArthur Boulevard San Leandro, California	Rig/Auger Type:	Mobile LAR Powerprobe
Project No.:	AGE- 12-2461	Logged By:	D. Villanueva
		Reviewed By:	W. Little
		Date(s) Drilled:	30 April 2014

**Notes:** Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

Water level during drilling  
 Water level in completed well

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Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------





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**BORING LOG**

BOREHOLE NO.: **B33**

TOTAL DEPTH: **5 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

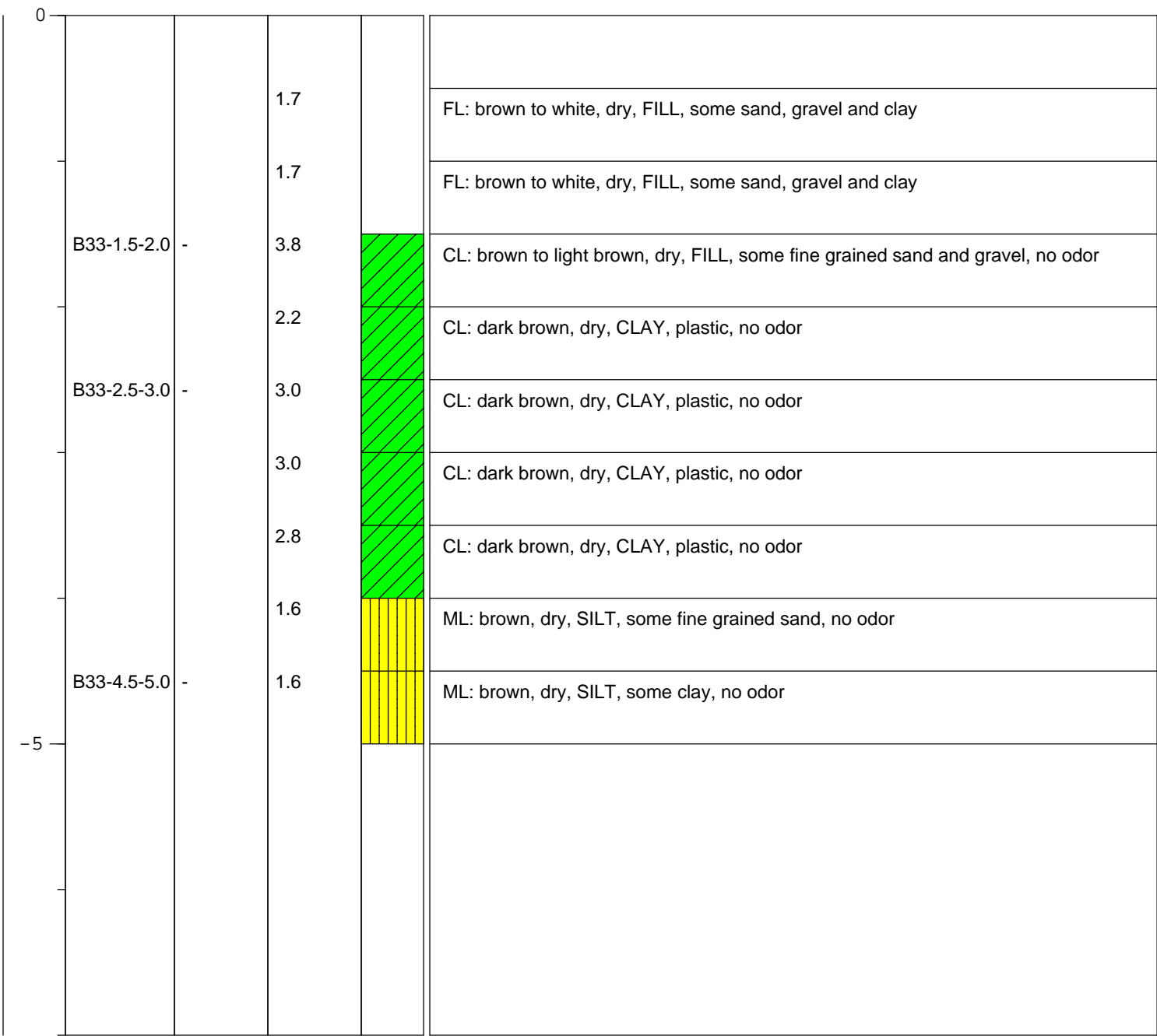
Drilling Co.: AGE  
Rig/Auger Type: Mobile LAR Powerprobe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 30 April 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
☑ Water level in completed well

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Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
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**BORING LOG**

BOREHOLE NO.: **B34**

TOTAL DEPTH: **5 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Mobile LAR Powerprobe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 30 April 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
		0.9			FL: brown to red, dry, FILL, some fine grained sand and gravel, some clay, no odor
		1			FL: brown to red, dry, FILL, some fine grained sand and gravel, some clay, no odor
B34-1.5-2.0	-	1.1			FL: brown to red, dry, FILL, some fine grained sand and gravel, some clay, no odor
		0.5			CL: dark brown, dry, CLAY, plastic, no odor
B34-2.5-3.0	-	1.2			ML: dark brown, dry, SILT, no odor
		1.2			ML: dark brown, dry, SILT, no odor
		1.2			ML: dark brown, dry, SILT, no odor
		1.5			ML: dark brown, dry, SILT, no odor
B34-4.5-5.0	-	2.0			ML: dark brown, dry, SILT, no odor
-5					



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**BORING LOG**

BOREHOLE NO.: **B35**

TOTAL DEPTH: **5 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Mobile LAR Powerprobe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 01 May 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
			2.2		FL: brown, dry, FILL, some fine grained sand, some gravel and clay, no odor
			2.2		FL: brown, dry, FILL, some fine grained sand, some gravel and clay, no odor
	B35-1.5-2.0 -		2.3		FL: brown, dry, FILL, some fine grained sand, some gravel and clay, no odor
			1.9		FL: brown, dry, FILL, some fine grained sand, some gravel and clay, no odor
	B35-2.5-3.0 -		3.1		CL: dark brown, dry, CLAY, slightly plastic, no odor
			2.9		CL: dark brown, dry, CLAY, slightly plastic, no odor
			2.9		CL: dark brown, dry, CLAY, slightly plastic, no odor
			2.4		CL: dark brown, dry, CLAY, slightly plastic, no odor
	B35-4.5-5.0 -		2.4		CL: dark brown, dry, CLAY, slightly plastic, no odor
-5					





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**BORING LOG**

BOREHOLE NO.: **B36**

TOTAL DEPTH: **5 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Mobile LAR Powerprobe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 01 May 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
		1.3			FL: white to brown, dry, FILL, some silt and sand, no odor
		1.3			FL: white to brown, dry, FILL, some silt and sand, no odor
	B36-1.5-2.0	1.6			CL: dark brown, dry, CLAY, plastic, no odor
		2.4			CL: dark brown, dry, CLAY, plastic, no odor
	B36-2.5-3.0	3.2			CL: dark brown, dry, CLAY, plastic, no odor
		0.8			CL: dark brown, dry, CLAY, plastic, no odor
		0.8			CL: dark brown, dry, CLAY, plastic, no odor
		1.0			ML: brown, dry, SILT, no odor
	B36-4.5-5.0	1.0			ML: brown, dry, SILT, no odor
-5					



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**BORING LOG**

BOREHOLE NO.: **B37**

TOTAL DEPTH: **5 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Mobile LAR Powerprobe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 01 May 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
		1.3			FL: brown to white, dry, FILL, some fine grained sand, silt and clay, no odor
		1.3			FL: brown to white, dry, FILL, some fine grained sand, silt and clay, no odor
	B37-1.5-2.0	2.0			CL: dark brown, dry, CLAY, slightly plastic, no odor
		1.5			CL: dark brown, dry, CLAY, slightly plastic, no odor
	B37-2.5-3.0	2.8			ML: brown, dry, SILT, no odor
		3.3			ML: brown, dry, SILT, no odor
		3.3			ML: brown, dry, SILT, no odor
		2.4			ML: brown, dry, SILT, no odor
	B37-4.5-5.0	2.4			ML: brown, dry, SILT, no odor
-5					



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**BORING LOG**

BOREHOLE NO.: **B38**

TOTAL DEPTH: **5 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Hand Auger  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 02 May 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
☑ Water level in completed well  
Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
		0.2			FL: brown, dry, FILL, some fine grained sand, clay and gravel, no odor
B38-1.0-1.5	-	4.6			FL: brown, dry, FILL, some fine grained sand, clay and gravel, no odor
B38-1.5-2.0	-	3.1			CL: dark brown, dry, CLAY, slightly plastic, no odor
		3.3			CL: dark brown, dry, CLAY, slightly plastic, no odor
B38-2.5-3.0	-	1.0			ML: brown, dry, SILT, some fine grained sand, no odor
		0.6			ML: brown, dry, SILT, some fine grained sand, no odor
		0.6			ML: brown, dry, SILT, some fine grained sand, no odor
		0.6			ML: brown, dry, SILT, some fine grained sand, no odor
B38-4.5-5.0	-	0.6			ML: brown, dry, SILT, some fine grained sand, no odor
-5					



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**BORING LOG**

BOREHOLE NO.: **B39**

TOTAL DEPTH: **5 FEET**

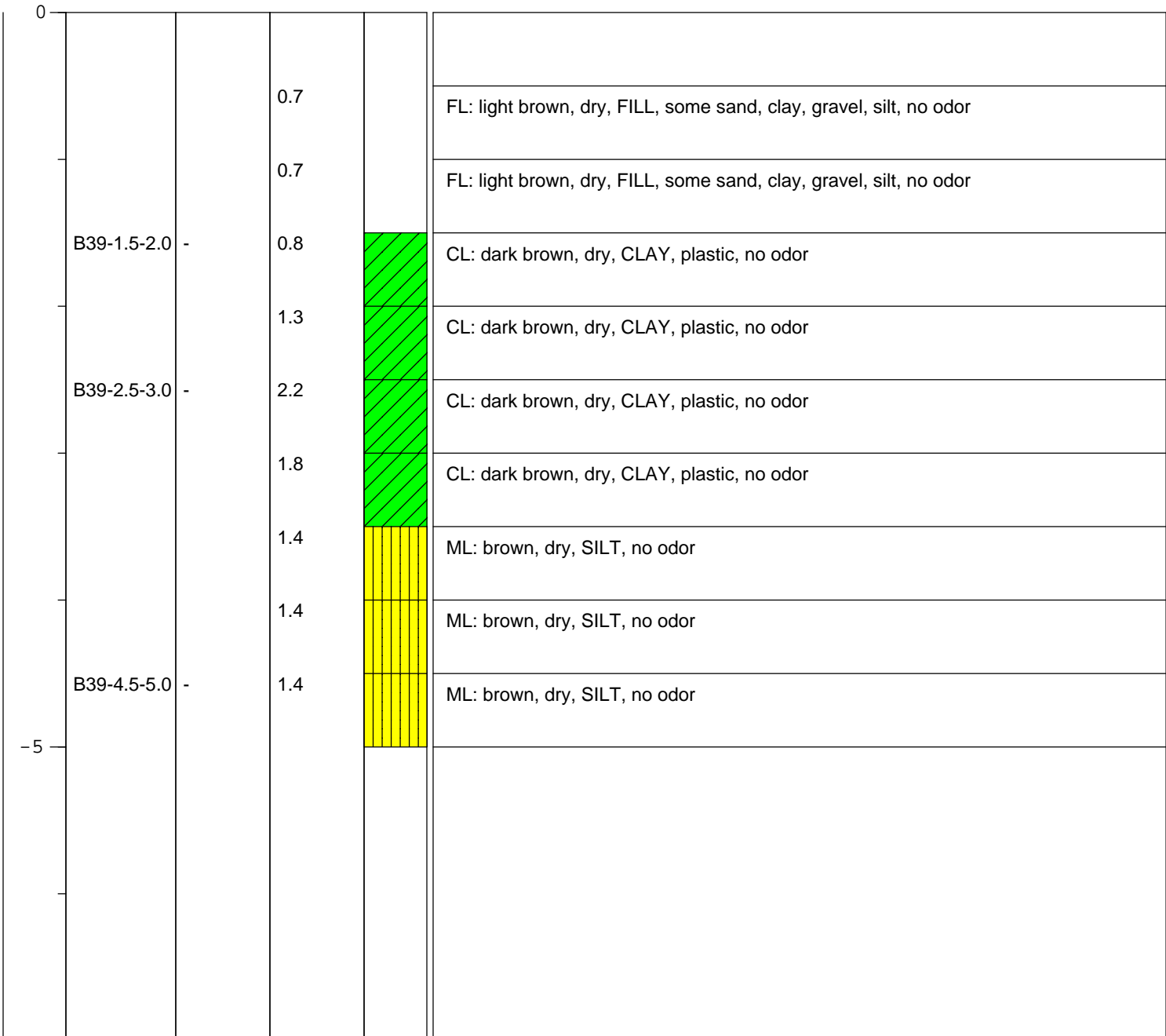
Project:	SWISS VALLEY CLEANERS	Drilling Co.:	AGE
Site Location:	1395 MacArthur Boulevard San Leandro, California	Rig/Auger Type:	Mobile LAR Powerprobe
Project No.:	AGE- 12-2461	Logged By:	D. Villanueva
		Reviewed By:	W. Little
		Date(s) Drilled:	02 May 2014

**Notes:** Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

☞ Water level during drilling  
☛ Water level in completed well

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Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
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**BORING LOG**

BOREHOLE NO.: **B40**

TOTAL DEPTH: **5 FEET**

Project: SWISS VALLEY CLEANERS

Drilling Co.: AGE

Site Location: 1395 MacArthur Boulevard  
San Leandro, California

Rig/Auger Type: Mobile LAR Powerprobe

Logged By: D. Villanueva

Project No.: AGE- 12-2461

Reviewed By: W. Little

Date(s) Drilled: 02 May 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling

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☑ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
			1.7		FL: brown, dry, FILL, some sand, gravel, silt and clay, no odor
			1.7		FL: brown, dry, FILL, some sand, gravel, silt and clay, no odor
	B40-1.5-2.0		1.9		FL: brown, dry, FILL, some sand, gravel, silt and clay, no odor
			2.2		CL: dark brown, dry, CLAY, plastic, no odor
	B40-2.5-3.0		1.7		CL: dark brown, dry, CLAY, plastic, no odor
			1.4		CL: dark brown, dry, CLAY, plastic, no odor
			1.4		CL: dark brown, dry, CLAY, plastic, no odor
			2.5		ML: brown, moist, SILT, some clay, plastic, no odor
	B40-4.5-5.0		2.5		ML: brown, moist, SILT, some clay, plastic, no odor
-5					



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**BORING LOG**

BOREHOLE NO.: **B41**

TOTAL DEPTH: **5 FEET**

Project: SWISS VALLEY CLEANERS

Drilling Co.: AGE

Site Location: 1395 MacArthur Boulevard  
San Leandro, California

Rig/Auger Type: Mobile LAR Powerprobe

Logged By: D. Villanueva

Project No.: AGE- 12-2461

Reviewed By: W. Little

Date(s) Drilled: 05 May 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

☞ Water level during drilling

Page 1 of 1

☛ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
		0			FL: gray, dry, CLAY, some medium grained sand, some gravel, plastic, no odor
		0			FL: gray, dry, CLAY, some medium grained sand, some gravel, plastic, no odor
	B41-1.5-2.0	0			FL: gray, dry, CLAY, some medium grained sand, some gravel, plastic, no odor
		-			no recovery
		-			no recovery
		-			no recovery
		-			no recovery
		-			ML: brown, dry, SILT, no odor
	B41-4.5-5.0	0.3			ML: brown, dry, SILT, no odor
-5					



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**BORING LOG**

BOREHOLE NO.: **B42**

TOTAL DEPTH: **5 FEET**

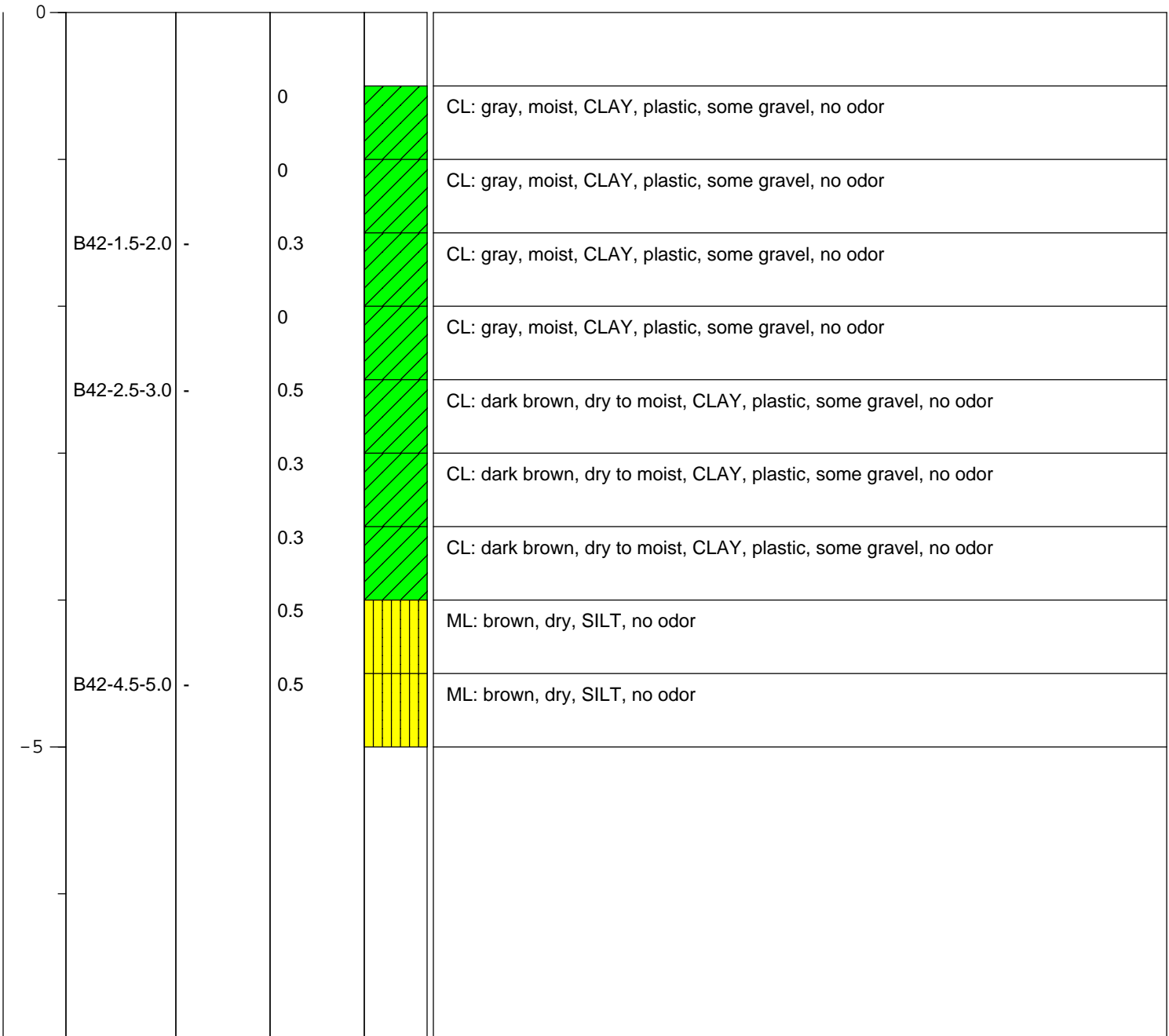
Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Mobile LAR Powerprobe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 05 May 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
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**BORING LOG**

BOREHOLE NO.: **B43**

TOTAL DEPTH: **5 FEET**

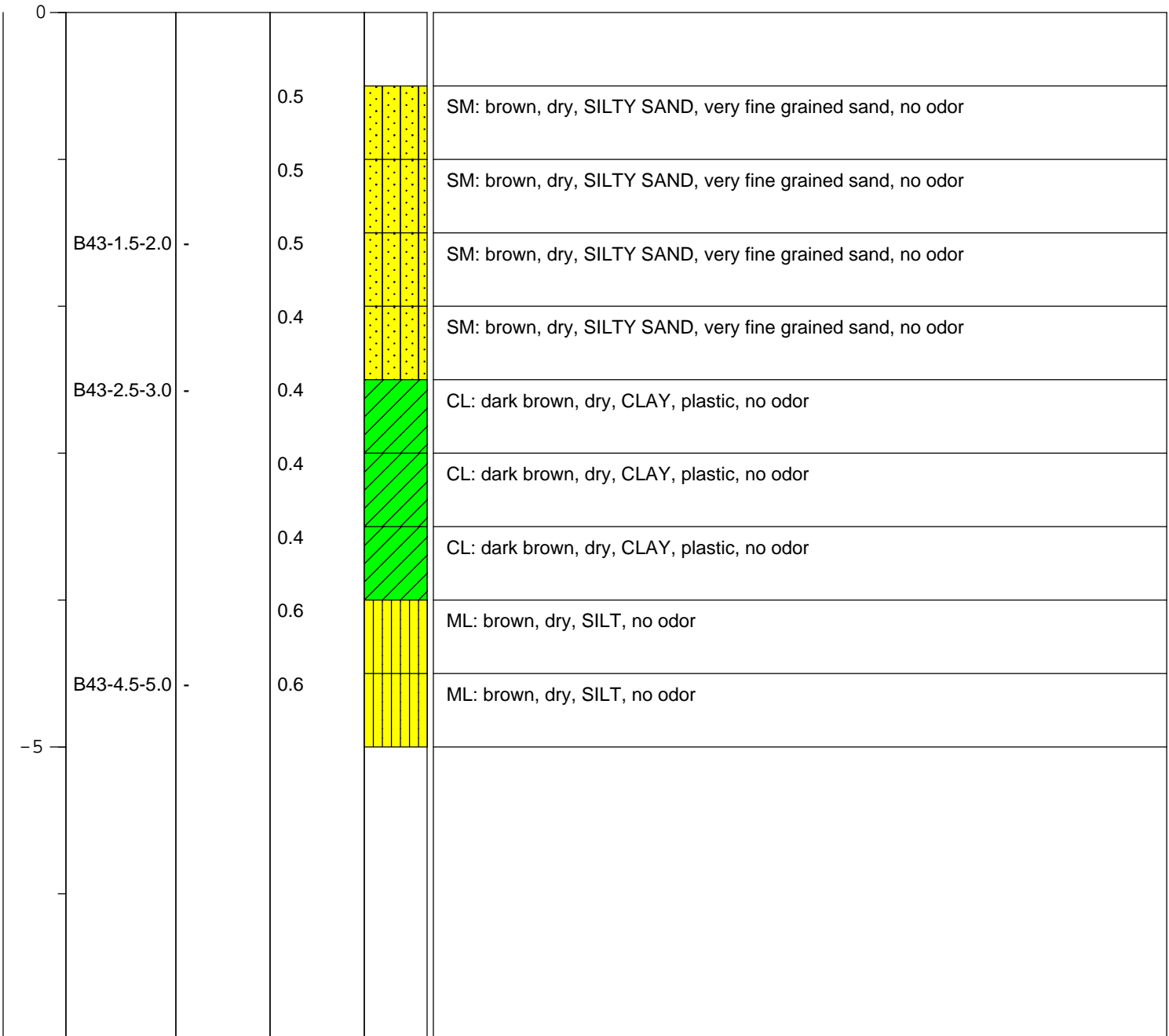
Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Mobile LAR Powerprobe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 06 May 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
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**BORING LOG**

BOREHOLE NO.: **B44**

TOTAL DEPTH: **5 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Geoprobe 5400  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 07 May 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

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Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
		0.1			CL: brown, dry, CLAY, slightly plastic, no odor
		0.1			CL: brown, dry, CLAY, slightly plastic, no odor
B44-1.5-2.0	-	0.1			CL: brown, dry, CLAY, slightly plastic, no odor
		0.6			ML: light brown, dry, SILT, some very fine grained sand, no odor
B44-2.5-3.0	-	0.6			ML: light brown, dry, SILT, some very fine grained sand, no odor
		0.5			ML: light brown, dry, SILT, some very fine grained sand, no odor
		0.5			ML: light brown, dry, SILT, some very fine grained sand, no odor
		0.4			ML: light brown, dry, SILT, some very fine grained sand, no odor
B44.5-5.0	-	0.4			ML: light brown, dry, SILT, some very fine grained sand, no odor
-5					



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**BORING LOG**

BOREHOLE NO.: **B45**

TOTAL DEPTH: **5 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Geoprobe 5400  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 07 May 2014

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
☑ Water level in completed well

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Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
		0.1			FL: brown, dry, FILL, some fine grained sand, some gravel, no odor
		0.4			CL: dark brown, dry, CLAY, no odor
B44-1.5-2.0	-	0.3			CL: dark brown, dry, CLAY, no odor
		0.6			ML: light brown, dry, SILT, some fine grained sand, no odor
B44-2.5-3.0	-	1.0			ML: light brown, dry, SILT, some fine grained sand, no odor
		0.5			ML: light brown, dry, SILT, some fine grained sand, no odor
		0.5			ML: light brown, dry, SILT, some fine grained sand, no odor
		0.4			ML: light brown, dry, SILT, some fine grained sand, no odor
B44.5-5.0	-	0.4			ML: light brown, dry, SILT, some fine grained sand, no odor
-5					



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**BORING LOG**

BOREHOLE NO.: **B46**

TOTAL DEPTH: **3 FEET**

Project: SWISS VALLEY CLEANERS  
 Site Location: 1395 MacArthur Boulevard  
 San Leandro, California  
 Project No.: AGE- 12-2461

Drilling Co.: AGE  
 Rig/Auger Type: Hand Auger  
 Logged By: D. Villanueva  
 Reviewed By: W. Little  
 Date(s) Drilled: 09 February 2015

Notes: Boring advanced to 3 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
 ☒ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
	B46-0.5-1.5	-	0		FL: brown, dry, FILL, silty sand and gravel mixture, fine grained sand, no odor
	B46-1.5-2.0	-	0		FL: brown, dry, FILL, silty sand and gravel mixture, fine grained sand, no odor
	B46-2.5-3.0	-	0		FL: brown, dry, FILL, silty sand and gravel mixture, fine grained sand, no odor
-5					



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**BORING LOG**

BOREHOLE NO.: **B47**

TOTAL DEPTH: **3 FEET**

Project: SWISS VALLEY CLEANERS  
 Site Location: 1395 MacArthur Boulevard  
 San Leandro, California  
 Project No.: AGE- 12-2461

Drilling Co.: AGE  
 Rig/Auger Type: Hand Auger  
 Logged By: D. Villanueva  
 Reviewed By: W. Little  
 Date(s) Drilled: 10 February 2015

Notes: Boring advanced to 3 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
 ☒ Water level in completed well  
 Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
	B47-0.5-1.5	-	0		FL: brown, dry, FILL, silty sand and gravel mixture, fine grained sand, no odor
	B47-1.5-2.0	-	0.1		FL: brown, dry, FILL, silty sand and gravel mixture, fine grained sand, no odor
	B47-2.5-3.0	-	0.1		FL: brown, dry, FILL, silty sand and gravel mixture, fine grained sand, no odor
-5					



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**BORING LOG**

BOREHOLE NO.: **B48**

TOTAL DEPTH: **3 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Hand Auger  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 10 February 2015

Notes: Boring advanced to 3 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
☑ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
	B48-0.5-1.5	-	0		FL: brown, dry, FILL, silty sand and gravel mixture, fine grained sand, no odor
	B48-1.5-2.0	-	0		FL: brown, dry, FILL, silty sand and gravel mixture, fine grained sand, no odor
	B48-2.5-3.0	-	0		FL: brown, dry, FILL, silty sand and gravel mixture, fine grained sand, no odor
-5					



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**BORING LOG**

BOREHOLE NO.: **B49**

TOTAL DEPTH: **3 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Hand Auger  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 10 February 2015

Notes: Boring advanced to 3 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
☑ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
	B49-0.5-1.5	-	0		FL: brown, dry, FILL, silty sand and gravel mixture, fine grained sand, no odor
	B49-1.5-2.0	-	0.1		FL: brown, dry, FILL, silty sand and gravel mixture, fine grained sand, no odor
	B49-2.5-3.0	-	0		FL: brown, moist, FILL, silty sand and gravel mixture, clay in matrix, no odor
-5					



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**BORING LOG**

BOREHOLE NO.: **B50**

TOTAL DEPTH: **3 FEET**

Project: SWISS VALLEY CLEANERS  
 Site Location: 1395 MacArthur Boulevard  
 San Leandro, California  
 Project No.: AGE- 12-2461

Drilling Co.: AGE  
 Rig/Auger Type: Hand Auger  
 Logged By: D. Villanueva  
 Reviewed By: W. Little  
 Date(s) Drilled: 10 February 2015

Notes: Boring advanced to 3 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
 ☒ Water level in completed well  
 Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
	B50-0.5-1.5	-	0		FL: brown, dry, FILL, silty sand and gravel mixture, fine grained sand, no odor
	B50-1.5-2.0	-	0		FL: brown, dry, FILL, silty sand and gravel mixture, fine grained sand, no odor
	B50-2.5-3.0	-	0		FL: brown, dry, FILL, silty sand and gravel mixture, clay in matrix, no odor
-5					



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**BORING LOG**

BOREHOLE NO.: **B51**

TOTAL DEPTH: **10 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Hand Auger/Geoprobe 5400  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 26 February 2015

Notes: Boring advanced to 10 feet bsg. Boring backfilled to surface grade with Portland cement.

☞ Water level during drilling  
☛ Water level in completed well

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Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0	B51-0.5-1.0	-	0		SM: brown, dry, SILTY SAND, fine grained sand, no odor
	B51-1.5-2.0	-	0		ML: dark brown, dry, SILT, some fine grained sand, no odor
	B51-2.5-3.0	-	0		ML: dark brown, dry, SILT, some fine grained sand, no odor
	B51-3.5-4.0	-	0		ML: dark brown, dry, SILT, some fine grained sand, no odor
	B51-4.5-5.0	-	0		ML: brown to red, dry, SILT, some fine grained sand, no odor
-5					ML: brown, dry, SILT, no odor
	B51-6.5-7.0	-	0		ML: brown, dry, SILT, no odor
	B51-8.5-9.0	-	0		ML: brown, dry, SILT, no odor
	B51-9.5-10	-	0		ML: brown, dry, SILT, no odor
-10					





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**BORING LOG**

BOREHOLE NO.: **B52**  
TOTAL DEPTH: **10 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Hand Auger/Geoprobe 5400  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 26 February 2015

Notes: Boring advanced to 10 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
☑ Water level in completed well  
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Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0	B52-0.5-1.0	0			SM: brown, dry, SILTY SAND, fine grained sand, some gravel, no odor
	B52-1.5-2.0	0			ML: dark brown, dry, SILT, some fine grained sand, no odor
	B52-2.5-3.0	0			ML: dark brown, dry, SILT, some fine grained sand, no odor
	B52-3.5-4.0	0			ML: dark brown, dry, SILT, some fine grained sand, no odor
	B52-4.5-5.0	0			ML: light brown, dry, SILT, no odor
-5					ML: light brown, dry, SILT, no odor
	B52-6.5-7.0	0			ML: brown to red, dry, SILT, no odor
	B52-8.5-9.0	0.1			ML: brown to red, dry, SILT, no odor
	B52-9.5-10	0.3			ML: brown to red, dry, SILT, no odor
-10					



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**BORING LOG**

BOREHOLE NO.: **B53**

TOTAL DEPTH: **10 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Hand Auger/Geoprobe 5400  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 26 February 2015

Notes: Boring advanced to 10 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
☑ Water level in completed well  
Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0	B53-0.5-1.0	0			SM: brown, dry, SILTY SAND, fine grained sand, no odor
	B53-1.5-2.0	0			ML: dark brown, dry, SILT, some fine grained sand, no odor
	B53-2.5-3.0	0			ML: dark brown, dry, SILT, some fine grained sand, no odor
	B53-3.5-4.0	0			ML: dark brown, dry, SILT, some fine grained sand, no odor
	B53-4.5-5.0	0			ML: dark brown, dry, SILT, some fine grained sand, no odor
-5	B53-6.5-7.0	0.1			ML: dark brown, dry, SILT, some fine grained sand, no odor
	B53-9.5-10	0			ML: dark brown, dry, SILT, some fine grained sand, no odor
-10					



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**BORING LOG**

BOREHOLE NO.: **B54**  
TOTAL DEPTH: **10 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Hand Auger/Geoprobe 5400  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 26 February 2015

Notes: Boring advanced to 10 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
☑ Water level in completed well  
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Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0	B54-0.5-1.0	-	0.1		SM: brown, dry, SILTY SAND, fine grained sand, some gravel, no odor
	B54-1.5-2.0	-	0.1		ML: dark brown, dry, SILT, some fine grained sand, no odor
	B54-2.5-3.0	-	0.2		ML: dark brown, dry, SILT, some fine grained sand, no odor
	B54-3.5-4.0	-	0.5		ML: dark brown, dry, SILT, some fine grained sand, no odor
	B54-4.5-5.0	-	0.2		ML: brown to red, dry, SILT, some fine grained sand, no odor
-5					ML: brown to red, dry, SILT, some fine grained sand, no odor
	B54-6.5-7.0	-	0		ML: brown to red, dry, SILT, some fine grained sand, no odor
	B54-8.5-9.0	-	0		ML: brown to red, dry, SILT, some fine grained sand, no odor
	B54-9.5-10	-	0		ML: brown to red, dry, SILT, some fine grained sand, no odor
-10					



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**BORING LOG**

BOREHOLE NO.: **B55**  
TOTAL DEPTH: **10 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Hand Auger/Geoprobe 5400  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 26 February 2015

Notes: Boring advanced to 10 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
☑ Water level in completed well  
Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0	B55-0.5-1.0	2.3			SM: brown, dry, SILTY SAND, fine grained sand, no odor
	B55-1.5-2.0	0.4			ML: dark brown, dry, SILT, some fine grained sand, no odor
	B55-2.5-3.0	0.5			ML: dark brown, dry, SILT, some fine grained sand, clay in matrix, no odor
	B55-3.5-4.0	0.5			ML: dark brown, dry, SILT, some fine grained sand, clay in matrix, no odor
	B55-4.5-5.0	0.5			ML: dark brown, dry, SILT, some fine grained sand, clay in matrix, no odor
-5	B55-6.5-7.0	0			ML: brown, dry, SILT, no odor
	B55-9.5-10	0			SM: brown, dry, SILTY SAND, fine grained sand, no odor
-10					



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**BORING LOG**

BOREHOLE NO.: **B56**

TOTAL DEPTH: **10 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Hand Auger/LA Power Probe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 27 February 2015

Notes: Boring advanced to 10 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
☑ Water level in completed well  
Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0	B56-0.5-1.0	-	0		FL: brown, dry, FILL, fine grained sand, some gravel pieces, no odor
	B56-1.5-2.0	-	0		FL: brown, dry, FILL, fine graind sand, some gravel pieces, no odor
					ML: dark brown, dry, SILT, clay in matrix, no odor
	B56-4.5-5.0	-	0.8		
-5					ML: dark brown, dry, SILT, some fine grained sand, no odor
	B56-6.5-7.0	-	1.1		
					ML: dark brown, dry, SILT, some fine grained sand, no odor
	B56-8.5-9.0	-	0.4		
					ML: dark brown, dry, SILT, some fine grained sand, no odor
	B56-9.5-10	-	0.6		
-10					



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**BORING LOG**

BOREHOLE NO.: **B57**  
TOTAL DEPTH: **5 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Hand Auger  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 27 February 2015

Notes: Boring advanced to 5 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
	B57-0.5-1.0	-	0.2		FL: brown, dry, FILL, fine grained sand, some gravel pieces, no odor
	B57-1.5-2.0	-	0.2		FL: brown, dry, FILL, fine graind sand, some gravel pieces, no odor
					ML: dark brown, dry, SILT, clay in matrix, no odor
	B57-4.5-5.0	-	1.6		
-5					



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**BORING LOG**

BOREHOLE NO.: **B58**

TOTAL DEPTH: **10 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Hand Auger/LA Power Probe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 27 February 2015

Notes: Boring advanced to 10 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
☑ Water level in completed well  
Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0	B58-0.5-1.0	-	0.6		FL: brown, dry, FILL, fine grained sand, some gravel pieces, no odor
	B58-1.5-2.0	-	0.7		FL: brown, dry, FILL, fine graind sand, some gravel pieces, no odor
					ML: dark brown, dry, SILT, some fine grained sand, no odor
	B58-4.5-5.0	-	0.6		ML: dark brown, dry, SILT, some fine grained sand, no odor
-5					
	B58-6.5-7.0	-	1.1		ML: dark brown, dry, SILT, some fine grained sand, no odor
	B58-9.5-10	-	1.0		ML: dark brown, dry, SILT, some fine grained sand, no odor
-10					



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**BORING LOG**

BOREHOLE NO.: **B59**

TOTAL DEPTH: **10 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Hand Auger/LA Power Probe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 27 February 2015

Notes: Boring advanced to 10 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
☑ Water level in completed well

Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0	B59-0.5-1.0	-	0		FL: light brown, dry, FILL, fine grained sand, some gravel pieces, no odor
	B59-1.5-2.0	-	0.4		FL: light brown, dry, FILL, fine grained sand, some gravel pieces, no odor
					ML: dark brown, dry, SILT, some fine grained sand, no odor
	B59-4.5-5.0	-	0.4		ML: dark brown, dry, SILT, some fine grained sand, no odor
-5					
	B59-6.5-7.0	-	1.1		ML: dark brown, dry, SILT, some fine grained sand, no odor
	B59-9.5-10	-	0.7		ML: dark brown, dry, SILT, some fine grained sand, no odor
-10					





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**BORING LOG**

BOREHOLE NO.: **B60**

TOTAL DEPTH: **10 FEET**




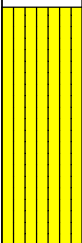
Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Hand Auger/LA Power Probe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 10 March 2015

Notes: Boring advanced to 10 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0	B60-0.5-1.0	-	0		FL: brown, dry, FILL, silty sand mixture with some gravel, no odor
	B60-1.5-2.0	-	0		FL: brown, dry, FILL, silty sand mixture with some gravel, clay in the matrix, no odor
	B60-2.5-3.0	-	0		CL: dark brown, dry, CLAY, some fine grained sand, no odor
	B60-3.5-4.0	-	0		CL: dark brown, dry, CLAY, some fine grained sand, no odor
	B60-4.5-5.0	-	0		CL: dark brown, dry, CLAY, some fine grained sand, no odor
-5					
					ML: brown, dry, SILT, some fine grained sand, no odor
-10	B60-9.5-10	-	0		



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**BORING LOG**

BOREHOLE NO.: **B61**

TOTAL DEPTH: **10 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Hand Auger/LA Power Probe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 10 March 2015

Notes: Boring advanced to 10 feet bsg. Boring backfilled to surface grade with Portland cement.

☒ Water level during drilling  
☑ Water level in completed well  
Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0	B61-0.5-1.0	-	0		CL: dark brown, dry, CLAY, plastic, no odor
	B61-1.5-2.0	-	0.4		ML: dark brown, dry, SILT, some fine grained sand, no odor
	B61-2.5-3.0	-	0		ML: dark brown, dry, SILT, some fine grained sand, no odor
	B61-3.5-4.0	-	0.1		ML: dark brown, dry, SILT, some fine grained sand, no odor
	B61-4.5-5.0	-	0.2		ML: dark brown, dry, SILT, some fine grained sand, no odor
-5					
					ML: brown, dry, SANDY SILT, fine grained sand, no odor
	B61-9.5-10	-	0.8		
-10					



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**BORING LOG**

BOREHOLE NO.: **B62**

TOTAL DEPTH: **10 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE- 12-2461

Drilling Co.: AGE  
Rig/Auger Type: Hand Auger/LA Power Probe  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 10 March 2015

Notes: Boring advanced to 10 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

Page 1 of 1

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0	B62-0.5-1.0	-	0.2		ML: brown, dry, SILT, some fine grained sand, no odor
	B62-1.5-2.0	-	0.4		ML: brown, dry, SILT, some fine grained sand, no odor
	B62-2.5-3.0	-	0.5		ML: brown, dry, SILT, some fine graind sand, no odor
	B62-3.5-4.0	-	0		ML: dark brown, dry, SILT, some fine grained sand, some clay in matrix, no odor
-5	B62-4.5-5.0	-	0.5		CL: brown, dry, CLAY, some silt, plastic, no odor
					ML: brown, dry, SILT, some fine grained sand, no odor
-10	B62-9.5-10	-	0.3		



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**BORING LOG**

BOREHOLE NO.: **B63**  
TOTAL DEPTH: **10 FEET**

Project:	SWISS VALLEY CLEANERS	Drilling Co.:	AGE
Site Location:	1395 MacArthur Boulevard San Leandro, California	Rig/Auger Type:	Hand Auger/LA Power Probe
Project No.:	AGE- 12-2461	Logged By:	D. Villanueva
		Reviewed By:	W. Little
		Date(s) Drilled:	10 March 2015

Notes: Boring advanced to 10 feet bsg. Boring backfilled to surface grade with Portland cement.	☒ Water level during drilling ☑ Water level in completed well	Page 1 of 1
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Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0	B63-0.5-1.0	-	0.7		ML: brown, dry, FILL, fine grained sand and gravel mixture, no odor
	B63-1.5-2.0	-	1.0		ML: brown, dry, SILT, some fine grained sand, clay in matrix, no odor
	B63-2.5-3.0	-	0.5		ML: brown, dry, SILT, some fine grained sand, clay in matrix, no odor
	B63-3.5-4.0	-	0.2		ML: brown, dry, SILT, some fine grained sand, clay in matrix, no odor
	B63-4.5-5.0	-	0.2		ML: brown, dry, SILT, some fine grained sand, clay in matrix, no odor
-5					
					ML: brown, dry, SILT, some fine grained sand, clay in matrix, no odor
	B63-9.5-10	-	0		
-10					



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**BORING LOG**

BOREHOLE NO.: **B9**  
TOTAL DEPTH: **50 FEET**

Project: SWISS VALLEY CLEANERS  
Site Location: 1395 MacArthur Boulevard  
San Leandro, California  
Project No.: AGE-NC-12-2461

Drilling Co.: AGE  
Rig/Auger Type: AMS Powerprobe/ 1.25" rods  
Logged By: D. Villanueva  
Reviewed By: W. Little  
Date(s) Drilled: 07 May 2013

Notes: B9 advanced to 50 feet bsg. Boring backfilled to surface grade with Portland cement.

- ☒ Water level during drilling
- ☒ Water level in completed well

Depth	Sample ID	Blows (per 6")	PID (ppm)	Soil Symbol	USCS Class and Soil Description
-------	-----------	----------------	-----------	-------------	---------------------------------

0					
-5	B9-5	---	0.5		CL: brown, dry, CLAY, plastic, no odor
-10	B9-10	---	0		CL: brown, dry, CLAY, plastic, no odor
-15	B9-15	---	0		SM: mottled, dry, SILTY SAND, fine grained sand, no odor
-20		---	---		No soil sample collected.
-25		---	---		No soil sample collected.
-30		---	---		No soil sample collected.
-35		---	---		No soil sample collected.
-40		---	---		No soil sample collected.
-45		---	---		No soil sample collected.
-50		---	---		No soil sample collected; grab groundwater samples collected between 46 and 50 feet bsg.
-55					

# **APPENDIX C**

**TABLE 2**  
**VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY**  
**Haber Oil Product**  
**1401 Grand Avenue, San Leandro, California**

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
MW-1	09/29/92	--	--	--	--	--	--	--	--	--	--	--
	02/18/94	--	--	--	--	--	--	--	--	--	--	--
	07/05/94	--	--	--	--	--	--	--	--	--	--	--
	10/12/94	--	--	--	--	--	--	--	--	--	--	--
	02/01/95	--	--	--	--	--	--	--	--	--	--	--
	05/04/95	--	--	--	--	--	--	--	--	--	--	--
	06/23/95	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	--	--	--	--	--	--	--	--	--	--	--
	03/28/96	--	--	--	--	--	--	--	--	--	--	--
	06/21/96	--	--	--	--	--	--	--	--	--	--	--
	03/11/97	--	--	--	--	--	--	--	--	--	--	--
	07/14/97	--	--	--	--	--	--	--	--	--	--	--
	01/25/98	--	--	--	--	--	--	--	--	--	--	--
	02/17/99	--	--	--	--	--	--	--	--	--	--	--
	01/20/03	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--
	04/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--
	07/15/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--
	11/25/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	02/20/04	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50
	06/03/04	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<25
	08/31/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/09/05	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100
	06/22/05	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50
	08/31/05	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<25
	11/14/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/15/06	16	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50
	06/15/06	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50
	01/11/07	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<25
	05/23/07	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10
	04/11/11	--	--	--	--	--	--	--	--	--	--	--
	10/13/11	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
	05/17/12	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
<i>Well Destroyed - July 2012</i>												
MW-1R	08/09/12	<2.0[1]	<8.0[1]	19	<2.0[1]	<2.0[1]	<2.0[1]	6.6	<2.0[1]	<12[1]	<2.0[1]	<200[1]
	11/06/12	<2.0[1]	<8.0[1]	20	<2.0[1]	<2.0[1]	<2.0[1]	6.1	<2.0[1]	<12[1]	<2.0[1]	<200[1]

**TABLE 2**  
**VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY**  
**Haber Oil Product**  
**1401 Grand Avenue, San Leandro, California**

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
MW-2	09/29/92	--	--	--	--	--	--	--	--	--	--	--
	02/18/94	--	--	--	--	--	--	--	--	--	--	--
	07/05/94	--	--	--	--	--	--	--	--	--	--	--
	10/12/94	--	--	--	--	--	--	--	--	--	--	--
	02/01/95	--	--	--	--	--	--	--	--	--	--	--
	05/04/95	--	--	--	--	--	--	--	--	--	--	--
	06/23/95	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	--	--	--	--	--	--	--	--	--	--	--
	03/28/96	--	--	--	--	--	--	--	--	--	--	--
	06/21/96	--	--	--	--	--	--	--	--	--	--	--
	03/11/97	--	--	--	--	--	--	--	--	--	--	--
	07/14/97	--	--	--	--	--	--	--	--	--	--	--
	01/25/98	--	--	--	--	--	--	--	--	--	--	--
	02/17/99	--	--	--	--	--	--	--	--	--	--	--
	01/20/03	<50	350	160	1,400	320	<50	69	<50	<50	<50	--
	04/17/03	<120	430	260	2,200	550	<120	<120	<120	<120	<120	--
	07/15/03	<120	290	150	1,300	320	<120	<120	<120	<120	<120	--
	11/25/03	<250	540	<250	1,800	420	<250	<250	<250	<250	<250	--
	02/20/04	<100	230	150	1,300	330	150	<100	<100	<100	<100	<1,000
	06/03/04	<100	360	140	1,300	300	<100	<100	<100	<100	<100	<1,000
	08/31/04	<50	570	200	1,900	400	<50	61	<50	<50	<50	<500
	02/10/05	<100	300	130	1,300	290	<100	<100	<100	<100	<100	<1,000
	06/22/05	<100	330	220	1,500	320	<100	<100	<100	<100	<100	<1,000
	08/31/05	<100	650	260	1,900	430	<100	<100	<100	<100	<100	<1,000
	11/14/05	<50	290	130	1,100	220	<50	51	<50	<50	<50	<500
	02/15/06	240	240	<100	1,800	360	<100	<100	<100	<100	<100	<1,000
	06/15/06	<50	100	64	560	120	<50	<50	<50	<50	<50	<500
	01/11/07	<50	77	56	440	91	<50	<50	<50	<50	<50	<500
	05/23/07	<50	210	130	760	170	<50	<50	<50	<50	<50	<500
	04/11/11	--	--	--	--	--	--	--	--	--	--	--
	10/13/11	<10[1]	60	47	170	56	<10[1]	19	<10[1]	<60[1]	<10[1]	--
	05/17/12	<40[1]	210	110	580	130	<40[1]	<40[1]	<40[1]	<240[1]	<40[1]	--
<i>Well Destroyed - July 2012</i>												
MW-2R	08/09/12	<40[1]	220	190	1,300	260	<40[1]	<40[1]	<40[1]	<240[1]	<40[1]	<4,000[1]
	11/06/12	<20[1]	180	160	930	210	<20[1]	56	<20[1]	<120[1]	<20[1]	<2,000[1]



**TABLE 2**  
**VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY**  
**Haber Oil Product**  
**1401 Grand Avenue, San Leandro, California**

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
MW-3	09/29/92	--	--	--	--	--	--	--	--	--	--	--
	02/18/94	--	--	--	--	--	--	--	--	--	--	--
	07/05/94	--	--	--	--	--	--	--	--	--	--	--
	10/12/94	--	--	--	--	--	--	--	--	--	--	--
	02/01/95	--	--	--	--	--	--	--	--	--	--	--
	05/04/95	--	--	--	--	--	--	--	--	--	--	--
	06/23/95	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	--	--	--	--	--	--	--	--	--	--	--
	03/28/96	--	--	--	--	--	--	--	--	--	--	--
	06/21/96	--	--	--	--	--	--	--	--	--	--	--
	03/11/97	--	--	--	--	--	--	--	--	--	--	--
	07/14/97	--	--	--	--	--	--	--	--	--	--	--
	01/25/98	--	--	--	--	--	--	--	--	--	--	--
	02/17/99	--	--	--	--	--	--	--	--	--	--	--
	01/20/03	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--
	04/17/03	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	--
	07/15/03	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	--
	11/25/03	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--
	02/20/04	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100
	06/03/04	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500
	08/31/04	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100
	02/10/05	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500
	06/22/05	<100	<100	<100	360	<100	<100	<100	<100	<100	<100	<1,000
	08/31/05	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500
	11/14/05	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<250
	02/15/06	100	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500
	06/15/06	<100	<100	<100	340	<100	<100	<100	<100	<100	<100	<1,000
	01/11/07	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100
	05/23/07	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<250
	04/11/11	--	--	--	--	--	--	--	--	--	--	--
	10/13/11	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
	05/17/12	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
	11/06/12	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<100

**TABLE 2**  
**VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY**  
**Haber Oil Product**  
**1401 Grand Avenue, San Leandro, California**

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
MW-4	09/29/92	--	--	--	--	--	--	--	--	--	--	--
	02/18/94	--	--	--	--	--	--	--	--	--	--	--
	07/05/94	--	--	--	--	--	--	--	--	--	--	--
	10/12/94	--	--	--	--	--	--	--	--	--	--	--
	02/01/95	--	--	--	--	--	--	--	--	--	--	--
	05/04/95	--	--	--	--	--	--	--	--	--	--	--
	06/23/95	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	--	--	--	--	--	--	--	--	--	--	--
	03/28/96	--	--	--	--	--	--	--	--	--	--	--
	06/21/96	--	--	--	--	--	--	--	--	--	--	--
	03/11/97	--	--	--	--	--	--	--	--	--	--	--
	07/14/97	--	--	--	--	--	--	--	--	--	--	--
	01/25/98	--	--	--	--	--	--	--	--	--	--	--
	02/17/99	--	--	--	--	--	--	--	--	--	--	--
	01/20/03	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	--
	04/17/03	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	--
	07/15/03	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	--
	11/25/03	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	--
	02/20/04	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1,000
	06/03/04	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1,000
	08/31/04	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500
	02/10/05	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1,000
	06/22/05	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<250
	08/31/05	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<250
	11/14/05	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500
	02/15/06	24	<17	<17	<17	<17	<17	<17	<17	<17	<17	<170
	06/15/06	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<250
	01/11/07	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100
	05/23/07	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50
	04/11/11	--	--	--	--	--	--	--	--	--	--	--
	10/13/11	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
	05/17/12	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
	11/06/12	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<100

**TABLE 2**  
**VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY**  
**Haber Oil Product**  
**1401 Grand Avenue, San Leandro, California**

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
MW-5	09/29/92	--	--	--	--	--	--	--	--	--	--	--
	02/18/94	--	--	--	--	--	--	--	--	--	--	--
	07/05/94	--	--	--	--	--	--	--	--	--	--	--
	10/12/94	--	--	--	--	--	--	--	--	--	--	--
	02/01/95	--	--	--	--	--	--	--	--	--	--	--
	05/04/95	--	--	--	--	--	--	--	--	--	--	--
	06/23/95	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	--	--	--	--	--	--	--	--	--	--	--
	03/28/96	--	--	--	--	--	--	--	--	--	--	--
	06/21/96	--	--	--	--	--	--	--	--	--	--	--
	03/11/97	--	--	--	--	--	--	--	--	--	--	--
	07/14/97	--	--	--	--	--	--	--	--	--	--	--
	01/25/98	--	--	--	--	--	--	--	--	--	--	--
	02/17/99	--	--	--	--	--	--	--	--	--	--	--
	01/20/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	04/17/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	07/15/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	11/25/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	02/20/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/03/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/09/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/22/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.52	<0.5	<0.5	<5.0
	11/14/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.63	<0.5	<0.5	<5.0
	02/15/06	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/14/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	01/11/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	05/23/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.55	<0.5	<0.5	<5.0
	04/11/11	--	--	--	--	--	--	--	--	--	--	--
	10/13/11	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
	05/17/12	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
	11/06/12	--	--	--	--	--	--	--	--	--	--	--

**TABLE 2**  
**VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY**  
**Haber Oil Product**  
**1401 Grand Avenue, San Leandro, California**

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
MW-6	06/21/95	--	--	--	--	--	--	--	--	--	--	--
	06/23/95	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	--	--	--	--	--	--	--	--	--	--	--
	03/28/96	--	--	--	--	--	--	--	--	--	--	--
	06/21/96	--	--	--	--	--	--	--	--	--	--	--
	03/11/97	--	--	--	--	--	--	--	--	--	--	--
	07/14/97	--	--	--	--	--	--	--	--	--	--	--
	01/25/98	--	--	--	--	--	--	--	--	--	--	--
	02/17/99	--	--	--	--	--	--	--	--	--	--	--
	01/20/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	--
	04/17/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<0.5	--
	07/15/03	0.67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.84	0.66	<0.5	--
	11/25/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.89	<0.5	<0.5	--
	02/20/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/03/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/04	0.51	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.84	<0.5	<0.5	<5.0
	02/09/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.59	<0.5	<0.5	<5.0
	06/22/05	0.53	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/05	0.67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.62	<0.5	<0.5	<5.0
	11/14/05	0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.67	<0.5	<0.5	<5.0
	02/15/06	0.75	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/14/06	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10
	01/11/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.58	<0.5	<0.5	<5.0
	05/24/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.67	<0.5	<0.5	<5.0
	04/11/11	--	--	--	--	--	--	--	--	--	--	--
	10/13/11	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
	05/17/12	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
	11/06/12	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<3.0	<1.0	<100

**TABLE 2**  
**VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY**  
**Haber Oil Product**  
**1401 Grand Avenue, San Leandro, California**

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
MW-7	06/21/95	--	--	--	--	--	--	--	--	--	--	--
	06/23/95	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	--	--	--	--	--	--	--	--	--	--	--
	03/28/96	--	--	--	--	--	--	--	--	--	--	--
	06/21/96	--	--	--	--	--	--	--	--	--	--	--
	03/11/97	--	--	--	--	--	--	--	--	--	--	--
	07/14/97	--	--	--	--	--	--	--	--	--	--	--
	01/25/98	--	--	--	--	--	--	--	--	--	--	--
	02/17/99	--	--	--	--	--	--	--	--	--	--	--
	01/20/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.56	<0.5	<0.5	--
	04/17/03	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.75	<0.5	<0.5	--
	07/15/03	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.61	0.64	<0.5	--
	11/25/03	0.78	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.76	<0.5	<0.5	--
	02/20/04	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/03/04	0.98	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/04	0.73	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/09/05	2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.64	<0.5	<0.5	<5.0
	06/22/05	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<5.0
	11/14/05	0.68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.82	<0.5	<0.5	<5.0
	02/15/06	4.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/14/06	2.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	01/11/07	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.86	<0.5	1.6	37
	05/24/07	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.79	<0.5	<0.5	<5.0
	04/11/11	--	--	--	--	--	--	--	--	--	--	--
	10/13/11	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<3.0	<1.0	--
	05/17/12	1.9	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
	11/06/12	--	--	--	--	--	--	--	--	--	--	--

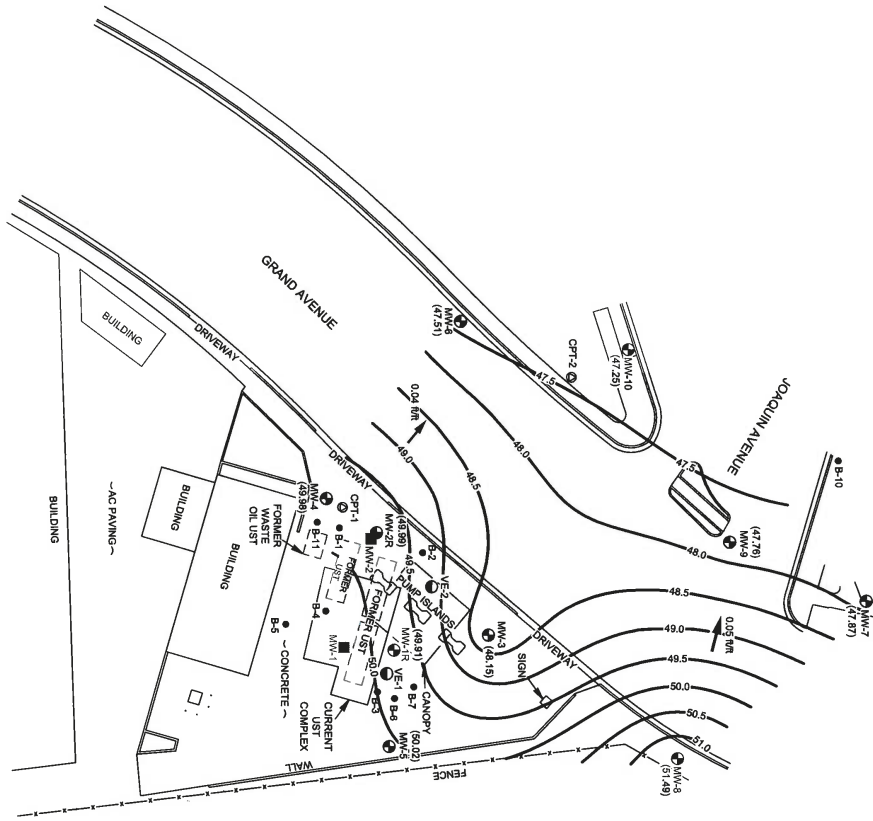
**TABLE 2**  
**VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY**  
**Haber Oil Product**  
**1401 Grand Avenue, San Leandro, California**

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
MW-8	06/21/95	--	--	--	--	--	--	--	--	--	--	--
	06/23/95	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	--	--	--	--	--	--	--	--	--	--	--
	03/28/96	--	--	--	--	--	--	--	--	--	--	--
	06/21/96	--	--	--	--	--	--	--	--	--	--	--
	03/11/97	--	--	--	--	--	--	--	--	--	--	--
	07/14/97	--	--	--	--	--	--	--	--	--	--	--
	01/25/98	--	--	--	--	--	--	--	--	--	--	--
	02/17/99	--	--	--	--	--	--	--	--	--	--	--
	01/20/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	<0.5	<0.5	--
	04/17/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	<0.5	<0.5	--
	07/15/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	0.52	<0.5	--
	11/25/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	--
	02/20/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.78	<0.5	<0.5	<5.0
	06/03/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	<0.5	<0.5	<5.0
	08/31/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	<0.5	<0.5	<5.0
	02/09/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<5.0
	06/22/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.93	<0.5	<0.5	<5.0
	08/31/05	2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.67	<0.5	<0.5	<5.0
	11/14/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.94	<0.5	<0.5	<5.0
	02/15/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.98	<0.5	<0.5	<5.0
	06/14/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.62	<0.5	<0.5	<5.0
	01/11/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.68	<0.5	<0.5	<5.0
	05/23/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.80	<0.5	<0.5	<5.0
	04/11/11	--	--	--	--	--	--	--	--	--	--	--
	10/13/11	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<3.0	<1.0	--
	05/17/12	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
	11/06/12	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	<3.0	<1.0	<100
MW-9	08/09/12	2.7	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<100
	11/06/12	2.1	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<100
MW-10	08/09/12	1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<3.0	<1.0	<100
	11/06/12	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<3.0	<1.0	<100

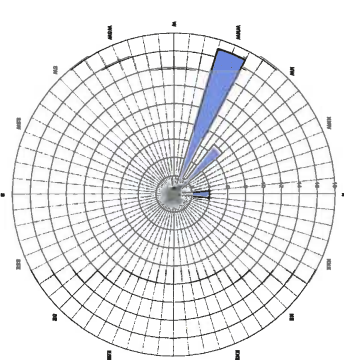
**TABLE 2**  
**VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY**  
**Haber Oil Product**  
**1401 Grand Avenue, San Leandro, California**

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
<b>Note:</b>												
µg/L = micrograms per liter			DBCP = 1,2-dibromo-3-chloropropane									
PCE = Tetrachloroethene			-- = Samples not analyzed for this compound.									
[1] = Reporting limits were increased due to high concentration of target analytes.												
All samples analyzed by USEPA Method 8260B against a target list of 76 volatile organic compounds. Compounds from the target list not listed above were below reporting limits for all samples analyzed.												
Refer to original laboratory report. Data prior to April 11, 2011, taken from reports prepared by P&D Environmental, Inc.												

**STRATUS**  
ENVIRONMENTAL, INC.



- LEGEND**
- MW-3 GROUNDWATER MONITORING WELL LOCATION
  - VE-1 SOIL VAPOR EXTRACTION WELL LOCATION
  - MW-4 ABANDONED MONITORING WELL LOCATION
  - CPT-1 CPT BORING LOCATION
  - B-1 SOIL BORING LOCATION
  - (48.15)— GROUNDWATER ELEVATION IN FEET RELATIVE TO MSL
  - (49.0)— GROUNDWATER ELEVATION CONTOUR IN FEET RELATIVE TO MSL
  - INFERRED GROUNDWATER FLOW DIRECTION
  - WELLS MEASURED ON 11/09/12
  - MSL = MEAN SEA LEVEL



NOTES:  
1. SOIL BORING AND FORMER UST LOCATIONS ARE APPROXIMATE  
2. BASE MAP PROVIDED BY MORROW SURVEYING

FORMER HABER OIL PRODUCT  
1401 GRAND AVENUE  
SAN LEANDRO, CALIFORNIA  
GROUNDWATER ELEVATION CONTOUR MAP  
4th QUARTER 2012

FIGURE  
**3**  
PROJECT NO.  
Z120-1401-01



# **APPENDIX D**

**Remedial Action Work Plan**  
**SWISS VALLEY CLEANERS**  
**1395 MacArthur Boulevard, San Leandro, California**

## **INTRODUCTION**

On behalf of Mr. William Mathews Brooks of Ardenbrook, Inc., *Advanced GeoEnvironmental, Inc. (AGE)* has prepared this work plan for soil remediation at 1395 MacArthur Boulevard, San Leandro, California. The purpose of this work plan is to detail the design, installation and operation of a carbon-based SVE system seventeen (17) SVE wells to remediate tetrachloroethene (PCE) from the soil and soil-vapor associated with the unauthorized release of dry cleaning solvents at the site.

Based on the results of a SVE pilot test performed at the site on 26 August 2014, AGE is recommending the installation of an interim SVE system and augmenting the existing shallow-screened SVE wells VW-1 through VW-4 with seventeen (17) additional SVE wells within the subject suite.

The location of the site and the surrounding area are illustrated on Figure 1; a plan of the site is illustrated on Figure 2.

## **SCOPE OF WORK**

Based on the results of the pilot study and historical site assessment, AGE proposes to install, operate and maintain a SVE remediation system utilizing existing shallow SVE wells VW-1 through VW-4. Additionally AGE proposes to install seventeen (17) additional shallow SVE wells at locations based upon the theoretical radius of influence (ROI) determined in the pilot study.

Soil remediation field activities will consist of the following tasks:

- Pre-field work activities (permitting, power source determination);
- Underground utility mapping and clearances;
- Installation of additional SVE wells;
- Installation of a soil vapor extraction piping network and SVE system;
- Fenced enclosure installation;
- Soil vapor extraction system start-up period;
- Monitoring and maintenance activities; and
- Report preparation.

Each of these tasks is described in greater detail below.

## PRE-FIELD WORK ACTIVITIES

Applicable site permits will be obtained from the City of San Leandro (i.e., electrical, building, plumbing, etc.) and from the Bay Area Air Quality Management District (BAAQMD). In addition, an update to the health and safety plan presently on-file will be prepared in accordance with *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities* (National Institute for Occupational Safety and Health Administration, U.S. Coast Guard and U.S. Environmental Protection Agency, 1985). Prior to mobilization, all underground trenching areas will be clearly marked and a utility clearance obtained through Underground Service Alert.

## REMEDICATION WELLS

Currently, four SVE wells (VW-1 through VW-4) are installed on the site. All wells are installed to a total depth of seven feet below surface grade (bsg). Proposed wells will be installed within the subject facility and in areas of previously encountered PCE impact. Based on the results of the pilot test, a theoretical radius of influence of approximately 17.25 feet was estimated for installed wells. The locations of the proposed additional SVE wells are depicted in Figure 8.

## INSTALLATION OF REMEDIATION SYSTEM PIPING NETWORK

The remediation system piping network will be installed either underground in a 1-foot wide by 1½-foot deep trench or above ground. In the trench, 2-inch diameter, schedule 40 PVC piping will be manifolded from the well-heads at each SVE well location, then routed to the proposed SVE unit (regenerative blower and related carbon filtration). Following piping placement, the trench will be backfilled with imported road-base sand, compacted, and resurfaced to grade with concrete.

## PROPOSED SOIL REMEDIATION SYSTEM

The selected SVE treatment unit will consist of a condensation separator, a vacuum blower, a minimum of three virgin coconut carbon canisters (1,000 pounds each) and control components. The 2-inch diameter piping installed from the well-head at the SVE wells will be connected to the inlet of the condensation separator, which leads into the vacuum blower. The outlet from the vacuum blower will be routed through the three carbon vessels prior to release to the atmospheric air.

Induced vacuum will be measured utilizing a Magnehelic® vacuum gauge attached to the inlet of the blower; SVE vapor flow will be monitored using a Dwyer® DS-200 flow sensor. Sampling ports will be installed upstream of the vacuum blower inlet to recover SVE influent vapor flow vapor stream samples, and downstream of the third carbon unit to recover effluent SVE vapor flow samples and to monitor the efficiency of hydrocarbon destruction. A schematic diagram of the SVE treatment unit is depicted on Figure 7.

The proposed location of the SVE system and fenced enclosure is in the rear of the facility and outside of the back door of the former dry cleaning facility (Figure 6). The selected location will not interfere with current businesses, delivery vehicles and other business. The SVE unit will be secured by a chain-linked, barbed-wire, gated enclosure approximately 12 feet wide, 16 feet long and 8 feet high. Electricity is readily available to the site.

#### REMEDIATION START-UP PERIOD

In order to monitor hydrocarbon destruction efficiency during the SVE start-up period (first week of operation), influent and effluent vapor samples will be collected on a daily basis and submitted to a State of California Department of Public Health (CDPH)-certified laboratory for analysis of volatile organic compounds (VOC's) by EPA method 8260B.

SVE operational parameters including soil-vapor concentrations, vapor flow and vacuum will be monitored on a daily basis to gauge the optimal destruction rate of recovered hydrocarbon vapors.

Following the SVE start-up period, soil vapor samples will be collected on a monthly basis and the SVE operational parameters will be monitored on a weekly basis to monitor cleanup progress.

#### MONITORING AND MAINTENANCE

Following the initial start-up period, influent and effluent vapor samples will be collected on a monthly basis and submitted to a CDPH-certified laboratory for analysis for VOC's. Laboratory report for vapor sample analyses, testing methods, laboratory quality assurance/quality control (QA/QC) reports and sample chain of custody documentation will be presented in quarterly reports.

The SVE remediation system will be maintained on a weekly basis according to manufacturer's recommendations (i.e., lubrication, system adjustments, etc.).

## REPORT PREPARATION

Quarterly reports will be prepared presenting the findings from the SVE activities. The quarterly reports will include a description of work performed and the results of the influent and effluent vapor samples. Conclusions and recommendations will also be included in the reports, if applicable. The report will be in a format acceptable to ACWD guidelines and will be reviewed and signed by a California Professional Geologist.

## FIELD PROCEDURES

All field procedures will be overseen by an AGE representative under the supervision of a California Professional Geologist. Procedures for underground piping installation, start-up period and weekly/monthly operation and maintenance procedures are described below.

## PILOT BORING ADVANCEMENT

Seventeen pilot soil borings will be advanced at the site to depths of approximately 7 feet bsg. The borings will be advanced utilizing either 7-inch hand auger or a tracked mounted drilling rig with 8-inch hollow stem augers. The locations of the proposed borings are illustrated on Figure 8. Cuttings generated during drilling activities will be temporarily containerized in DOT-approved 55-gallon drums. Upon characterization, the cuttings will be properly disposed at a licensed landfill facility.

## WELL COMPLETION

Wells will be completed as single-casing soil vapor extraction and observation wells utilizing 2-inch diameter schedule 40 polyvinylchloride (PVC), 0.020-inch slotted well screen and blank well casing. A 5-foot length of well screen, from 2 feet to 7 feet bsg, is anticipated for installation of each shallow-screened well. After installing each well casing, a filter pack material consisting of #3 sand will be added to the top of the screen. A nominal bentonite seal will be placed above the filter pack to seal the wells.

A diagram illustrating the proposed constructions has been included as Figures 8.

## REMEDIATION SYSTEM PIPING NETWORK

A network of 2-inch diameter, schedule 40 PVC piping will be installed from each remediation well in a series of trenches, approximately 12 inch wide and 18 inches deep or above ground. All PVC piping will be routed from each remediation well head to the SVE condensation entrapment tank, located inside the SVE remediation system fenced

enclosure. A PVC ball valve will be installed at each SVE well head so that soil vapor can be drawn from each well independently or from a combination of specific wells. Following piping placement, the trench will be backfilled with imported road-base sand, compacted, and resurfaced with concrete/asphalt.

## SOIL VAPOR EXTRACTION SYSTEM DESIGN

The SVE unit, consisting of a condensation separator, a vacuum blower and three 1,000 pound virgin coconut carbon filtration vessels, are proposed for chlorinated hydrocarbon vapor recovery at the site. The SVE unit should be able to extract soil vapor between 100 and 150 cubic feet per minute (cfm). The SVE unit will be connected through a manifold box to each SVE; chlorinated hydrocarbon vapors extracted from these wells will be sequentially routed through a condensation entrapment chamber and a vacuum blower before entering three vapor phase carbon scrubbers for final destruction. A diagram of a typical system is illustrated on Figure 7.

Induced vacuum measurements will be collected utilizing a Magnehelic® vacuum gauge attached near the inlet of the blower; SVE vapor flow will be monitored using a Dwyer® DS-200 flow sensor. Following the start-up period, the SVE vapor flow along the influent and effluent lines will be monitored weekly for the presence of organic vapor using an OVM equipped with a PID. Sampling ports will be installed upstream of the vacuum blower inlet to recover SVE influent soil vapor stream samples and downstream of the three 1,000-pound carbon vessels to sample effluent SVE vapor samples to monitor the efficiency of chlorinated hydrocarbon destruction.

## SOIL VAPOR EXTRACTION MONITORING

During the start-up period for the SVE system, soil vapor samples will be collected and operational parameters will be monitored on a daily basis. The anticipated start-up period will be approximately one week.

Following the start-up period, the vapor extraction system will be monitored weekly using a PID and Dwyer® DS-200 flow sensor to ensure optimal destruction of recovered vapors and to monitor cleanup progress. The PID readings will be taken and recorded from the influent end of the vacuum blower unit and the effluent end of the third 1,000 pound carbon vessel. Operational parameters (air flow, air vacuum and volume of processed vapor) will be measured on a weekly basis to monitor and record soil-vapor volumes extracted and operational efficiency.

Vapor samples will be collected on a monthly basis from the influent and effluent end of the vapor extraction system utilizing an electric vacuum pump. The samples will be collected into Tedlar® bags and transported under chain of custody to a CDPH-certified laboratory and analyzed for VOC's.